

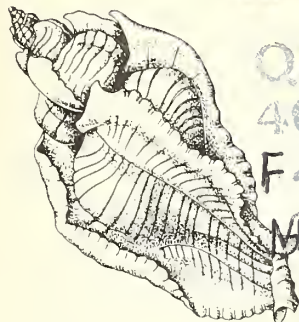




THE

FESTIVUS

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MO



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., Room 104.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Treasurer: Martin Schuler
Editor: Carole Hertz

Annual Dues: Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170
Baxter Street, San Diego, Ca. 92117.

VOL. VII

JANUARY

NO. 1

PROGRAM: "Traveling and Collecting in Fiji and Huahine" will be the subject
of the illustrated talk to be given by Carole and Jules Hertz.
Date: January 15, 1976 Time 7:30 PM. Room 104

A TRIP TO EASTER ISLAND

Easter Island, with its strange stone statues, has always been a magnet to
travelers of the ocean lanes. Its isolated position, halfway between Chile and
Tahiti, has not made the island easily accessible. However, published pictures,
articles and books have made the rewards of a visit there very attractive.

To David Thomas of Morro Bay, California, it had a particular interest.
There was news of an extremely rare shell, Cypraea englerti Summers and Burgess,
1966, being collected alive by island divers. In addition, the family shell
business needed more specimens of C. caputdraconis. Melvill, 1888, also endemic
to Easter Island.

Early in 1974 he flew from Los Angeles to Papeete, Tahiti where he caught
Chile's LAN airline to Easter Island. They landed at Hangaroa on an airstrip
only as long as the "absolute minimum" needed for a Boeing 707 operation. There
is one hotel, and the English-speaking manager spread the word that Mr. Thomas
was interested in shells live. Divers then brought him several live specimens
both of C. englerti and C. caputdraconis.

The habitat of C. englerti is in unusually rough water infested by large,
brown, vicious moray eels that will attack a swimmer without provocation. All
the divers bear scars from eel bites suffered in searches for lobsters and shells.

C. englerti is a dark brown shell with a cream mantle and bright red mark-
ings. It is named for Father Englert, a Capuchin missionary, who served the
Islanders for thirty years. He was much loved by them and they are proud that
this shell is named for him.

After the initial search for shells, David began to explore the island and
the slides shown us at our November meeting in Casa Del Prado were records of
this exploration. The island is roughly triangular in shape--six by twelve miles
in area--the points of the triangle being marked by craters. The eastern crater,
Ranoraraku, is the site of the quarry where the giant statues were cut.

They were cut in a prone position with supporting sections left till the statues were completed, then they were braced and the supports cut. The huge stone figures, Maoi, weighed as much as sixty tons- some had "hats" of red stone that weighed another ten to thirty tons, cut and placed separately, but some six hundred of the Maoi were dragged from the quarry and placed on stone platforms. They completely encircled the island, all of them facing inland. These Maoi were complete from the waist up but two were found that had legs. The largest of the Maoi was never completed. It still rests on its supports in the quarry-something sudden and catastrophic must have interrupted the work. It is sixty-nine feet long and its weight is more than eighty tons.

There are many questions; from where did the Islanders come and when? Why did they create these Maoi? How did they carve them? They had no metal. How did they get them to the sea positions? Maybe the island was timbered and they used rollers. How did they raise them to the platforms? And the "hats"? Why were there human skeletons in the platforms?

There are links; the language of the Islanders is a mixture of Spanish, Polynesian and South American; the Maoi faces have a resemblance to the faces of the Mayan images and the forms are like the Polynesian Akua (deities); the stonework recalls that of the Incas in Peru.

The slides gave us a wonderful picture of Easter Island- they put us on the Island too, particularly with the one showing David Thomas perched on one of the Maoi-you see, David and his family are members of the San Diego Shell Club.

The business meeting followed the showing of the slides. The Board's selection of officer candidates was presented to the members and unanimously accepted. Officers for '76 will be; Pres. Bob Schoening, Vice Pres. Hugh Bradner, Rec. Sec. Blanche Brewer, Corr. Sec. John Smith, Treas. Martin Schuler. Zolezzi's Italian Restaurant was decided on for our Christmas Party, Dec. 13. Motion carried that Club pay for the table wine at the party.

CHRISTMAS PARTY

The Christmas Party at Zolezzi's was very enjoyable, though several of our members were missing --and missed! Of course the menu was Italian; the food was delicious-hot where hot should be, cold or crisp, as should be- and plentiful.

Absent members were noted-and toasted- and we toasted each other. It was a cozy evening. Dave Mulliner was Master of Ceremonies and presented the new officers. Corsages were gifted to the ladies and Boutonnières to the gentlemen. The shell gifts were lovely, pleasing the receivers- and the eyes of everyone.

CHANGES OF ADDRESS

Smith, John
4060 Huerfano
San Diego, Ca. 92117
278 -8298

Ruhl, Deborah A.
10699 San Diego Mission Rd. Apt. 108
San Diego, Ca. 92108

DUES ARE DUE!! Make checks payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

NOTICE

Our Program Chairman is in the process of scheduling this year's talks and would appreciate contact of anyone interested in giving a program. Please call Hugh Bradner at 453-6311.

A TIGER IN YOUR TANK

George A. Hanselman

Photos by David K. Mulliner

One of the most fascinating of the many species of chitons to be found in the San Diego area is Placiphorella velata DALL, 1879. Its various common names give an inkling of the reason: figures 1 and 3 show it in its guise as the "jockey cap" chiton, figure 4 poses it as the "veiled chiton", and as will appear later its peculiar structure, amazing habits and versatile appetite well merit the term "trapper chiton."



Fig. 1.



Fig. 2.

This is illustrated by the experience of Dave Mulliner. While SCUBA diving with Gordon Robilliard at a 60-foot depth along the kelp beds off Point Loma, Dave turned over a large rock and while surveying the many brittle stars, sea urchins, sulphur sponges and juvenile abalones which called the bottom of that particular rock home he noted that among the crowd there was one particular small abalone which didn't look quite right. To check it he slid it carefully off the rock, and bingo! --- a large (60mm by 50mm) Placiphorella velata! Dave placed the chiton in his aquarium --- adding a second slightly smaller one which he found a week later in the same location --- and began observations on their feeding habits.

4.

Past researchers had determined by inspection of the gut content that unlike the vast majority of chitons, which almost universally feed on algae which they rasp off rocks with their radula, the Placiphorella were at least to some extent carnivorous and included sponges and hydroids in their diet.

Dr James McLean of the Los Angeles County Museum of Natural History, himself a highly skilled SCUBA diver, some years ago undertook continuing in-place observation of Placiphorella velata living at depths of 20 to 40 feet in the Monterey Kelp beds. The results of this scrutiny he published in a paper titled "Feeding Behavior of the Chiton Placiphorella" (Proceedings of the Malacological Society of London, Vol 35, Part 1, 1962), in which he describes the chiton's use of its wide front mantle flap as an actual capture device to seize small amphipods and crustaceans for food.



Fig. 3.

The Placiphorella as a genus are unique in their possession of a set of tentacle-like lobes or digitations located just ahead of the proboscis. They also possess on their abnormally wide front girdle flap nerve-bearing setae and papillae, respectively on the top and bottom of the mantle. As a Placiphorella velata sits in its permanent position on its rock it raises its mantle flap and extends the tentacular structure underneath it (figure 4). Any contact with these structures causes the mantle flap to clamp down, immediately and rapidly, so as to trap any moving object which may have made the contact. The forward edge of the mantle then begins to move the trapped object back toward the proboscis, and the tentacle-like lobes appear to assist in this process. Should no food be trapped, or should the trapped material be deemed unsatisfactory after sampling, the mantle flap is again raised and the trap re-set.

Dr. McLean noted that the chiton uses this same feeding technique in the aquarium as well as in its normal habitat. He also noted that while very small creatures could be ingested at one gulp, a small crab slightly less than half an inch in width might furnish a leisurely 24-hour snack.

With the above in mind, Dave soon found an acceptable diet for his captives. Tiny brine shrimp, which furnished the main staple, were trapped and polished off with gusto --- and with the skill and speed of a cross between Daniel Boone and a Hoover vacuum cleaner. For the salad course, a little algae scraped off the rocks Dave from time to time put in the aquarium gave balance to the diet. And a totally new item was added to prior menu records when tentatively offered shreds of scallop were seized with alacrity and downed without hesitation. Under this feeding regimen the two chitons survived in the aquarium for well over six months.

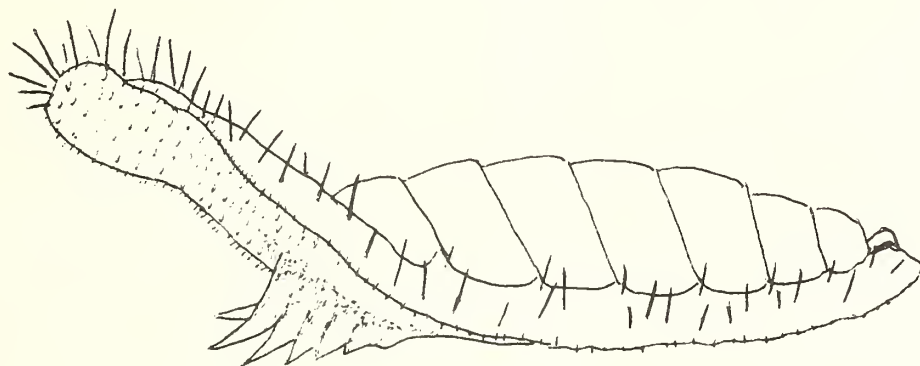


Fig. 4. Feeding position. (Size exaggerated.)
(After McLean.)

Although all Placiphorella possess the same mantle and tentacle structure, Placiphorella velata so far is the only species sufficiently accessible in the intertidal (where it is rare) and the relatively high subtidal (where it is at best uncommon) to have furnished specimens for comprehensive observation of its feeding habits. Assumedly all species of the genus can feed in similar fashion if suitable live prey is available. For those species living in greater depths --- and Placiphorella have been dredged from depths of over 500 meters --- the availability of such prey is somewhat speculative, but a diet of sponge and hydroids has shown in the gut content of dredged specimens.

Placiphorella velata ranges from at least western Vancouver Island on the north to beyond Punta Banda on the south; I have collected it intertidally at both these extremes. It has also been reported as far south as Magdalena Bay, on the outer coast of Baja California. At the northern portion of its range it appears well up into the low intertidal; but like so many of the northern mollusca, as the water warms toward the south it

appears then to prefer deeper and consequently colder situations. Its intertidal tolerance seems to drop off quite abruptly near Monterey, where the cold northern upwelling decreases, and it could be expected to resume to at least a slight degree to the south of Punta Banda where another cold upwelling begins. But in the San Diego area, as indicated by the following collecting records, deeper water seems the preferred habitat.

Locally, the known score stands:

Edna Wilson --- 3 small specimens taken intertidally in the early 1930's.

Carolyn Stover --- 1 specimen from 75 feet, off Pt. Loma in 1971.

John Myers --- 2 specimens from 75 feet, off Bird Rock in 1971;

1 specimen from 70 feet, off Bird Rock in 1973;

1 specimen from 55 feet, off Pt. Loma in 1974.

Dave Mulliner --- 3 specimens from 60 feet, off Pt. Loma in 1974.

Myself --- 1 small specimen intertidally in 1970.

Interestingly enough, in intertidal situations adults of this chiton usually become heavily encrusted with marine growths which extend over the top of the girdle and there become matted with the larger setae. This jungly surround then becomes home to various small marine creatures, among which are usually a supply of tiny amphipods. It seems quite possible that Placiphorella velata may be raising some of its own food. A trapper chiton with --- literally --- a ranch on the side; a versatile creature indeed!

BOOK NEWS

Carole M. Hertz

Cowries, by Dr. John Taylor of the British Museum of Natural History and Jerry G. Walls, with photos by Dr. Herbert R. Axelrod and published in 1975 by T.F.H. Publications Inc. Ltd. sells for \$14.95.

This book has many advantages for the collector besides its convenient size and moderate price. All 187 species of cowries are beautifully illustrated in color. Both dorsal and ventral views of each species are shown, accompanied by a brief, written description and general locality data. (Unfortunately, the species are not arranged alphabetically. This random placement is troublesome).

The Synonymic Index "attempts to list most names applied to living cowries (Cypraea) between 1758 & 1974..." while also serving as the book's index to the photographs.

Dr. John Taylor has written the very interesting section on The Living Cowry with some information not usually included in books of this type. Also in this section are some beautiful photographs of the living cowries.

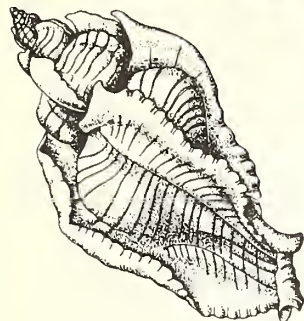
This reviewer found the section written by Jerry G. Walls on Cowries and the Collector of less interest--with the exception of the information on aquarium care.

A separate "Identi-Chart" containing color photos of the dorsal views of all the species is included. It "is printed on special paper which is almost completely tearproof, waterproof and greaseproof...(and can be) taken under-water." This can be extremely useful for the field worker.

QL
401
F418
Moll.
THE

FESTIVUS

SAN DIEGO SHELL CLUB



FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., Room 104.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Treasurer: Martin Schuler
Editor: Carole Hertz

Annual Dues: Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170
Baxter Street, San Diego, Ca. 92117.

VOL. VII

FEBRUARY

NO. 2

* PROGRAM: "Dangerous Marine Animals and Other Interesting Observations" *
* will be the topic of the talk by Jimmy Stewart of Scripps *
* Institute of Oceanography. His talk will be accompanied by a film *
* Meeting Date: February 19, 1976 Time: 7:30 P.M. *
* Room 104 (across the patio) *

FROM THE MINUTES

Jules and Carole Hertz presented their travelog of a recent trip to Fiji and Huahine at our January meeting. Very pleasurable. (article follows in this issue) Our regular business session followed.

A motion was made and carried to give \$25.00 to the Veliger for the year 1975.

Holding a raffle as part of our regular program was suggested by our president, Bob Schoening. After discussion, a motion carried to give the idea a trial.

Billee Dilworth brought two new books to the meeting for the membership to see and possibly order--"The Murex Book" by Ruth H. Fair and "What Shell is That" by Neville Coleman. (The latter has been ordered by the Club library and will be reviewed later.)

Barbara Myers volunteered as library assistant and June King agreed to serve on the Phone Committee.

We were reminded that the plant sale by the San Diego Botanical Garden Foundation, Inc. is scheduled for May 29,30. Each member of each member group is asked to contribute at least one flourishing plant by that date.

Among guests introduced were Max Marrow and Ron Atkinson from Hamilton, Victoria, Australia. Mr. Marrow is a third generation shell collector and his family has one of the largest collections in Australia. He specializes in triphora and mitra.

A paper was passed for volunteers for cookies. Cookies for the meeting were furnished by Bob Schoening. Norval Brewer won the shell drawing.

TRAVELING AND COLLECTING IN FIJI

By Carole M. Hertz

In August of last year Jules and I realized our dream of a visit to Fiji, never really believing that the trip would materialize until we had set foot on Viti Levu.

We took off with our daughters on the evening of Aug. 15 on Pan Am flight 490. After an interminable trip (one hour out of L.A. a malfunction registered on the pilot's instrument panel and back we went to L.A. for a five hour delay added to the eleven hour flight) we arrived in Nadi early on Sunday morning. We were happy to be in Fiji at long last and ready for rest. But we were to have a bit more trouble first. Our automatic shift, rental car turned out to be a standard "four on the floor." And besides traveling on the "wrong" side of the road in a car with the controls on the "wrong" side, we broke down about 20 miles from the airport in the tiny town of Tau. (Our hotel was about 60 miles from the airport). The people at the small general store, which was the town, were of no help. Finally a police van came by. The handsome policeman in sulu and beret was friendly and tried to be helpful. He would call "Avis" and have another car sent to us. But-- his radiophone wouldn't work. Then he decided to drive up the road to a phone but the van wouldn't start. After traveling for 18 hours, we were all pushing the police van. We never saw the policeman again.

Our guardian angels finally appeared to us in a converted Land Rover. A delightful couple, the Proctors, teachers on the island, were returning from a shopping trip in Nadi and they stopped, advised us to remove our luggage and lock the car and come with them. To our great surprise they lived a block from our hotel! We piled into the back of the camper with our luggage and their roofing materials and we bounced our way over the coral rubble road the 40 or so more miles to Korotogo and our hotel, the Tubakula. At this point we were not quite sure that our dream trip was such a good idea after all.

Our hotel was all we'd hoped it would be, not the fancy kind which makes any place look like every other place. Our "room" was an A-frame bungalow just a yawn from the water's edge. The white coral sand came to our doorstep. Our daughters had the second floor dormitory to themselves and our bedroom was downstairs along with the kitchen and dining/living room area. The kitchen was complete with clean dishes, cookware, a gas stove and oven and a "Mexico-style" refrigerator. The bathroom had an interesting shower--sometimes water, sometimes no--and a separate and infuriating device for drinking water which never failed to overflow the cup no matter how cleverly the user planned it.

The hotel as a central building which serves as restaurant, small bar and closet-sized store. But the best part of the hotel was the people. Friendly, helpful people who made us feel like members of the family. Isoah Yakabai, the hotel manager and his wife Elina and Wami Naqasima, the cook, tour guide, reef guide and storyteller are unforgettable people. The four of us had walnut-sized lumps in our throats when we had to leave them after our five day stay.

What fun to walk out on the reef! A decidedly new experience for us. I'd never even seen a reef before. We explored that reef almost each day, fascinated to see mollusks live there that we'd seen only in the collectors' cabinets. Tridacna maxima Röding with its blue "smile" was everywhere. Cypraea moneta Linne and C. obvelata Lamarck were in groups under and on every coral head from the water's edge to the reef. I never tired of looking at the variety within each of the two species. Then the Trochus niloticus Linne (which is only uncommon there if very large) was so exciting to see in its environment. There were many different cones on the reef in pools amid the corals and several varieties of miters including our first Mitra stictica Link, found with its long proboscis extended, searching through the coral-sand substrate.

While we were there we had an exciting adventure on the reef by night. Two Australian guests and Jules and I went out with Wami as our guide. The two Australians were using the Fiji-style spear and were after fish and, of course, Jules and I were looking for shells. Wami knew every boulder of the reef and he had the ailing Coleman lantern. We'd all look for shells for awhile and then be "left" like Jack and Jill with their bucket, while the three hunted for fish for awhile. We followed Wami all over the reef, alternately shelling or fishing. Eels were everywhere, the crayfish were different (Wami caught them with his feet), small gar fish were found and enough shells to keep us trudging along. It was fun.

We saved one day for Suva. We left early in the morning by taxi for the 2½ hour trip. It turned out to be almost as economical to go by cab, especially since we could concentrate on the scenery and let the driver worry about the horrendous road. Alex, our Indian driver, was also an excellent guide. He took us on several side roads which we would never have seen otherwise.

As we neared Suva the scenery became more tropical and the humidity and temperature likewise. Once in Suva we enjoyed the exotic atmosphere, the smells, the colors and the throngs of people of all sizes and shapes bustling about the narrow streets. Most of the businesses and shops are run by Indians and the saris, fabrics and jewelry in the shops were exquisite. The saris were my weakness. Like a child in a toy store, I couldn't make a choice. Each favorite led to another still more lovely.

We wandered through the streets for several hours sometimes "rewandering" a few by mistake and then met Alex again, who drove us to other areas of the city and to the Governor's Palace and Gardens before the ride home to the Tubakula. We found Suva a compelling city in contrast to Nadi which is flavorless. However, cities are not our thing and we really preferred the little town of Sigatoka, just five minutes from our hotel in Korotogo. There we were able to buy anything we needed--delicious bread and more jam to go with our traveling companion--peanut butter.

Most of all we enjoyed being bums, away from towns and cities. Our best sightseeing was done with Wami who took us to his village just a few minutes away down the beach from the hotel. There the people still live in the cool bures woven of pandanus. We visited his church and his sister's home where we were invited in. We met his shy and beautiful little children and he explained how the bures are built and the uses of some of the articles within. We learned of the destruction done by the hurricanes to the bures. In the richer villages, the people are gradually rebuilding the bures with cinderblock to prevent their destruction by storms. The tin-roofed, cinderblock house looks poor compared to the delicate work of the traditional bure.

We found ourselves in the water of the lagoon several times a day. It seemed a shame to let it go to waste. There were always colorful fish to watch and large corals to investigate. The water was warm and I found it a pleasure to snorkel without all the paraphernalia of wet suit, weight belt, etc. Just snorkel, fins and mask. I was so excited when I found my first Cypraea tigris Linne in about ten feet of water, I nearly swallowed the whole lagoon!

Too soon our five days were over and though we were eagerly looking forward to The Blue Lagoon Cruise to the Yasawas, leave taking was very difficult. After much hugging and eye-wiping we were off in Alexis' taxi to Nadi and then the next morning up to Lautoka and the good ship Oleanda.

The 120 ft. Oleanda with its twenty air conditioned cabins, each with its own shower and toilet and the narrowest bunks in the world was a joy ride from beginning to end. Music always, by some member of the crew not too busy to plunk on a guitar and sing; delightful shipboard companions (the passengers mostly New Zealanders, a sprinkling of Australians and us); efficient and friendly crew and delicious food miraculously prepared in a pint-sized galley and served constantly. If it wasn't a meal, it was Tea or High Tea. While we all complained

that we were eating too much, we fought our way to the buffet table each teatime so as not to miss that tasty crumpet.

On the first day out we had a five hour trip to reach our destination at Nanuya-Lai-Lai. People still didn't know each other and the swells were a bit troublesome at times. But by early afternoon we were anchored, had made friends, been fed and were in paradise.

The waters off the Yasawas are crystal clear and pleasantly warm. Magnificent coral formations begin in about ten feet of water with hundreds upon hundreds of unbelievably beautiful fish. It was here on an early morning swim that I saw my first lionfish about thirty feet below me, gliding in and out of the coral. I couldn't believe my eyes.

The water was so clear that when I saw a shell on the bottom and dived to retrieve it my ears screamed in pain when I was just part of the way down. Realizing depth here was a whole new thing.

On our first evening the crew prepared a lovo (food baked underground) on the island--delicious suckling pig accompanied by sweet potatoes, tapioca and taro. We didn't think too much of the taro or tapioca. The tapioca is not at all what we think of at home. (On Viti Levu, however, Wami had a delicious dish out of the tapioca root.) After the feast we were entertained by the people of the village who were dressed in traditional costumes. At this meke, the women sang six or seven of their lovely songs and the men enacted several of their dances and accompanied themselves on some unusual instruments. They were not a professional troupe and they laughed and joked as they entertained and we laughed and enjoyed with them. When they'd finished their show, villagers and passengers all danced together till we all thought we'd drop. We all slept well that night.

The next day we sailed to the limestone caves at Sawa-I-Lau. We swam in the pools of the cave (in the saltiest water I'd ever tasted) while the young men of the crew scaled the walls of the cave and dived in from high above us. During the time on Sawa-I-Lau, the sea was rough and we didn't swim there. But Jules and I did some shore collecting, managing to be the last to return to the ship. We found some interesting shells on the rocky shore. We collected several Mancinella mancinella Linne, Turbo chrysostomus L. and T. cinereus Born. We saw chitons and several varieties of cones in the pools.

That afternoon we dressed up (dresses for the women, shirts and shorts for the men--shoes optional) and visited a village on the island of Nabukeru and thoroughly enjoyed the casual tour given by several members of the crew, one of whom came from that very village. His talk to us in his church (Methodist is the predominant church on the islands) was eloquent.

On our return to Nanuya-Lai-Lai it was in for swimming. We couldn't get enough of that glorious water with the fantastically beautiful fish.

Our last day on the Qeanda took us to a village market on Meura. What fun! All the ladies had their woven goods, shells and shell crafts spread out on the beach and we "shopped" from one to the other admiring, discussing price, just plain chatting and laughing and buying. We bought several coral "puka-style" necklaces ingeniously using hooks and eyes for clasps, a woven tablecloth and a Haliotis ovina Gmelin. (We promptly found a good dead specimen minutes later lying on the beach. The prices were so reasonable and it was such fun to buy--no bargaining--in this congenial atmosphere.

While we waited for the launch to take us back to the boat, the children of the village gave us an impromptu concert. Older boys climbed the palms and prepared coconuts for us and little children shyly sidled up to us and started conversations.

Our trip was almost over and we were on our way back to Lautoka. In 2½ days sixty or so strangers (passengers and crew) became a close-knit group, all of whom regretted leaving paradise.

--Next stop, French Polynesia.

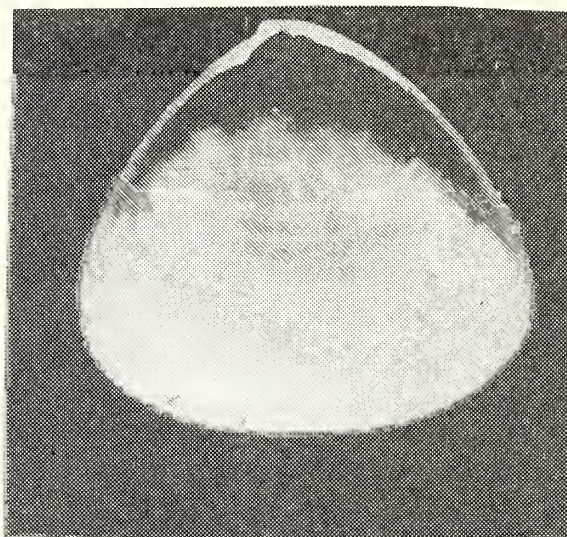
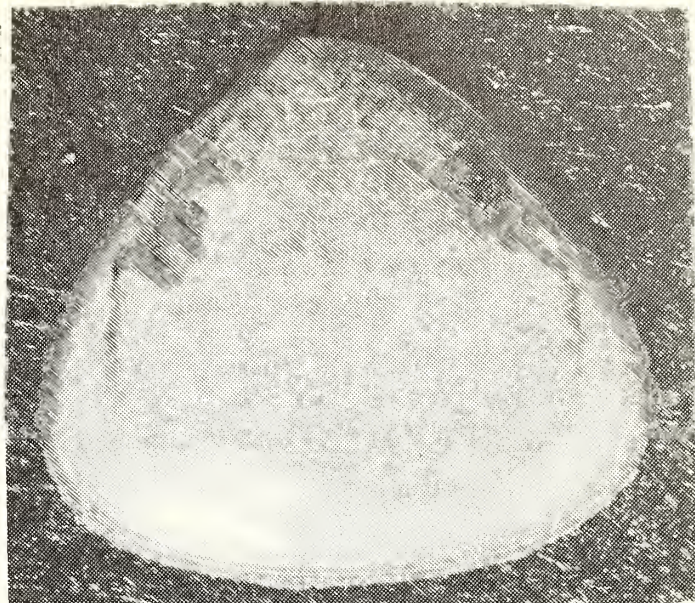
BORNIA CHICLAYA OLSSON, 1961
IN SAN FELIPE

The pictured Bornia chiclaya Olsson, 1961 was one of several found by Joyce Gemmell of San Felipe, Baja California, Mexico.

In 1967 she found them in San Felipe Bay after a big storm and in 1969 she found more north of San Felipe Point (around Pete's Camp) at kilometer 178. She collected about one dozen live--the animals are still dried in. They were found either in running streams or at the bottom of the slope on the sand flat in the drift.

In "Mollusks of the Tropical Eastern Pacific Panamic-Pacific Pelecepoda" by Axel A. Olsson, published in 1961 the range is given as two separate collecting points--Chimbote, Peru and Negritos, Peru with the holotype from Chimbote.

And in the second edition of Keen's "Sea Shells of Tropical West America" the range is given as Northwestern Peru and the shell is listed from a single valve.



Bornia chiclaya Olsson, 1961

Top - exterior view

Bottom - interior view

Actual size - 7mm long and 7mm wide

Photos by Dave Mulliner

BOOK REVIEW

CONE SHELLS OF THE WORLD, by J. A. Marsh. Illustrated by O. H. Rippingale. Published by Jacaranda Press Pty Ltd. First Published in 1964, second edition in 1968 and the third in 1974. 24 plates, 500 cones described, 185 pages. U.S.A. price \$25.00

Finally, after about 8 years in the waiting room, Jacaranda Press has published the 3rd edition of Marsh and Rippingale's CONE SHELLS OF THE WORLD. The book was to be revised and as much as I have seen, the revisions are few. They consist of correcting a typographical error on page 93 of the 2nd edition. There, the printers misnumbered two cones making Conus adamsoni into C. bullatus and vice-versa. Another revision was the addition of a two or three paragraph footnote on the bottom of page 13 which emphasizes the danger and the caution which should be used when collecting cones. Also, the footnote gives a case where a child found a pretty Conus textile, and then placed it in her mother's hand for her to see, (cute kid). This new 3rd edition has nice new colors for the drawings, and in the opinion of this reviewer, CONE SHELLS OF THE WORLD is still the best book available on the cone family. It gives good data on each species by describing the shells appearance and its range. - Martin Schuler

THUMBPRINT REVIEWS OF NEW OFFICERS

by Blanche Brewer

Our vice-president, (Dr.) Hugh Bradner teaches Engineering Physics and Geophysics (earthquake science) at U.C.S.D. in La Jolla and has been on the campus for fifteen years. Before that he instructed at Berkeley (another fifteen years) in the Radiation Laboratory in physics. During W.W.II, he was associated with the production of magnetic mines and also participated in the Manhattan Project at Los Alamos.

With his wife he has collected shells, casually, for years but began collecting seriously after a visit to Fiji and on a visit to Eniwetok decided to specialize in cypraea and conus.

At present he teaches a class on "Society and the Sea".

John Smith, corresponding secretary is a radar specialist in the navy with eight years behind him. He was born in Tampa, Florida and has collected shells since childhood. However, he has collected seriously only since the beginning of his last enlistment. He collects intertidally and also snorkels. He specializes in cypraea and pectens and enjoys "grunge" with a microscope.

Martin Schuler, our new treasurer, is a student at Mesa College in Kearny Mesa, majoring in Airport Administration with flight dispatching as a special field. He began collecting five years ago and has a diving companion in Peter Wienold. Martin specializes in cones and in three years has built up a collection of 120 species. His first cone was Conus textile, then C. geographus and C. obscurus. He enjoys habitat discoveries with snorkeling. (President, Bob Schoening and recording secretary, Blanche Brewer were 'thumb-nailed' in Festivus of Feb. 1975 having been on the Board at that time also. Ed.)

Following is a listing of the low tides in the northern Gulf of California for the year 1976. (Only dates with tides of -4ft. and below are given). Times shown are Mountain Standard Time, correct for Puerto Penasco but occurring about one hour earlier in the San Felipe area. Add 15-30 minutes to the calendar time for tide times at Bahia de Los Angeles.

FEBRUARY 13 a -4.0 ft at 7:00p.m.

14 a -5.2 ft at 7:30p.m.

15 a -6.0 ft at 8:00p.m.

16 a -4.0 ft at 8:30a.m. and -5.5ft at 8:40p.m.

17 a -4.2 ft at 9:00a.m. and -4.1ft at 9:00p.m.

18 a -4.0 ft at 9:30a.m.

JUNE 11 a -4.7ft at 6:50 a.m.

12 a -4.9ft at 8:00 a.m.

13 a -4.1ft at 9:00 a.m.

JULY 11 a -4 ft at 8:00 a.m.

AUGUST none

SEPTEMBER 23 a -4 ft at 7:30 p.m.

24 a -4.5ft at 8:00p.m.

25 a -4 ft. at 9:15p.m.

OCTOBER 21 a -4ft. at 6:15 p.m.

22 a -5.5 ft. at 7:00p.m.

23 a -5.8 ft. at 8:00p.m.

24 a -5.0 ft. at 8:30p.m.

MARCH 13 a -4.0 at 6:30p.m.

14 a -5.0 at 7:00p.m.

15 a -4.8 at 7:30a.m. and -5.9ft at 7:30p.m.

16 a -5.9 at 8:00a.m. and -5.6ft at 8:00p.m.

17 a -6.0 at 8:30a.m. and -4.1ft at 9:00p.m.

18 a -5.6 at 9:00a.m.

19 a -4.0 at 9:30 a.m.

APRIL 12 a -4.0 at 6:00a.m.

13 a -5.0 at 7:00a.m. and -4.1 at 8:00p.m.

14 a -6.0 at 7:30a.m. and -4.0 at 8:00p.m.

15 a -6.0 at 8:15a.m.

16 a -5.9 at 9:00a.m.

17 a -4.0 at 9:30a.m.

NOVEMBER 20 a -5.9ft at 7:00p.m.

21 a -6.0ft at 7:45p.m.

22 a -5.9ft at 8:00p.m.

23 a -4.0ft at 9:00p.m.

MAY 11 a -4ft. at 6:00a.m.

12 a -5ft at 6:45a.m.

13 a -6ft at 7:10a.m.

14 a -6ft at 7:50a.m.

15 a -4.9 at 9:00a.m.

DECEMBER 18 a -4.0ft at 6:00p.m.

19 a -4.8ft at 7:00p.m.

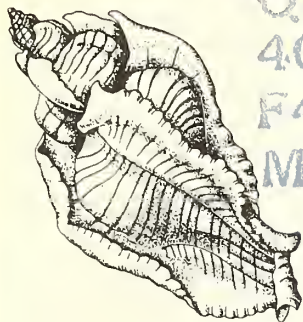
20 a -5.9ft at 7:45p.m.

21 a -5.7ft at 8:00p.m.

22 a 4.0ft at 8:50p.m.

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., Room 104.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Treasurer: Martin Schuler
Editor: Carole Hertz

Annual Dues: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

VOL VII

MARCH 1976

NO. 3

* PROGRAM: Anthony D'Attilio will speak on The Genus Typhis in Tertiary *
* Caribbean Faunal Province. His talk will be illustrated with *
* slides. *
* Date: March 18, 1976 Time: 7:30 PM Room: 101 *
* SAVE THE DATE: The Club Auction/Pot Luck will be on Saturday, April 24 at *
* the home of Norm Currin (map next issue) and will start at 6PM. *

FROM THE MINUTES

Our speaker, James Stewart accompanied his talk on his work in Antarctica with slides. (Article follows) Minutes of the previous meeting were read and approved. The Treasurer reported a balance of \$374.45.

It was decided that the Shell Auction/Pot Luck will be held on April 24th at the home of Norm Currin. Members were urged to get their shell donations ready.

The Club will continue its participation in The Greater San Diego Science Fair which opens on April 21. We will again offer the choice of books to the winning upper division entrant in the category of marine life chosen by our committee. The committee this year is Chairman Hugh Bradner, Anthony D'Attilio and Dave Mulliner.

The Shell Raffle was held as scheduled with tickets selling at fifty cents. Norval Brewer volunteered to take charge of coffee. More members are needed on the telephone committee.

Kay Taylor won the shell drawing.

NEW MEMBERS

LEVINE, Morris and Anita
139-62 Pershing Cres.
Jamaica, N.Y. 11435

KIRKPATRICK, June
3050 Rue d' Orleans Apt 430
San Diego, Ca. 92110
222-2369

IMPRESSIONS OF ANTARCTICA

Mr. James Stewart, chief diving officer for Scripps Institute of Oceanography was a member of a group that travelled to Antarctica in September 1975. Men and equipment left from Pt. Mugu, Calif. to Ross Island, Antarctica by way of Hawaii, Pago Pago, Samoa and Christchurch, New Zealand on an undersea research project through the daylight period--the sun rises in September and sets in March.

They landed in a white, white world where the ice cap is some 8,000 feet deep and the humidity is zero. A shelf of glacial ice stretches far out to sea and the land rises from sea level to 14,000 feet.

Inland from the base are three volcanoes. Mt. Erebus, 13,000 feet high is an active volcano. There is usually a cloud above the vent but during their stay Erebus smoked for the first time--on record, that is.

There are no inhabitants, no plants and no land animals. Survival on one's own is impossible. Everything to sustain life must be carried there. The comfortable mobile living quarters at Ross Island are miracles of modern technology.

They came to this land to do underwater research. Before they could do it, they had to bore holes through the ice shelf. They accomplished this with a giant bit which was mounted on a truck. The water is 28°F and very, very clear. The divers, either in wet or dry suits, descend into the water by these holes, taking cameras and other equipment with them.

As they come up through the hole, the top water is freezing and it's like swimming through a "Slurpy". They may encounter a seal who would like to use the hole also. The Weddell seals are not to be feared but the leopard seals are killers. Killer whales are world wide hazards.

The five species of penguins that live in this "deep freeze" land get all their food from the sea and exist in large colonies. The penguins hold their single egg on their feet in the deep folds of their underbodies and later the baby until it is fully clothed in its fat and feather-fur and able to cope.

Other forms of life are giant sponges, like the huge oil jars of "Ali Baba", large enough to hold (and did) the body of a man, fragile anemones, delicate, small shells (4 species) and brittle starfish.

Blanche Brewer

HAWAIIAN SHELLING

by Billee Dilworth

When my sister, Twila Bratcher, was to be a judge at the Hawaiian Shell Show, she invited me to join her. Our first stop was Coco Palms on the island of Kauai. Our room had been planned for lovers of the sea. The tiled shower was designed by an artist who must have been a marine biologist. The ceramic tiles had been painted into a mural before being fired. The bottom of the shower showed shells with the animals extended as they would be on the ocean floor. A cleaner shrimp, club sea urchin and an abalone were among the pictures on the tiles. The sides of the shower depicted corals interspersed with animals and fish. Occasional schools of small fish glided by. Looking at the ceiling created the illusion of being deep in the ocean where, looking up one saw the undersides of a school of small shark. Several tiles were used to make a lionfish whose body and fins extended out to form a soap holder. Our washbasin was a giant tridacna clam. The motif of the bedspread was sea shells.

Readers of the Hawaiian Shell News will be acquainted with the "General Store" where Reg Gage and Jim McDowall have collected so many fabulous shells. They took us diving and shared their collecting area with us, a generous and gracious thing for Hawaiian divers to do. They have so many visitors and a limited, fragile area.

Several of our Hawaiian diving friends use diving lines. They attach the 75-85ft. line by a brass swivel clasp to either the stern or bow anchor. A weight at the other end enables the diver to leave the line without losing it. The line floats, which keeps it from becoming entangled in coral, a perfect system to assure that the diver surfaces at the boat even in a current or murky water.

Most of our diving on Oahu was at about 75 feet. As this trip was my first opportunity to use SCUBA in Hawaii, most everything I collected was a first for me; Strombus helli, Murex pele in several colors and Cypraea gaskoini. On our last dive I found a lovely, large, dark Cypraea tessellata. A friend took us sand dredging at Punuluu and we came back with many terebra species Twila wanted to study. Snorkel diving with a hand dredge is tiring. On our second location we used SCUBA. That was fun. I even dredged a dead Cypraea semiplota.

Turning coral rubble was like a treasure hunt. You never knew what you might find. We were not lucky enough to find a Cypraea ostergaardi at the "General Store" but dredging with Ellis Cross produced one. I kept hoping to find a Cypraea rashleighana but no such luck. Something to look forward to on the next trip.

On our initial dive I entered the water first, my diving bar in one hand, the goodie bag in the other and my new diving line under one arm. As I started down to attach my line to the bottom, my mask half-filled with water. I surfaced to empty and adjust it. I hooked an arm around the anchor line and used both hands to lift off my mask. Too late I realized I had dropped my line. The water was clear and I watched the weight carrying it to the bottom 90 feet below. Ear pressure would not let me descend that rapidly. I did not take my eyes off the coil of white until it came to rest below. It looked like the many white spots were were small coral heads. The current was pulling the anchor line to a different position and I was afraid I'd lose my line before ever using it. Twila's ears were clearing more quickly than mine. As she passed me I pointed to her line and then mine on the bottom, hoping that when she reached the bottom she would retrieve it for me. When she saw my line, she thought, "I must tell Billee that is not the way to do it." By the time I reached the bottom I didn't know for sure which white spot was the line, but headed in what I hoped was the right direction. Luckily I found it and started back to the anchor line. When I met Twila I decided to save time and clipped my line onto hers.

Looking under every piece of coral rubble near us we found mostly dead, crabbed shells covered with sea anemones, which we left. Imagine our chagrin when we discovered the goodies Jim and Reg were displaying were mostly crabbed, anemone shells. We really made a mistake since we did not have another dive in an area with so many similar shells. It was my first experience diving with Twila's decompression meter. It is a good gadget but when it indicated it was time to head for the surface and I still had 1500 pounds of air in my tank I wanted to throw the meter away. As you make a second dive you don't have as much time on the bottom unless you want to make a decompression dive-- hanging on the anchor line until the meter gets out of the red.

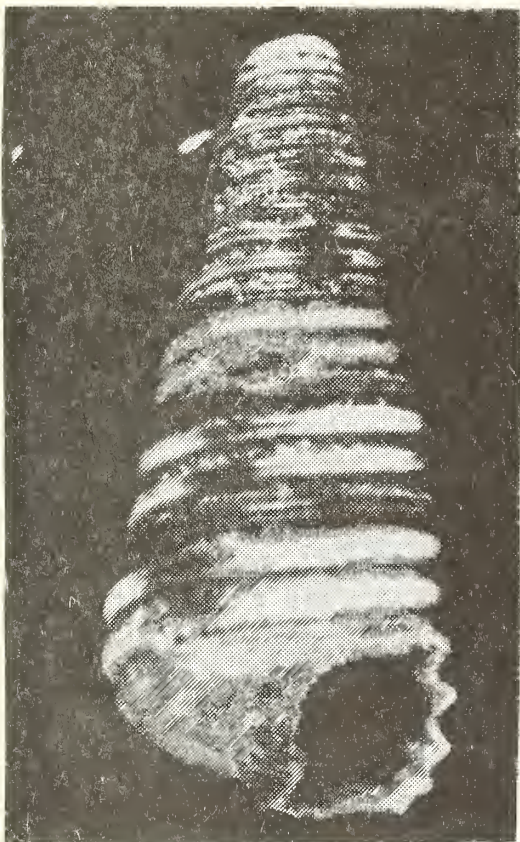
CORRECTION

In the last issue of the Festivus (Vol. VII, No.2, P.8) in the article by C.M. Hertz, "Traveling and Collecting in Fiji," the author mentioned collecting Cypraea obvelata Lamarck on Fiji. This should have been C. annulus Linne. Cypraea obvelata was found in abundance on Huahine, Fr. Polynesia but not at all on Fiji.

MINUTE SHELLS

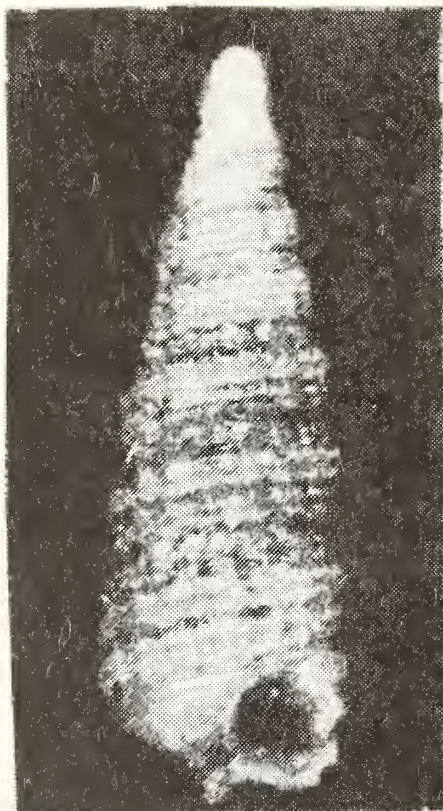
With this issue, the *Festivus* is starting what hopefully will be a monthly feature. It has long been recognized that some of the most beautiful marine shells are minute (less than one-half inch). There are relatively few amateur collectors of minute shells mainly because of the amount of time required for gathering and sorting grunge, the difficulties in obtaining species' identifications and the problems in properly displaying the shells. It is hoped that by printing good photographs of minute shells with accurate data, the interest in miniatures will greatly increase. In many cases the identification of the shells will be unknown, and the naming of the shells or other comments from the readership will be greatly appreciated and printed in future issues. There is a large supply of small species available at this time from grunge obtained in the Galapagos Islands, Antarctica, Mexico and the West coast of the USA. Our staff photographer, David K. Mulliner, has heartily endorsed this monthly feature, and below appear photographs taken by him of shells collected by the Ameripagos Expedition at Flamingo Cove, Floreana Island, Galapagos Islands on March 15-16, 1971 in grunge obtained in 6-12 feet of water

J. Hertz



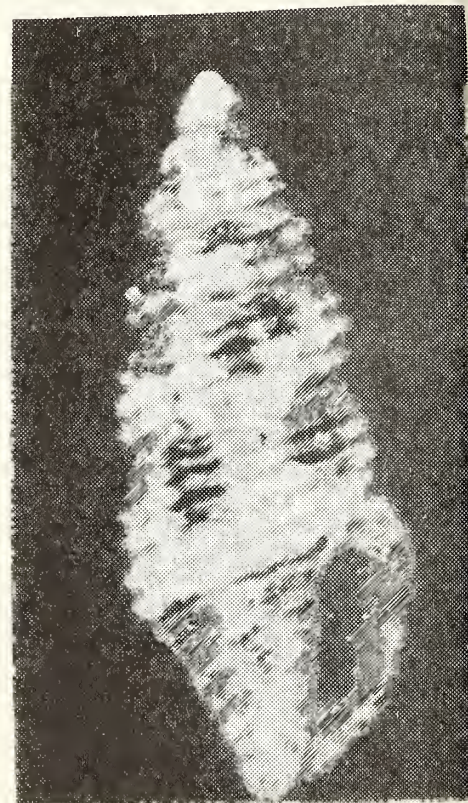
Seila assimolata (C.B. Adams, 1852)*

actual size: 3.5mm



Cerithiopsis neglecta (C.B. Adams, 1852)

actual size: 3mm



Nassarina (Steironepion) melanosticta (Pilsbry & Lowe, 1932)
actual size: 4mm

* Note geographical distribution in Veliger article, Vol. 17; No. 4, p. 335 by Dushane and Draper.

ADVENTURE ON THE SAN BLAS ISLANDS

By Dr. Frank King

It was Easter Sunday afternoon and a stiff breeze had come up raising heavy swells that poured spray over us as we huddled in a big dugout canoe headed across open sea toward some tiny coral island over the horizon. Our Cuna Indian guide's face was inscrutable as he hung on to the motor with one hand and used a big gourd to bail with the other. Only eight year old David was having fun. He sat in the bow with a mask and snorkle in place and acted as if he did this sort of thing every day. Ordinarily I would have been seasick, but I was too scared.

We had arrived earlier in the day on one of the northern islands in the San Blas chain off the Caribbean coast of Panama and received the usual tour of the villages on two of the 365 islands that stretched from just below Collon to the northern coast of Columbia. Here the Cuna Indians, driven from the mainland by Columbus and his gang, settled in the early 1500's and have steadfastly maintained their way of life to the present. Each day, light planes bring in a load of tourists who photograph the natives in their colorful costume, gold nose rings and elaborate gold jewelry--the depository for the family's wealth. A brisk trade in native crafts goes on, especially for the famous Molas--applied panels of material used by the women to make blouses. After lunch, most of the visitors returned to Panama City, but it is possible to remain overnight in the local hotel. My family of four was the only remaining group that day.

Lunch consisted of vegetables and fish from the area. The main dish was a large plate of Strombus pugilis. It seems that a class of scuba divers had been in the day before for their final exam and vast numbers of the shells had been collected. The divers kept the shells and the tourists got the animals. They weren't too bad. Our stomachs full but in an uncertain state of tranquility, the planes loaded and disappeared into the clouds, leaving us at the mercy of the savages. We were told we had free use of a boat and guide for the rest of the day. In pidgin Spanish, we explained that shell collecting was our game and please put us in the best spot. With this we headed out to sea.

After an hour, a speck appeared on the horizon and in another half hour we pulled up beside an old wrecked ship and onto a sheltered beach. The two acre-sized island was covered with coconut palms and a coral reef sloped away to the leeward side. On the windward side, rather heavy surf and high tide kept us high and dry. Through the leaky snorkle and mask the indians gladly lent us, we were able to see and enjoy the very beautiful reef fish and coral formation one would expect, but mollusks were apparently all "out to lunch" as we found only one as yet unidentified Cymatium about two inches long under a huge boulder. The beach yielded a few old shells, but most of all we reaped a harvest of beauty and solitude not often experienced by modern man.

Back in our cayuco, a 20 foot dugout with high side boards, we headed for another island on the horizon and as we rounded its tip twenty minutes later, our guide pointed over the side and said, "conches--conches." The water looked twenty feet deep and the bottom was a pasture of eelgrass. It was getting late, the waves were still high and I remembered the leaky mask and promptly chickened out and motioned him to shore. Under the watchful eye of the resident indians of the palm-covered, sandy paradise, we quickly scoured the beaches and shallows where we picked up some recently dead Strombus raninus, some old Livona pica and the most beautifully colored Tellina radiata I'd ever seen.

The sun was low as we headed back to our home island and it was obvious that we would arrive after dark. Resigned to our doubtful fate, we found ourselves surfing along before eight foot swells reminiscent of the roller coaster at Belmont Park.

Drenched and profoundly grateful to Whatever Power had spared us, we motored in to the dock near our hotel. After a dinner of what was, I believe, either iguana or alligator, we retired to our room on the second level of our thatched, bamboo hotel. Believe it or not, plumbing had been installed, but since there is no water on the island except that brought from mainland rivers by canoe, it was not 100% functional.

After a fitful night of worrying over the next day's flight out in all the rain we heard falling through the night, we were pleased to find the sun in a cloudless sky. The wind in the thatch had completely fooled us.

Gratefully we ate a slice of canned ham for breakfast and were ready to go trading again when the morning group of tourists arrived. A loud siren sounds to announce the approach of the first little plane and the natives hang out their Molasses and carvings for inspection and the pretty young women get into their finest apparel to pose for pictures at a standard 25¢ per shot.

High point of the morning was a vain attempt to buy a beautiful Chank shell from an indian girl for fifteen cents while she held out to the end for a quarter. When we boarded our plane (and all the way home for that matter) I clutched a smelly but perfect Strombus gigas under my arm, our stomachs all full of lobster.

Travelers in Panama can arrange trips to the San Blas Islands through the hotel travel agencies. We arranged ours at the El Continental. It was called the Kibe Tour and it cost \$35.00 each for Dot and me and about half that for Steven and David, aged six and eight. The night's room and board and the guide service only added \$10.00 to the single day trip rate.

The Cuna Indians are going modern. The little girls no longer get the gold nose ring and Spanish is the language used in schools rather than the traditional dialect. We hope we can get back before the whole culture is altered and would encourage anyone else who might be interested to do so.

NOTICES

The Shell Raffle is a new trial feature of our Club meetings. Twenty-five dollars worth of shells are purchased by a committee and brought to the meeting at which time tickets are sold for 50¢ apiece. After coffee break the "wheel of fortune" turns until all the displayed shells are "won". Part of the money earned goes into a revolving fund to buy more shells for the next raffle and a percentage goes into the Club treasury. After a trial period, the membership will decide whether or not to make the raffle a permanent part of our meetings.

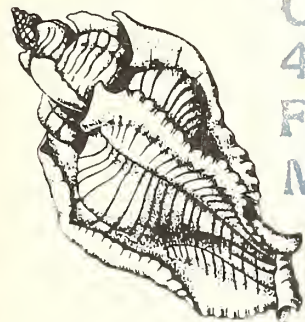
--Come to the meeting--See if you like the raffle!:

The Club's annual Auction/Pot Luck will be at Norm Currin's house on Saturday, April 24 at 6:00P.M. Members' shell donations are needed to make this event a success. The moneys raised at the auction support most of the Club's endeavors for the year i.e. the Festivus, the library, donations, parties--and keep the membership dues low. It is hoped that each member will donate specimen quality shells with complete data when possible. Bring you shell contribution to the March meeting or make arrangements with a Board member for its pickup.

As always, the Festivus is in need of articles. They need not be long and they need not be typed but they need to be submitted--more often and by more members. Send our give your article to Carole Hertz--anytime soon.

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

THE FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

CASA DEL PRADO BALBOA PARK

(Across from Natural History Museum)

MEETS THIRD THURSDAY --7:30 P.M., Room 104.

President: Bob Schoening

Vice-President: Hugh Bradner

Recording Secretary: Blanche Brewer

Corresponding Secretary: John Smith

Treasurer: Martin Schuler

Editor: Carole Hertz

Annual Dues: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.

Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

VOL. VII

APRIL 1976

NO. 4

* NO REGULAR MEETING THIS MONTH *
* IT'S AUCTION TIME *
* Saturday, April 24 *
* at 6:00 PM *
* at the home of Norm Currin *
* (See map and instructions on last page.) *

FROM THE MINUTES

Our regular meeting was held March 18 in Room 101 in the Casa del Prado. The program, a talk and slides by Anthony D'Attilio. His subject was "The Genus Typhis in the Tertiary Caribbean Faunal Province." (His talk will be printed in the May issue of the Festivus).

Minutes of previous meeting read and approved.

We were again reminded to make plantings for the plant sale by the San Diego Botanical Foundation on May 29-30 in the Casa del Prado.

It was announced that the Shell Auction will be held at Norman Currin's home on April 24th at 6:00 P.M. Also, that very few shells had been received for the auction. Nola Michel volunteered to cook the ham to be bought by the Club.

Jules Hertz won the shell drawing.

Several items were offered in the raffle-very nice shells purchased from Don Pisor.

A list was circulated for signup for food donations for the potluck dinner preceding the auction.

MINUTE SHELLS

By Jules Hertz

We have heard from Dr. George Radwin that the small columbellid pictured in the March 1976 issue of the *Festivus* may have been misnamed. The shell was identified as Nassarina (Steironepion) melanosticta (Pilsbry & Lowe, 1932 but may in fact be Steironepion hancocki Hertlein & Strong, 1939. Absolute identification would require microscopic examination of the shell and comparison with shells presently housed at the San Diego Museum of Natural History.

Nassarina melanosticta has almost reticulate sculpture whereas Steironepion hancocki has more prominent spiral sculpture. Nassarina melanosticta has distinct brown spots just on nodules formed by intersections of the axial and spiral sculpture. Steironepion hancocki has irregular patches of brown between cords and sometimes extending over cords. The S. hancocki was named as a Pleistocene fossil with Galapagos Islands as the type locality.

Further study of the shell pictured in the March 1976 *Festivus* will be reported at a later date. Hopefully, this will be accompanied by magnifications of the sculptures of N. melanosticta, S. hancocki, and Nassarina (Steironepion) tincta (Carpenter, 1864). The latter known previously as Mangelia fredbakeri Pilsbry, 1932 is another Panamic look-alike. There is some disagreement at present as to whether Steironepion is a genus or subgenus.

Pictured below are two more minute shells obtained in grunge brought back by the Ameripagos Expedition. The grunge was collected in six to twelve feet of water, Flamingo Cove, near Post Office Bay, Floreana Island, Galapagos Islands, Ecuador, March 15-16, 1971. Photographs are by David Mulliner, *Festivus* staff photographer.



Nassarius scabriusculus
(Powys, 1835)
size: 3mm.



Nassarius gallegosi Strong & Hertlein, 1937
size: 5mm

TAHITI - 1975 - The Island of MAUPITI

By Marge and Hugh Bradner

Spending time on Maupiti was the main objective for this year's trip to Tahiti. We had visited the island overnight a couple of years ago. The little we saw of the reefs and the lagoon, the island and the people, made us want to return. All of our reservations had been made to meet infrequent plane schedules. After several days on Huahine, we flew to Raiatea to be on hand to catch the early flight to Maupiti. We left most of our luggage to be transferred to the Bali Hai-Moorea and carried with us a large fillet with our swim fins, snorkles, collecting bags, wet suits, face plates and dredge. One small suitcase was enough for our bathing suits, pareaus, suntan oil and toothbrushes. We hand carried a basket containing collecting bottles filled with alcohol.

There were lots of people at the airstrip wearing colorful pareaus, cowrie-trimmed straw hats, flowers. Whole families were there to greet arriving relatives and friends or to say farewell to departing ones. We delighted in the color, excitement and music found only at an outer-island airstrip. We edged up to the desk to pick up our boarding passes.

OUR NAMES WERE NOT ON THE PASSENGER LIST SENT FROM PAPEETE!

This was impossible. We had reservations. They had been reconfirmed in Papeete, again on Huahine and just the night before with the Air Polynesia agent in Uteroa, Raiatea. But the plane was filled and seven Tahitians were waitlisted ahead of us. Pounding the table, raising voices, phoning Air Polynesia in Papeete and the Bali Hai on Moorea were to no avail. There was no space.

My tears almost blinded me when the scheduled flight took off, but not enough to prevent me from seeing the Bali Hai manager's face light up. I followed his glance and saw a Cessna under a small thatched-roof hangar at the edge of the airstrip. If we could use the plane and if we could find a pilot, we might yet get to Maupiti.

More phone calls....these were all local ones. Charlie Higgins arrived and approved the use of the Aero Club Raiatea plane. A half hour later a pilot appeared. A young French-Tahitian also wanted to go so I sat up front as co-pilot. Life jackets and seat belts adjusted----ON TO MAUPITI!

Bora Bora was sparkling in the morning sun and the atoll of Tupai seemed a silver ring in the distant sea. Maupiti's cloud cover opened up- precipitous cliff behind the village, verdant green summits, iridescent lagoon, palm-covered motus, encircling reef and treacherous pass--this is OUR island.

It took only a few minutes to fly around the island - it takes almost two hours to walk around it. The volcanic peaks drop sharply to the shore with some valleys where cleared spots support local crops. Coconut palms hug the shore line and in some places ascend toward the summits. A sharply angled deep water pass is the only entrance to the lagoon from the open sea. Its dangers were apparent when viewed from the air - narrow with a sharp bend at the narrowest spot. Yachtsmen rarely visit Maupiti because a successful passage cannot be made unless ideal conditions of weather, tides, currents and wind exist. Even the trading schooner bringing in much needed supplies arrives infrequently. A local boat returning from Bora Bora a few years back in heavy seas went onto the reef and more than forty lives were lost. Sections of land on the motus are cleared for Maupiti's only commercial crop - watermelons.

We buzzed the town, flew low over the lagoon and landed on the airstrip built across the motu. The boat carrying the passengers from the commercial flight to the village a mile and a half away was a hundred yards or so out in the lagoon. We expected they would return for us shortly. Our French-Tahitian who was used to the ways of Polynesia went off into the coconut grove and came back shortly with husked, fresh coconuts for us. It was a beautiful day in the South Pacific with gently trade winds and small lagoon waves gently lapping against the shore as we drank the effervescent water from a young coconut. We walked the length of the runway built out into the lagoon at one end and ending

abruptly at the edge of the barrier reef at the other. We reveled in the complete isolation; we got caught up with our diary notes; we snoozed on the beach; we waited.

After a couple of hours we realized that we were stranded on the motu and no one was coming for us. We could wait until later afternoon when the pilot would return to his plane....but it was only 10:00 a.m. Brad looked toward the island. Should he swim for it? Wearing swim fins and tucking his coral shoes into his swimming trunks for walking to the village after arrival, he took off. I watched his progress. A mile and a half is a long distance when watching from sea level. When he was well out over the deep channel, I couldn't distinguish between a splash from a swim fin and a white cap on the water. I was straining my eyes when I heard a yell from the Frenchman. He had sighted a lone fisherman in a canoe approaching the far end of the motu. The Frenchman dashed off to waylay him and negotiate a ride to the village. Success. The fisherman putt-putted over to where I was waiting and we loaded ourselves and our bags into the small boat. After a few false starts, the aged motor took hold and we reached shore about the same time and place as Brad.

Brad reported a beautiful but uneventful swim except for one section where the coral grew almost to the surface. He put his coral shoes on his hands, arched his back and carefully crawled and floated over the sharp antler coral a few inches below the surface.

We stacked our bags beside the road and started walking toward the village. We asked the first person we met "Ou est la maison d'Etera?" "La bas" pointing toward the village. Later we repeated the question and got the same answer. When we arrived at the center of the village a charming Tahitian personally led us 'chez Etera'.

We walked through the hedge of hibiscus and ginger. The commercial pilot relaxing on the verandah looked startled when he saw us. "Nous cherchons Etera?" From the side of the house came a tall muscular Tahitian with skin like waxed bronze. Cries from the house "Marge and Brad, how did you get here?" From Brad, "I swam." From me, "I hitch-hiked."

They greeted us with hugs and kisses and flower leis. They had gone to the motu to meet us wearing pareaus, bright smiles, flower leis over their arms and "Iaorana" on their lips. But...there were only Tahitians on the plane. They had returned to the island disappointed, and when they saw the small Cessna coming in for a landing thought it was dropping off supplies, never dreaming that it was carrying two Americans eager to become reacquainted with Maupiti.

We had a magnificent lunch on the open verandah...poisson cru made with fresh coconut milk, large lobster from the reef, crisp hunks of french bread imported from Raiatea washed down with large bottles of Hinano.

Etera was born and raised on Maupiti. His extended family encompasses a good percentage of the population of the island and his family's land holdings include many of the most magnificent spots on the tiny island. Etera is the Air Polynesia agent on the island, and he also takes guests into his home which consists of two rooms with a small kitchen in the back and a wide verandah in front. The decorations were local crafts. Beautifully appliqued pillow covers called 'tifaifai' were on all the beds. Artistically mad vases of cowrie shells were filled with hibiscus and ginger. Unusual shell leis are made on Maupiti. Designs included butterflies, turtles, stars, manta rays and the best known - Maupiti's three medallions. Curtains, tablecloth, and drapes dividing a room were made of brightly colored pareau materials.

We were anxious to start shelling. That first afternoon we biked to the shallow bay beyond the village where a reef of soft coral reaches the surface a hundred yards from shore. Shelling was good; Cypraea obvelata, C. caputserpentis, C. moneta were there in abundance. A certain chemical in the water causes some of the C. carneola to have a heavy slightly greenish callous on the dorsum. We found a few of my favorite little brown shell that we have called dwarf C. caputserpentis for lack of a better name. Other cypraea that are common but not abundant are lynx, vitellus, staphylaea and erosa. Rarely did we turn a rock without finding cypraea on the underside.

Darkness comes with the setting sun. The dinner table was lighted by a single kerosene lamp. Only at the clinic is there a generator for electricity. We wanted to do some night shelling although this has never been our forte - remember the unnamed reef on Fiji! Bicycling along the rough road balancing a flashlight on the handlebar was difficult enough, but dodging dogs, and avoiding pedestrians made it slow going. However, it was magnificent. We heard and saw a dozen different groups, singing, dancing, playing guitars and practicing for the local 'Fete' competition which would take place the following week. Groups were dancing in the middle of the road to the accompaniment of guitars and drums and illuminated by a single kerosene lamp. The open pool hall on the edge of the lagoon was filled with players. Rounding the end of the island the blackness was almost complete. The beams from our flashlights showed shadows on the deepest ruts; a glistening delineated the muddy patches; the downgrades were deceptive and an upgrade slowed us down. We left the bikes a few hundred yards from the shelling beach as the brush and plants on the path made cycling impossible.

The stars were reflected in the calm water of the lagoon. Dozens of tiny fish darted into the beams from our lights as we made our way in ankle to knee deep water toward the reef. Etera was skeptical about the whole idea of night shelling until he was able to borrow a bright lantern from a friend returning from an evening of spear fishing. Then he joined us out in the shallow lagoon. The reef was exposed. The night was dark. But the cowries must have seen us coming. Occasionally a small C. obvelata appeared but that was about all. Even turning rocks at night was not as productive as doing the same thing during the day. Some time, some place, some way we hope to find successful night shelling.

The French government has work projects on all of the islands. On Maupiti it's building a road around the island. Why? I don't know. A retired dentist has a car but he uses it only once a week to drive into town for his mail and besides he spends six months of the year in France. Raioro's truck broke down some time ago. However, bicycling is somewhat easier in those sections where the road is completed.

La soupe de corail (dredging piles) is always an interesting shelling area. It is possible to get a good idea, and many good specimens of the shells of the lagoon. If we had not been concentrating only on cypraea, we could have filled our collecting bags in record time. There were several good coral heads from ten to thirty feet out in the lagoon. Brad went into the water and Miro, our hosts' faithful dog, followed him. Swimming and diving with a dog at your shoulder is disconcerting. Brad dove and swam away underwater while Miro looked around in a 360 degree circle trying to find him. As soon as Brad surfaced, Miro headed for him. When I went in, Miro was torn. Should he stick with Brad or should he take care of me? He solved the situation by standing on a coral head under a few inches of water from which he could watch both of us.

The shelling was good....the untouched coral heads were alive with fish and shells. As well as the usual cypraea, Brad found a large C. arabica. I dove down and hung on to a piece of coral to better look into a crevice. I didn't stay because a moray eel was looking right back at me. I headed for shore and was starting to climb out of the water when I felt something at my shoulder... Miro had come to make sure that I was all right. Miro is a remarkable dog. He would heel beautifully whether we were on bicycles or swimming. Even altercations with other dogs protecting their territory did not deter him from his watchfulness for long.

While we were shelling, Etera was canvassing the island for just the right couchon de lait (suckling pig) for our dinner. He was preparing a Tahitian feast. The Himaa (Tahitian fire pit for cooking) was lined with volcanic stones and a fire built to heat them to the proper temperature. The food was laid on top of banana leaves: cochon de lait; umara (potatoes - several varieties); maia puroini (baked bananas); and a sweet dessert, maia puroini poe. The whole thing was covered with banana leaves, burlap sacking and sand. Several hours later, steam-

ing with a mouthwatering aroma, the himaa was uncovered. We ate the succulent pieces of meat and vegetables served on a banana leaf with our fingers accompanied by punch a la Jeanne. A memorable three star meal in the Bradner's Guide to French Polynesia.

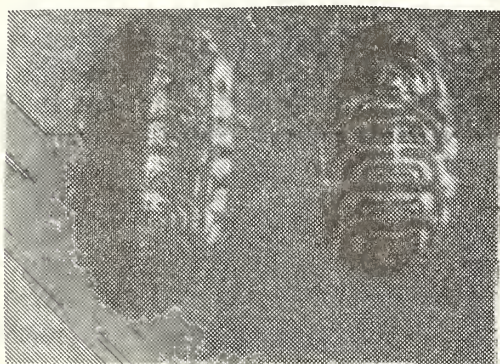
Awakening sounds of Maupiti - during that period between sleep and complete wakefulness. Children singing, roosters crowing, chickens clucking, ukulele strumming, sawing, quiet voices, dogs barking, cats meowing, birds singing, earth-moving truck starting, a teacher's whistle, an outboard returning from a night of fishing on the reef, water slowly running into a bucket from a spigot on the road. By the time the sun is just above the horizon, the island is completely awake.

One shell that we have found only on Maupiti is the pale blue C. annulus obvelata.....it is like the Tahitian gold-ringer, but without the gold ring. We collected many of these, but learned that in a shallow pass between two motus, the color was a pale violet. We were anxious to add this one to our collection. We needed a boat. It was Sunday. The Protestants would not take us nor would they rent us their boat because "the boat was also Protestant." However, a Seventh Day Adventist neighbor, Ma iti, was available.

We decided to make a picnic of the excursion. Etera cut some breadfruit from the front garden which we loaded onto the boat along with spear fishing equipment and all of our shelling gear and headed for the shallow pass. Etera took off right away to spear fish for lunch. Ma iti went off collecting sea urchins. We turned rocks. The first rock exposed a dozen of the pale violet C. obvelata. Each rock was covered....on some the shells were almost on top of each other.... occasionally a C. carneola or a moneta or a caputserpentis....but this was the concentrated home ground for the little shell we were searching. Our collecting gabs were filled; our backs were tired; we were hungry. The speared fish (apai, upao, tiere, maito) was being grilled on hot rocks, the poisson cru (uhu, tanifa, maito) was marinating, the vana (sea urchin roe) was cleaned and waiting. The charred breadfruit was cooked to perfection. Etera cut large rauere tafano (leaves) for plates. We had a delicious picnic off the land.

With the afternoon ahead of us we cruised around the island of Maupiti. We could see a fire in one of the canyons where ground was being cleared for planting. A small black tipped shark skimmed by the boat, sea birds were cruising in the clear sky over the lagoon, long-legged heron relaxed in the shallow water near the shore. We stopped at a motu near the deep pass where the meloni (watermelons) were ripe and ate the sweet, juicy fruit while standing knee deep in the water. Shelling here was superb but not for cowries. Olives, miters, terebras, strombus etc. were in abundance. Here we were sightseers. We followed trails, dove, collected and returned our finds to the sea. It was a beautiful final afternoon which included a brief tropical squall on the return to the village.

Maupiti is unspoiled by the influx of the outside world....I hope it can remain that way for a while longer. But the people are poor, the cost of staples (rice, bread, meat) is high. The desire for a higher standard of living is increasing. Time will change Maupiti but it will always be somewhat isolated and perhaps it will be able to remain a little bit of Paradise in the Pacific.



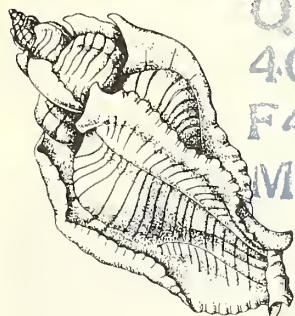
Interesting patterns of Radsiella petaloides (Gould, 1846). Synonym- Ischnochiton mariposa Dall, 1919. From Conception Bay, Baja Calif., Mexico. March, 1974.

Photo and Collector - Barbara W. Myers

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

Vol. VII

May 1976

No. 5

* PROGRAM: Dr. James McLean of the Los Angeles County Museum will give an
* illustrated talk on collecting in Chile.
*
* Michael Jay, the Shell Club's winner in the 1976 San Diego Science
* Fair will give a brief summary of his project, "Testing for Red
* Tide Organism in San Diego Bay" and will be presented his award.
*
* DATE: May 20, 1976 TIME: 7:30 P.M. ROOM: 104.

THE AUCTION REVIEWED

The Shell Auction, held this year in the home of Norm Currin, was our most successful ever--financially that is. And that's what it's all about, of course. Many beautiful shells were donated by our members and ably auctioned by Bob Schoening and Norm who spelled each other as auctioneers--a very dry-throated business. But luckily relief was at hand--the punch was still in supply.

We had our usual delicious pot-luck dinner preceding the auction and that was preceded by Dave Mulliner's punch bowl.

There was a large turnout for the event and many members not seen for some time were present. Most welcome was the presence of George and Virginia Hanselman. Virginia had had serious heart surgery months before followed by a slow recovery. It was a happy occasion for this reason.

The grand total of sales was \$800. --giving us a very healthy bank balance.

ADDITIONS TO THE ROSTER

McPEAK, Ronald H.
10370 Limetree Lane
Spring Valley, Ca. 92077
469-8964

SEAY, Jim & Eunice
3290 San Carlos Dr.
Spring Valley, Ca. 92077
466-8994

SMITH, John
4060 Huerfano
San Diego, Ca. 92117
270-8298

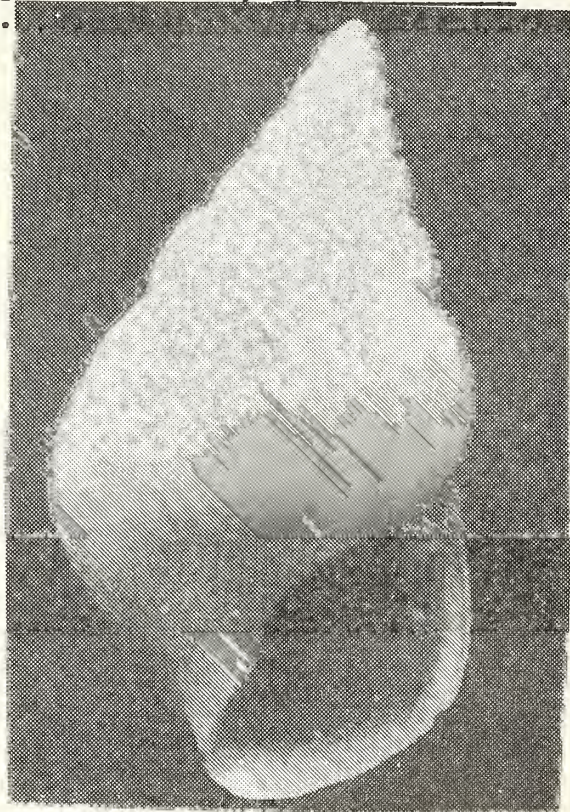
THOMAS, The family
The Shell Shop
590 Embarcadero
Morro Bay, Ca. 93442

CHANGE OF ADDRESS
FERNANDES, Francisco
C.P. Numero 1038, Luanda
Republica Popular de Angola

MINUTE SHELLS

by Jules Hertz

In previous months we have featured minute shells brought back by the Ameripagos Expedition in grunge collected in six to twelve feet of water, at Flamingo Cove, near Post Office Bay, Floreana Island, Galapagos Islands, Ecuador, March 15-16, 1971. The shells pictured below are from the same grunge, part of the Mulliner collection. The shells have yet to be identified, and any information regarding the names of the species will be gratefully acknowledged and noted in future issues. Both are tentatively identified as belonging to the Genus Odostomia Fleming, 1813 which belong in the Family Pyramidellidae Gray, 1840. Photographs are by Dave Mulliner.

Odostomia ? , 5 mm.Odostomia ? , 5 mm.

AQUARIUM OBSERVATIONS

BY Barbara Myers

Hermit crabs are very active, busy crustaceans and not only fun to watch in an aquarium but help to keep it clean, eating much of the leftover scraps and debris. The boldest, busiest and most fearless of all occupied a Tegula aureotincta (Forbes, 1852) shell. His legs and claws were longer and thinner and all visible parts appeared to be black as distinguished from the brown hairy look of the others. He never seemed to rest and each day I looked in I would see him briskly hustling around; nothing seemed to stop him from getting first to the food.

However, the morning came when I looked in, dismayed to find his regular Tegula shell empty and a large Kelletia kelletii (Forbes, 1852) moving over the top of the shell--well, I thought, survival of the biggest not the fleetest.

Off to one side, but only a short distance away was a small Olivella biplicata (Sowerby, 1825) shell and squeezed inside with all his black appendages hanging out, looking ridiculously oversized for his tiny home was our frisky little crab. He must have grabbed the first vacant shell he could find, however unsuitable, when chased from his home by the threatening Kelletia. The funny part was that he hung around until the Kelletia moved on, about half an hour and then reoccupied the Tegula shell, and blithely resumed his energetic prowling to see what he had missed.

RECENT AND FOSSIL TYPHINAE OF THE NEW WORLD

BY

ANTHONY D'ATTILIO

(as presented to WSM-AMU June 1975)

There are 53 nominal species of Recent and fossil Typhinae in the New World; of these 33 are extinct and 20 are living at the present time.

A comparison of the present distribution of the Recent species on the two sides of the Panama land bridge reveals nine Caribbean species and eleven Panamic ones. One of the nine Caribbean species is undescribed and is in press at present. In any case, the number of species of the Panamic region exceeds the number of Caribbean species, as two species included in the nine known Caribbean species, Typhinellus sowerbyi and Typhina cleryi, also are found in the eastern Atlantic. T. sowerbyi also occurs in the Mediterranean. Thus, only seven typhine species are strictly limited to the Caribbean faunal province of the western Atlantic, now known in the literature.

As in other groups of mollusks, several Recent species-pairs of cognates can be identified on both sides of the Panamic land bridge. These are:

- 1) (W.A.) Tripterotyphis triangularis - (E.P.) Tripterotyphis lowei
- 2) (W.A.) Pterotyphis pinnatus - (E.P.) Pterotyphis fimbriatus
- 3) (W.A.) Talityphis sp. (Southern Caribbean representative in present)
- (E.P.) Talityphis latipennis

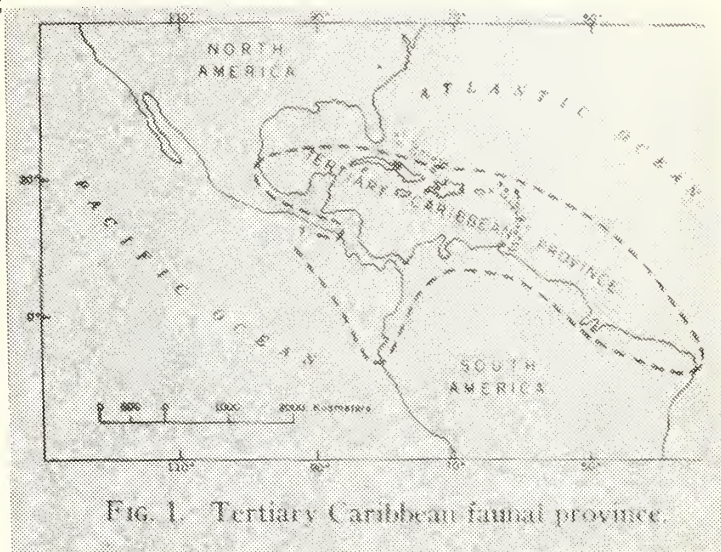
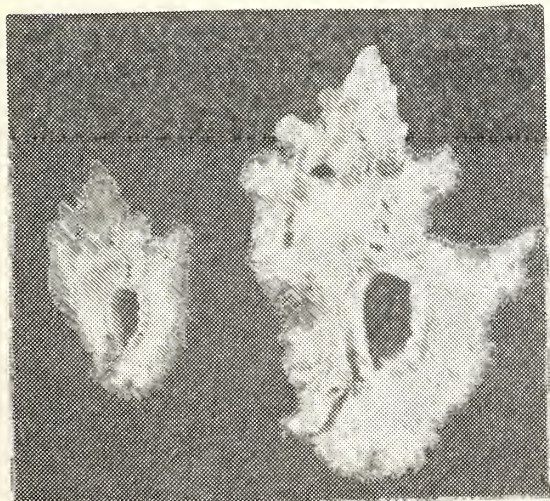
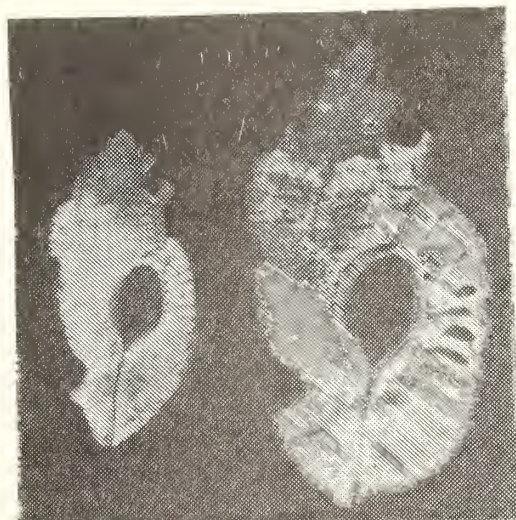


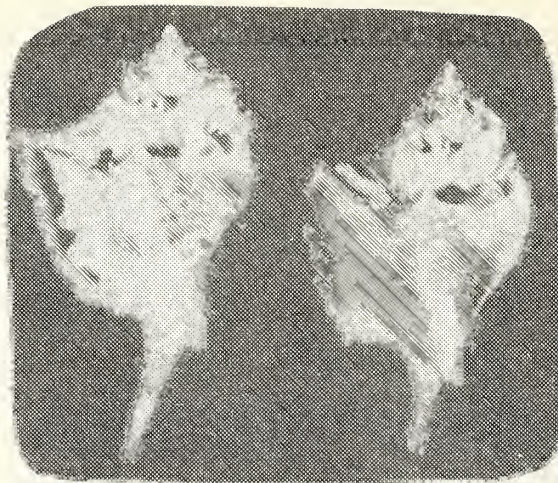
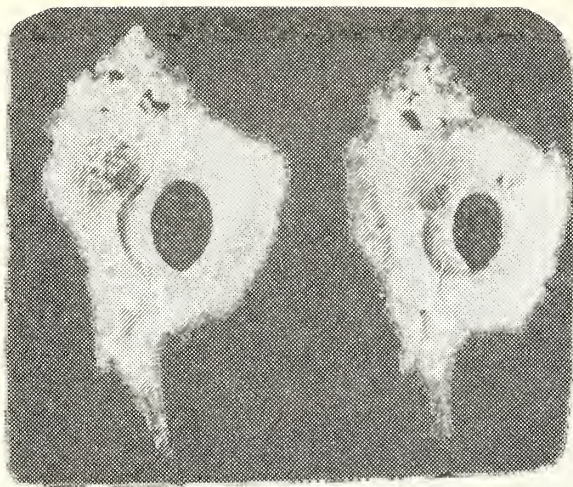
FIG. 1. Tertiary Caribbean faunal province.



Left: Tripterotyphis triangularis
Right: Tripterotyphis lowei



Left: Pterotyphis pinnatus
Right: Pterotyphis fimbriatus

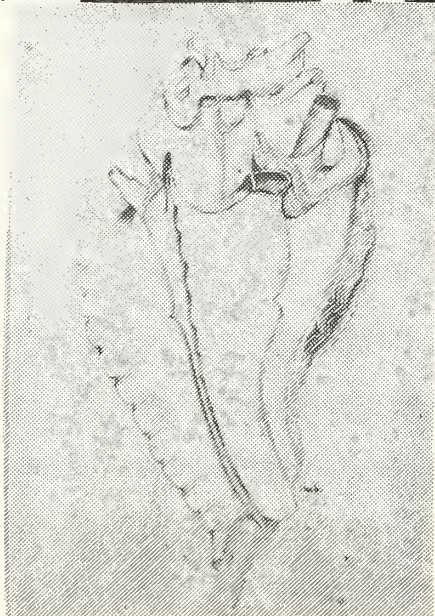


Right (both photos): Talityphis sp. Left (both photos): Talityphis latipennis

Additional congnate-like resemblances are apparent in one or more instances between Recent species in the eastern Pacific and extinct western Atlantic species.

Several other observations may be made on the New World which are, I believe, of interest. Only two of the known fossil species occur in a presently non-tropical region, the Californian Talityphis lampada Keen and Laevityphis antiquus Gabb. The remaining 31 extinct species all have been found in tropical formations of the Tertiary Caribbean Faunal Province, as defined by Woodring (1966).

However, Dr. Keen in personal communication stated that the Tertiary Caribbean Province extended up into Baja California and the lower portion of California up to the Los Angeles City area proper. In other words, no known extinct typhine species are strictly Panamic in distribution. Although there is some controversy as to the precise date of closure of the Atlantic-Pacific seaways, many workers (including Woodring, 1966) seem to think that it could not have happened before the late Pliocene or early Pleistocene (2-3 million years ago). This observation is noteworthy in that there are three genera represented in the Panamic Province of today that are not, to my knowledge, represented in the Tertiary Caribbean Province. This can be accounted for if we imagine that the bridge separating the two oceans arose over millions of years as a series of islands or island groups and the last opening was closed during the Plio-Pleistocene. During this period when the openings still were there, isolated areas were able to sustain evolving new species or genera that in time were strictly Panamic in distribution. These genera, all monotypic and Panamic are Typhisopsis (T. coronatus), Haustellotyphis (H. cumingi) and Cinclidotyphis (C. myrae). Another genus apparently in the category is Distichotyphis (D. vemae) but its abyssal habitat, and its morphology,



Drawing and photos of Typhisopsis coronatus

suggests that it should not be compared with other typhines.

It should be evident from the foregoing that the study of evolution is possible only if we consider the fossil record. A knowledge like this permits us to make assumptions on not only the zoogeography of the Recent species but upon their ancestors thus permitting us to understand a little of their phylogeny in time, lineages, and possible evolutionary grasp of what their probable non-typhine ancestors were like.

Fossil Species Grouped as to Genus

Phina

acuticosta Conrad-Miocene
dentatus Johnson -Eocene
harrisi Olsson - Miocene
mississippiensis Gertman-Oligocene
palmerae Gertman-Eocene
siphonifera Dall -Miocene
waltonensis Mansfield-Miocene

Talityphus

alatus Sowerby - Miocene
carmenae Gertman- Miocene
lampada Keen - Miocene of Calif.
obesus Gabb - Miocene
olssoni Keen - Pliocene
precursor Keen & Campbell- Miocene
pterus Gardner - Miocene
siphon Woodring - Miocene

Levityphus

antiquus Gabb-Eocene of Calif.
costaricensis Olsson-Miocene
curvirostratus Conrad-Eocene
gracilis Conrad - Eocene
linguliferus Dall - Miocene
thagus Olsson - Eocene
schrenki Keen & Campbell-Miocene
sawkins Mansfield - Miocene

Phinellus

chipolanus Gertman - Miocene
floridanus Dall - Pliocene
carolinensis Olsson & Petit-Neogene

Phonochelus

cercadicus Maury - Miocene

Pterotyphus

calhounensis Gertman - Miocene

Pilsbrytyphus

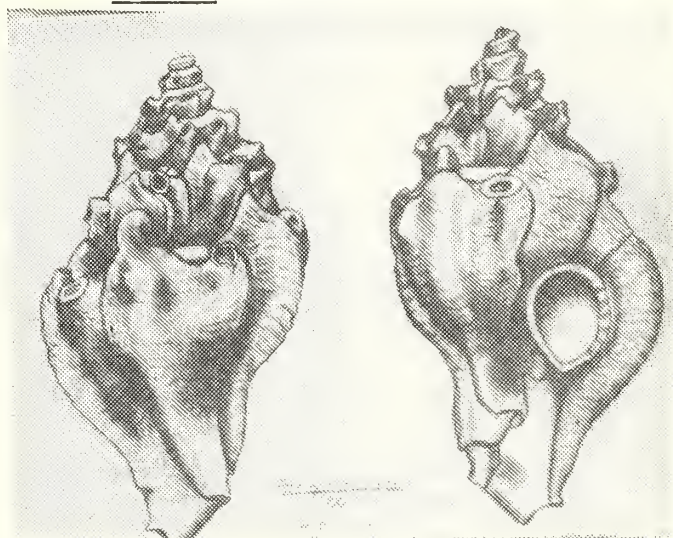
dariensis Gertman - Miocene
gabbi Brown & Pilsbry-Miocene
woodringi Gertman- Miocene

Tripterotyphus

vokesae Gertman - Miocene

Rugotyphus

keenae Gertman - Miocene



Pilsbrytyphus gabbi

*Note: Except for Talityphus lampada and antiquus all other fossils are Caribbean Tertiary.

Recent: Generic assignment of species: Panamic: 11 species

Typhisopsis coronatus Brod. Range Panamic only

Typhisala clarki Keen & Campbell
grandis A. Adams

Talityphus latipennis Dall

Haustellotyphus cumingii Brod.

Pterotyphus fimbriatus A. Adams

Tripterotyphus lowei Pilsbry

fayae Keen & Campbell

arcana DuShane

Cinclidotyphus myrae DuShane

Distichotyphus vemae Keen & Campbell

Four genera endemic to Panamic region with no fossil record are Typhisopsis, Typhisala, Cinclidotyphus, Distichotyphus.

Recent: Generic assignment of species: Western Atlantic -Caribbean: 9species

Laevityphis bullisi Gertman

Talityphis expansus Sowerby

(and a new T. species to be described in the forthcoming
Murex book by Radwin & D'Attilio)

Trubatsa longicornis Dall

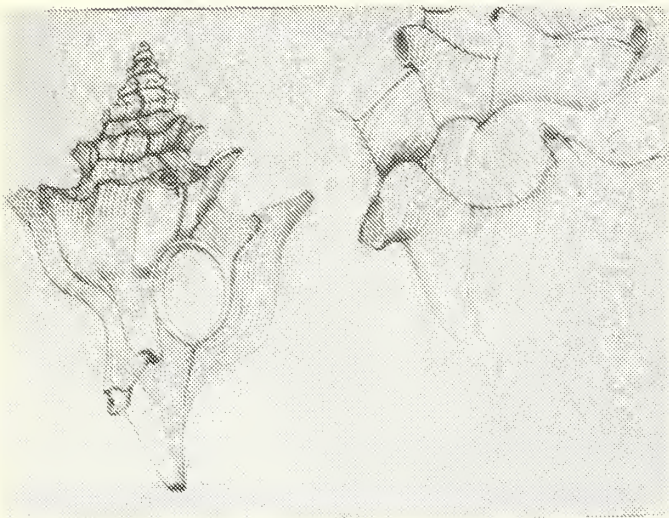
tityrus Bayer

Pterotyphis pinnatus Brod.

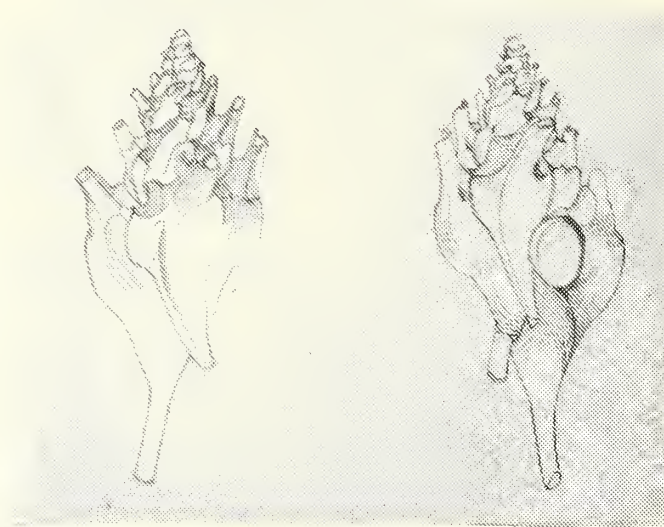
Tripterotyphis triangularis A. Ads.

Typhinellus cleryi Petit (range to western Africa)

sowerbyi Brod. (range to Mediterranean and W. Africa)



Laevityphis bullisi



Trubatsa longicornis

Genera extant on both sides of the Panamic Land Bridge

Tripterotyphis 1 Atlantic, 3 Panamic

Talityphis 2 Atlantic, 1 Panamic

Pterotyphis 1 Atlantic, 1 Panamic

Genera only on Atlantic side-none Panamic

Trubatsa 2

Typhinellus 2

Laevityphis 1

Genera only on Panamic side

Typhisopsis 1

Typhisala 2

Haustellotyphis 1

Cinclidotyphis 1

Distichotyphis 1

Drawings by Anthony D'Attilio

Photography by Dave Mulliner

NOTICE

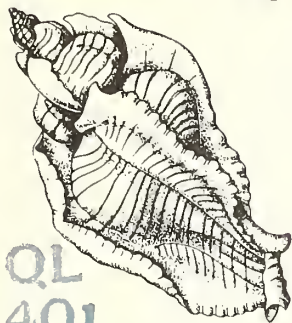
The Botanical Foundation Plant Sale will be held the 29th and 30th of May at the Casa Del Prado. Each member of every club affiliated with the Foundation is asked to donate a "flourishing" plant to this sale. If you haven't already done so, now is the time to get your donation ready.

Time and Place for bringing in your plants will be announced at the meeting.

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

CASA DEL PRADO BALBOA PARK

(Across from Natural History Museum)

MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening

Vice-President: Hugh Bradner

Recording Secretary: Blanche Brewer

Corresponding Secretary: John Smith

Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.

Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

Vol. VII

June 1976

No. 6

* PROGRAM: June King will give an illustrated talk entitled, Vietnam *
* Experiences. *
* Dave Mulliner will show the slides from the Auction/Pot Luck. *
* DATE: June 17, 1976 TIME: 7:30 P.M. ROOM: 101 *

FROM THE MINUTES

Blanche Brewer

For the past several years the San Diego Shell Club has made an award in the annual Science Fair to a winner with a science project related to marine life. This year's winner was Michael Jay, a student in Crawford High School. He read a summary of his project at our May meeting in Casa Del Prado. Our award to Michael was a copy of BETWEEN PACIFIC TIDES by Ricketts & Calvin. (A summary of Michael's project is printed in this issue).

Dr. James McLean of the Los Angeles County Museum was our speaker for the evening,--his subject "Collecting in Chile." He was a member of a group that spent two months collecting on the forbidding, 2,000 mile shoreline of Chile all the way to Tierra del Fuego. It is a land changing from the barren desolation of the Atacama desert to the green, southern section clothed in clouds laden with mist or rain or snow--or all three!

The marine specimens examined and collected are abundant with little threat of a lessening population--this in spite of the fact that food from the sea is the main diet of the people.

The slides shown portrayed a land having the same characteristics as those of comparable northern latitudes. Still, nowhere on the North American shoreline do we have a counterpart of the bleakness of Atacama. Dr. McLean's slides and talk were not limited to marine life (though the slides of marine invertebrates in their habitats were outstanding). He gave us glimpses of the plant-life, the people as well as the surroundings and customs of the land of Chile.

Dr. McLean is writing a paper on this expedition. Another trip by this group is ahead to check on marked areas.

A short business meeting and the shell raffle followed the program. The treasurer reported \$520.40 in our account. A report was made on the plant sale to be held May 29 and 30 at the Casa Del Prado.

Jules Hertz won the shell drawing.

RECENTLY NAMED CYPRAEA

BY PHILLIP W. CLOVER

Since Dr. Burgess published his LIVING COWRIES in 1970, many new species of *Cypraea* have been named. Because there was a four year delay in its publication, the last photographs of new species in his book were named about 1966. Recently a new book, COWRIES, by Taylor and Walls has illustrated many of these. The article below will attempt to cover all the species named since 1966 with information on when and where they were published and my opinion on their validity.

ANGELICAE Clover, 1974: from West Africa, size 19-30mm, mostly trawled 40-80 meters off Gulf of Guinea. It is similar in size to *petitiana*, Cross. Published in Journal of Conch. Vol. 28-4 London, England.

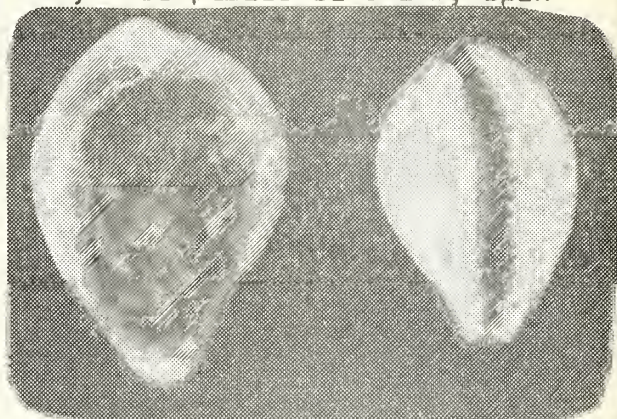
BERNARDI G. Richard, 1974: from Tahiti, Fr. Polynesia, size 12mm, found by divers in coral reefs. Looks somewhat like *cumingii* Sow. in color pattern only. Published in Bull. de la Societe des Etudes Oceaniennes, Paris, France.

CRUICKSHANKI Kilburn, 1972: from Durban, S. Africa, size 20-33mm, trawled from 400-600 meters. A most unusual bulbous species that is not at all typical of most *Cypraea*. Has been illustrated in Hawaiian Shell News #169-6 and was published in Durban Museum Novitates Vol. 9-14-P209-16.

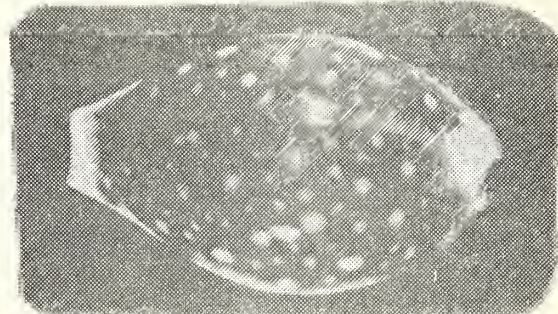
EUGENIAE Cate, 1975: from Albany, S.W. Australia on beach and from sand dredgings, size 20-35mm. This is a semifossil *xanthodon* Sow. in my opinion and not a new species at all. Published in Veliger Vol. 17-3-P260, Calif. U.S.A.

FERNANDOI C.N. Cate, 1969: from Zamboanga, Philippines, size 20-30mm. From low tide to several meters deep on coral reefs. Closely related to *rabaulensis* Sch. Published in the Veliger Vol. 11-3-P256, Berkeley, Calif., U.S.A.

FISCHERI ASTARYI Sch. & Sch., 1971: from Marquesas Is. size 12-14mm. This new subspecies is also similar to *cumingii* Sow. In fact *fischeri* Vay, was thought until recently to be a synonym of *cumingii* Sow. See H.S.N. #87 & 135. Described in Arch. Moll. 101: 297-299, Frankfurt, Germany.



Cypraea angelicae Clover, 1974



Cypraea bernardi G. Richard, 1974

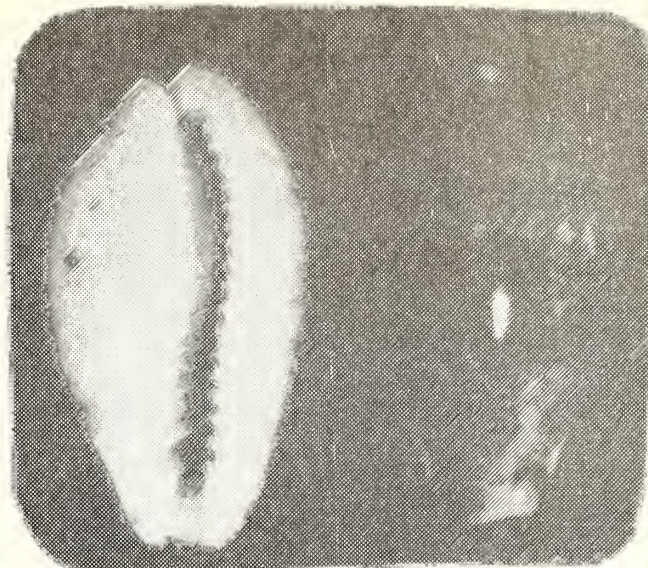


Cypraea cruickshanki Kilburn, 1972



Cypraea eugeniae Cate, 1975

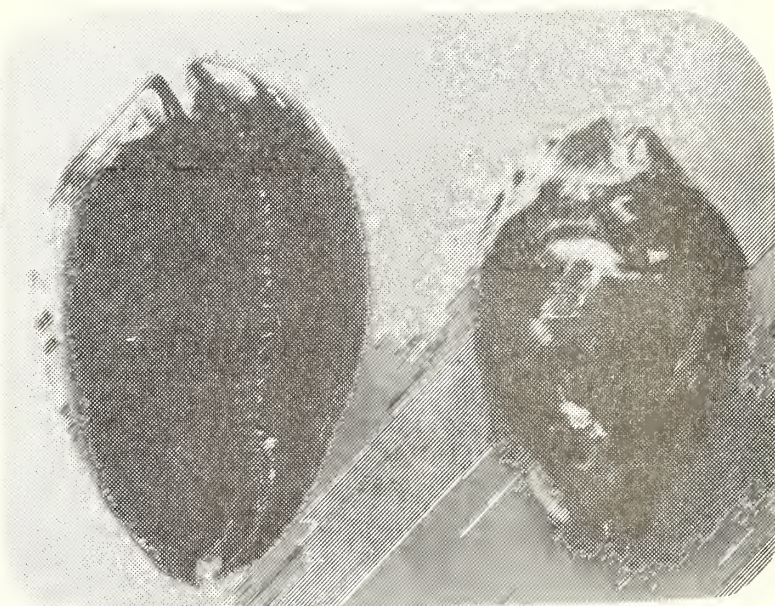
GLORIOSA Shikama, 1971: from Taiwan trawlers that may have found it off South Africa. Considered a form of gondwanalandensis Burgess that is a new name for similis Gray. See H.S.N. #165-1. Published in Science report of Yokosuka City Museum, Japan.



Cypraea fernandoi C.N. Cate, 1975

HADDNIGHTAE Trenberth, 1973: from Albany, S.W. Australia, size 25-35mm. A controversial new species close to cribraria Linne, but I think distinct. See H.S.N. #174 & 183. Described in S. Australian Museum Pub. #17.

HARTSMITHI Schilder, 1967: from Sydney Harbor, N.S.W., Australia, size 25mm. Another controversial species. Cate compares his eugeniae to it while H.S.N. had articles on it in #93 & 101 and relate it to a Noto-cypraea bicolor Gas. which equals piperita Gray and that is just what it is in my opinion. Described in Arch. Mollusk Vol. 96-P39-41, Frankfurt, Germany.



Cypraea jeaniana C.N. Cate, 1968

JEANIANA C.N. Cate, 1968: from West Australia, size 55-95mm, mostly trawled but found by divers also. Described as a subspecies of friendii Gray. But I have seen so many specimens now that I firmly believe this is a separate and valid species.

Furthermore, many of the orange/white patterned specimens called "contraria" coming from Taiwan trawlers could also be this species. As many new areas are being worked now by these trawlers, specimens with wide ranging color patterns are being found just as have been found in the more shallow water friendii and thersites. Described in the Veliger Vol. 10-3, P222.

JOYSAE Clover, 1970: from Taiwan, size 50-58mm, only trawled in deep water, may be related to the small, unique, Philippine porterii Cate. Joycae is illustrated in H.S.N. #139 & 148 but not in the new COWRIES book by Taylor & Walls. The shell they illustrate on p.261 is a juvenile, West Australian Zoila species. Described in the Venus Vol.29-2-P.35, Tokyo, Japan.

JU-KUI Shikama, 1974: from Taiwan trawlers and again possibly found off S.E. Africa, size 30mm. Appears to be Cypraea cruickshanki Kilburn, 1972. Published in Science report of Yokosuka City Museum, Japan.

KINGAE Rehder & Wilson, 1975: from Pitcairn Is. S.E. Pacific, size 14-19mm, trawled 70-140 meters. Similar in size and color to gaskoini Rve., but not related. Rehder compares his species to the new bernardi Rich. Described in Smithsonian Contributions to Zoology #203-P2-6.

LISETAE Kilburn, 1975: from Southern Mocambique, E. Africa, size 12-13mm. Known from two specimens only, so far, ex-pisces in 25 meters. Similar to midwayensis A.&K. Described in Durban Museum Novitates Vol. 10-16, P.217-20.

MARICOLA Cate, 1976: from Marinduque Is. Philippines, size 14mm. Compared to globulus Linne by the author and is very close indeed except in teeth arrangement. Described in the Veliger Vol. 18-4 P-383 Berkeley, Ca. U.S.A.

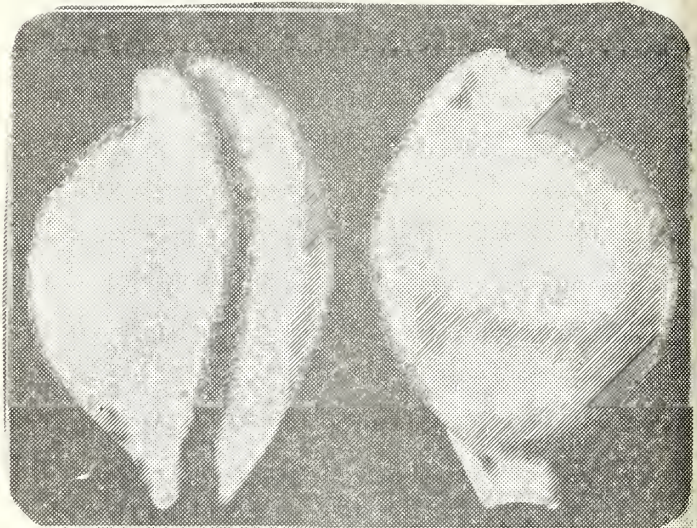
MIDWAYENSIS Azuma & Kurohara, 1967: from trawling in deep water near Taiwan. Not from 460 meters off Midway Is. as in original description. This is one of the problems in dealing with trawlers. Size 20-22mm, the new lisetae Kilburn is very similar. Described in the Venus Vol. 26-1 PI Tokyo, Japan.

MIYOKOAE Habe & Kosuge, 1970 ? from Taiwan trawlers possibly off Thailand, size 39mm. Appears to be a slightly juvenile lamarckii redimita Mel., but more purple in color. This species was ready to publish in the Venus and was mentioned in the Pacific Shell News #2, but I cannot find out if it was ever described and would make it a NOMEN NUDUM.

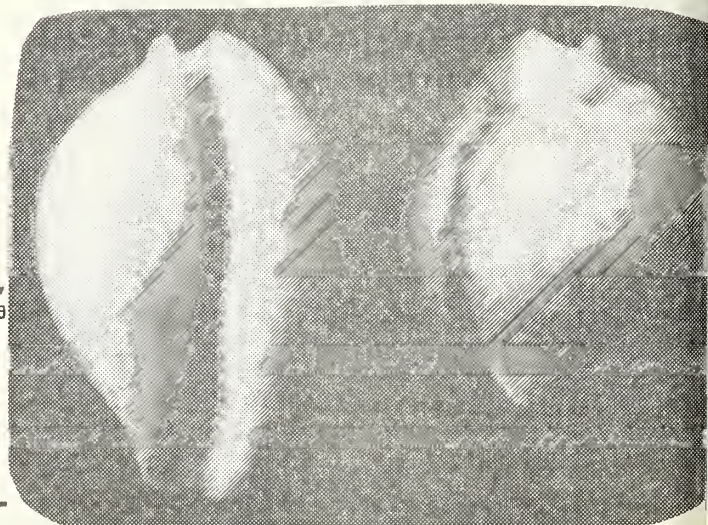
PERLAE Lopez & Chiang 1975: from Onslow, N.W. Australia, size 42-50 mm. One of the more interesting Zoilas being trawled off West Australia by Taiwan fishermen. It is similar to decipiens Smith except in color pattern. There are several new shells from this area called "contraria" that could be new to science or may be odd color forms of jeaniana. Most of these shells come up in nets of the large Taiwan trawling ships from 150-300 meters. Perlæ was described in the Veliger Vol. 18-1 P-84&5, Berkeley, Ca., U.S.A.



Cypraea joycae Clover, 1970



Cypraea lisetae Kilburn, 1975



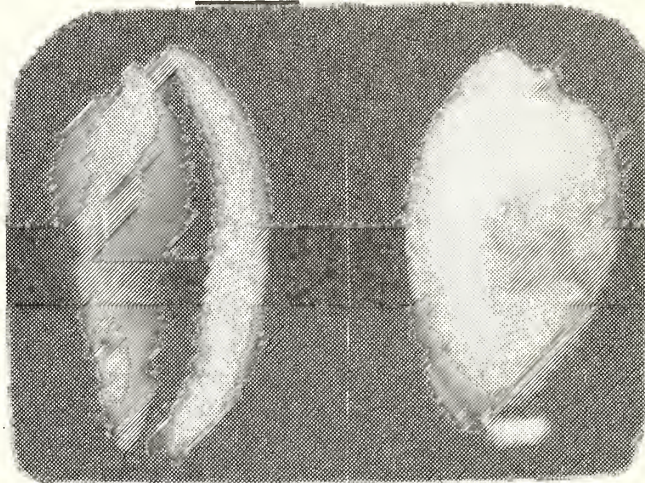
Cypraea midwayensis Azuma & Kurohara, 1967

QUEENSLANDICA Schilder, 1966: from Cape Moreton, Qld., Australia, size 57mm. Burgess mentions it in his book and I agree it is a pyriformed hirasei Roberts. See H.S.N. #86-4 and most recent Australian shell books illustrate it. Described in Arch. Moll. Vol. 95: P157, Frankfurt, Germany.

SAKURAI Habe, 1970: from S.W. of Taiwan, size 40-60mm. This species is close to hirasei Rob. but has more coarse and in the adult shell develops a pattern quite unlike hirasei. See H.S.N. 130-8. Described in Bull. of Japan, Vol. 24-10, Tokyo, Japan.

STEINERI C.N. Cate, 1969: from Russell Is., Guadalcanal, size 22mm. This unique specimen appears to be a bulbous form of coxeni Cox and is not a valid species in my opinion. Described in the Veliger, Vol. 11-3, P.257, Berkeley, Ca. U.S.A.

STOHLERI Cate & Schilder, 1968: from Siasi, Sulu Sea, Philippines, size 15mm. Also unique and likely to remain so as it appears to be just a large, odd form of contaminata Sow. which also has its center of distribution in the Sulu Sea. Described in the Veliger, Vol. 10-4, P. 382, Berkeley, Ca. U.S.A.



Cypraea stohleri Cate & Schilder, 1968

Note: Photographs are by Phillip W. Clover.

BOOK NOTES

BY BARBARA MYERS

WHAT SHELL IS THAT? by Neville Coleman. Published by Paul Hamlyn Pty. Limited of New South Wales, Australia. 1975. 308 pages.

More than 800 glowing color photographs portray a wide variety of the Australian Mollusca including not only Gastropoda, but also a sprinkling of Pelecypoda, Cephalopoda, Amphineura and Scaphopoda. Picturing 750 different species, highlights show living animals of the always spectacular Cypraeidae and Volutidae, especially exquisite nudibranchs and many exciting shots of mollusks in their natural habitat.

A knowledgeable book, despite its insipid title, written and photographed by an Australian scuba diver, it contains many helpful collecting hints and information pertaining to the feeding habits, breeding, predators, size, range etc. of each species. Describing the different marine environments of Australia i. e. mangrove swamp, rocky reef, coral reef etc. he groups the various species by habitat making the book an easy and valuable tool for the field collector.

Its value as a reference work is limited because as the author points out in his Introduction, he is not a professional Conchologist and does not attempt to straighten out the complex problems of the Australian Molluscan nomenclature. Further, there is little or no shell descriptive information and many of the pictures do not show enough detail to be useful in identification.

Most confusing for me is the alphabetical arrangement of the Families with nudibranchs, octopuses and bivalves popping up all over to add to the general muddle. The index is brief and difficult to use and the bibliography is even shorter.

However, the superb photography, the aids to the field collector and the very specialized natural history information make the book a splendid addition to our library.

MINUTE SHELLS
BY JULES HERTZ

During May we received a letter from Roy Poorman concerning one of the unnamed species figured in the May issue of *The Festivus*. The letter read, "We just returned from Bahia de Los Angeles to receive the *Festivus*. The brief articles were very interesting for my wife, Forrest, and me. We suggest that the two shells figured with your paragraph are juvenile Rissoina. Perhaps you should compare the shells with fig. 12, plate 1, of the reference given below." The reference was Baker, Hanna and Strong, Some Rissoid Mollusca from the Gulf of California, *Proc. Cal. Acad. Sc.*, Fourth Ser., Vol. XIX, Nos. 4, pp 23-44, plate 1.

Following Roy Poorman's suggestion, I investigated the referenced figure and found it resembled the axially ribbed specimen shown in the May issue. The name of the referenced shell is Rissoina gisna basilirata, Baker, Hanna and Strong, 1930. The following description was given.

"The form closely resembles Rissoina gisna Bartsch. It seems to be immature, showing one less whorl than the type and a thin outer lip, but has the aperture and base of the columella as noted by Bartsch, about the same number and arrangement of axial ribs, but lacks the spiral sculpture everywhere except on the base where there are about 25 basal cords instead of 11. Bartsch's figure shows decided weakening of the spiral sculpture above the periphery, but it is everywhere present except on the nuclear whorls. The variation is sufficiently marked to indicate a probable distinct race."

The specimen figured in the May issue of *The Festivus* was examined in light of the above description. It has the thin outer lip and the basal sculpture agrees with the description. Unfortunately, the picture in *The Festivus* fails to show the spiral sculpture due to the high magnification. Thanks to the Poormans, it appears that we have obtained an accurate identification.

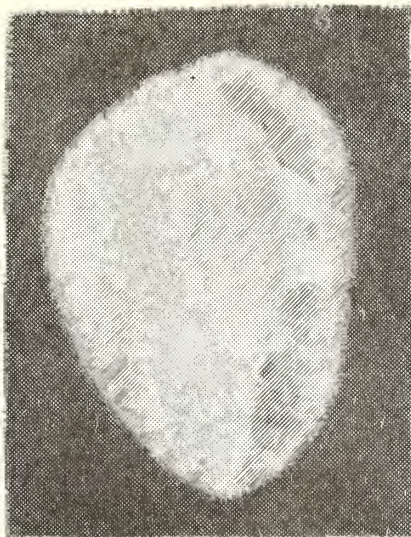
Pictured this month are four species from the Family Marginellidae. The shells are from the Mulliner collection and were brought back by the Ameripagos Expedition in grunge collected in six to twelve feet of water, at Flamingo Cove, near Post Office Bay, Floreana Island, Galapagos Islands, Ecuador, March 15-16, 1971. Photographs are by *Festivus* photographer, Dave Mulliner. We are grateful to Bert Draper for the identifications.



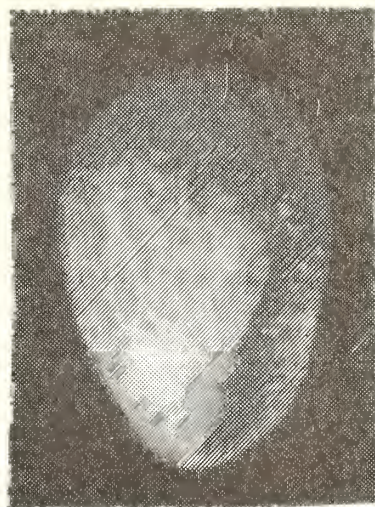
Probably Cystiscus politulus (Dall, 1919) or unnamed species, 3 mm.



Granula minor (C.B. Adams, 1852),
2 to 3 mm.



Granulina margaritula (Carpenter, 1857),
2 to 3 mm.



Probably Granula sp. Roth & Coan, MS,
2 to 3 mm.

TESTING FOR RED TIDE IN SAN DIEGO BAY *

By Michael Jay (Winner of the Shell Club
Science Fair Award)

As many of you know, one is not supposed to eat mussels during the summer months. But not everyone knows the reason. During the summer months there is frequently a Red Tide condition. Red Tide occurs when the amount of nutrients in the water produces a perfect environment for the growth of the toxic dinoflagellate, Gonyaulax catenella. This is not to say that all Red Tide is composed of Gonyaulax catenella but it is the dinoflagellate in our seashore bivalves that causes paralytic shellfish poisoning. Testing for this Red Tide in our local waters and developing a way of measuring it quantitatively can be and is a very important project. In my project I concerned myself with the preliminary steps towards the development of a method to test quantitatively for paralytic shellfish poison.

My project was entitled, "Testing for Red Tide in San Diego Bay". I began by questioning the actual validity of my experimentation methods, which were to be based on the fact that the Red Tide organism, Gonyaulax catenella, gives off a neurotoxin. This neurotoxin, as do other neurotoxins, decreases or prevents the response of a muscle to electrical or any other stimulation. Therefore, if a drop of neurotoxin were to be placed on a frog muscle which would be electrically stimulated, its reaction should be greatly decreased. The experiments I ran recently questioned the effect, if any, of the medium which I would be using to test for Gonyaulax. The seashore mussel, Mytilus californicus, was the shellfish I decided to use as the medium to test for Red Tide intensity. I tested for any reaction on the part of the frog muscle to an extract of each of its organs.

The specimens for the experiment were collected during September and either used then or frozen for later use. The parts I dissected from the mussel were the liver, gills, digestive system, foot, lip, adductor muscles and other organs. Extracts of these were used in both preliminary experiments. The first experiment was done to determine if the frog muscle would react to the different organs of the mussel. This was done by giving the frog muscle one control shock of 8.5 volts and then applying a drop of mussel extract to it. After application any reaction to the extract could be compared to that of the control shock by recording it on a Kymograph drum.

My results showed no reaction at all to the mussel tissue and from that I concluded that mussel tissue does not cause frog muscle contraction.

The second experiment dealt with determining the effect, if any, that mussel extract had on changing the reaction of frog muscle to one caused by electrical stimulation. This was done by giving the frog muscle a control shock of 8.5 volts and placing a drop of mussel extract on the muscle. A second shock was then given of 8.5 volts. The two reactions were compared by means of a "T" test.

The results of the "T" test was a score of 99, which meant that any difference between the control shock and the test shock was caused 99% by chance. This led me to the conclusion that the tissue of Mytilus californicus does not affect frog muscle reaction to electrical stimulation.

I am planning to run more experiments to help me in my research. One of these is a laboratory study of the absorption of Gonyaulax catenella into the different organs of the mussel in order to determine the amount of, or intensity of, a Red Tide by the concentration of its neurotoxin in the different parts of the mussel. Another experiment is that of determining whether the neurotoxin's effect is inversely proportional to the decrease of muscle contraction.

All of this may sound just fine but you may be asking yourselves, "Why bother?" These preliminary experiments have been a step towards solving the original problem: "Testing for Red Tide in San Diego Bay." My work has shown me that Mytilus californicus is a suitable medium for this purpose. The final result will be the development of a simple method of testing for toxicity in bivalves and therefore will help prevent deaths due to toxin poisoning. Another factor that can be studied is that of mapping the movement of Red Tide or other micro-organisms that produce neurotoxins in the ocean.

*Michael is awaiting news of a research grant for the third part of his project.

NOTICES

- 1- The theme has been chosen for our September party--Fantasy Under the Sea! Come as a denizen of the underwater world. The Club has tentatively settled on the 17th of September--pending donation of a location. If you will volunteer your yard for this party, please notify a Board member.
- 2- The Festivus needs a file cabinet for storing back issues. If you know of a large, used file cabinet, please notify Carole Hertz, 277-6259.
- 3- The Club is interested in receiving members suggestions for new library books. The library cabinet will soon be repaired and space for storage of infrequently used books will be available in the storeroom -(books available on request). Space will then be ample for additional books. (See Book Notes)

CHANGES OF ADDRESS

Rev. Geo. R. Brosius
International Lutheran Church
8-43-Hannam-Dong' Yongsan-Ku
Seoul, Korea

Ronald Short, Jr.
1016 Guatay Ave.
Chula Vista, Ca. 92011

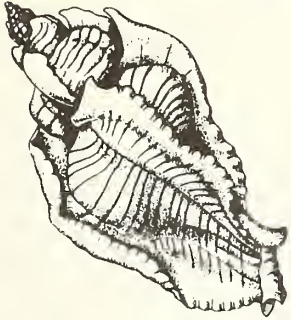
TOO LATE FOR THE ROSTER

Mrs. E.E. Hoffman
P.O. 603
Coronado, Ca. 92118

THE

QL
401
F418
Moll.

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

Vol. VII

July 1976

No. 7

* PROGRAM: Dr. Frank King will give an illustrated talk on his trip to
* Australia.
* Date: July 15, 1976, Time: 7:30 P.M., Room 101.
*
* SAVE THE DATE! September 18, 1976--Fantasy Under the Sea--Fall Party
*

FROM THE MINUTES

Our speaker for the evening was June King who gave a most informative and absorbing talk on her stay in Vietnam. Her husband accompanied her talk with many of his beautiful slides showing the people, and the land of Vietnam before the fall of Saigon. June also brought in a huge display of shells which she had purchased, found on the beach or received while she was in Vietnam.

After coffee break the raffle was held and the business meeting followed. It was announced that the Botanical Foundation plant sale was very successful and that the Club's efforts were appreciated.

The theme for the Club's September 18 party was established as Fantasy Under the Sea. The Club still needs the offer of a house (yard really) for the event. The menu will be decided at the next meeting.

Shelves have been made for the Club's storage locker and will house duplicate and rarely circulated books and periodicals. Marty Schuler's father is building a "dolly-like" arrangement to support our library cabinet. The material will cost approximately \$54. The library should be in order for the July meeting. A new list of library holdings is forthcoming.

Members suggested the Club order the following books as additions to the library: MacFarland's Vol#6, Ophistobranchs of the Pacific Northwest, and Abbott's Best of the Nautilus. The Club will also purchase the Radwin and D'Attilio book when it comes out in September.

Peter Wienold won the shell drawing.

BOOK NOTES

BY HUGH BRADNER

Review Article: NEW SPECIES OF MARINE MOLLUSKS FROM PITCAIRN ISLAND AND THE MARQUESAS - Harald A. Rehder and Barry R. Wilson.
 Smithsonian Contributions to Zoology #203.

The monograph describes five new species and one new subspecies found in dredge hauls during the fall 1967 expedition of the Pele. The expedition was supported jointly by the National Geographic Society, Smithsonian, Bishop Museum and Mrs. Mariel King; and the work is dedicated to Mrs. King in recognition of her great patronage of malacology. Good color plates supplement the descriptions of the six new mollusks: Cypraea kingae (Cypraeidae), Fusinus galathea bountyi (Fasciolaridae), and Ziba cernohorskyi (Mitridae) from Pitcairn Island and Phenacovolva carneopicta (Ovulidae), Chicoreus (Chicomurex) venustulus (Muricidae), and Conus marielae (Conidae) from the Marquesas.

The authors remark that the Marquesas and Pitcairn are nearly virgin territory for dredging, so "it was not surprising to find among the dredged specimens several species that appear to be new to science." Nevertheless, five new species from a single brief expedition is an impressive number.

The Cypraea kingae is a very attractive small species (14-19.3mm) whose closest relative is probably C. englerti (Summers and Burgess, 1965). In shape and size they are similar, but kingae has light yellow-brown dorsum with white spots and white base and fine teeth. A total of 16 adult specimens were obtained from about 24 dredge hauls off Pitcairn Island. Thus it should be classed as isolated rather than rare. It is likely to remain isolated for a considerable time because I understand that Pitcairn has become progressively more isolated during the past 5-10 years. The tour ships stop less often. There is no likelihood of airstrip or ship-landing. The island population is diminishing because of the arduous existence on the small rocky island surrounded by cold water with almost ceaseless ocean swells.

Dredge hauls off Pitcairn also revealed a new fusinus subspecies, Fusinus galathea bountyi and a beautiful new orange-pink member of the mitre family, Ziba cernohorskyi. Only one specimen was found of this moderate size shell (32.6 mm length). It has somewhat the shape of Ziba bacillum (Lamarck, 1811) and Ziba astyagis (Dohrn, 1860). The specimen was live-collected, so Rehder and Wilson are able to give full details of radula as well as the shell.

The radula rather closely resembles that of Mitra (Mitra) fulvescens Broderip, 1836 (Cernohorsky, 1970:13, fig. 46), but in some ways is also intermediate between the radulae figured by Cernohorsky (1970:16, figs. 83, 84) for ?Ziba flammea (Quoy and Gaimard, 1833) and ?Z. bacillum (Lamarck, 1811). This new species is named for Walter O. Cernohorsky, of the Auckland Institute and Museum, in tribute to his outstanding work on the Mitridae and Indo-Pacific gastropods in general.

The remaining three new species, Chicoreus (Chicomurex) venustulus, Conus marielae, and Phenacovolva carneopicta, were all represented by eight or more specimens, so that complete descriptions of shell, animal, radula etc. are given.

(This monograph will be placed in circulation in the Club library. Ed.)

ADDITION TO THE ROSTER

Bibbey, Joe
 490 Citrus Ave.
 Imperial Beach, Ca. 92032
 423-5133

MACRARENE COOKEANA (Dall, 1918)

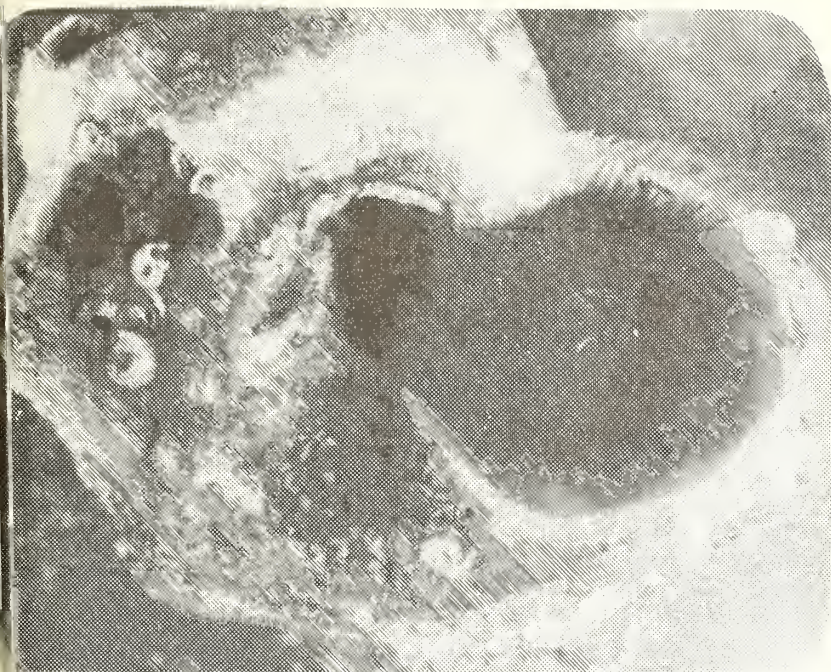
BY BARBARA W. MYERS

The pictured specimen was collected by John D. Myers, Jan. 1976, off La Jolla, California at a depth of 105 ft. in rocky rubble.

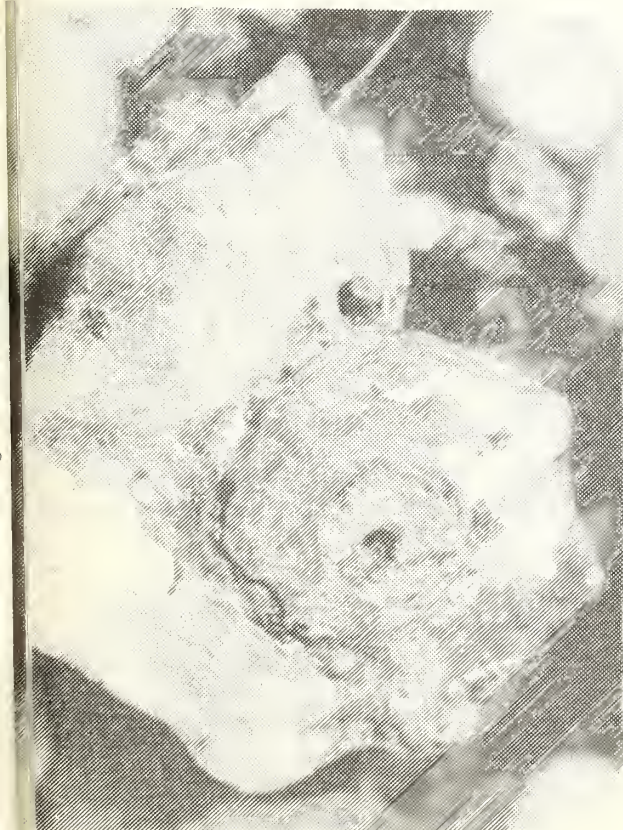
Diameter 23 mm, height 17 mm. A whitish, coralline encrusted shell with a nacreous interior. Umbilicus deep. The animal finely striped a reddish brown and white, but of such a timid and retiring nature that a better picture of the foot was not possible.

The operculum is especially interesting, being sharply concave with radiating rows of glassy spicules and some fine beading of the spiral whorls. The spicules become elongate at the margin and extend outward to form a dense fringe. (In other words it fairly bristles).

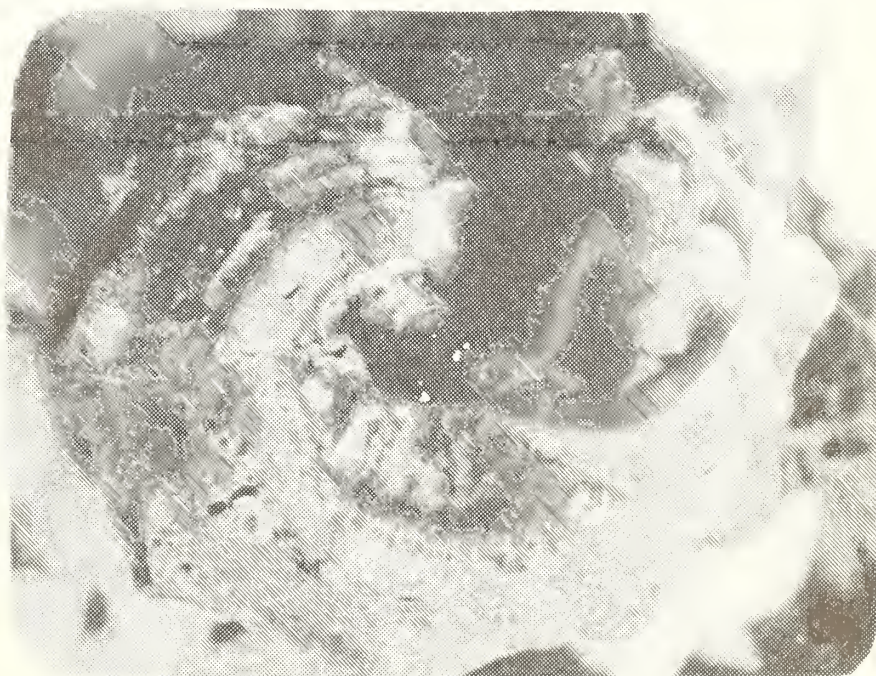
Photos by Barbara W. Myers



Operculum of Macrarena cookeana



Dorsal view of Macrarena cookeana



Ventral view of Macrarena cookeana showing animal extended.

AND ON TO FRENCH POLYNESIA

By Carol M. Hertz

(continuation of article in Festivus, Feb. 1976)

Tahiti, we found a vain celebrity--beautiful to look at but overrated and unfriendly. We were happy to move on. Moorea, our next stop seemed beautiful but we each had some bug or other while there and so we didn't enjoy it very well--our fault not Moorea's.

But Huahine, highly recommended to us by our friend living in Tahiti and also by Marge and Hugh Bradner, was a different story. Charming, quiet and "un-touristy"; it was a delight. How we wished we could have traded in Tahiti and Moorea for Huahine. While very expensive as in the other islands of French Polynesia, we didn't feel here as if we were being "taken."

There are only two hotels on Huahine, the Hotel Huahine, an old, in-town hotel and the Bali Hai, an American owned, modern one. At first we had tried to make reservations in the Hotel Huahine but at that time they were not accepting guests. So it was the Bali Hai.

The hotel was lovely, built in the Tahitian style with individual accommodations looking like fares, each one built over a network of lily pool-filled canals. (We understand that at one time the area was mosquito infested and the idea of building a hotel there, ridiculed. However the fish in the canals take care of the larvae and we were not bothered by mosquitos there.) Facilities at the hotel were very good and the staff helpful. The hotel is right on a beautiful white sandy beach. Hammocks swing from the trees along the shore for the tourist weary from all his relaxing. The water is clear and warm and the reef just a pleasant stroll from the hotel.

We made the "reef trip" each of the three days we were there and found new delights each time. Vasum ceramicum Linne and V. turbinellus Linne were at the wave-beaten edge of the reef as were the Bursa bufonia Gmelin. Quite a few varieties of cones were on the reef and in its sandy pools--C. ebraeus, vitulinus flavidus, rattus and chladeus among others.

During one afternoon's adventure on the reef we saw young lionfish everywhere. They were even swimming in and out from under boulders in ankle-deep water. We decided to tread carefully.

The walk to and from the reef revealed many interesting shells. The ubiquitous Cypraea obvelata Lamarck was on and under corals everywhere together with C. moneta Linne. Patella flexuosa Q&G was intertidal on coral boulders as well as on the reef, Morula uva (Roding) on coral outcroppings, Cantharus undosus Linne on the coral sand were among the varied species found along the shore.

The town of Fare is less than five minutes from the hotel, strolling along the beach path. The main street is a dirt road along the water and the buildings, reminiscent, some of them, of the Old West line the side of the road facing the water. This little main street town seemed tranquil most of the time with Boat Day being the exception. On the day the cargo boats come in, the town bustles. People are everywhere--all sizes and shapes in all manner of colorful outfits. Goods are loaded and unloaded, people leave and come. Food stalls are set up at the side of the road and many of the stores suddenly become restaurants for the morning. We didn't realize that there were as many people on the island as congregated in town on Boat Day.

With a French vocabulary of almost five words--including "no", shopping was both fun and a problem. Since the food was so expensive at the Hotel (and too much of it) we 'picnicked' our breakfast and lunch and ate dinner in the dining room. French bread is the biggest (and only) bargain in French Polynesia (about 20¢ American). Each early morning found us in town doing our "shopping" for those marvelous and aromatic wonders. Remembering my best menu French we were also able to get fromage for our bread. Pointing was necessary for the pineapple juice. Not a bad breakfast. Lunch was different--pineapple juice, French bread and peanut butter. Never do we travel without peanut butter.

The hotel had bicycles for the use of the guests and Ruth and I bicycled part way around the island. It's a beautiful place and much friendlier than Tahiti and Moorea.

At the suggestion of Marge and Hugh, we took a walk to the dredge pile--coral and rubble piled high to be used in road work. We had to snoop about to see if some rare shell might have been dredged along with everything else. On route we met some delightful children. With their lack of English and our non-existent French, we did very well. We talked and laughed and met with them each day. The dredge pile didn't yield an abundance of rare shells but the sloshing and looking were fun anyway with our new young friends

sloshing and looking were fun anyway and with our new young friends it was a happy time.

A tour to the marae (ancient Tahitian temples), a watermelon plantation and ancient fish pools proved very interesting. Felix, the hotel's guide was knowledgeable and friendly--even when I made him stop the van when I saw my first kapok tree. You mean kapok grows on trees? What a surprise!

But it was the beauty of the island which we drank in while we strolled the beaches that we treasure most.

FROM THE SAN DIEGO UNION, JULY 4, 1976

The Department of Fish and Game reports widespread traffic in illegal abalone off the north coast of California where no commercial abalone diving or picking is permitted. The Union article quotes DFG Inspector Russell Goodrich as saying "We're witnessing the organized rape of the coastline's few remaining virgin abalone beds." The Inspector states that illegal abalone is being sold to commercial establishments and even door to door. Records show that one diver furnished 360 pounds of abalone to a Berkeley restaurant with a bill of sale of \$2340.00 from a fictitious "Acme Fisheries" in Morro Bay. The diver was fined \$500.00 and a 30 day jail sentence was suspended. The same diver received a total of \$8,534.50 from this restaurant during 1976.

Fish and Game Regulations prohibit all commercial collecting north of Point Lobos to protect the best red abalone beds in the state. (On this closed north coast a skilled diver can get about 50 dozen abalone a day as opposed to about five dozen off the Channel Islands). However, the violation of the closed area continues and the illegal activity is said to be widespread and well organized with divers from the south moving to the closed northern areas.

The DFG has tried to improve the situation by shortening the season and reducing the daily bag limit. It has also asked the legislature to increase the diving fee and close the area from Palos Verdes to Dana Point to commercial fishing for five years but the legislature has not acted on this.

Patrol Captain Curt Kastner believes one clue to catching these poachers lies in the correct identification of northern abalone from the southern, one key being the algae clinging to the shell. (Perhaps more on the spot coverage by game wardens would be the best clue. Ed.)

INTERESTED IN EXCHANGE

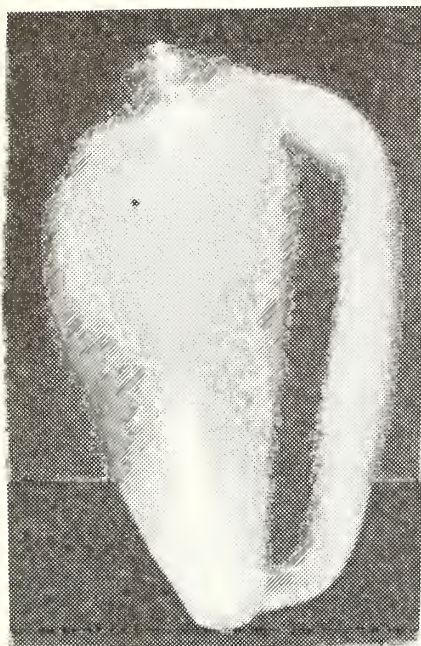
Terry and Jacky Thorn of Barnehurst, Kent, England write that they collect Murex and would like to increase their worldwide collection. They will exchange or buy. "...so we decided to get in touch with other conchologist and Shell Clubs worldwide in the hopes we can enlarge our collection by exchange." Write to Mr. T. Thorn, 4 Barnehurst Rd., Barnehurst, Kent, England.

MINUTE SHELLS

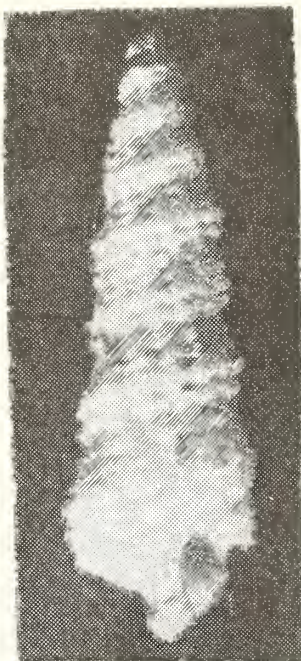
BY JULES HERTZ

This month we are again showing minute shells brought back by the Ameripagos Expedition in grunge collected in six to twelve feet of water at Flamingo Cove, near Post Office Bay, Floreana Island, Galapagos Islands, Ecuador, March 15-16, 1971. The shells pictured below are from the Mulliner collection and were photographed by Dave Mulliner. Tentative identifications were made by Bert Draper. This was an extremely difficult task since they were made from photographs rather than the shells themselves and since in a number of cases the shells are from immature specimens.

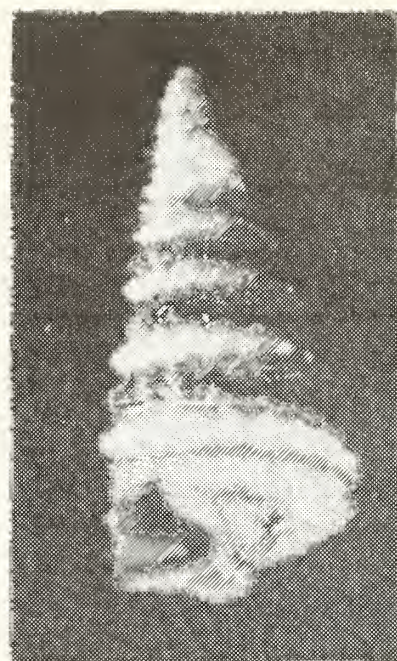
Starting next month we will be featuring some shells from the Grundman collection which were also brought back by the Ameripagos collection. These were originally photographed and identified by Bert Draper.



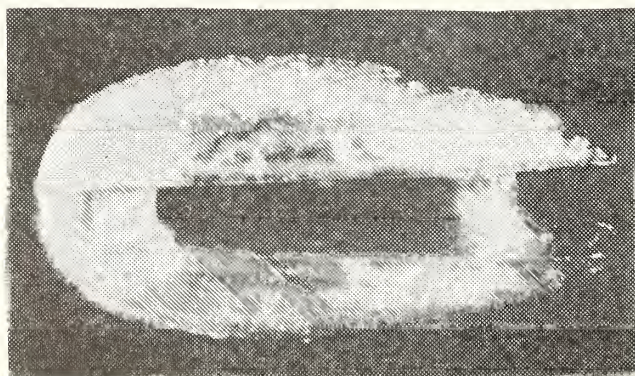
Erato scabriuscula
Sowerby, 1832 3.5 mm.



Probably a Bittium



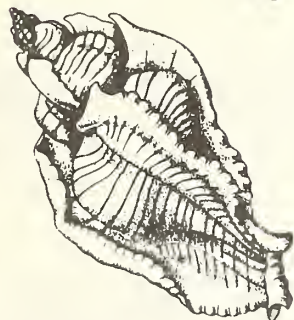
Triphora excolpa
Bartsch, 1907
(immature specimen), 3.0 mm



Probably Lithophaga calyculata
(Carpenter, 1857) (immature specimen), 3.2 mm.

Q1
401
F418
Moll.
THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170
Baxter Street, San Diego, Ca. 92117.

Vol. VII

August 1976

No. 8

PROGRAM: Speaker is Dr. George Radwin of the San Diego Natural History
Museum. His will be an illustrated talk entitled "So You Want
to Write a Book!"
Date: Aug. 19, 1976, Time: 7:30 P.M. Room 101.

SAVE THE DATE: Fall Party, Fantasy Under the Sea, will be on Sept. 18, 1976
at the home of Sherry Pickford. Map and instructions will be
included in the September issue.

FROM THE MINUTES

Dr. Frank King was our speaker for the July meeting. His illustrated
talk on his trip to the South Pacific (Fiji, Australia, New Zealand and Moorea)
arranged and led by Tom Rice was not only informative but entertaining--bordering
on the hilarious. (An article on his trip will appear in a future issue of
the Festivus.)Ed.

After coffee break the business portion of the meeting was held. Sherry
Pickford offered her home for the Fall party on September 18. Billee Dilworth
and Marge Bradner volunteered to be in charge of the food for the affair. Help
will be needed for decorating and cleanup. If you will help, please contact a
board member.

June King was appointed acting Corresponding Secretary until John Smith
is available to resume his duties.

The Club authorized the purchase of a three-drawer file cabinet for the
Festivus.

The Club Library will be repaired and available to members by the next
meeting.(Aug.). Dave Mulliner ordered the two new books for the library.

The raffle was held at the conclusion of the business meeting.

The younger Richard Schwarz won the shell drawing.

A FANTASTIC DIVE
BY NOLA MICHEL

I want to tell you about a dive off Point Loma in June 1975. It was unique in the fact that we collected such a variety of nudibranch species on one dive. It was nice weather and water conditions were not bad. Fair visibility--20 feet or so and the water warming from a cold winter temperature.

We came in from deep water (120'±) with the depth finder on and dropped anchor on the "old sea cliffs," the last reef before the deep water. The top of the reef is 75 feet under water and the bottom of those sheer cliffs is about 100 feet --in the sand.

My diving buddy is Dave Mulliner who, as most of you know, is an excellent photographer --hence these beautiful pictures taken after the dive.

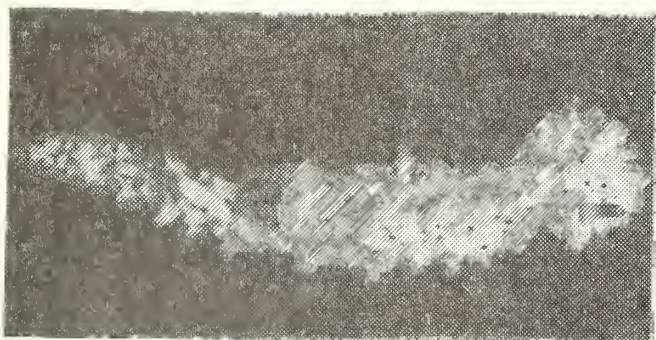


Fig. 1 Aegires albopunctatus

Fig. 1 Aegires albopunctatus
MacFarland, 1905. 25 mm.,
common in shallow water but
not deep (75'±) where we found
it. Animal white with black
spots.

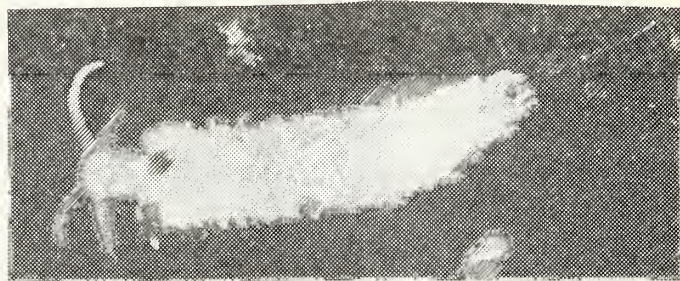


Fig. 2 Spurilla chromosoma

Fig. 2. Spurilla chromosoma Cockerell
& Eliot, 1905. 25 mm. Is seen
occasionally both in deep water and
intertidal. The body and head are clear,
the cerata is light orange, rhinophores
are dark orange.

Fig. 3 Archidoris nobilis Odhner, 1907.
75 mm., yellow with black spots, common.

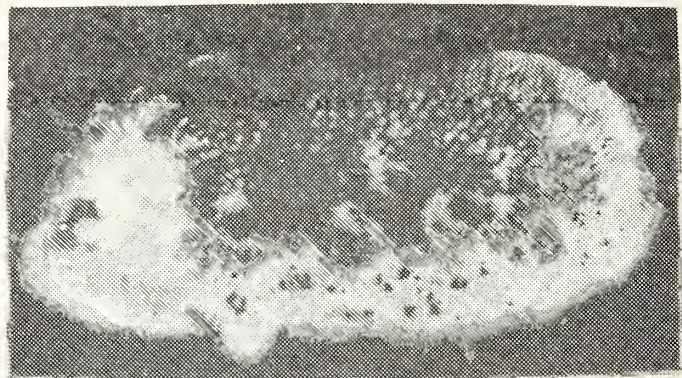


Fig. 3 Archidoris nobilis



Fig. 4 Acanthodoris lutea

Fig. 4 Acanthodoris lutea MacFarland,
1925. 50 mm., bright orange with light
colored branchia and darker rhinophores.
We see this occasionally--about four
times a year.

Fig. 5 Tritonia festiva (Stearns, 1873). 35 mm. This one is a yellowish-brown animal with white markings. White branchia and rhinophores. Seen occasionally.

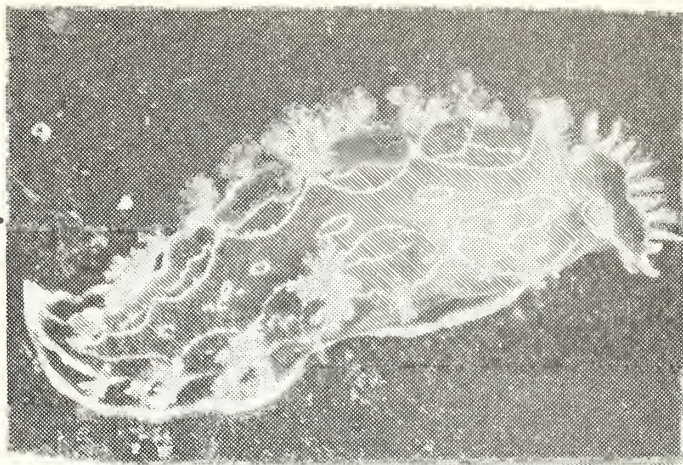


Fig. 5 Tritonia festiva

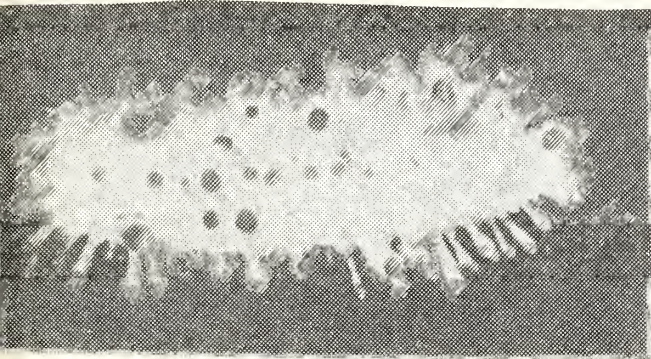


Fig. 6 Laila cockerelli

Fig. 7 Dendronotus diversicolor Robilliard, 1970. 25 mm. This animal has a clear white body. Some cerata are opaque, white tipped and some are tipped with yellow-orange. Seen occasionally.

Fig. 6 Laila cockerelli MacFarland, 1905. 20 mm. This clownish looking animal has a white body with orange tipped papillia. It has orange rhinophores and white branchia. Seen occasionally.



Fig. 7 Dendronotus diversicolor



Fig. 8 Chromodoris macfarlandi

Fig. 8 Chromodoris macfarlandi Cockerell, 1902. 20 mm. This animal is lavender blue with gold stripes with the same color branchia and darker rhinophores. Seen occasionally.

Fig. 9 Flabellinopsis iodinea Cooper, 1862. 20 mm. This very common animal is quite striking with its lavender body and orange cerata. It has red rhinophores to top everything off!



Fig. 9 Flabellinopsis iodinea

Fig. 10 Aeolidia papillosa Linnaeus, 1761. 30 mm. This animal has a buff colored body with clear cephalic tentacles. The rhinophores are brown, the cerata buff. It has a distinctive white marking down the dorsal area. It is seen occasionally.

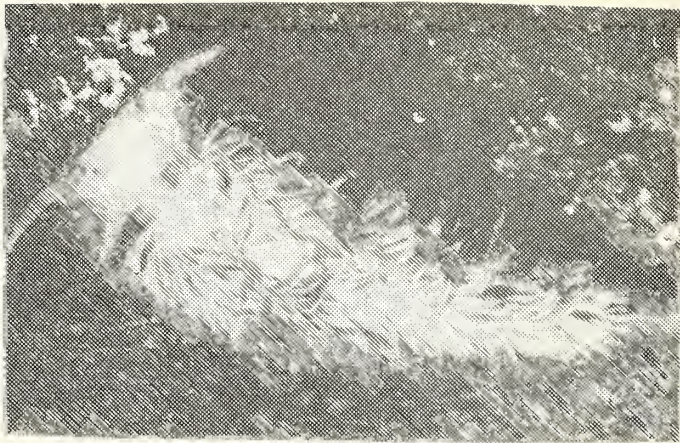


Fig. 10 Aeolidia papillosa

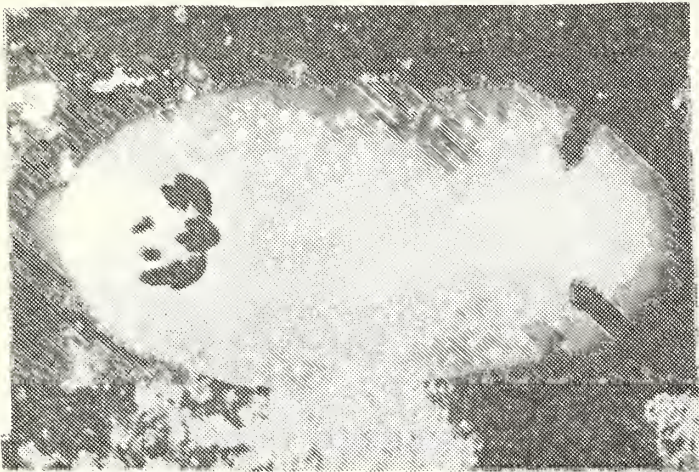


Fig. 11 Cadlina limbaughi

Fig. 11 Cadlina limbaughi Lance, 1962. 25 mm. This strikingly beautiful animal has a white body with opaque white markings and black rhinophores and branchia.

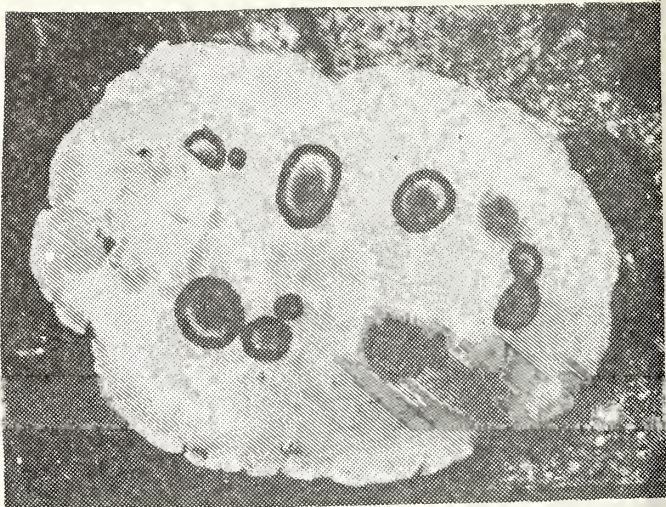


Fig. 12 Dialula sandiegensis

Fig. 12 Dialula sandiegensis Cooper, 1862. 25mm. This common animal runs from white to brown in body color. It has black color rings with brown centers. The rhinophores are brown, the branchia are white.

Fig. 13 Hypselodoris porterae Cockerell, 1902. 25mm. This is a blue animal with yellow-gold markings. It has dark blue rhinophores and branchia. It is seen rarely.

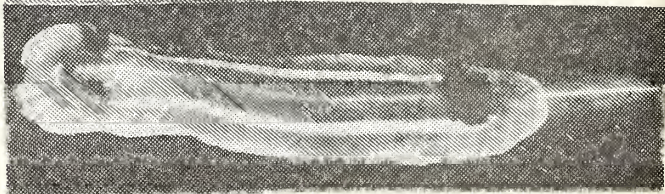


Fig. 13 Hypselodoris porterae

Fig. 14 Dendronotus frondosus Ascanius, 1774
20mm. This delicate looking animal has a greyish body with buff colored cerata. It has a distinctive green and white marking along the dorsum. Not common.



Fig. 14 Dendronotus frondosus

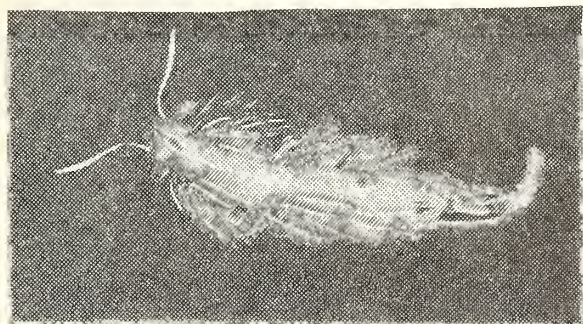


Fig. 15 Hermissenda crassicornis,
(Eschscholtz, 1831). 25 mm. One of my favorites, this animal has a buff body with blue markings. It has blue diamonds on the dorsum with red cerata with light tips.

Fig. 15 Hermissenda crassicornis

GOOD NEWS

Our Club has received word from Frank Abbottsmith that he will be in San Diego on Wednesday, September 29, 1976 and will be happy to give a slide presentation to the Club that evening on "Australiana--Including Shells."

For those who do not know Mr. Abbottsmith--a bit of information. He is from Perth, West Australia, an author of a book on Australian volutes and a specialist on the volutes who has an outstanding collection of these beautiful Australian shells. He is also a charming man and an amusing and informative speaker. When he was in San Diego two years ago, he presented two delightful programs to our Club, one at our regular meeting and the second at a special Potluck and party at June and Harold Bellmer's home.

Mr. Abbottsmith will be here just this one evening on this trip and all members are invited to come and meet him (or renew the friendship) and enjoy his program--a bonus for us. The location for this meeting will be announced at our August meeting.

FOR SALE June King would like to sell her never used Vol. I of Kira and Habe's Shells of the Western Pacific in Color. Call her at 296-1574.

FOR YOUR INFORMATION

1. The Festivus needs your articles. Without your contributions we have only a front page!
2. A "Buy and Sell Night" is the idea for the program for the October meeting. Suggestions and help will be cheerfully accepted.

MINUTE SHELLS

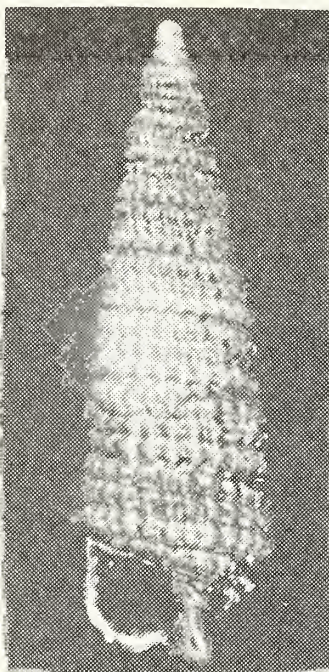
BY JULES HERTZ

Starting this month, we are featuring minute shells from the Jackie Grundman collection. These were obtained by the Ameripagos Expedition in the Galapagos Islands.* Original photography and shell identifications were courtesy of Bert Draper. Black and white photographs were produced from the original 35 mm. colored slides by Festivus staff photographer, Dave Mulliner.

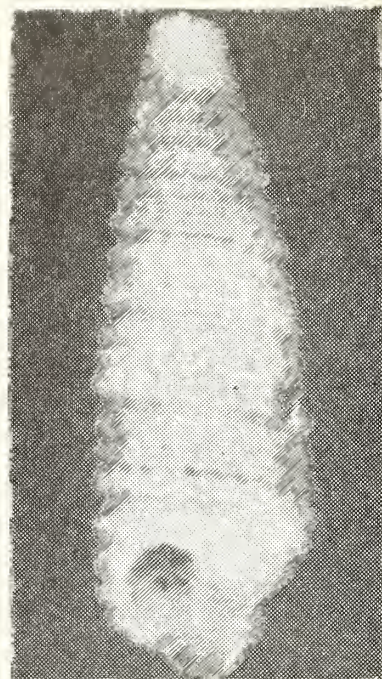
The four shells featured this month are all from the Genus Triphora Blainville, 1828 which belong to the Subfamily Triphorinae in the Family Cerithiidae.



Triphora postalba Bartsch, 1907
Length: 4.2 mm., Station #31.



Triphora alternata C.B. Adams, 1852
Length: 7.2 mm., Station #7.



Triphora adamsi, Bartsch, 1907
Length: 5.1 mm., Station #7.



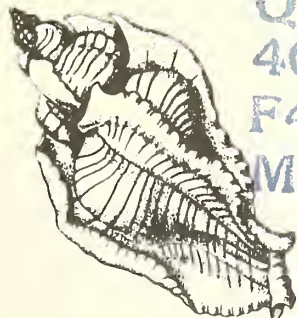
Triphora unicolor Bartsch, 1907
Length: 4.3mm., Station #7.

* Ameripagos Collecting Stations

- #7. 3-10 feet, Sullivan Bay, Bartholome Island, Galapagos Islands, Ecuador (0°17'20"S., 90°33'30"W.), March 10-13, 1971.
- #31. 3-10 feet, cove on Duncan Island, Galapagos Islands, Ecuador (0°35'50"S., 90°39'15"W.), March 25-26, 1971.

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

Vol. VII

September 1976

No. 9

* PROGRAM: Fantasy Under the Sea--September Party--September 18, 1976 at *
* 6:00 P.M. at the home of Sherry Pickford. See map and instruc- *
* tions on last page of this issue. *
* * * * *

Frank Abbottsmith will speak on "Australiana--Including Shells" *
on September 29, 1976 at the home of Don and Jeanne Pisor. *
Information and map in this issue on last page. *

" SO YOU WANT TO WRITE A BOOK"

By BLANCHE BREWER

Dr. George Radwin--who has been writing a book--talked about the many problems encountered in the process at our August meeting. With the collaboration of Mr. Tony D'Attilio he has been working for eight years to present the family Muricidae in a definitive book.

He illustrated his talk with slides of many individual shells. They did much research, both of the animals (their radular structure) and their shells (their physical structure). Mr. D'Attilio's drawings, illustrating their findings, were among the slides shown.

The color plates are the work of another member of our Club, Mr. David Mulliner. They will be printed in four colors. The color proofs of the plates were arranged on tables for our viewing pleasure.

The whole, long discipline of producing the book now has the promise of a publication date--~~this~~ fallish.

The book is being published by Stanford Press.

Following the coffee break we had a short business session. Announcement was made of a visit by Mr. Frank Abbottsmith of Perth, Australia with meeting at the home of Don and Jeanne Pisor. Food list for the September party was passed. The shell raffle was held and the shell drawing was won by Dottie King.

TRANSATLANTIC NEWS

BY SUSAN HEWITT

Surely everyone in Britain and the USA knows by now that 1976 is the Bicentennial of the American Revolution. Something far fewer people realize is that this year also represents the centennial of the foundation of the Conchological Society of Great Britain and Northern Ireland, one of the oldest existing societies devoted to the study of the Mollusca.

The most important contribution to malacology which the Society is to make this year is the publication late in the year of the Atlas of British Non-Marine Molluscs. To anyone who collects solely tropical marine shells, this may sound like something of a non-event. But to someone like myself who has spent many hundreds of hours grovelling in rivers, ponds, streams, ditches, hedgerows, woods, sand dunes, marshes, rubbish dumps, gardens and churchyards, sending off thousands of records as a result, it is something to be regarded with excitement and anticipation.

The Atlas will contain a distribution map for each one of the approximately 180 species of non-marine molluscs in Britain, showing presence or absence in a grid of 10 Km. squares covering the whole of the British Isles. There are still a few squares with no records but most range from 5-20 species to over 60 in the more favorable areas. In the 'Cambridge square' where I live there are over 90 species recorded. The level of total recorded coverage is impressive, especially since all the work has been on a voluntary basis and most of it carried out by amateurs. Predictably enough, the most comprehensive recording has been in the well populated English counties, especially the so-called 'Home Counties' in the South East of Britain around London. Sparsely populated Scotland has been less well covered. This is scarcely surprising, since there are a number of 10 Km. squares which are only accessible to hikers. The recording in Northern Ireland has also been rather patchy, but there only the most foolhardy would put their lives at risk by engaging in suspicious looking activities like poking about in hedges and under bridges. Despite these shortcomings, distribution maps for the large, conspicuous or interesting species like the Edible Snail, the beautiful river mussels and the highly coloured and variable Cepæa snails, will probably prove to be almost 100% complete.

However, out of the cast of 180 or so in this show, there are a good many who can't rustle up much of a fan club. How many people really love the elusive and unendearing slugs enough to hunt them out and identify them? How many people have the patience to sieve through leaf mould or river mud searching for some of the 30 or so minute species which they might find there? The answer is, more people than you might expect, even from a nation of eccentrics, but not enough to yield the enormous bulk of records necessary to construct a complete picture of the distribution of these obscure animals.

Recording will continue after the publication and hopefully it will prove possible to produce later editions of the Atlas with the maps modified to include new data.

Anyone who has inquiries about the mapping scheme or the Atlas itself should write to the hardworking Honorary Recorder:

Dr. Michael Kerney

Imperial College of Science and Technology,
Dept. of Geology, Royal School of Mines,
Prince Consort Road, London SW7 2BP.

MINUTE SHELLS

BY JULES HERTZ

This month we are featuring shells from the Superfamily Rissoacea. The shells are from the Jackie Grundman collection and were obtained by the Ameripagos Expedition in the Galapagos Islands.* Original photography and shell identifications were courtesy of Bert Draper. Black and white photographs were produced from the original 35mm colored slides by Festivus staff photographer, Dave Mulliner.

The Alvinia species are from the Family Rissoidae, Subfamily Rissoinae, whereas the Rissoina species are from the Family Rissoinidae, Subfamily Rissoininae.



Rissoina signae Bartsch, 1915
Length: 3.2 mm., Station #3



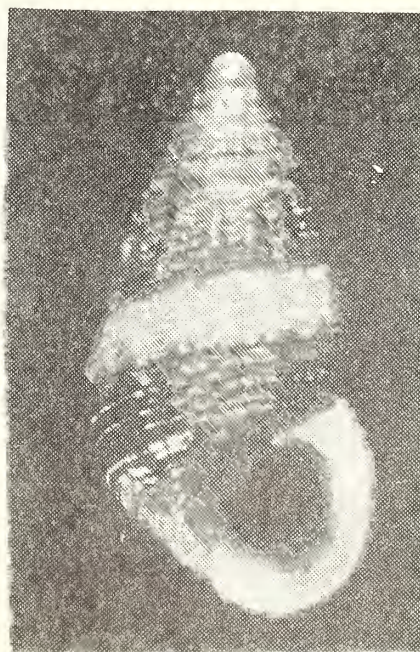
Rissoina axeliana
Hertlein & Strong, 1951
Length: 2.9 mm., Station #7



Rissoina porteri Baker,
Hanna & Strong, 1930
Length: 2.7 mm., Station #7



Alvinia lara (Bartsch, 1911)
Length: 3.3 mm., Station #11



Alvinia nemo (Bartsch, 1911)
Length: 3.4 mm., Station #7

- #3 3-10 feet by diving, Darwin Research Station, Academy Bay, Santa Cruz Island, Galapagos Islands, Ecuador (0°45'06"S., 90°15'38"W.), March 5, 1971.
- #7 3-10 feet, Sullivan Bay, Bartholome Island, Galapagos Islands, Ecuador, (0°17'20"S., 90°33'30"W.), March 10-13, 1971.
- #11 6-12 feet, Flamingo Cove, near Post Office Bay, Floreana Island, Galapagos Islands, Ecuador (1°14'10"S., 90°27'30"W.), March 15-16, 1971.

THOSE CRAZY MIXED-UP COWRIES

BY TWILA BRATCHER

Every collector knows Cypraea are nocturnal, avoid sunlight and quickly drop into the water or crawl to the underside of rocks or coral heads which have been turned over exposing them. Not Cypraea mus Linnaeus, 1758, at Amuay Bay on the Paraguana Peninsula in Venezuela. They crawl out of the water at low tide, oblivious to the hot tropical sunshine and strong dessicating winds which blow constantly. They work their way out of the mud and turtle grass (Thalassia sp.) on to dry land and into what would seem a hostile environment. Usually their mantles are partially retracted, leaving the dorsum glinting in the sunlight.

We observed, without disturbing, several females depositing eggs. All were upside down among turtle grass, depositing the eggs on the underside of a half shell of Chione granulata (Linnaeus, 1758).

In May of 1976 my sister, Billee Dilworth, and I visited Amuay Bay with Ed Petuch while on a collecting trip to Colombia and Venezuela. Ed, accepted as a doctoral student at the Rosenstiel School of Oceanography in Miami studying Biological Oceanography, was gathering material for his doctoral dissertation on the Colombian area.

Amuay Bay, on the Paraguana Peninsula, state of Falcon, Venezuela, is no tropical paradise. The water is constantly muddy. Hot winds blow so strongly a person can almost lean against them. The cactus affords no shade, and there are no trees. At extreme low tides part of the turtle grass is exposed to wind and sun. In a very short time it turns dry and sunburned. Out of the moisture Cypraea mus crawl to the surface, sometimes working their way onto the drying mud. They are indeed crazy mixed-up cowries!

AQUARIUM OBSERVATIONS

BY BARBARA W. MYERS

With a subdued clatter, the large Bursa californica (Hinds, 1843), length 104 mm., fell from the wall of my 30 gal. aquarium--hardly an earth-shaking event--but noted in view of what followed. It was only minutes later while looking in the aquarium that I saw perched atop this same Bursa, and obviously satisfying their appetites for "fresh flesh", three Cypraea spadicea Swainson, 1832. Now this had to be very "fresh", because minutes before the Bursa had been clinging to the wall of the aquarium. Did he just fall down dead? If so, he had hardly had time to acquire any odor to attract the Cypraeas. Perhaps he was weakened, but did they actually overpower and devour? Three Cypraea, measuring approximately 45 mm. each might be a match for a Bursa. Even so, if you have ever watched a hungry Bursa track, assault and consume a prickly sea urchin of matching size, with complete disregard for and apparently suffering no ill effects from the sharp spines, you would wonder at the audacity of these supposed vegetarians (Cypraea).

Cypraea spadicea does well in aquaria and feeds on the algae that grow on the walls. However, this evidently is not enough to sustain them as I have observed Cypraea eating the flesh of scallops, fish and other mollusks. Is it possible that to survive they resort to eating flesh and if they don't get enough of that as left over scraps, they are ready to become predators?

ARTIFICIAL RESPIRATION FOR A MOLLUSK

By MARTY SCHULER

On July 11, 1976, Peter Wienold and I took a nudibranch census of south Case Reef. We reached the reef about four in the morning and began searching for our elusive "nudies". The tide pools were disappointingly barren that morning (according to our standards), but we did come across several Hermisendas, and quite a few Dendrodoris, (as always), and other common varieties of "branches". We reached the end of the reef and were about to turn back when we found a squid which had been washed up on the exposed reef. I picked it up and examined it for any wear and tear that may have been inflicted on the poor thing. As I went to put the squid down, the tentacles would not let go of my fingers. Apparently the little monster still had some activity in its seemingly lifeless body.

I placed the squid (which measured about fourteen inches in length) in a nearby pool in hopes of reviving him. Nothing happened. Despite the fact that I could soon have a malpractice suit on my hands, I proceeded gently to squeeze the body of the squid, and then release my grip. I continued this pumping action and found that its eyes were clearer than before. I continued, with Peter looking on. When the squid began to pump on its own, Peter took off for his car to get his movie camera while I continued to help save the squid. His pump was weak but it was definitely working.

His "breathing" continued for about six minutes before it slowly weakened. I immediately repeated the above technique but to no avail. Peter returned but the squid didn't revive for a second time. I was able to identify the squid as Loligo opalescens.



FOR YOUR INFORMATION

Shells For Sale: Mrs. Glenn McHeffey in Poway would like to sell a collection of shells that has been in her family for many years. There is no data but she says the shells are in fine condition. If interested, call 748-7991.

Special Offer To Shell Clubs: "As a pre-Christmas offer, "The Best of the Nautilus" by R. Tucker Abbott, (\$13.95), will be available at large discounts, if ordered in bulk. 3 to 6 copies, 20% off (\$11.16); 7 to 15 copies, 25% off (\$10.46), over 15 copies, 40% off (\$8.37). Postage paid...." If interested, notify Bob Schoening. If there is sufficient response, the Club will send in a bulk order.

The Club Library has been repaired and will be completely operational by our next meeting. An up-to-date list of library holdings will be available at that time.

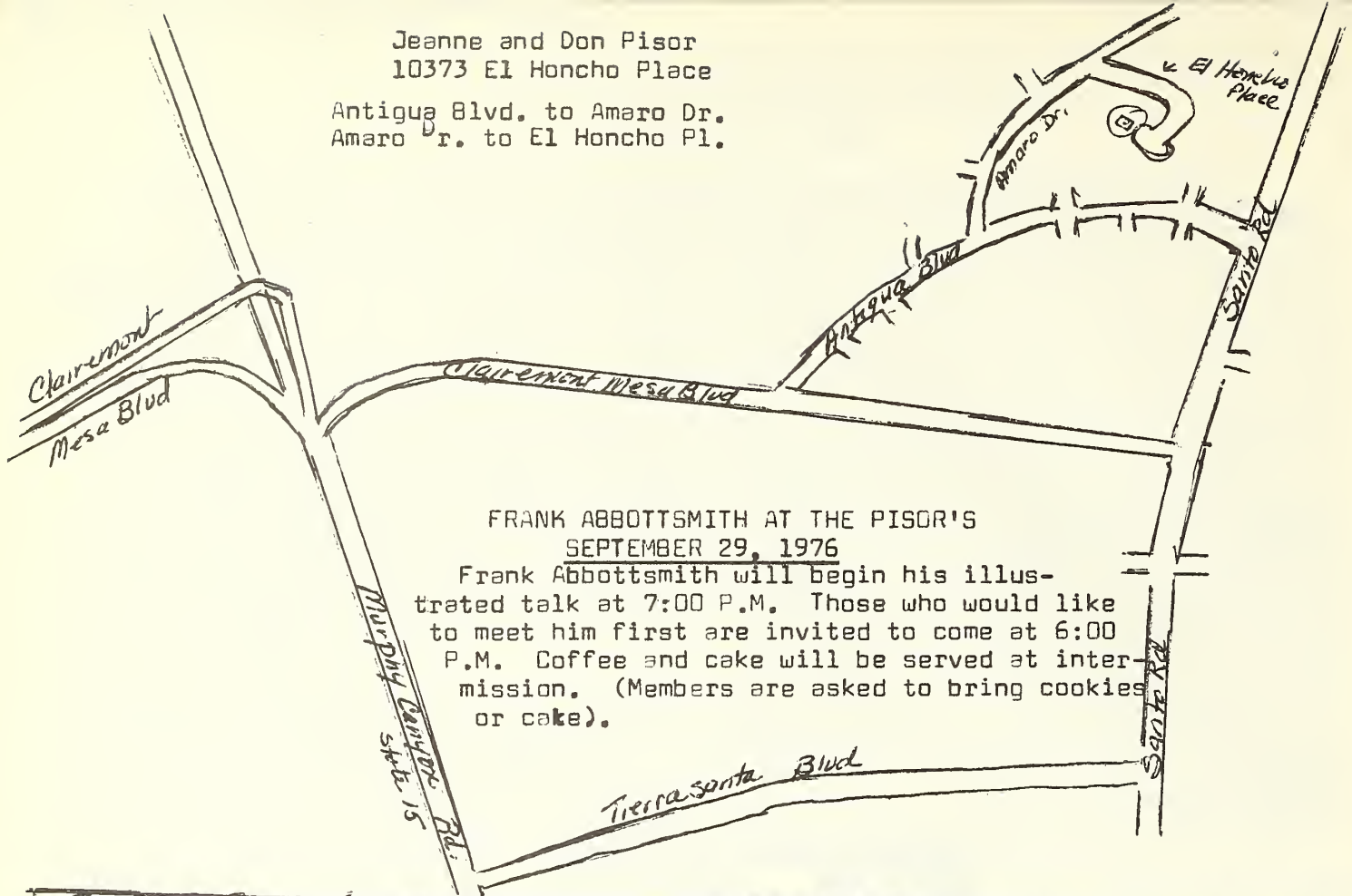
THE FESTIVUS NEEDS ARTICLES.

CHANGE OF ADDRESS

BRADNER, Hugh and Marge
1867 Caminito Marzella
La Jolla, Ca. 92037
459-7681

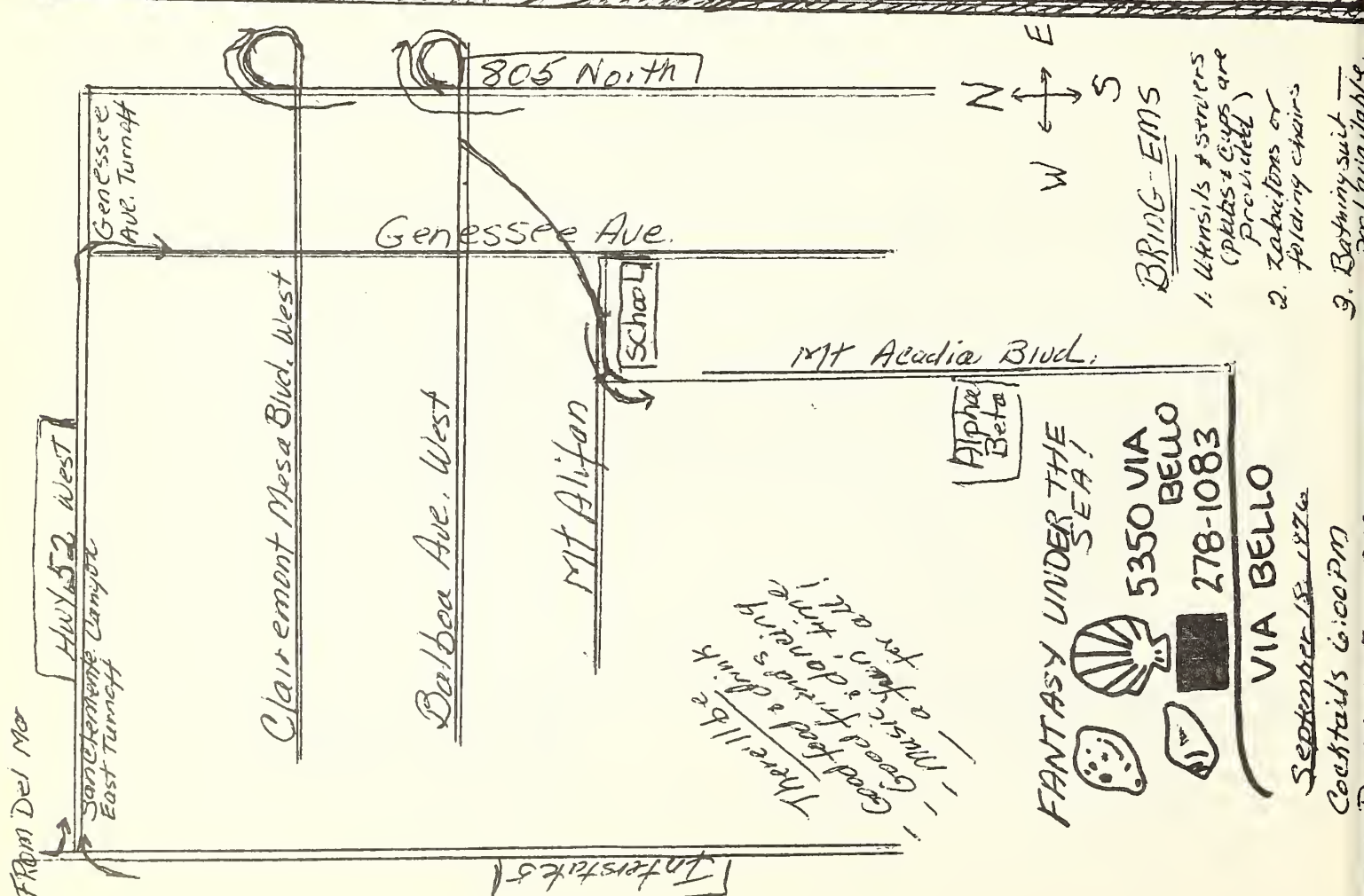
HEWITT, Susan
1600 Chapel Street
New Haven, Conn. 06511

Jeanne and Don Pisor
 10373 El Honcho Place
 Antigua Blvd. to Amaro Dr.
 Amaro Dr. to El Honcho Pl.



FRANK ABBOTTSMITH AT THE PISOR'S
 SEPTEMBER 29, 1976

Frank Abbottsmith will begin his illustrated talk at 7:00 P.M. Those who would like to meet him first are invited to come at 6:00 P.M. Coffee and cake will be served at intermission. (Members are asked to bring cookies or cake).



QL
401
F418
Moll.
THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brawer
Corresponding Secretary: John Smith
Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

Vol. VII

October 1976

No. 10

PROGRAM: Trade, Buy and Sell Night, October 21, 1976 at 7:30 P.M. in Room 101 of the Casa Del Prado. Bring your specimen shells and swap, sell or buy. Coffee and cookies will be available throughout the evening's program which will end at 9:30 P.M. Because of the type of program, the business meeting will be held first. This will include discussion of the Christmas party, nomination of officers and a possible amendment to the Club constitution.

SAY THERE, WAS THAT EVER A GOOD PARTY!

Sherry's parents graciously provided the location, Peggy mixed the punch, Bob turned us on to the music, June invented the gumbo and on and on. There was something for everyone! Dancing, eating, sipping, visiting, swimming, and where else could you hobnob with Ms. Neptune and The Chicken of the Sea, a pirate, and listen to Norm speak French? (Note I am using no last names for those who want to remain anonymous). Entertainment highlights included Billee's water ballet, Jim's jokes, Rose's dancing, Marty's sword fight and Jules' feet. Dinner was delicious. This was proven by the fact that Tony ate two helpings. Now, if you didn't attend, aren't you sorry?!!!

signed- Guess Who!

CHANGES OF ADDRESS

GEMMELL, Joyce
150 S. Anza Sp. 47C
El Cajon, Ca. 92020

KITSMILLER, Don
Weapons Dept.
USS Macdonough DDG39
FPO. N.Y., N.Y. 09501

VISITOR FROM AUSTRALIA

By BLANCHE BREWER

Mr. Frank Abbottsmith of Perth, Australia conducted a slide showing at the home of Don and Jeanne Pisor on Wednesday, September 29, for members and friends of the San Diego Shell Club.

Since Mr. Abbottsmith is a well-known authority on Australian Volutidae, slides of this family were the frame and accents of the show. However, he interspersed the volute slides with varied and interesting views of things "animal, vegetable and mineral" uniquely Australian, such as the pouch-bearing mammals and the many unusual--to our view--forms of life on that continent.

The egg-laying mammals, the echidna and the platypus (also pouched) are the strangest of all. Even as one looks at these two they are almost too fantastic to believe. We saw many of the marsupials, beautiful wildly colored birds, snakes, lizards, frogs and insects and many gorgeous trees and shrubs with strange flowers (mostly stamens) and stranger native names.

Everything is extravagant. There are 108 species of marsupials. There are 52 kinds of kangaroos. There are 58 families of birds--50 different parrots. Australia has 12 percent of the Earth's reptiles. Seventy of their snakes are poisonous. There are 600 species of Eucalypts, another 600 of Acacias or wattles.

We were shown glimpses of the "outback"--air views of "badlands" hills of the Mt. Olga Range like giant loaves of bread, separated by narrow canyons; the red sandstone monolith, Ayer's Rock; a scaled monster in the rocky broken mesa called the Krichauff Range (only 500 feet elevation).

There were several slides of the world-famed opera house complex at Sydney and of its richly beautiful interiors.

Australian shores abound in many species of the family Volutidae and Mr. Abbottsmith has collected, studied and written a book about them. The many slides of these lovely shells were mostly of the live animals, either in trays or in their natural habitats.

The slide showing was in two parts with an intermission for cake and coffee. Everyone stayed for the second session. This was Mr. Abbottsmith's second visit to the San Diego Shell Club. It was an enjoyable occasion and very well attended.

LIBRARY NEWS

By Carole M. Hertz

The Club library is the recipient of a generous donation from member, John Souder, the highlights of which are listed below.

1. Consecutive issues of HAWAIIAN SHELL NEWS from November 1953-1962. This in combination with the volumes already held by the Club, gives the library a complete set.
2. PACIFIC SCIENCE, Vol. XI, No. 3, July 1957, University of Hawaii Press. The sixty-six page, illustrated article, MICRONESIAN REEF-ASSOCIATED GASTROPODS by Joan Demond is in this issue.
3. ENDEMIC HAWAIIAN COWRIES by William M. Ingram, from OCCASIONAL PAPERS OF BISHOP MUSEUM, Vol. XIV, No. 19, March 6, 1939.
4. THE HAWAIIAN TUN SHELLS, by Spencer Tinker, reprint from PACIFIC SCIENCE, Vol. 3, No. 4, October 1949.
5. LIVING SPECIES OF THE PELECYPOD FAMILY TRAPEZIIDAE by Alan Solem, reprinted from the PROCEEDINGS OF THE MALACOLOGICAL SOCIETY OF LONDON, December 1954.
6. From INDO-PACIFIC MOLLUSCA (in looseleaf binder) the sections VASIDAE, STROMBIDAE, LAMBIS, PINNIDAE and TRIDACNADAE.

These will be available for circulation at the October meeting.

FOUND ON EEL GRASS (ZOSTERA)

By BARBARA MYERS*

Collected in the Flood Control Channel, Mission Bay, San Diego, Ca., far from its northern home (Alaska to Oregon), we believe the pictured specimen is a juvenile Notoacmea scutum (Rathke, 1833). Eleven specimens were found all attached to blades of the eel grass (Zostera). They are thin shelled, white with brown patches, pattern visible through the under side. Apex is $\frac{2}{5}$ shell length from the front margin, sides parallel. Sculpture consists of fine radiating ribs and spiral growth lines; margin is crenulate.

In contrast to the almost round shape and smooth margin of N. scutum, we find these specimens are elongated with parallel sides and crenulate margins. We believe the narrowness and pliability of their habitat (eel grass) could account for this difference.

Measurements of the other specimens are as follows

9/28/69	-	8 mm x 5 mm x 2 mm)	Collected by Carole Hertz
10/30/70	-	8 mm x 5 mm x 2 mm)	
10/70	-	14 mm x 9 mm x 5 mm)	Collected by B. Myers
"	-	13 mm x 8 mm x 4 mm)	
"	-	10 mm x 7 mm x 3 mm (4)	
"	-	7 mm x 5 mm x 2 mm)	
6/74	-	10 mm x 7 mm x 3 mm)	

My thanks to Jules Hertz who made the measurements and comparisons leading to the identification of these specimens as possible juvenile N. scutum.



Dorsal



Ventral

Length 15mm, width 10 mm, height 5 mm

EXPERIENCES ON A TRIP TO HAITI AND VENEZUELA

BY DON PISOR

Part I--Haiti

I had planned on a shelling trip to the Caribbean for several months and had a difficult time deciding which islands to visit. The departure date was fast approaching so the decision was made to go to Haiti because of the numerous varieties reported from there. The second destination chosen was Peninsula de Paraguana and Amuay Bay in Venezuela, where Cypraea mus are found. For several years I have had a yearning to go and try to find them, so this was to be my chance. My wife, Jeanne, and two boys were to spend a month with her parents in New Jersey, so I made the trip by myself.

The flight to Haiti, with an overnight stop in Florida, was uneventful. Flying over the Caribbean with its sparkling, clear, blue waters reminded me of the many hours I have spent diving them in the past years. It is quite different from diving in the San Diego area.

I landed in Haiti in the evening not knowing where I would stay but did not expect any difficulties since that time of year is off-season--no tourists. I cleared customs with two young ladies from Southern California (one meets Californians traveling everywhere). We decided to share a taxi into Port-au-Prince, a fifteen minute, \$5.00 ride. One of the girls spoke French, the national language, and my knowledge of French is limited to very few words.

When we obtained a taxi, our first minor obstacle arose. One taxi would not take us to two different hotels. (Hotels were chosen at the tourist bureau in the airport). So, to simplify matters, we all went to one hotel. Once there, another obstacle arose because of the slight language barrier even though one of us spoke French. The desk clerk wanted to put the three of us in one room since we arrived together. It took quite a bit of explaining to get separate rooms, and several people gathered around at the commotion. It was actually an amusing situation and eventually everything got straightened out.

The girls had an initial dislike of Haiti and left the next day. For myself, however, I was ready to find shells. Since I deal in shells as a hobby turned part-time business, I was interested in seeing what the local dealers had. I arranged for a guide and car to show me around. I found out later that I was lucky to have gotten a guide who knew what he was talking about and did know the people with shells.

The first day was spent looking at Haitian seafood leftovers--shells. Piles of conchs, helmets,--any shell that was available in sufficient quantities to be commercially collected by divers for the meat.

Then I sat in the office while basket after basket of small shells were brought in for me to examine. It was a shell collector's paradise. There were shells a collector alone could not find in a year. Most of the smaller shells were dead collected. It was my opinion that they were crabbed shells and were collected in fish traps, as many of the small shells are.

I had anticipated diving and collecting shells myself but found that it was not practical on this trip. I did think I was going to have some beach collecting on my last afternoon.

Two young men had heard that I was interested in shells and said they could take me to get some. I showed them a variety of shells and they verified that they could get those. So, off we went in a taxi first to the Native Market. While I waited in the car, the men went off and in a while came back with a few Oliva caribbaeensis --fine. But, while waiting, the car had a flat tire. The driver changed to the spare, which wasn't much better. Next stop was to have the flat fixed, then to get gas after running out. (Haitian drivers seem to have an aversion to putting more than a gallon of gas in their vehicles at one time).

Now, off to a small fishing village to get all the aforementioned shells. We managed to get there with only one more stop to have the tire fixed again. The fishermen did have shells--a few Cassis flammea that were excellent. After a few minutes of bargaining, we agreed on a price.

The next destination was a Haitian beach club about twenty miles out of Port-au-Prince. Surprisingly, this stretch was uneventful! The club is on a small bay off the beaten path. Actually, the last mile was on a beaten path--through a cow pasture and field. The "club" consisted of a few covered tables that looked as though they were used as recently as five years before. On the way into the "club", we picked up some Haitian men and boys from the village to show us the way. There were eight or nine of us in and on the taxi. When on the beach, (narrow, rocky with broken shells), I showed the men what I was looking for: Strombus gallus, Cypraea zebra, and a few others.

In the meantime, the taxi driver left to get his tire fixed (again). Everybody but me expected him back in a half hour or so. I had a premonition... In the meantime we looked for shells as the sun was setting. The only shells I saw were beached Strombus raninus and Arca sp. The Haitians couldn't tell the difference between S. gallus and S. raninus and brought in pockets full of beached S. raninus. I patiently told my guides those were not right and tried to point out the differences. I am sure they thought I was crazy.

By this time it was almost dark so we started walking back to the highway about two miles away. No taxi at the highway, and my premonition that the taxi would not return was very strong. I told my guides that I was going to stop the next bus, which I did. The three of us crowded into the bus and went back to Port-au-Prince and the hotel.

What I thought was going to be a short outing to look at some shells, turned out to be seven hours of a continually more frustrating event. I had left the few shells I got in the taxi and did not see them again. The taxi driver even had the nerve to send word he wanted to be paid for the trip!! Needless to say, I didn't.

The next day I left Haiti enroute to Venezuela and another chapter in the adventure.

PROPOSED BY-LAWS CHANGE AS RECOMMENDED BY THE CLUB BOARD

The Editor/Publisher of the FESTIVUS is, as you well know, one of the most demanding activities of the San Diego Shell Club. The Editor must seek good material for the monthly publication, and must also stay well informed of future activities. The Board feels that the Club could function better, especially in the second aspect, if the Editor/Publisher were a member of the Club Board.

This can most simply be done by modifying Article V which deals with the Executive Board and by adding a section 2D to Article VI which deals with the duties of the Editorial Committee: Article V, Section 1 now reads, "The administration of the affairs of the Club shall be vested in the Executive Board, which shall consist of the currently elected officers and the Club President of the calendar year immediately preceding." Add "and the Club Editor." In addition a Section 2D should be added to Article VI: "The Club Editor shall serve as a member of the Club Board."

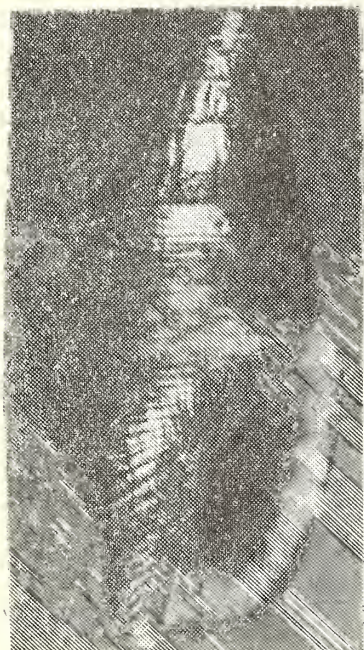
Special Offer to Shell Clubs: "As a pre-Christmas offer, "The Best of the Nautilus" by R. Tucker Abbott, (\$13.95), will be available at large discounts, if ordered in bulk. 3 to 6 copies, 20% off (\$11.16); 7 to 15 copies, 25% off (\$10.46), over 15 copies, 40% off (\$8.37). Postage paid...." If interested, notify Bob Schoening at the October meeting. If there is sufficient response, the Club will send in a bulk order.

MINUTE SHELLS

By: JULES HERTZ

Pictured below are two very similar mitrellid species brought back by the Ameripagos Expedition from the Galapagos Islands: In addition, a Nassarius from the same expedition is also pictured. The three specimens are from the Jackie Grundman collection. Original photography and shell identifications were courtesy of Bert Draper. Black and white photographs were produced from the original 35 mm. colored slides by Festivus staff photographer, Dave Mulliner.

The Mitrella species are from the Family Columbellidae, Genus, Mitrella. Nassarius angulicostis joins previously pictured Nassarius from the Galapagos Islands brought by the Ameripagos Expedition (see Festivus, April 1976).



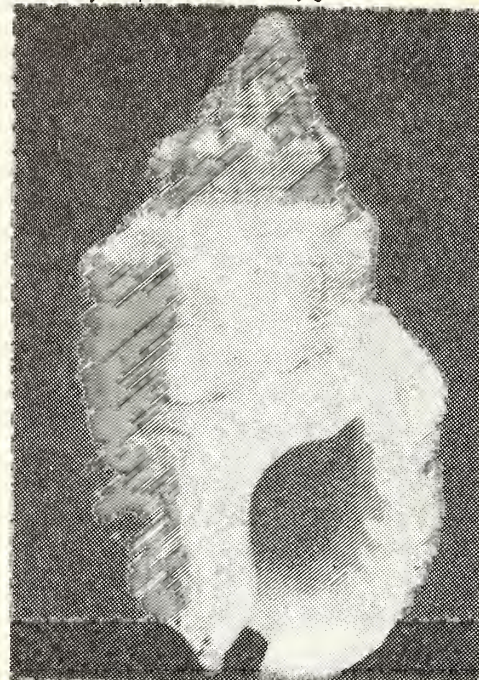
Mitrella guttata
(Sowerby, 1832)

Length: 7 mm., Station #31.



Mitrella elegans
(Dall, 1871)

Station #4.



Nassarius angulicostis
(Pilsbry & Lowe, 1932a)

Length: 11.4 mm., Station #1

*Ameripagos Collection Stations

- #4 Intertidal to 10 feet, Punta Estrada, southeast side of Academy Bay, Santa Cruz Island, Galapagos Islands, Ecuador, (0°45'06"S., 90°15'38"W.), March 5, 1971.
- #11 6-12 feet, Corona del Diablo, near Post Office Bay, Floreana Island, Galapagos Islands, Ecuador, (1°14'0"S., 90°27'30"W.), March 16, 1971.
- #31 3-10 feet, cove on Duncan Island, Galapagos Islands, Ecuador, (0°35'50"S., 90°39'15"W.), March 25-26, 1971.

DO YOU NEED PLASTIC BOXES ??????

I have the following sizes available for immediate delivery --
Contact Peg Mulliner 488-2701

# 15	1" x 1" x 3/8"	.08
#215	2" x 1 1/8" x 3/8"	.10
#315	2 1/8" x 1 5/8" x 5/8"	.12
#780	2 7/8" x 2" x 3/4"	.14

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

QL
401
F418
Moll.
THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
CASA DEL PRADO BALBOA PARK
(Across from Natural History Museum)
MEETS THIRD THURSDAY --7:30 P.M., ROOM 101.

President: Bob Schoening
Vice-President: Hugh Bradner
Recording Secretary: Blanche Brewer
Corresponding Secretary: John Smith
Editor: Carole M. Hertz

ANNUAL DUES: Single membership \$3.00; Family membership \$4.00; Overseas surface \$3.50; Student membership \$2.00.
Payable to San Diego Shell Club, Inc., c/o Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117.

Vol. VII

November 1976

No. 11

* PROGRAM: Bob Schoening will give a slide presentation on Dangerous Marine *
* Life. Date: Nov. 18. Time: 7:30 Room 101. *
* * * * *
* SAVE THE DATE: The Club Christmas Party will be on Saturday, December 11 *
* at the Cafe Del Rey Moro in Balboa Park. Complete infor- *
* mation on last page of this issue. *
* * * * *
* THERE IS NO DECEMBER ISSUE OF THE FESTIVUS. *
* * * * *

FROM THE MINUTES

Tables were available to spread out shells and shell connected items for Trade Buy and Sell Night. There were many beautiful shells there, many that members might never have seen before. Certainly the outstanding salesmen of the evening were Richard and Tony Schwarz, busy selling and consulting their lists. It was thought that everyone there enjoyed the evening and would like to see it repeated.

At the business portion of the meeting the nominations for officers for 1977 were presented. (Nominations from the floor and election of officers takes place at the November meeting). Nominations from the nominating committee are:
President: Hugh Bradner Corresponding Sec'y: June King
Vice-Pres.: Billee Dilworth Treasurer: Bob Schoening
Recording Sec'y: Martin Schuler

The Christmas Party was discussed and the menu approved. The proposed amendment to the Club Constitution was read (see Festivus, October 1976) and will be voted upon at the November meeting.

CHANGE OF ADDRESS

SOUDER, John, 7845 Michelle Drive, La Mesa, California 92041
HOGAN, Timothy and Karen, 4693 San Rafael Ave., Las Vegas, Nevada 89120

DIVING IN THE SAN JUAN ISLANDS

BY BILLEE DILWORTH

Keystone Park on Whidbey Island, Washington, was the perfect introduction to my first cold water diving. The Park is an underwater preserve and it had the clearest water of the several dives we made. (All diving in the San Juan Islands should be done at slack tide, for the currents can get quite fierce). My first sight of the giant sea anemones, except in pictures or the aquarium at Sea World, was breathtaking in its beauty. Scattered among the giants were the smaller, lacier, bright peach-orange anemones.

Entrance to the water is over a beach of pebbles, close to a large breakwater that shelters the varied sea life. The deepest area here is not over 60 feet. There were Ceratostoma foliata (Gmelin, 1791) and Calliostoma canaliculatum (Lightfoot, 1786) in abundance on the huge blocks of stone. The fish and crabs really caught my eye, probably because I knew I couldn't take a shell from the park. We had been told to break up a sea urchin to hand feed the fish. One species, about two feet long, would flare its brilliant yellow fins as it came to my hand to eat. I believe it was called a greyling. It also came in a different color form and joined the chow line. The giant ling cod seemed accustomed to divers but stayed a short distance away. The sun shone every day. Even Mt. Baker, which usually bashfully hides behind veils of mist, boldly showed her face each day I was there.

At Orcas Island, between 40-60 feet, we came upon a bed of dancing scallops. They appeared to be bright yellow but the color was from an encrusting sponge. The cleaned shells are white with a mauve-pink design. The first one I saw startled me, for out of the corner of my eye I saw movement. I looked around but nothing was there. Then another scallop jumped about two feet up from the bottom. I put my hand out and caught it. Then many of them started dancing about. They were so pretty that I was torn between taking them for a delicious dinner and leaving them to their ballet of the sea.

After diving on a reef north of Orcas Island, the boat was heading south when we overtook a pod of five killer whales. If they had been on the same course they were maintaining, they must have been quite close to where we were diving. I would love to have encountered a killer whale while diving. A few years ago I would probably have been terrified.

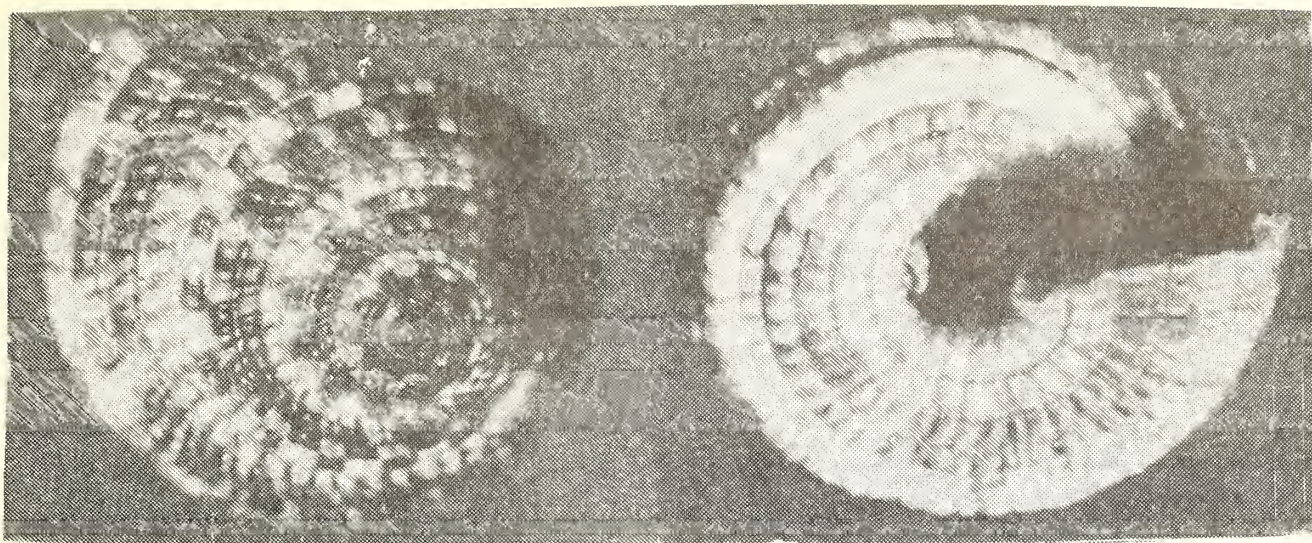
In the half dozen dives we made in the area, we encountered visibility ranging from 30 feet to 8 feet. With the extremely cold water and often limited visibility, I wonder how northern novices ever become enthusiastic divers. I'm glad my diving started in southern California.

 BOOK NEWS

The eagerly awaited MUREX SHELLS OF THE WORLD by George Radwin and Anthony D'Attilio with photographs by David Mulliner, Stanford University Press, 1976, \$35.00, should be available any moment now. The book will be 350 pages with over 450 specimens illustrated in full color and over 190 line drawings.

THE MOLLUSCAN DIGEST has resumed publication with Vol. 4, Nos. 1-2. This first issue in the new series will be especially useful since it is an Index to Species Illustrated in the Hawaiian Shell News From 1960-1976. This index was compiled by Lloyd R. Dempster with an introduction on the use of the index. This issue will be placed with the Hawaiian Shell News in the Club library and will be available at the November meeting.

The National Capital Shell Club has asked us to announce the following: "Receive complimentary issue of the newsletter of the National Capital Shell Club of Washington, D.C. Has wide interest for growing worldwide membership. Write: NCSC Editor, c/o Division of Mollusks, Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560."

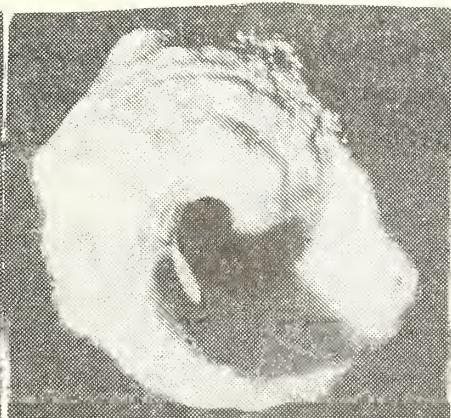
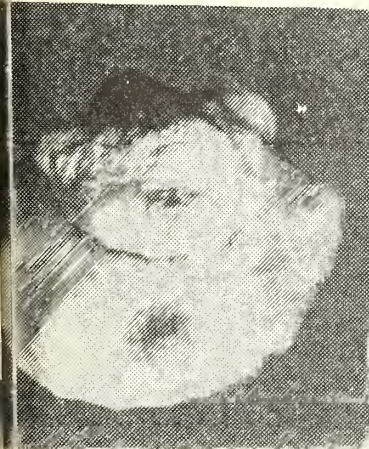


Two views of Heliacus bicanaliculatus (Valenciennes, 1832)

Before heading back to the beach we discover Murex elenensis Dall, 1909, Lyria cumingi (Broderip, 1832) and Knefastia dalli Bartsch, 1944.

In the afternoon John sets off to one of the nearby islands for a dive on scuba while David and I shore collect among the turnable rocks. The deeper water about 50 ft. yields Strombus galeatus Swainson, 1823, Pecten vogdesi Arnold, 1906, Spondylus calcifer Carpenter, 1857, S. urcipes, Berry, 1959, Cypraea annettae Dall, 1909 and Trigonostoma goniostoma (Sowerby, 1832).

In the intertidal zone David and I find Theodoxis luteofasciatus Miller, 1879, Heliacus bicanaliculatus (Valenciennes, 1832), Modulus cerodes (A. Adams, 1851), Fusinus felipensis Lowe, 1935, Kadsiella petaloides (Gould, 1846), R. tridentata Pilsbry, 1893 and R. guatemalensis (Thiele, 1910) syn. Ishnochiton eucosmius Dall, 1919.



bove: Two views of Modulus cerodes
(A. Adams, 1851)

ght: Trigonocardia (Americardia) biangulata
(Broderip & Sowerby, 1829)

Also collected --

Intertidal

Calliostoma eximium (Reeve, 1843) one
 Nerita funiculata Menke, 1851
 Modulus disculus (Philippi, 1846) dead
 Astraea unguis (Wood, 1828)
 Nassarius iodes (Dall, 1909)
 Parametaria dupontii (Kiener, 1849-50)
 Columbella aureomexicana (Howard, 1963)

Subtidal to 25 ft.

Argopecten circularis (Sowerby, 1835)
 Pinctada mazatlanica (Hanley, 1856)
 Atrina tuberculata (Sowerby, 1835)
 Codakia distinguenda (Tryon, 1872) dead
 Periglypta multicostata (Sowerby, 1835) dead
 Eupleura muriciformis (Broderip, 1833)
 Solenosteira pallida (Broderip & Sowerby, 1829)
 Columbella strombiformis Lamarck, 1822
 Olivella dama (Wood 1828, ex Mawe M.S.)

Deep Water (50 ft.)

Chama sordida Broderip, 1835
 C. mexicana Carpenter, 1857
 Strombus granulatus Swainson, 1822

THE BLUE CHRISTMAS PARTY

The Club Christmas Party will be held on Saturday, December 11, 1976 at the Cafe Del Rey Moro in Balboa Park. The party will begin with a cocktail hour (no host) at 6:00 P.M. Dinner will be served at 7:00 P.M. and will include wine provided by the Club.

Menu: Tossed salad, Hot Rolls and butter
 Baron of beef au jus
 Au gratin potatoes and green beans almondine
 Chocolate mousse
 Choice of coffee or tea

The dinner including tax and gratuity is \$7.20 per person. Make your checks payable to The San Diego Shell Club, Inc. and send them to Martin Schuler, 5170 Baxter Street, San Diego, Ca. 92117. Deadline for reservations is the first week in December. (Your check is your reservation).

For those attending, remember to bring your gift wrapped shell to place under the tree for the drawing. The package should have complete data within and only general locality on the outside i.e. Indo-Pacific. No names on the outside. There will be taped music for listening and dancing.

Come to the party--the nicest people will be there! Guests welcome.

THE FESTIVUS DOES NOT PUBLISH AN ISSUE IN DECEMBER.

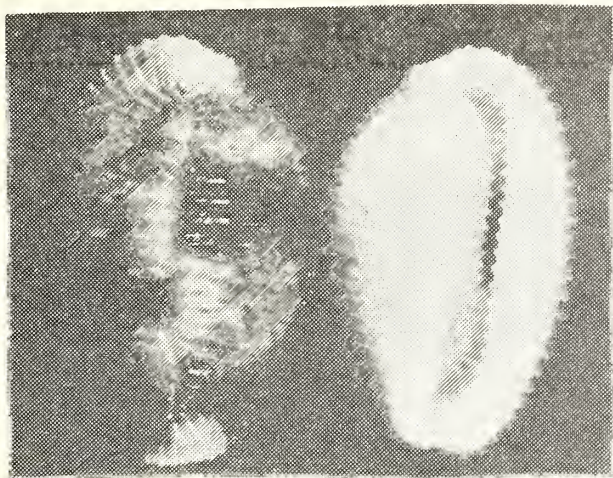
MINUTE SHELLS

BY JULES HERTZ

During this last month, a letter was received from Dr. George Radwin concerning the minute shells pictured in the October issue of the Festivus. The pertinent section is quoted below.

"It appears, from the photographs published, that all three specimens have been erroneously identified. The figure on the left is apparently of a specimen of Zafrona incerta (Stearns), the middle figure is of a specimen of Nitrella ocellata baileyi (Bartsch & Rehder, 1939), and the figure on the right is of a specimen of Nassarius nodicinctus A. Adams, 1852." This writer invites further discussion on the identities of the three pictured shells.

This month, two more species brought back by the Ameripagos Expedition* are pictured below. Original photography and shell identifications were courtesy of Bert Draper. The shells are from the Jackie Grundman collection. Black and white photographs were produced from the original 35mm. colored slides by Festivus staff photographer, Dave Mulliner.



Pseudocypraea adamsonii (Sowerby, 1832)
Length: 10 mm., Station 21.



Volvulella cylindrica
(Carpenter, 1864)
Length: 2.8 mm., Station 7.

*Ameripagos Collection Stations

- #7 3-10 feet, Sullivan Bay, Bartholome Island, Galapagos Islands, Ecuador,
(0°17'20"S., 90°33'30"W.), March 10-13, 1971.
- #21 35-45 feet, North Seymore Island, Galapagos Islands, Ecuador,
(0°23'30"S., 90°17'40"W.), March 21, 1971.

FOSSIL CLAM DISCOVERED

An AP release in The San Diego Union last month reported the discovery of an 80-million year old clam fossil with its protein structure still intact by researchers from the California Institute of Technology.

Dr. Leroy Hood, a member of the team that found the fossil in an ancient sea bed in Tennessee, said that this clam, Scabrotrigonia thoracia, was once common in many warmer waters but is now found only off Australia.

The researchers found in comparing the clam's protein to its modern day counterpart that in 80-million years it "showed virtually no evolutionary change." The clam's protein structure was uncontaminated, they said, because the level of sand in this ancient sea bed was enough to keep the fresh water from the clam.

CROCODILE TEARS

By

Barbara W. Myers

Awakened by a slight noise, I peer out of the camper window at a small kit fox wandering sniffingly through our belongings, his outsize ears making him easily identifiable. The rosy streaks of dawn are stealing over the ridge separating Conception Bay from the main Gulf of California, sprinkling splashes of color onto the glassy surface of the water. Soon the gulls raucously shriek their hunger; the local fishermen straggle across the Bay with their catch. A shaft of bright sun pierces the interior of the camper officially signalling the beginning of our day.

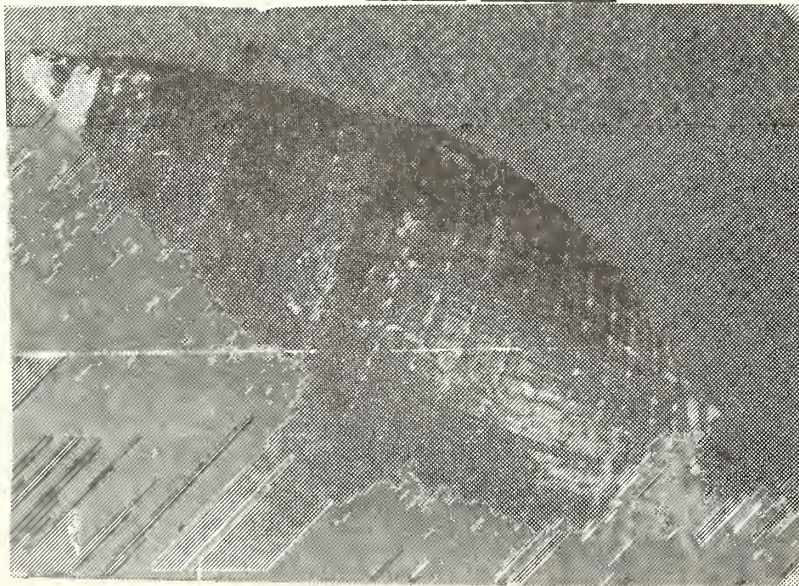
Later wetsuited and ready for the 65° water, we enter the marine world anticipating the gentle swaying movements of the sea plants, the sparkling and darting of exotic fishes, the looming menace of moray eels and the ever possible lurking shadow of a shark. Spread before our masked gaze is a bottom that looks as though it had been scoured with a wire brush -- no sea plants, no exotic fish, no moray eels --

"They wept like anything to see
Such quantities of sand."

Lewis Carroll

"The Walrus and the Carpenter"

We swim around for awhile picking up a few sand dwellers, Oliva spicata (Röding, 1798), Mitra tristis Broderip, 1836, Fusinus ambustus (Gould, 1853), Strombina maculosa (Sowerby, 1832). Poking around one of the two rocks brings forth a few Muricopsis armatus (A. Adams, 1854). We come upon Hexaplex erythrostomus (Swainson, 1831), and Muricanthus nigrilis (Philippi, 1845) near a dead fish together with Pteropuroura erinaceoides (Valenciennes, 1832). The gaping mouth of a large pen shell sets us all digging. As we dig deeper the soft sand changes to a near concrete substrate. Since we are only free diving, we have to come to the surface after each effort. Persistence finally pays off; we break the byssal threads and pull out our Pinna rugosa Sowerby, 1835. But what do we do for gloves the rest of the day? Dangling threads and pieces of skin and dreaming of black pearls, I casually collect a pair of Mitra fultoni E. A. Smith, 1892, while



Mitra fultoni E.A. Smith
1892

David picks up a Terebra ornata Gray, 1834. John, in the meantime, has a treasure trove of bivalves -- Glycymeris gigantea (Reeve, 1843), Trigoniocardia (Americardia) biangulata (Broderip and Sowerby, 1829), Megapitaria squalida (Sowerby, 1835) and Chione compta (Broderip, 1835).

THE

FESTIVUS

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS



Q
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 101, 7:30 P.M.

President:.....Hugh Bradner
Vice-President:.....Billee Dilworth
Recording Secretary:.....June King
Corresponding Secretary:..Martin Schuler
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII

January 1977

No. 1

* Program: Shelling in Senegal will be the topic of Norm Currin's talk. He *
* will accompany his talk with a display of shells he collected on *
* his West Africa trip. *
* *
* Slides of the Club Christmas party will also be shown. *
* *
* Date: January 20. Time: 7:30 P.M. Room 101. *

OUR CHRISTMAS PARTY

BY BLANCHE BREWER

Our Christmas party held on December 11 in the Cafe Del Rey Moro in Balboa Park was unusual.

The cocktail hour preceding the dinner was very pleasant. Arriving members warmly greeted each other and officers both outgoing and incoming were presented with red carnations--lovely sparkly corsages to the ladies and boutonnières to the gentlemen. The room itself had a friendly holiday air, and there was background music with Christmas themes.

When the very good dinner had been enjoyed our Mistress of Ceremonies, Carole Hertz, thanked the outgoing officers and presented those elected for '77. (See top of page 1. Ed.)

Then she introduced a choral group of 17 members from Madison High School who made an ordered entrance from the court. For more than an hour these young people enthralled us. They were GOOD. Their selections were not trite and they were sung with beautiful harmony and every evidence of enjoyment on the part of the singers. They reflected fine training and an unusual rapport with their director.

In their final number they moved to encircle our tables to sing their parting carol, a warmly appealing gesture. It was a real privilege to hear these young singers so ably trained by their director, Mr. Gilbert Sloan.

Ruth Hertz was the accompanist and Charles Amos the choreographer.

The exchange of shell gifts was almost an anticlimax, but the opening of

the packages was accompanied by delighted oohs and aahs, as is always the case with Christmas gifts of shells.

After the fun of gift opening, members gathered around the piano and sang carols together. All enjoyed each other's company and missed those who were not present.

FROM THE MINUTES
OF THE NOVEMBER MEETING

Speaker Bob Schoening gave an interesting and comprehensive talk on dangerous marine life accompanying his lecture with many pertinent slides. (This talk will appear in a future issue of the FESTIVUS. Ed.) During the business portion of the meeting, the slate of officers was elected unanimously and the proposed amendment to the Club constitution was adopted. The Christmas party was discussed. Installation of officers will take place at the party.

Club Officers for 1977 are listed on the FESTIVUS masthead. The Committee positions for the coming year follow.

Librarian.....	Barbara Myers
Botanical Foundation Rep.	Rose D'Attilio
Hospitality.....	Blanche and Norval Brewer
Telephone	June King, Chmn.
Publicity.....	Bob Schoening, Chmn.
Festivus.....	Carole Hertz, Editor
	David Mulliner, Photography
	Nola Michel, Printing

NEW LONG TERM SHELL DRAWING

The Club is instituting a new long term shell drawing in addition to the monthly door prize. Every three months during regular meetings, there will be a bonus drawing based on attendance for the three months. The sign-in sheets for the regular monthly door prizes will be retained for this bonus drawing. The more meetings attended, the better the chance to win. Each drawing will be for a rare and valuable shell. Representative door prizes will be on display at the January meeting.

In early September our member, Edwin Roworth, donated another group of shells, minerals, fossils, etc. to Arizona State University, Tempe, Arizona, thus bringing to about 122,000 specimens his existing collection there. This entire collection is being housed in the university museum on the ground floor of the recently completed new Geology-Physics Building. Ed Roworth chose ASU for his collection because he wanted it kept together and placed where it would be appreciated both for display and study purposes.

The Tempe Daily News, November 9, 1976 quotes Dr. Robert F. Lundin, geology professor at ASU as saying that Mr. Roworth is "a shell collector's shell collector not only because of the condition of his collection, but because of its comprehensiveness." The paper further states that "Roworth's gift makes ASU the home of one of the most important seashell collections on the North American continent" according to Dr. Lundin.

ON THE SHORE IN CONNECTICUT

BY SUSAN HEWITT

I didn't expect to find molluscs as bright and as varied as the San Diego fauna, but my first impression of the shore at Hamonasset State Park, north of New Haven, was pretty depressing. Mussels, winkles and dead slipper limpets glinted up from the strand line, and I thought dismally how often I had seen the same assemblage on the English Channel beaches of southern England.

Rallying my waning enthusiasm, I scoured the tide line for half an hour, and came up with a list of twelve gastropod species, of which only six were live (L);

L Littorina littorea	Eupleura caudata
L Crepidula convexa	L Urosalpinx cinererea
" fornicata	L Nassarius trivittata
L " plana	" obsoletus
Polynices heros	L Anachis avara
" duplicata	Busycon canaliculatum (juv.)

Not a very impressive array but good enough as an introduction to this cold water fauna. The only real "shell-collector's shells" among them were the Polynices heros - large and globose, the aperture tinted chocolate brown, the exterior cream shading to grey, with attractive chestnut banding near the suture. These were quite fresh, probably thrown up by a recent storm, and their chitinous operculi were scattered on the sand.

I intend to continue my shore exploration when I have the opportunity, but in the meantime all those mollusc hunters who long for tropical waters, please remember there are plenty of places which make San Diego seem exotic!

LIBRARY NEWS

BY B. MYERS, LIBRARIAN

The Library announces the purchase of "Murex Shells of the World", An Illustrated Guide to the Muricidae, authored by our own Club members, Dr. George E. Radwin and Anthony D'Attilio with color and most black and white photographs by Club member and FESTIVUS photographer, David K. Mulliner. Published by Stanford University Press, the book has 284 pages with 32 beautifully grouped, richly colored plates and a wealth of black and white photos by Dave. Additionally there are 179 delicate, flawless line drawings of radulas, protoconchs etc. plus exquisite wash drawings by Tony. The book includes a 14 page Introduction, a Glossary of technical terms, (a valuable aid), a lengthy Bibliography and a fine workable Index. Sixteen new species are described, some kind of record perhaps. The heart of the book is the thorough and detailed descriptions of each species, a big plus for workers in the family Muricidae. Cost- \$35.00

We salute our three celebrities for their outstanding achievement and contribution in the field of Malacology.

The book will be in circulation at the January meeting.

NEW MEMBER

SECKINGTON, Sandra
6314 Lake Badin Ave.
San Diego, Ca. 92119

CHANGE OF ADDRESS

ROWORTH, Edwin
1361 Windsor Road
Cardiff-By-The-Sea, Ca. 92007

administrative offices, dispensary, school, workshops, residences and even a tennis court. The community thrived until radio replaced cable as a means of communication, and the station was abandoned.

In the early thirties the Burns Philp Co. purchased the atoll with the exception of the Cable Station area, which remained Crown land, and established a copra plantation and brought in several hundred Gilbertese and their families to work the copra. This large settlement is on an island several miles from the Cable Station at the other side of the only deep water pass into the atoll.

Later the University of Hawaii leased the Cable Station area as a scientific outpost and built the airstrip. Fanning is particularly interesting from the biogeographical standpoint because it is isolated and one of the most easterly of the equatorial islands. For many years before the advent of the airstrip, expeditions had laboriously sailed to reach the island and conduct basic research in the natural sciences.

Fanning is a beautiful atoll. The lagoon, shallow with varying shades of turquoise, blue and milky white, is framed by stately stands of coconut palms. The half dozen fringing islands are narrow arcs with a protective outer reef.

My first steps on Fanning, after getting partially settled and seeing the men off to the lab, were toward the beach on the seaward side of the island. Many different species of shells and shell fragments were scattered along the high water line, but my interest was in Cypraea. There were water and sand tumbled beach specimens of all of the most common ones. However, I did find several nice beach specimens of C. testudinaria, C. talpa and C. maculifera.

In Brad's article he wrote of the strange distribution of C. caputserpentis, C. mauritiana and C. depressa. They were not found on the reef as is usually the case, but in abundance in the shallow backwater of the lagoon. The C. mauritiana were almost always found in pairs of the same size and similar markings. The C. caputserpentis and C. depressa population was so dense that they were on top as well as under rocks. They were never more than a few inches below the surface. The population of these species should remain high.... we left many of the nesting animals hovering over their eggs.

The most interesting hunting was at the edge of the channel in depths from four to six feet. With only a face plate and snorkel, Brad could examine only a few rocks at a time but the hunting was good: C. erosa, C. hawaiiola, C. stolidia, C. teres, C. cribraria and C. goodalli. The common C. tigris was in full view on top of rocks. We kept the small cowries in sea water to watch their activity. The cribraria were very active; they extended their bright orange mantles with waving papillae and crawled rapidly all over the container, sometimes up over the edge and dropping to the floor. The goodalli and teres were much less active; only slowly did they partially extend their mantles.

The Polynesians here were not shell collectors nor do they produce crafts using shells. They do not have words to differentiate between different species of shells, although they have many different words for similar fish. I was often asked what I was going to make with the shells. I replied that I collected them because they were beautiful. One of the children brought me a few live C. caputserpentis. I thanked him and explained that rocks must always be turned back to their original position. When we were getting ready to leave, other children brought me hands full of the shiny brown shell. None of the adults were interested in shells, although they did say that shells could be found in certain areas which turned out to be the areas where we had been collecting.

It was sad leaving this isolated tropical island of gentle breezes and gentle people. We exchanged parting gifts and left a bit of our heart behind when the plane lifted from the airstrip of Fanning Island.

FANNING ISLAND - DECEMBER 1975

BY MARGE BRADNER

In August 1975, Brad made his first trip to Fanning Island to set up a seismic station and to spend his spare time searching for cowries. (THE COMMON COWRIES OF FANNING ISLAND, by Hugh Bradner, Festivus, Vol. VI, No. 11, Nov. 1975).

In December a second trip was planned and there was an empty seat on the plane. I volunteered to fill it.

The plane was being loaded when we arrived at the Honolulu airport. It was almost up to its maximum weight load and space had to be found for Brad's heavy seismometers and electronic equipment. I was asked to leave everything behind except what was absolutely necessary. My final luggage consisted of not much more than a tooth brush and a bottle of bourbon.

The Piper Aztec is a small plane with a maximum range of less than a thousand miles. Fanning was more than a thousand miles to the south. Extra gas tanks had been fitted into the nose cone to increase our range. Five of us squeezed inside the plane. Brad and I crowded into the two rear seats. Our shoulders were almost touching as we filled the width of the narrow plane. Loran readings were taken frequently during the flight and our position radioed to Honolulu to indicate our location in case of a ditching at sea. The almost eight hour flight was smooth until we hit the usually turbulent area near the equator.

The short airstrip, hand-hewn from the jungle, ran across the island from the ocean shingle beach to the lagoon edge. We were met by Kam Chu from the University of Hawaii Station with the jeep, a large Gilbertese official with a stamp for our visas and passports, the copra plantation manager with a bottle of scotch and a dozen children. We pushed and pulled the plane under a flimsy bamboo and thatch shelter so that it was protected and could be refueled by hand pump from fifty gallon drums.

The ride down the narrow bulldozed road with heavy tropical foliage and coconut palms towering high over the jeep was bumpy. My first sight of the village was unexpected. We stopped to drop off the children, who were riding in the jeep trailer with the equipment, at a small settlement. The half-dozen bamboo and thatch homes were open on all sides to the trade winds with cooking areas outside. There were flowers in profusion, bright colored hanging laundry and goodly stands of coconut, papaya and banana... the surf was breaking on the reef a few hundred feet away. Opposite the village were several large concrete structures, the remnants of the former British Cable Station. The largest building is presently being used for scientific laboratories, smaller ones for housing for visiting scientists on their infrequent visits to Fanning.

Fanning is an atoll and was uninhabited when discovered in the late 1700's. However, recent explorations have uncovered remains of ancient habitation. The crumbling and broken walls and flooring of dwellings were made of soft phosphate rock found in abundance on the island. One ruin, encased in the dense overgrowth near the edge of the lagoon, has been identified as a marae (temple) by the archeologists from the University of Hawaii.

A deep water break in the reef is still called Whalers Anchorage. Fanning was a regular stop when whalers were scouring the Pacific. An extensive *Pisonia* forest exists on the high spot of the island, six or seven feet above sea level. The trees are a hundred feet or more in height, some of the twisted trunks are eight to twelve feet in diameter. The forest is filled with birds: the soaring frigates, the clumsy boobys and the dainty pure white fairy terns. Exploitation in the late nineteenth century produced at least 19,500 metric tons of phosphate rock.

The first permanent settlement on the island was started in 1902 by the British Cable and Wireless Co. as a link between British Columbia and Suva. Several British families settled here along with Polynesians brought in from the Gilbert Islands. An elaborate permanent station was built including

MINUTE SHELLS

BY JULES HERTZ

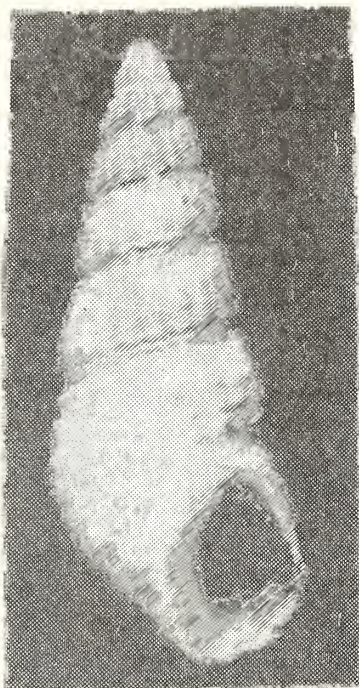
It has been suggested that the shell identified in the November 1976 issue as Pseudocypraea adamsonii (Sowerby, 1832) is in fact a Trivia. This writer has reviewed the original 35 mm. colored slide and the figure and description of Pseudocypraea adamsonii in KEEN*. Although similar in appearance, the shell figured in the November 1976 issue of the FESTIVUS is not a Pseudocypraea. The P. adamsonii has no dorsal furrow, whereas the shell featured in the FESTIVUS has a very definite furrow. In addition, the coloring of the shell does not match Keen's description of P. adamsonii.

A review of the Trivia descriptions in KEEN suggests that the shell may, in fact, be Trivia (Niveria) pacifica (Sowerby, 1832, ex Gray, MS). Keen's description is as follows: "The shell is pinkish in color, with dark gray dorsal spots. A similar Atlantic species is T.(N.) quadripunctata (Gray, 1827). Length, 9 to 11 mm.; width, 6 to 7 mm. Outer coast of Baja California at Pescadero Point, through the southern end of the Gulf and south to Mancora, Peru, and the Galapagos Islands (type locality)." A colored picture of T. pacifica in KEEN looks very similar to the original 35 mm. colored slide of the shell featured in the November 1976 issue of the FESTIVUS. The length of 10 mm. for the actual shell corresponds to Keen's description, and the ratio of length to width measured on the 35mm. colored slide also corresponds to that of Keen's description for T. pacifica.

This month, we again feature minute shells brought back by the Ameripagos Expedition**. Original photography and shell identifications were courtesy of Bert Draper. The shells are from the Jackie Grundman collection. Black and white photographs were produced from the original 35 mm. colored slides by FESTIVUS staff photographer, Dave Mulliner.



Alaba interruptelineata
Pilsbry and Lowe, 1932
Length: 4.2 mm.,
Station #7



Odostomia clathratula
(C.B. Adams, 1852),
Length: 4.3 mm.
Station #3.

** Ameripagos Collection Stations

#3 3-10 feet by diving, Darwin Research Station, Academy Bay, Santa Cruz Island, Galapagos Islands, Ecuador. (0°45'05"S., 90°15'38"W.) March, 1971.

#7 3-10 feet, Sullivan Bay Bartholome Island, Galapagos Islands, Ecuador. (0°17'20"S., 90°33'30"W.). March 10-13, 1971.

Literature Cited

*Keen, A. Myra

1971. Sea shells of tropical West America: marine mollusks from Baja California to Peru. Ed. 2. Stanford Press, Stanford, Calif. i-xiv + 1064 pp; ca. 4000 figs; 22 color pls. (21 September 1971)

FOR YOUR INFORMATION

Don Pisor has the new Murex Book by Radwin and D'Attilio for sale and offers a 10% discount to Club members. Jeanne has offered to bring books to the January meeting as a courtesy to those who ordered them.

Peg Mulliner has plastic boxes in the following sizes available for immediate delivery. Contact her at 488-2701

#15	1"x1"x3/8" @ \$.08	#315	2 1/8"x1 5/8"x5/8" @ \$.12
#215	2"x1 1/8"x3/8" @ \$.10	#780	2 7/8"x2"x3/4" @ \$.14

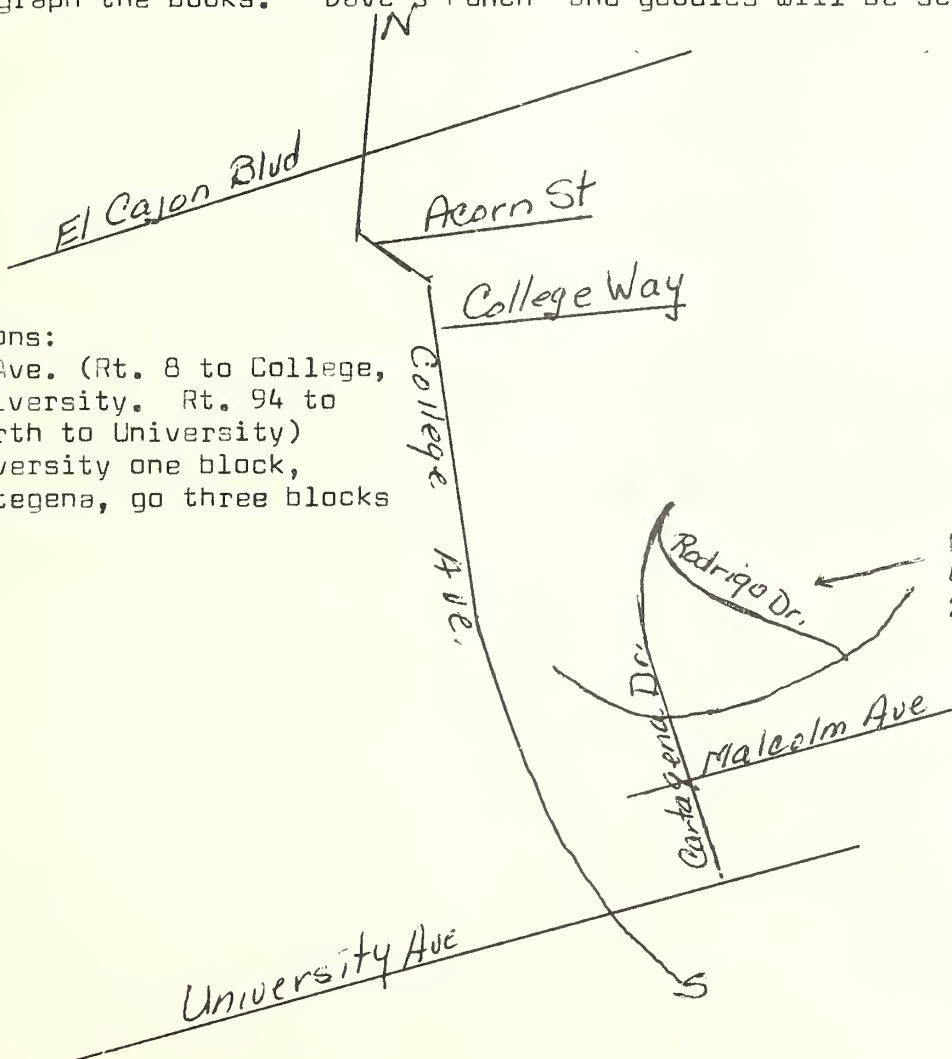
Robert F. Bonner of 2321 Carrel Road, Fort Myers, Fla. 33901 writes that he is making a study of Melongena and will send two Melongena corona, representative of his area for every one Melongena patula with operculum representative of this area. He will need at least two specimens.

OPEN HOUSE/BOOK SIGNING PARTY

There will be an Open House/Book Signing Party on Sunday, January 23, 1977 from 2-6P.M. at the home of Rhoda and George Radwin. All who have the Murex book are invited to attend and the authors and photographer will be on hand to autograph the books. 'Dave's Punch' and goodies will be served.

Instructions:

University Ave. (Rt. 8 to College, south to University. Rt. 94 to College, north to University)
 Get on University one block, get on Cartegena, go three blocks to Rodrigo.



Radwins
 4341 Rodrigo Dr.
 296-8938

THE

FESTIVUS



401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 101, 7:30 P.M.

President:.....Hugh Bradner

Vice-President:.....Billee Dilworth

Recording Secretary:.....June King

Corresponding Secretary:..Martin Schuler

Treasurer:.....Bob Schoening

Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII

February 1977

No. 2

* Program: Twila Bratcher will speak on "Shelling in Senegal--Part II" Her*
* talk will be accompanied by slides and shells of Senegal will be*
* on display. *

Slides of the Club Christmas party will also be shown.

Date: February 17, 1977 Time: 7:30 P.M. Room 101

FROM THE JANUARY MINUTES

Pres. Hugh Bradner called meeting to order at 7:45 and welcomed all, introducing new members and guests.

Norm Currin, our speaker gave a most enjoyable program on "Shelling in Senegal." Shells he collected there were on display. (Writeup follows) Unfortunately, the projector bulb burned out before we could view the Christmas party slides. Next time?

After refreshments, business meeting. Minutes of last meeting (Nov.) were approved. Treasurer's report shows a balance of roughly \$400.00.

It was moved and approved that the Club contribute \$50.00 to the Veliger, \$25.00 each for years 1976 and 1977.

Hugh further explained the bonus shell drawing. (Details in Jan. FESTIVUS) Special drawings will be at the March, July and November general meetings. Only paid-up members are eligible to win, based on meeting attendance. The monthly door prize drawings will continue, as usual.

Botanical Foundation report was read. The annual plant sale will be May 28 and 29. Every member club is to participate. Articles made from shells, pertinent books and magazines are also requested for the Foundations weekly sales. Proceeds go to their Library Fund.

Reminder of Club auction in April. Discussion on continuing the raffle. Action to be taken at February meeting. Discussion on possible shell show. Action to be taken at next meeting. Members are asked to think about the value

of a show, unanimous participation, shell sales or not, logistics.

List of books now in Club library are available through Barbara Myers.
Sign-up refreshment list passed around. Need stressed for cleanup personnel.

NEW MEMBERS

HAMANN, Curt & Greg
1123 Valley Lights Dr.
El Cajon, Ca. 92020
444-7869

LINDEBREKKER, Lynn
6306 Lake Badin Ave.
San Diego, Ca. 92119
465-1092

PELTON, Donald
2689 C. Street
San Diego, Ca.
239-5973

PICKFORD, Sherry
5350 Via Bello
San Diego, Ca. 92111
278-1083

ROBERTSON, Mr. & Mrs. Walter Jr.
c/o London Associates
1137 Prospect Street
La Jolla, Ca. 92037

CHANGE OF ADDRESS

BROSIUS, George R.
Depdt. Mail Sec. Box #11
APO San Francisco, Ca. 96301

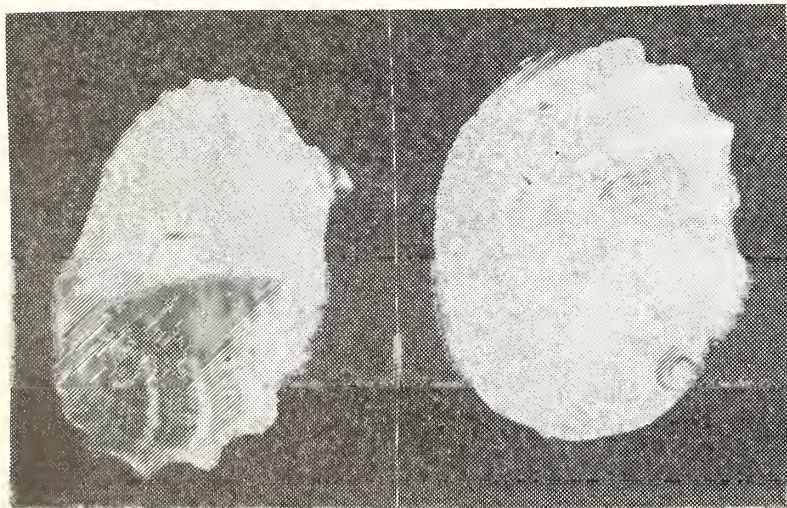
SMITH, John E.
VF -121
NAS, Miramar
San Diego, Ca. 92145

MINUTE SHELLS

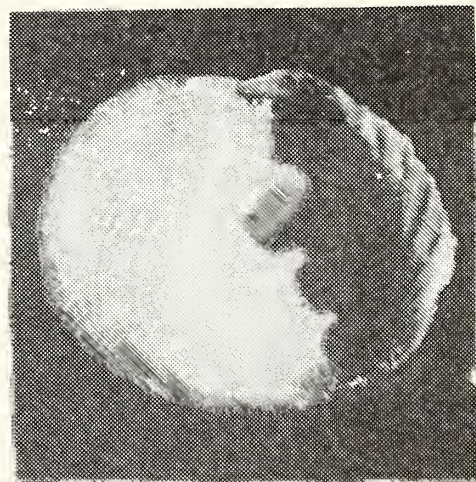
BY JULES HERTZ

Featured below are some additional minute shells brought back by the Ameripagos Expedition. The shells are from the Jackie Grundman collection. Original photography and shell identifications were courtesy of Bert Wraepel. Black and white photographs were produced from the original 35 mm. colored slides by FESTIVUS staff photographer, Dave Mulliner.

The Fossarus purus Carpenter, 1864 is from the Family Fossaridae, which is a group of small shells generally neglected by authors. The Pedipes angulatus C.B. Adams, 1852 is from the Family Melampidae (Ellobidae of authors). This belongs to the Subclass Pulmonata. Another species of this Family, Pedipes unisulcatus Cooper, 1866 is found intertidally in San Diego, Ca. It doesn't have the crowded spiral sculpture of P. angulatus. P. unisulcatus reportedly has a range of Southern California to the Gulf of California and the Galapagos Islands, which overlaps the reported range of P. angulatus (Panama to the Galapagos Islands).



Fossarus purus Carpenter, 1864
Height 2.4 mm., Station #7



Pedipes angulatus C.B. Adams, 1852
Height: 1.8 mm., Station #7

* 3-10 feet, Sullivan Bay, Bartholome Island, Galapagos Islands, Ecuador.
(0°17'20"S., 90°33'30"W.) March 10-13, 1971.

SHELLING IN SENEGAL

By NORM CURRIN

Last summer while at my summer home in Maine, a phone call from Billee Dilworth alerted me to the possibility of a fall shelling trip to Africa. Senegal was the country selected--chosen because of its variety of good shells. Although red tape and slow communications caused many delays in planning, the six of us involved went ahead with our shots, passports, and up-dating of our diving and collecting equipment. Finally, in mid-October, the trip was A-Okayed, and November 15th found Twila Bratcher, Billee Dilworth, Jackie Grundman, Marge and Hugh Bradner, and me, assembled at Los Angeles International Airport for an 8:00 A.M. takeoff on American Airlines to New York.

All of us tried hard to keep our luggage within the allowable forty-four pounds limitation, but the airline scales showed most of us woefully over. Twila, as our spokesman, did a superb job of convincing them that our diving gear was "sports equipment" (despite what their regulations book said) and we were finally permitted to pass. At two dollars for each overweight pound, it was important to all of us to get this ruling (although they warned us that it might be a different story on our return flight). So our luggage was checked through and we were on our way.

At New York's Kennedy Airport we had less than two hours on the ground. During this interval we transferred to PanAm for the trans-Atlantic leg of our flight. Shortly after dark we were airborne, flying through the night to make a barely-dawn touchdown at Senegal's international airport at N'Gor. Despite a night with no sleep and a jet lag of eight hours time differential, we were excited at being there and anxious to see what this West African land of blue water, baobab trees, and (we hoped) bountiful seashells had to offer.

Senegal is a small country in the tropic zone, twelve degrees north of the equator. It occupies the southwest corner of West Africa's big bulge. A former French-ruled country, it has had independence since 1960 and appears to have a well-run stable government. The November climate is supposed to be ideal, with the summer rainy season just over and the winter drought just starting. Air temperatures are in the low eighties by day and low seventies by night. Winter sea currents bring relatively cool waters to its shores. It has excellent variety in its seashells, many of which are endemic.

We had reservations at the Hotel Meridien located at the village of N'Gor, eighteen miles from Dakar and only two miles from the airport. A hotel representative was there to meet us and whisk us unchecked through customs and into a limousine for transport to the hotel. Instead of checking in at the huge high-rise Meridien, we were by prearrangement taken to the adjacent "le Village"--a cluster of bungalows in a grove of cedars. They were close to the sea but still in the shadow of the mother hotel. It took a bit of insistence on our part to get them to assign us bungalows directly on the water, but finally we were unpacked and settled in the two most seaside of them all--the Bradners in a small one, the rest of us in a large bungalow next door. The grounds were host to countless foot-long lizards and brightly-hued birds. The bay was calm and brilliant blue. Small waves broke lightly over the nearby reefs. We liked it there--immediately.

By 10:00 A.M. we were showered, squared away and breakfasted. And then--to bed for some much-needed sleep??? Nay! For the tide was ebbing and the sea was beckoning and, true shellers that we are, none could resist the urge to get out and see what was there. We started in immediately finding things. Good things! Shells none of us had ever taken before. Although no one found any Cypraea this first day, we all took a variety of cones (the most intriguing of which were the striking Conus mercator), Marginella (the bright red or orange Marginella aurantia, brown and white striped monilis, and golden yellow exilis), and a variety of Thais, Murex, Nassarius, Tegula, Nerita, Epitonium, etc. It was good hunting and we were all thrilled to be there, shelling along the coast of

the fabulous dark continent,

That afternoon we walked down to the village of N'Gor. We noticed first the grace and beauty of the native Senegalese people. They were tall in stature (even the women averaged close to six feet), graceful in carriage (their custom of toting huge jugs and bundles on their heads--no hands--was undoubtedly responsible for this), and fine of feature (full lips, straight narrow noses, and ebony-black velvet-textured skin). We were in full agreement that these blacks were truly beautiful. We marvelled at their hairdos of tight curls and intricate braids. Both men and women wore flowing robes or "boubous"--in soft tones or rich colors they were equally attractive.

Our impressions of the village which is situated at the very westernmost tip of the continent, were of densely clustered white clay structures, narrow dirt lanes serving as streets, countless children (most of them following us, either from curiosity or to try to sell us seed-pod beads or leather thong sandals), goats and pigs and other livestock roaming freely, ill-smelling stalls where fish and other edibles were vended, and, close to the hotel, the shell shop.

We found the shell shop proprietor to be a handsome, well-educated oceanographer. He and Brad struck up an immediate friendship because of their allied professions (plus the fact that Brad and Marge both speak French well). Maguette N'Diaye became a friend to all of us and we were later treated to a native fish and rice dinner, hotly spiced, at his home. He was proud to show us the oceanographic studies building which is under construction at the south end of the village. During our two weeks' stay we all made several trips to his shell shop.

That evening a group of native dancers put on a fire dance at the nearby clubhouse. It was a thrilling spectacle and their wild gyrations and fire-spewing antics made us truly realize we were in Africa. Later we had dinner at the hotel's beachside restaurant. The food was good but expensive. It was difficult to order a meal for under ten dollars. An omelette for four dollars seemed in many cases to be the easiest and cheapest way to go. Wine was very high, and hard liquor just about prohibitive in price. Their monetary unit is the African franc --230 francs to a U.S. dollar.

Our bungalows were more than adequate. They were roomy and well ventilated with large windows opening toward the sea. The fairly modern plumbing was workable, with plenty of hot water. The walls were light yellow plaster. The roofs were thatch. Our roomboy kept the tile floors immaculately clean despite our efforts to cover them with sand, salt, seaweed, and shells. We were advised to keep our quarters well locked whenever we were not around, for many of the young children from the village will watch until there is an opportunity to check for an unsecured door or window. Hotel guards try to keep close watch on all bungalows, but the kids are tricky and will try any ruse to get money or valuables. We were told they are never violent, but just can't resist the urge to take something if they can get away with it. For this reason whenever we dived we would hire a young man to guard our items left ashore.

Our first night we all retired early. We had, after all, no sleep the night before. And the eight hour time lag had our systems thoroughly confused. We would sleep for a few hours, then be wide awake for a spell. We did not, however, let this interfere with our shelling, and the next few days of extreme tides found us out over the reefs and sand patches by day, and night diving until the wee hours during the midnight low tides.

Our bungalows were less than a hundred feet from the ocean. We had a gorgeous view of the bay, the ocean, several islands, and the expansive reefs. The remarkable feature about these reefs was the complete lack of coral--not even a gorgonian to be seen. It was all black, hard, heavy rocks, but rocks in such jumbled profusion that there were plenty of turnables for everyone.

The water was clear and warm enough that an eighth-inch wet suit was adequate, except on our last two days when the sea temperature dropped noticeably and it was really quite chilly--perhaps sixty-eight degrees or less. The only real hazard

to our collecting was the abundance of sea urchins. Their spines seemed to be much less toxic than others we had encountered elsewhere, but several of us had portions of our anatomies punctured sufficiently to affect our movements for a day or two. I slipped and rammed the calf of my leg into one. For a few days I limped a lot. Billee lost her balance and sat on one. For a few days she stood a lot. For several weeks an occasional spine would work its way to the surface and have to be popped out, but generally speaking they seem to lack the infectious qualities of other urchin spines. During daylight collecting I never saw a moray eel or stingray, but during night dives they were much in evidence. They were easy to avoid and presented no real problem. Jackie, on one of her night dives, brought up a beautiful Murex osseus gambiensis. Other than that, I believe we found no shells at night which we had not taken during daylight searching. Shells which might be hiding under rocks or in sand by day were up and crawling about by night.

On our first trip to Dakar we took our diving gear and rode the ferry out to the Ile de Goree, three miles offshore. On the boat a young man with a friendly smile walked up to me and asked if I were American. Jim Barry was white, red headed, and obviously American too. He lived on the island while awaiting acceptance by an African college. He is an artist, making a living by painting batiks--a method of painting on wax-coated textiles--in partnership with a young Senegalese couple. His one-room quarters became our home on Goree, and he proved to be an excellent friend to all of us. We found Goree to be a delightful spot--quaint and picturesque. It was the scene of the filming of "The Guns of Navarone". A fortress guards the entrance to Dakar harbor at the seaward end. At the other end a circular brick-walled prison sets at the water's edge--the grim internment quarters for captured slaves while they awaited shipment to the colonies.

The coast of Goree is rocky and the sea rough, but once you get in and away from the dangerous surge the diving is okay, with the ocean depth ranging from fifteen feet on down. Some of Jim's young friends joined us in our diving. They had no wet suits to wear, but would stay in the water longer than we--until their black skin turned blue from the cold.

Dakar, with its population of over half a million, is the capital of Senegal. The downtown area has modern streets, shops, and buildings. The outlying areas are more like our village of N'Gor. There are large market areas where all kinds of edibles and crafts and materials may be bargained for. And bargaining is a way of life with these people. They invariably quote a first price at least twice as much as they expect to get. It is up to you to argue them down. Everyone speaks French. The natives also speak their native language of Wolof and they are immensely pleased if you greet them in their native tongue. Our "Salaam malacum" greeting would always bring a wide grin and their "Malacum salaam" response. We learned "Wow" for yes, and "Didit" for no. That seemed to be all we really needed. They were very friendly to us and we much favored riding their crowded buses to taking taxis.

On our third day a little featherless nondescript bird came upon the scene and found its way into our lives and hearts. Jackie rescued him from a hotel guard who had picked him up where he had fallen from a nest. She immediately made a soggy gruel of grits and grapes while I followed suit with a spoonful of raisin bran, and we started a program of force-feeding the tiny creature. My inverted dredge served as a cage, with a twig placed crosswise for a perch. The bird was quick to accept us as his adopted parents and grew fat and feathery at an almost-see-him-grow rate. As his feathers developed we were able to tell we had a wild dove--very similar in coloration to our mourning doves.

As our two week itinerary progressed, we began to wonder if Dickybird would be able to shift for himself when we departed. After much showing how, we finally got him to peck and eat without outside help--an accomplishment which brought cheers of gratification from everyone. On his own feeding schedule he peck, peck, pecked all day, overate and didn't feel too well all the next day. Gradually

he learned to fly about the bungalow. Despite wide open windows and doors, he would never venture outside, evidently feeling the wide world was not for him. We would place his cage out on the ground and he learned to pick up seeds like other birds. We even got him to fly up into the branches of trees. But the bungalow was home and back he'd come. Our last day there we spent most of the day shooing him outside. He liked people and that was it. We left there with the hope that other guests will appreciate having a wild dove flying in and out, and will let him make himself at home in their bungalows. They'll speak to him in French, which he may not understand, but, because of our parental fondness for the little guy, we truly hope they'll be kind to him.

Not a day went by that wasn't principally occupied with shell collecting. In sandy areas we used hand dredges to bring up Nassarius, Marginella, Cancellaria, Terebra, Dentalium, Oliva, and a number of other univalves and bivalves. We probed the rocky areas for Cypraea, finding Cypraea lurida, lurida minima, stercoraria, pyrum, zonaria, and the rare petitiana and sanguinolenta. Billee came up with, for Senegal, the rarest of them all--a Cypraea spurca atlantica! Extremely rare there, this shell is quite common in other localities. Of no special value to Billee, she was able to exchange it with a local collector for a very choice alternate.

Because of the variety of Marginella there, we all found ourselves developing an interest in adding the family Marginellidae to our collections. Brilliant and glossy as Cypraea, they are equally as beautiful and varied in both pattern and coloration. Marginella aurantia and glabella, two very brightly hued species, unfortunately do not retain their blood-red coloration. In just a few days they would fade to reddish-brown--still very attractive but not nearly as striking as when first taken. We found Marginella on rocks, under rocks, on sand, and in sand. They cleaned easily after a day in alcohol.

One day we hired a taxi to take us down to a river-mouth village which is known as a fine collecting area for the large and attractive Murex (Phyllonotus) duplex. We timed the eighty mile trip to Joal so that we arrived several hours before low tide. This gave us time to walk the long footbridge over to the Ile de Fadiouth--a cluster of native homes on a sandbar in the middle of the river. Many of the villagers had supplies of shells spread out on the ground for tourists to buy--mostly Murex duplex and several species of Cymbium. We elected not to buy them, for our plans were to find our own. But we had not reckoned on the business astuteness of the villagers, for no one would give a hint as to where to go to find the living shells. None of the pirogue drivers would take us there. Finally we hired two young men to pole us in their pirogue a mile downstream to the mouth of the river. From there we walked several miles over wide stretches of open beach. It was obviously not Murex territory, although several strays were picked up. We took a variety of other shells, such as Terebra senegalensis, Turritella unguina, Cymbium glans, Cymbium pepo, Semifusus morio, and several varieties of Natica, Oliva, Marginella, and bivalves. Several hours later, back at the village, we bought our Murex from the natives.

We enjoyed the trip down and back, especially through the forests of baobab trees. The huge gnarled trunks of the baobabs are hollow in the center and for countless years the natives have interred their dead by placing the bodies inside the trees. The spirit then becomes part of the tree. No trees are permitted inside the villages in order to keep the spirits out. This practice has its unsanitary aspects and the government has recently forbidden it, but it is difficult to control and is still done in most of the outlying villages. The fruit of the baobab is sold along the roadsides. We all tried eating it and enjoyed the pithy lime-flavored pulp--until we heard the story of the strange burial rites. Our taxi driver bought some goods along the way and asked if we minded if he dropped them off for his family as we passed by the outskirts of Dakar. He stopped at a small house and delivered half his supplies to an attractive woman and her children, then drove on to a nearby house to unload the remainder. He grinned and explained proudly that both women were his wives. Having an extra wife or two is a mark of social distinction in this polygamous country. Nor-

mally the women live together in one home, but unfortunately for our driver, his two wives didn't get along. So he had the expense of running two separate households.

Jackie Grundman proved herself to be a person no well-organized expedition should be without. Through her efforts we were treated to a fabulous Thanksgiving banquet, even though we were prepared to let the holiday pass unnoticed. She had a turkey flown in from France, as well as all the trimmings, from cranberry sauce to pumpkin pie. Catered by the staff of a nearby elegant nightclub restaurant, we even had champagne and entertainment! It was a great feast and we invited some of our friends there to join us in the celebration.

At other times Jackie would whip up a meal for any or all of us, made from her own home-dried supply of dehydrated vegetables, meats, and fruits. To the dry ingredients she would add water, plus spices or other flavoring, and would cook it on her tiny, purse-sized gasoline stove. In a remarkably few minutes--Voila!!!--a full course dinner. And delicious!!

Any time she was off on her own, she made friends out of strangers. And they always turned out to be good friends to have. Through one she procured a pair of valuable primitive antique spears, and a pair of ancient ebony masks. Through another she was able to buy a Kora--a huge stringed musical instrument which sounds somewhat like a harp. It is constructed from a two-foot diameter gourd over which animal skins are stretched to give tone and resonance to the many strings. At other times the hotel cook was happy to use his huge kettle to cook our largest shells--at Jackie's request.

On one shopping trip she befriended a young man who had just been robbed. He seemed to be well educated, spoke English, and needed money to wire his mother for financial help. In exchange for his services carrying her bundles, Jackie paid for the telegram. When Jackie and "Bob" arrived at the bungalows, Marge made the observation that with Jackie's luck the man would turn out to be a prince. A prince he wasn't, but he certainly couldn't have come much closer. His mother owned a fleet of 150 buses--the major busline in Liberia. And his uncle was the Liberian president. Bob was in Senegal on vacation and became a daily visitor. We even taught him how to collect shells.

Shortly after we first arrived, a young and extremely attractive French couple appeared on the scene. They were shell collectors who had a corresponding acquaintance with Twila, although they had never met. Jean de Parseval and his charming wife, Sylvie, contacted Twila our first day there and we saw them often during our stay. One evening they had all of us to their home in Thies, near Dakar, for dinner. A most enjoyable evening, it was climaxed by their giving us a large box of really choice local shells, which we were to divide as we saw fit. The following evening we set up our own shell game to equitably divide them. First we laid out all the one-of-a-kind shells. Then each of us drew a number, from six coins numbered with a felt pen, to determine his turn at selecting a shell. Then numbers were drawn again, and again, until all the single shells were gone. This method was repeated with the shells which had duplicates, until finally all the shells were taken. This shell game took up the entire evening and we had an absolute ball doing it. We all felt we had numerous fine additions to our collections, and we all marvelled at the generosity of the de Parsevals.

Regretfully, as the end of the month drew near, our stay at Senegal had to end. Twilight was descending on our little thatched bungalows as we finished our packing. We shooshed Dickybird out the window for the last time, hoping he'd find haven in the nearby friendly cedars. Jules, a local young native who had assisted Marge when she inadvertently had trespassed on forbidden territory at a nearby military commando training camp, brought over a huge bowl of poisson bulette for our dinner. We all squatted around the bowl, broke French bread, and, native style dipped in and ate with relish. Then Jim Barry came with African incense and other mementos for each of us. The de Parsevals, bearing bottles of champagne, joined the group. Jean presented each of us with a choice Cypraea petitiona--again a most generous gift. Our Liberian friend, Bob, arrived and stayed with us until we were on the plane. Twila's dressmaker came

with some gorgeous boubous for her to try on, for everyone's approval. Jackie's packers were there, and carried off the crates of museum pieces she had amassed. Utter and delightful confusion reigned the entire evening until finally, at midnight, we had to load our luggage and ride to the airport.

At the PanAm desk we faced our greatest challenge--excess weight. We had been warned that the return tax was four dollars for each excess pound, and if we were heavy coming over, we were worse returning (with all our shell and souvenir acquisitions). Twila and Billee faced up to the task of trying to convince them that we shouldn't have to pay the excess tariff. And again, although it wasn't easy, their perseverance won out. The desk clerks yielded to their logic and reluctantly declared our excess weight to be "Sports equipment".

Finally, at 1:30 A.M., we boarded our plane and headed west for home. Customs in New York was a snap, and shortly before noon we landed in Los Angeles, sleepless but somehow not tired. We were still exhilarated and riding high on the feeling that this trip had, in all ways, for all of us, been the best ever.

FOR YOUR INFORMATION

The Club's annual PotLuck and Auction will be held at the home of Marge and Hugh Bradner on April 23, 1977 at 6:00 P.M. It is not too early to choose your specimen shells for the Auction. It is asked that shells be in good condition with as complete collecting data as possible. Bring your shells to the February meeting or contact a board member.

NOTICE: Marty Schuler is preparing a shell exhibit for the Mesa College Library for the month of March. Anyone willing to lend "showy" shells for this display (to be in locked cases) please call Marty at 274-6541.

DUES ARE DUE! Those who have not paid their dues (rates on masthead) by the March meeting will not be included in the roster sent out with the April issue.

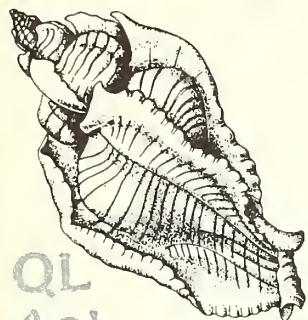
The Club library has just received THE BEST OF THE NAUTILUS by R. Tucker Abbott. It will be available for circulation at the February meeting and reviewed in a future issue of the FESTIVUS.

The FESTIVUS needs your articles. Your publications is only as good as the members want it to be--by their contributions. Send (or dictate) your articles to Carole Hertz.

There will be a shell raffle at the February meeting. One good shell will be raffled that evening. Following, there will be a discussion and decision on continuing or abandoning the monthly raffle.

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 101, 7:30 P.M.

President:.....Hugh Bradner
Vice-President:.....Billee Dilworth
Recording Secretary:.....June King
Corresponding Secretary:..Martin Schuler
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII

MARCH 1977

No. 3

PROGRAM: "A Shelling Diary of Retirees" is the topic for the talk by our
speakers, Forrest and Roy Poorman.

The Club will have the first of its Bonus Shell Drawings this
month. The prize--Cypraea mus. (You must be a member and pre-
sent to win).

Date: March 17, 1977 Time: 7:30 P.M. Room 101

SAVE THE DATE! The Club Auction will be on April 16, 1977 at
the Bradner's home. (The editor regrets the error in date in
last month's FESTIVUS). See inside for details.

FROM THE FEBRUARY MINUTES

Pres. Hugh Bradner welcomed the forty-eight people present. It was moved
and seconded that the minutes of the last meeting as printed in the FESTIVUS
be accepted.

The date of the Auction to be held at the Bradners' on April 16 was
confirmed.

Shelling in Senegal, Part II, a very enjoyable and informative talk with
slides, by Twila Bratcher was our program. Many shells collected from Senegal
were on view. (An article by Twila will appear in a forthcoming issue. Ed.).
A hilarious good time was had in viewing the slides of the Christmas party.

At the business portion of the meeting, members were urged to give their
Auction shell donations to Carole Hertz or any other Board member as soon as
possible.

Rose D'attilio, Botanical Foundation Rep. announced she had six tickets to
sell to the Orchid Society show. Half of the proceeds from sale of tickets goes
to the Botanical Foundation. We are all requested to contribute plants in pots

of 4" across or larger for the May plant sale. Also, the Botanical Foundation sells a variety of used books and magazines every weekend in their library. If you can donate any to the Foundation, please label them as donated by the San Diego Shell Club.

It was voted that the raffle continue monthly. One "good" shell will be raffled each month.

Action on the possible Shell Show is tabled until further information is acquired.

FOR YOUR INFORMATION

Roland and Kay Taylor would like to sell volumes 10-16 of the Veliger as a set. All are complete. If interested, phone 274-2998.

Marty Schuler has prepared a shell display now on view through March in the lobby of the library at Mesa College.

DUES ARE DUE! Those who have not paid their dues (rates on masthead) by the end of March will not be included on the Club roster. This will be your last issue of the FESTIVUS.

The Club will again participate in the Greater San Diego Science Fair to be held in the Federal Building in Balboa Park from April 21-24. As in the past, the Club will make an award to the upper division entry in the area of marine life that our Club judges deem to be the best. The winner will make a presentation to our Club and receive one of a choice of three books as his prize. The book selections, as in the past, are; Barnes', Invertebrate Zoology, Abbott's Kingdom of the Seashell, or Ricketts & Calvin's Between Pacific Tides.

The Club's annual Potluck and Auction will be held at the home of Marge and Hugh Bradner on April 16, at 6:00 P.M. Members' shell donations are urgently needed to make this affair the success that it usually is. The March meeting is the last one before the Auction. If you cannot bring your shells to this meeting, make arrangements to get them to a Board member. It is asked that shells be in good condition with as complete collecting data as possible. Norm Currin and Bob Schoening will again be our auctioneers for this gala party. A map will follow with further details in the April issue.

WHAT THE WAVES WASHED IN

By JULES HERTZ

On March 5, 1977, Carole and I poked around the rocks below Archer Street, in Pacific Beach, San Diego, Ca. For several days, the surf and wind had been high and on this day there was a -0.7 low tide in the afternoon with relatively little wind. At the low tide zone, there was nothing unusual. However, in the pools in the high tide zone, there were many crabbed shells. Among these, were shells rarely found in San Diego (particularly at the Archer Street location). The most notable finds were Calliostoma canaliculatum (Lightfoot, 1786); Calliostoma gemmulatum Carpenter, 1864; Calliostoma gloriosum Dall, 1871; Calliostoma supragranosum Carpenter, 1864; Ocenebra foveolata (Hinds, 1844); and Ophiodermella ophioderma (Dall, 1908). Several live Norrisia norrisi (Sowerby, 1838) were seen, each with several Crepidula norrisarium Williamson, 1905 on their shells.

On the following day, we beachcombed at Birdrock, San Diego, Ca. (slightly north of Archer Street). Although we looked carefully along the high tide zone, we found nothing unusual.

EXPERIENCES ON A TRIP TO HAITI AND VENEZUELA

BY DON FISOR

Part II--Venezuela*

The trip from Haiti to Venezuela went via Aruba, since Aruba has the closest large airport to the area of Venezuela that I wanted to visit--Amuay Bay, the home of Cypraea mus and other shells.

A ferry travels between Aruba and Punto Fijo, a few miles from Amuay Bay. I had to spend a few days in Aruba awaiting the ferry which only makes this trip twice a week. Not one to sit in a hotel, I rented transportation and went sightseeing and shell collecting.

Aruba is very dry and flat, with the exception of the very few hills that are primarily on the west side of the island. Collecting shells either by beachcombing or diving is best along the south coast from Oranjestadt to the west end. From the west end and along the north coast diving would be very impractical because of the constant tradewinds, strong current and very jagged coral cliffs about six feet high.

I had no luck at all finding shells snorkeling; the water was silty and the bottom covered with this fine silt. I was told that this condition was unusual. I did have better luck beachcombing at one small beach on the north coast (there are very few). I found a few beach Conus hieroglyphis (armillatus) in very good condition. These shells are difficult to obtain live because they apparently live in that rough environment on the north shore of Aruba.

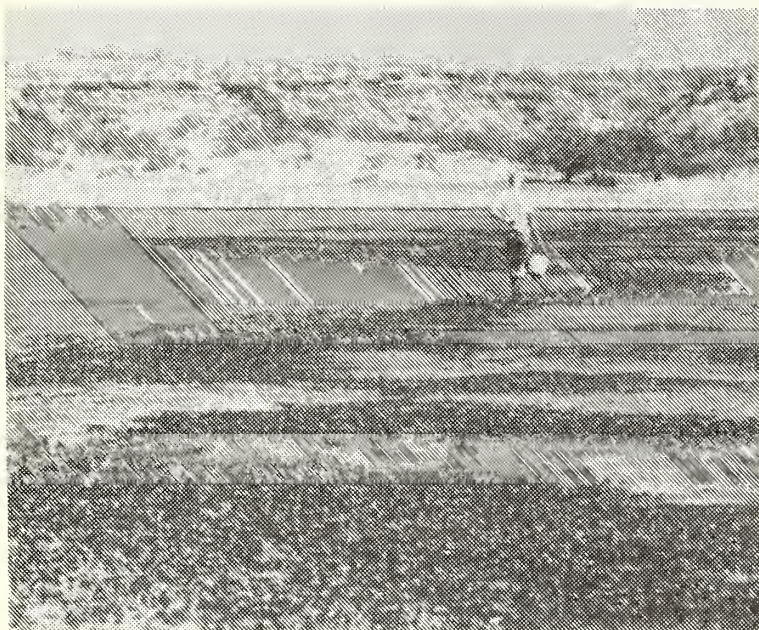
The ferry ride to Punto Fijo was uneventful, and I was very glad to meet a couple from Alabama. The wife grew up in the Amuay Bay area and told me about the place even though she didn't know anything about shells. Since she spoke Spanish, she was also a very big help going through customs and getting a taxi to take me to my destination.

Once in my hotel, I called a friend, Bob Pflug, with whom I had been exchanging shells. About two weeks earlier I had written to him that I was planning to come to Amuay Bay. But true to the postal services, my letter arrived the day after I did. Bob was surprised to hear from me--and especially that I was there. He came down to the hotel and took me right out to see Amuay Bay and showed me where to find the Cypraea mus and Voluta musica. I later met the Pflug family and spent several enjoyable hours with them during the week. When in an unfamiliar place, knowing someone makes the stay much more enjoyable.

My collecting at Amuay Bay started the next morning while it was relatively cool. It never gets cold there, and is hot by 8:00 A.M., as well as very windy. I did not dive as Billee Dilworth, Twila Bratcher and Ed Petuch had done a few weeks earlier. I waded and found the Cypraea mus in shallow water no more than waist deep.

Many Cypraea mus were on eggs. (None of the shells on eggs were taken). The C. mus select half a bivalve on which to deposit their eggs and then sit there, apparently until the eggs are hatched. I do not know if they leave to eat during that time or not. I saw many on eggs and upon investigating a few, observed that some had newly hatched C. mus from about 1/8 to 1/3 inch still in the nest. It is my opinion that there is no definite mating season, but that it occurs year round. I saw C. mus in all stages of growth during my visit.

Collecting by wading in Amuay Bay is a very dirty pastime. The water, as you will remember from Twila Bratcher's article in the September 1976 issue of the FESTIVUS is not clean. The bottom is grass and very soft mud. One sinks three to six inches or more in the mud if not on the grass. Visibility is about two feet maximum in the morning and deteriorates rapidly to a few inches--a skin divers paradise!



Amuay Bay

Cypraea mus

The shells I found in the same area as Cypraea mus were Murex margaritensis (=globofus) and an occasional Murex chrysostoma.

In the vicinity of Amuay City there is a small bay that harbors Voluta musica. These are elusive creatures. I made two trips in the early morning to catch the low tide hoping to find them. An hour's drive to get to the shelling area by 5:30 A.M. is no fun especially when only three volutes were found each day!

The departure from Punto Fijo was uneventful, and I expect the five hour delay in leaving was probably typical. That put arrival at Aruba at 2:00 A.M. This should have been a warning to me of what was coming. However, I was too tired to be concerned and wanted as much sleep as possible before having to be at the airport at 8:00 A.M. Upon checking in at the airport, I discovered that the travel agency in Oranjestadt had not changed my reservations as they had said they would. Without going into the details of the hassles that our group of about ten went through before leaving Aruba and Curacao, it took twelve hours to get back to Miami instead of the usual four.

This ended a very interesting trip. As I look back, it was an enjoyable one with many unforgettable, and now humorous moments.

* Part I of this article appeared in the October 1976 issue of the FESTIVAL.

NEW MEMBERS

STOWELL, Christopher & Linda
9755 Austin Drive
Spring Valley, Ca. 92077
462-4653

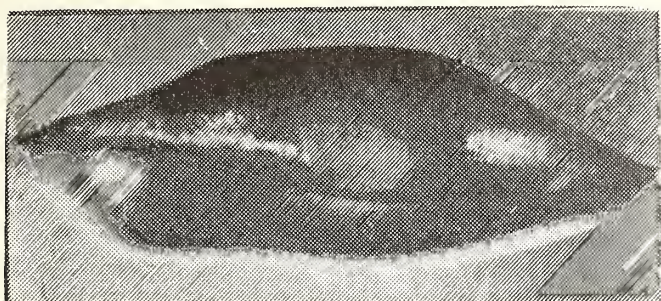
CHANGE OR ADDRESS

KITSMILLER, Don
29 Mahan Circle
Minriv Park
Charleston, S.C. 29408

MINUTE SHELLS

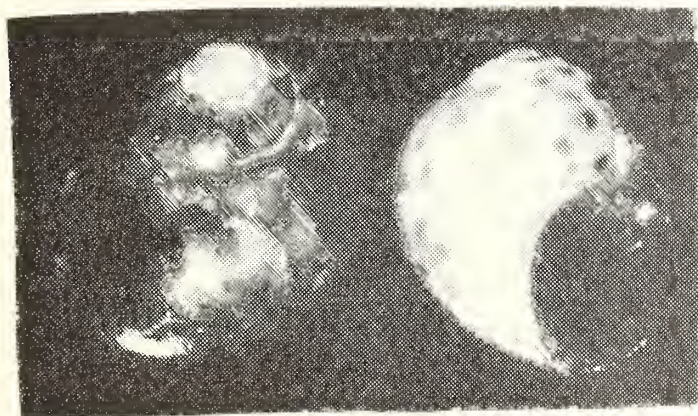
By JULES HERTZ

Below are figured a series of miscellaneous minute species brought back by the Ameripagos Expedition*. The shells are from the Jackie Grundman collection. Original photography and shell identifications were courtesy of Bert Draper. Black and white photographs were produced from the original 35 mm. colored slides by FESTIVUS staff photographer, Dave Mulliner.



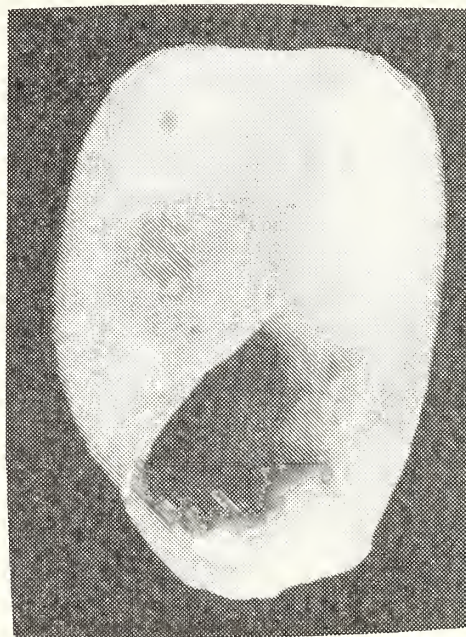
Delonovolva sp. maybe D. aequalis
(Sowerby, 1832)

Length: 9.2 mm., Station #7



Tricolia diantha McLean, 1970

Height: 1.8 mm., Station #7



Bulla morgana Dall, 1908
(no precise collecting data available)

The Delonovolva specimen pictured above is purplish brown with a pale outer lip. The Tricolia diantha are pinkish white shells with reddish brown spotting, and the Bulla morgana is a white shell with pink overtones.

*Station #7: 3-10 feet, Sullivan Bay, Bartholome Island, Galapagos Islands, Ecuador. (0°17'20"S., 90°33'30"W.) March 10-13, 1971.

BOOK REVIEW

By CLIFTON L. MARTIN

The Best of the Nautilus, edited by R. Tucker Abbott.

Compiled as a malacological tribute to the American bicentennial celebration this book is a condensed history of American malacology. Taken from the pages of The Nautilus, which began publication under the name, The Conchologists Exchange, July 1886, Dr. Abbott has assembled a book of great interest as well as a source of malacological history. Of the vast number of papers published in The Nautilus in the ninety years of its existence Dr. Abbott could hardly have made better selections than those he has published. Well-balanced between papers pertaining to mollusks of the two coasts it also strikes a fair balance between papers pertaining to marine mollusks and terrestrial species. The authorship of papers published is a virtual 'Who's Who' in American malacology during the past century. It includes such names as Fred Baker, William J. Clench, Walter Eyerdam, Charles Hedley, Josiah Keep, T. S. Oldroyd, Axel Olsson, C. R. Orcutt, Charles T. Simpson, and many others. The reader will immediately notice differences between papers written by the earlier workers and those of today. Most of the papers Dr. Abbott has published were written before such journals as The Nautilus established rules of compliance with the Style Manual for Biological Journals. The earlier papers were often spiced with digressions, personal opinions, bits of humor, etc., to give them a personal touch. As necessary as today's rules may be it is regrettable that so much had to be sacrificed in the interest of progress. In addition to the papers collectors will be especially interested in the many advertisements which are published. A very worthy salute to our Country's 200th birthday.

LOW TIDES FOR THE NORTHERN GULF OF CALIFORNIA THROUGH JULY 1977*

(Tides under -4.0' are not listed unless another low on the same day is -4.0' or below. Time is Mountain Standard.)

MARCH	18	7:30 A.M.	-3.0'	MAY	4	8:30 A.M.	-6.0'
		7:30 P.M.	-4.0			8:30 P.M.	-2.0
	19	8:00 A.M.	-4.0		5	9:00 A.M.	-5.0
		8:00 P.M.	-3.5		5	9:30 A.M.	-4.0
APRIL	3	7:00 A.M.	-4.5		31	6:30 A.M.	-4.5
		7:00 P.M.	-4.0	JUNE	1	7:00 A.M.	-5.0
	4	8:00 A.M.	-6.0		2	7:30 A.M.	-5.5
		8:00 P.M.	-4.0		3	8:30 A.M.	-5.0
	5	8:30 A.M.	-6.0		4	9:30 A.M.	-4.0
		8:30 P.M.	-3.0		29	6:00 A.M.	-4.0
	6	9:00 A.M.	-5.0		30	7:00 A.M.	-5.0
	7	10:00 A.M.	-4.0	JULY	1	8:00 A.M.	-5.0
MAY	1	6:30 A.M.	-4.0		2	8:30 A.M.	-4.0
		6:30 P.M.	-2.0		3	9:00 A.M.	-4.0
	2	7:00 A.M.	-5.0				
		7:00 P.M.	-3.0				
	3	7:30 A.M.	-6.0				
		7:30 P.M.	-3.0				

*Our thanks to Margaret Mulliner for preparing this tide listing for the FESTIVUS.

MINUTE SHELLS
By JULES HERTZ

We continue this month with two more shells brought back by the Ameripagos Expedition: The shells are from the Jackie Grundman collection. Original photography and shell identifications were courtesy of Bert Draper. Black and white photographs were produced from the original 35 mm. colored slides by FESTIVUS staff photographer, Dave Mulliner.

The shells below are interesting because they have wide distribution. Volvarina taeniolata taeniolata Mörch, 1860 is found from Point Conception, California to Salinas, Ecuador while Volvarina taeniolata rosa (Schwengel, 1938) is from the Galápagos Islands. The latter is supposed to differ from the typical form by having a bright pink color shell with spiral bending only faintly developed. Examination of the original 35 mm. colored slide shows two of the bands on the body whorl to be very distinctive with two others subdued. The color is an orange-brown on a white background. V. taeniolata taeniolata is quite common intertidally in San Diego, California under rocks. Comparison with shells in the author's collection indicates the shell pictured below to be V. taeniolata taeniolata. The only obvious difference is a slight difference in color. The shells found in San Diego have a more brownish color and are sometimes gray. The banding of the San Diego shells are identical to that of the shell pictured below.

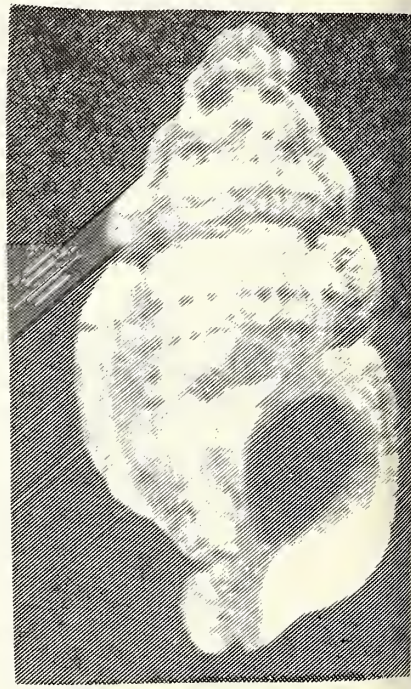
The Aspella pyramidalis (Broderip, 1833) has a reported distributional range from Mazatlán, Mexico to Panama and Galápagos Islands. The Aspella were found intertidally. It is interesting that beginning collectors rarely have Aspella in their collections. This may be a result of the Aspella looking like a very worn specimen of some other family. During a recent conversation with Roy and Forrest Poorman, the author learned that Aspella have been collected live intertidally in Baja California, Mexico by digging about a foot deep at the base of large rocks in a muddy, rocky substrate. This also accounts for their rarity in private collections.

*Station #3: 3-10 feet by diving, Darwin Research Station, Academy Bay, Santa Cruz Island, Galápagos Islands, Ecuador. (0°45'05"S., 90°15'38"W.), March 5, 1971.

Station #6: Intertidal, Sullivan Bay, Bartholome Island, Galápagos Islands, Ecuador. (0°17'20"S., 90°33'30"W.), March 10-13, 1971.



Volvarina taeniolata taeniolata Mörch, 1860
Length: 7.2 mm.,
Station #3



Aspella pyramidalis Broderip, 1833
Length: 8.5 mm.,
Station #6

TWO DAYS ON CLIPPERTON ---Or
GETTING HIGH ON BOOBIES

BY BILL PERRIN

Clipperton Island is the only coral atoll in the eastern Pacific. It lies at 10 degrees 18 minutes North latitude, 109 degrees 13 minutes West longitude, 600 miles from the nearest land. The English pirate John Clipperton gave the island his name in 1704, and its history since has been chequered and occasionally bloody (see "The Island the World Forgot" by Karl Bearsleg in OCEANS, Number 2, 1972). I first saw Clipperton in 1974 while aboard the tuna seiner Gina Karen. We searched around the island in a skiff for a safe passage through the barrier but found none and had to be content with fishing for bottomfish offshore. The experience was especially frustrating because we had not seen land for more than a month.

I got my second crack at Clipperton last October during a scientific expedition to study the behavior of dolphins involved in the purse seining of yellowfin tuna (there will be an article on the expedition in an upcoming issue of Smithsonian Magazine). I was again on a tunaboat, this time the magnificent 260-foot Elizabeth C.J., and we were accompanied by a research vessel of the National Marine Fisheries Service (my employer) the David Starr Jordan. The following is from my journal.

"21 October 1976: Landed on Clipperton!! We landed on the south side, near the 'landing spot' marked on the chart, east of the largest grove of coconut palms, at about 1:30 P.M. We used a combination of one of the C.J.'s speedboats and the 2-man inflatable Avon. Four of us (Jim Coe, Joe Battaglia, Joe Oliveira, Jr. and I) went in with the speedboat to just outside the breaking swells. Then Joe Battaglia and Joe Oliveira got in the inflatable and paddled through the swells, with a stern line running back to us. The line was too short, so we snubbed it to a big roll of seine twine that was laying in the bottom of the boat. The roll turned out to be made up of 2-fathom pieces, so as they paddled furiously to try to make it to the reef without having a big wave breaking on them, we furiously tied knots. Then one of them suddenly screamed, "Pull us in!"

A huge shark, maybe 15 feet long, swam right past the raft, within petting distance. We yanked them back, although they were paddling fast enough to almost make it without any help. After a couple of minutes of calming down, they took another shot at it and made it through to the reef. Jim and I went next. The paddles got lost in the first run so we had to paddle with our hands. We made it through without any big breaks. The tide was low, and inside the fringing reef the water was only a few inches deep, with scattered deeper pools. The speedboat driver pulled the raft back and went off to the C.J. for another load, and we started to poke around. Joe Oliveira reached under a boulder and pulled out a lobster. The rest of us spread out and did our respective things. The pools swarmed with life. Small light gray moray eels were everywhere, snaking through the pools and lunging at fish. I picked up a bright orange puffer fish and it inflated in my hands. I began to turn slabs of dead coral, looking for shells, but found only a few very small cones and some badly worn crabbed snails of various species. After a few minutes of observing the fish and chasing eels, I walked up the beach to the old settlement site in the palm grove. Birds were everywhere; underfoot, overhead, in the trees, and all angry. Brown boobies, masked boobies, and noddies--common and white-capped. The masked boobies were nesting on the lagoon side of the atoll and the brown boobies further down the beach. The noddies were perched in the palm trees, making a tremendous racket. Half-fledged boobies floundered about on every side.

The coconut grove contains eight to ten structures, of various ages and states of ruin. Most were built for an American weather station during WWII. The French still occupy the island from time to time when they are using their South Pacific atomic test range. Everything is very decrepit and shows the effects of hurricanes, neglect and visiting vandals. At a distance, the ground seems covered with a thin, orange haze. Up close the haze resolves into thousands of bright orange land crabs, foraging, eating, hassling each other, or just strolling around. I'm a neoarcheologist so I quickly found the dump, rummaged down through a surface layer of aluminum beer cans and Coke bottles to an older stratum, and found a very old bottle turned deep purple by the sun. Then I prowled through the buildings but found only mouldering furniture and discarded kitchen utensils. About then Jim Coe and Joe Battaglia caught up with me and we set off down the beach to do some serious beachcombing. We walked west along the berm. Joe was especially anxious to find some Japanese glass fishing floats for his just-finished patio. The beach drift of shells was rich but nearly all badly worn by the coral shingle. I picked up many large Conus purpurascens but very few in good condition. Also C. ebraeus, C. chaldeus, Cypraea isabellamexicana, C. rashleighana, Mitra papalis, Bursa granularis, Spondylus princeps, and part of a large Gastropoda. I tried the rocks in the tidepools again and found live Drupa albolabris, but the tide was rising rapidly. Joe and Jim found two large net-wrapped glass floats and several of the newfangled plastic kind that the Japanese are using now. I found three small glass floats.

It was then about four o'clock so we headed back to the landing spot. By this time there were about twenty people on the island. Some came in through the surf in a 4-man inflatable boat from the Jordan. All had spread out, foraged, beachcombed, birdwatched, and were now gathering from all directions for re-embarkation. Ken Norris had caught a lizard in the debris from one of the ruined shacks, Ed Mitchell and Steve Leatherwood had hiked to the high volcanic rock at the east end of the atoll and found partial remains of one or more small cetaceans, and Bill Rogers had collected copious notes and observations on the breeding birds. Now came the hairy part. During the landing, the large inflatable boat from the Jordan capsized and scraped hard on the coral. Because that boat is essential to the research operation as a diving tender, it was decided not to risk puncturing it but to take everyone off the island with the more expendable 2-man raft. The surf had come up, and five to six foot waves were breaking just off the edge of the reef where the raft had to be launched. Also, the tide had risen and sharks were cruising the two foot deep water inside the reef. As we waited, a small shark swam within a few feet of the water's edge. Glen, the helicopter mechanic from the C.J., waded out and hit it with a crowbar. It turned and chased him out of the water with vigor. I've never seen or heard a more startled helicopter mechanic. We rigged the raft with long bow and stern lines, the bowline tied to the C.J.'s speedboat outside the swells and the sternline handled from the beach. Two men were stationed at the edge of the reef, the staging point for loading the raft. The first two to go included Don Ljungblad, electronic technician (or "termite") from the Naval Undersea Center, who has only one leg. That run went fine; the two waded out through the sharks without incident, laid down in the raft, and the speedboat towed them through the surf with no problems. The next two runs also went off without a hitch. Then came Ed Mitchell and Bill Rogers. Just as the raft cleared the reef, a tremendous wave broke directly on top of them and completely engulfed them. The collective relief was palpable when the raft bobbed back to the surface, right-side-up, with both men overboard but still hanging on. The only casualty was Ed's eyeglasses. The rest of the runs went very smoothly. The last two off the beach were Joe and Jim, towing a long train of fishing floats and coconuts. By six o'clock all were back on their respective vessels.

22 October 1976: The weather was sloppy again this morning, so we continued to

lay up in the lee of the island. Shortly before lunch, the captain started to make noises like maybe he'd like to mount a lobster-catching expedition to the reef and catch enough for a good cioppino. Since the wind had died down a little, he planned to have the helicopter take four or five crewmen ashore, one at a time. With some wheedling, I got his permission to join the party. What a contrast with the perilous times of yesterday! Fourth in line, I was whisked ashore and found myself fassicking in about two minutes. This landing was on the opposite side of the atoll from our landing spot of yesterday. The reef tidepool looked a little different, so I spent some time turning coral rocks. I collected fair numbers of live Conus ebraeus, C. chaldeus and C. tiaratus and a single C. nux. Also four nice Coralliphippila neritoides with bright purple mouths, as well as seeing twenty or thirty different fishes, including three different, brilliantly colored puffers and three different eels and various invertebrates. I watched a large hunting moray for several minutes as he moved from pool to pool, systematically searching every crevice. An octopus I found under a very large rock went into the forage bag for preparation à la Portuguese back on the boat. I especially wanted to find cowries but had no luck. I then continued down the beach a half mile or so to an intertidal area composed of 1 larger, more closely packed and deeply imbedded boulders but found nothing new and so cut across the atoll to the lagoon side. I sampled the lagoon water and found it only slightly brackish.

From there I went east along the lagoon shore, striking for Rocher Clipperton at the east side of the lagoon. The rock is a 60-foot massif that rises from the atoll like a gray ruined castle. It started to rain heavily so I took off my glasses and slogged along half blind, dodging angry boobies. Halfway to the rock, I came upon the burned-out remains of several large amphibious craft. The engines and other vital organs lay on the ground among the blackened skeletons. The ground was littered with thousands of 50 caliber cartridges that appeared to have blown up. It must have been some bonfire.

When I reached the rock, I found mounted on it several brass plaques commemorating the visits of various French ships and expeditions. Most of them date from the 1960's. There were also alot of lower budget grafitti. A large fissure splits the rock and I walked up this passage about fifty yards. White-capped noddies were nesting on ledges in the crack and greatly resented my intrusion. I retreated and headed back along the beach toward the spot where the helicopter dropped me off. Five minutes before Bob picked me up, I nearly stumbled on a nice large net-covered glass float. I felt quite smug about it, since during the day, one of the crewmen had searched the entire atoll for floats by helicopter. When I came aboard the crew demanded to know where I had found my float. I told them that it was completely buried in the sand and I had found it with a "witching stick."

The next day the weather improved and we left Clipperton to search again for dolphin schools. My few short hours on the island were enough to make me determined that sometime I will return and spend several weeks and get to know all the citizens on a first-name basis. Anyone game?

FOR YOUR INFORMATION

Mr. Graham D. Saunders, Secretary of the British Shell Collectors' Club asks if any of our members are interested in exchanging shells with members of the British Shell Collectors' Club. They are interested "in exchanging specimen shells from the coasts of California for shells of a similar quality from Europe, the Mediterranean and West Africa..." If interested in exchanging write to Mr. Graham D. Saunders, 110 Richmond Road, Gillingham, Kent, England ME7 1LR

The tenth annual meeting of the Western Society of Malacologists will be held June 15 to June 18, 1977, at Kellogg West, Center For Continuing Education, California State Polytechnic University, Pomona, Calif. Inquiries about the meeting should be directed to Mrs. Jo Ramsaran, Secretary, 807 North Road, San Bernardino, Ca. 92404.

VARIATION

By BARBARA W. MYERS



Two views of Lyria (Enaeta) cumingii
(Broderip, 1832)
Photos by Barbara Myers

Lyria (Enaeta) cumingii (Broderip, 1832) collected in less than twenty feet of water in coarse sand at Bahia de Concepcion, Baja California, Mexico.

The usual form of L. cumingii has low rounded nodules on the shoulders extending as low axial ribs on the body whorl. The aberrant form pictured here has no nodules, faint axial ribs on the body whorl only, but very defined shouldered whorls. Also the low blunt tooth at midpoint on the outer lip is lacking although this may not be particularly significant as two of the regular forms out of the twenty collected lacked the tooth on the outer lip.

SAN DIEGO SHELL CLUB, INC. MEMBERSHIP LIST 1977

AMES, Waneta Rt. 1 Box 99A Eureka Springs, Ark. 72632	DILWORTH, Billee 609 Palomar Ave. La Jolla, Cal. 92037 459-1087	HERTZ, Jules & Carole 3883 Mt. Blackburn Dr. San Diego, Cal. 92111 277-6259
BAILY, Dr. Joshua (H) 4435 Ampudia St. San Diego, Cal.	DRAPER, Bertram C. 8511 Bleriot Ave. Los Angeles, Cal. 90045	HEWITT, Susan J. 1600 Chapel St. New Haven, Conn. 06511
BENNETT, Mrs. Sally 514 W. Rose Lane Phoenix, Ariz. 85013	FAULCONER, Philip & Heidrun P.O. Box 82632 San Diego, Cal. 92138 222-8082	KING, Bob & June 4269 Hawk St. San Diego, Cal. 92103 296-0574
BRADNER, Hugh & Marge 1867 Caminito Marzella La Jolla, Cal. 92057 459-7681	FERNANDES, Francisco Santa Rita Vila Nova De Cacela Elgarve Portugal	KIRKPATRICK, June 3050 Rue D'Orleans Apt. 451 San Diego, Cal. 92110 222-3609
BRATCHER, Twila 8121 Mulholland Terr. Hollywood, Cal. 90046	GEMMELL, W.E. & Joyce Space 47C 150 S. Anza El Cajon, Cal. 92020 447-8004	KITTSMILLER, Don & Jeff 29 Mahan Circle Minriv Park Charleston, South Carol. 29408
BREWER, Norval & Blanche 8612 Roselawn Ave. San Diego, Cal. 92105 282-0148	GOOD, Frank (H) & Barbara 3142 Larga Court San Diego, Cal. 92110 222-5605	LINDEBREKKE, Kenneth & Lynn 6306 Lake Badin Ave. San Diego, Cal. 92119 465-1092
BROSIOUS, George & Doris Dep. Mail Sect., Box 11 PO San Francisco, Cal. 96301	GOOSEN, Bob & Dorothy 59 Bayside Village Newport Beach, Cal. 92660	LEVINE, Morris & Anita 139-62 Pershing Crescent Jamaica, New York 11435
BURCH, Mrs. Beatrice L. 36 Kuukhoa Place Hailua, Hawaii 96734	GREENBERG, Ruth c/o Tidepool Gallery 22762 Pacific Coast Hwy. Malibu, Cal. 90265	LONDON ASSOCIATES 1137 Prospect St. La Jolla, Cal. 92037 459-6858
CATE, Mr. & Mrs. Crawford P.O. Box Office Drawer 710 Sancho Santa Fe, Cal. 92067	HANSELMAN, George & Virginia 5818 Tulane St. San Diego, Cal. 92122 453-3019	MACQUIN, Hazelle B. 437 Douglas St. Salt Lake City, Utah 84102
CAGE, Emery (H) 4205 Eshelman Ave. Comita, Cal. 90717	HAIGH, Ernest S. 5381 La Verne Circle Westminister, Cal. 92683	MASSEY, Constance #310 4060 Huerfano Ave. San Diego, Cal. 92117 483-0359
LOVER, Phillip W. P.O. Box 83 Ellen, Cal. 95442	HAMANN, Greg & Carl 11123 Valley Lights Dr. El Cajon, Cal. 92020 444-7969	MARTIN, Clifford & Clifton 324 Kennedy Lane Oceanside, Cal. 92054 757-1528
MURRIN, Norman 431 Via Alcaczar San Diego, Cal. 92111 78-3831		
MATTILIO, Anthony & Rose 415 29th St. San Diego, Cal. 92104 31-9731		

MCPEAK, Ronald H.
10370 Limetree Lane
Spring Vally, Cal. 92077
469-8964

MICHEL, John & Michel
4758 Mt. Cervin Dr.
San Diego, Cal. 92117
278-9088

MULLINER, David & Margaret
5283 Vickie Dr.
San Diego, Cal. 92109
488-2701

MYERS, John & Barbara
3761 Mt. Augustus Ave.
San Diego, Cal. 92111
279-9806

PELTON, Donald
2689 "C" St.
San Diego, Cal.
239-5973

PERRIN, William & Marilyn
2947 Luna Ave.
San Diego, Cal. 92117
272-1285

PERRY, Polly Ann
639 No. Citrus Ave.
Escondido, Cal. 92027

PICKFORD, Sherry
5350 Via Bello
San Diego, Cal. 92111
278-1083

PISOR, Don & Jeanne
10373 El Honcho Place
San Diego, Cal. 92124
279-9342

POORMAN, Mr. & Mrs. Forrest
15300 Magnolia
Westminster, Cal. 92683

PURDY, Ben & Ruth
3658 Euclid Ave.
San Diego, Cal. 92105
281-6547

RADWIN, Dr. George (H)
Curator of Marine Invert.
Museum of Nat. History
P.O. Box 1390
San Diego, Cal. 92112
232-3821 (work)
286-8938 (home)

RICHART, Mae Dean
4090 Brant St.
Apt. #4
San Diego, Cal. 92103
298-0132

RUHL, Deborah A.
10669 San Diego Mission Rd.
Apt. 108
San Diego, Cal. 92108
284-1083

SCHOENING, Bob & Clara
2828 Flax Dr.
San Diego, Cal.
429-6161

SCHWARTZ, Ann
7623 Blue Lake Dr.
San Diego, Cal. 92119
469-0522

SCHULER, Martin
5170 Baxter St.
San Diego, Cal. 92117
274-6541

SEAY, Jim & Eunice
3290 San Carlos Dr.
Spring Valley, Cal. 92077
466-8994

SECKINGTON, Sandra
6313 Lake Badin Ave.
San Diego, Cal. 92119
462-9455

SHORT, Ronald B.
1016 Guatay Ave.
Chula Vista, Cal. 92011
420-0235

SKOGLUND, Mrs. Carol
3846 E. Highland Ave.
Phoenix, Ariz. 85018

SMITH, John E.
VF-121
NAS, Miramar
San Diego, Cal. 92145

SOUDER, John
7845 Michelle Dr.
La Mesa, Cal. 92041
462-6166

STOWELL, Christopher & Linda
9755 Austin Dr.
Spring Valley, Cal. 92077
462-4653

TAYLOR, Roland & Kay
2437 Aster St.
San Diego, Cal. 92109
274-2998

The THOMAS Family
c/o The Shell Shop
590 Embarcadero
Morro Bay, Cal. 93442

THOMPSON, Ivan & Agnes
716 S. Second St. Sp. 178
El Cajon, Calif. 92020
447-0191

UPTON, Virginia
Box 1614
Sierra Vista, Ariz. 85635

VOSO, Edward & Helen
Terrace Mobile Homes #134
1815 Sweetwater Road
Spring Valley, Cal. 92077
469-8308

WEBB, Ray & Kay & Mrs. M. Rigdon
501-A Anita St., Sp. 186
Chula Vista, Cal. 92011
420-4900

WILIE, William L. Jr.
1405 McFaddin
Beaumont, Tex. 77701

WINDMILLER, Mrs. Erla
9145 Elk Grove Blvd.
Elk Grove, Cal. 95624

COME TO THE AUCTION

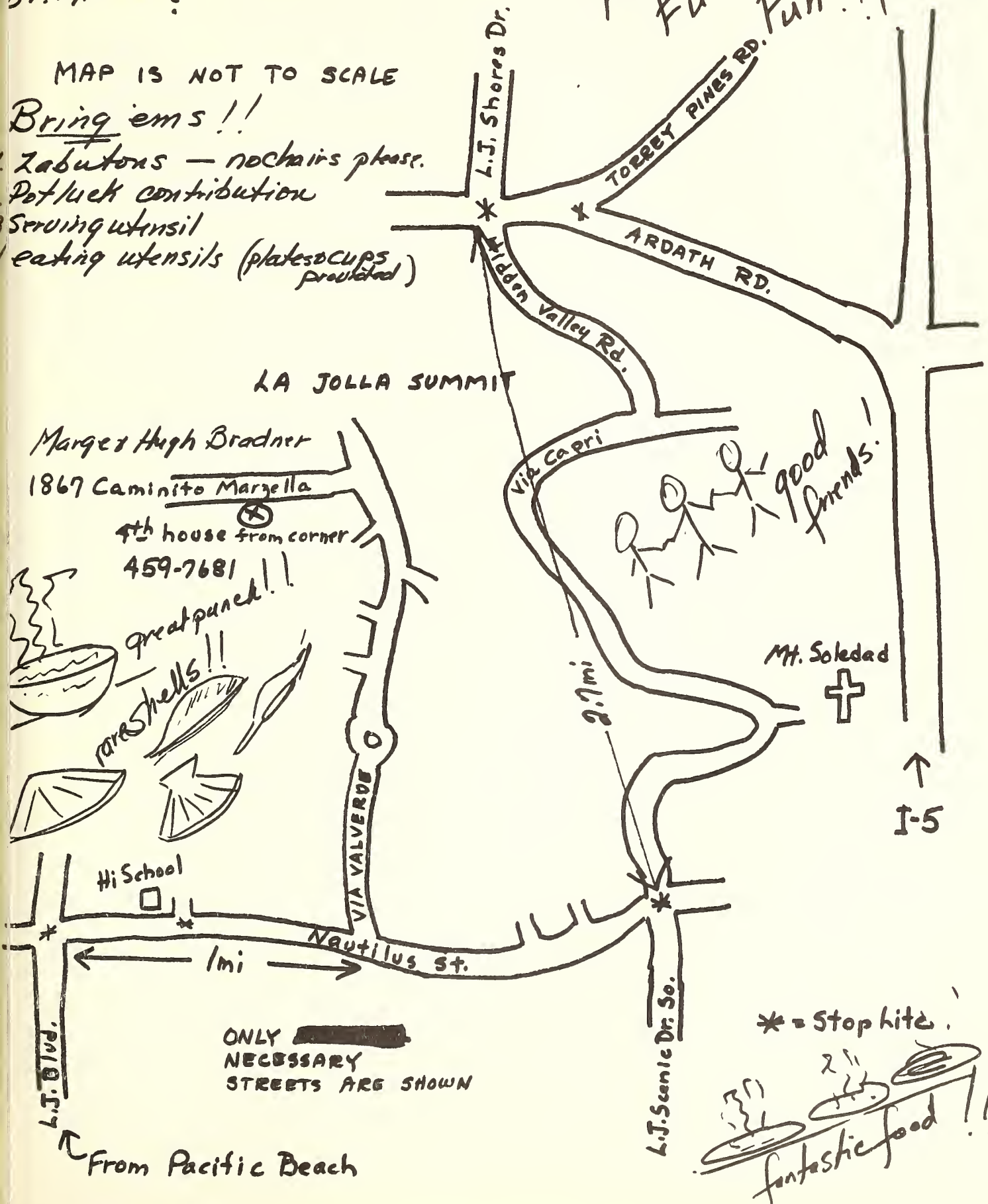
Sat. Apr. 16, 1977
6 P.M. — ?

MAP IS NOT TO SCALE

Bring ems!!

Zabuton — no chairs please.
Potluck contribution
Serving utensil
eating utensils (plates & cups provided)

Fun
Fun
Fun!!!



THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 101, 7:30 P.M.

President:.....Hugh Bradner

Vice-President:.....Billee Dilworth

Recording Secretary:.....June King

Corresponding Secretary:..Martin Schuler

Treasurer:.....Bob Schoening

Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII

May 1977

No. 5

PROGRAM: Gene Everson, a Pan Am. pilot, will be in San Diego and give a
talk on "Night Shelling in Florida. His presentation will be
accompanied by slides.

Gregory K. Kwik of Crawford High School will present a
summary of his Science Fair Project, "Sea Urchin Pheromone."

Gregory is the recipient of the Club's Science Fair Award
for 1977.

Pictures taken at the Club auction will also be shown.

Members are requested to bring unusual or deformed shells for
display at the meeting.

Date: May 19, 1977 Time: 7:30 P.M. Room 101

ANNUAL SHELL CLUB AUCTION

By BILLEE DILWORTH

If you didn't attend the April potluck dinner and shell auction you missed
a great evening! Marj and Hugh Bradner opened their lovely home for our party
and let us admire their new shell cabinets. Marj has done a beautiful job of
displaying their shells. In a large number of Cypraea, they have achieved
their goal of seven of each species.

Dave Mulliner's delicious punch undoubtedly contributed to the high bid-
ding at the auction. As usual, the dinner was a vast array of goodies with
plenty available for seconds. Most guests treated themselves to tastes of sever-
al kinds of dessert for sustained energy during all that bidding on shells.
Norm Currin and Bob Schoening were the auctioneers with Marty Schuler keeping
records of who owes how much. To start the bidding Frank Good sent a letter say-
ing that he would start all bids off at 50¢ until \$10. had been used up. That
must have helped put people in a good frame of mind for the shells went for some
record prices--for our Club, that is.

The evening was a complete success with everyone having fun and the Club
treasury much improved.

MINUTE SHELLS

By JULES HERTZ

The two shells pictured below are the last of the minute Galapagos shells from the Jackie Grundman collection. Original photography and shell identifications were courtesy of Bert Dreper. The author would like to thank, once again, Jackie and Bert for allowing us to feature, during the past year, these minute Galapagos shells in the FESTIVUS. Black and white photographs were produced from the original 35 mm. colored slides by FESTIVUS staff photographer, Dave Mulliner.

The two shells shown below have a relatively limited range. The Nodilittorina galapagensis (Stearns, 1892) is reported from the Galapagos Islands to Ecuador. The Agathoma camarina (Dall, 1919) is in the Turridae and is reported only from the Galapagos Islands. Both shells were brought back by the Ameripagos Expedition*.



Nodilittorina galapagensis
(Stearns, 1892)
Height: 5.5 mm., Station #4



Agathoma camarina (Dall, 1919)
Height: 7 mm., Station #15

* Station #4: Intertidal to 10 feet, Punta Estrada, southeast side of Academy Bay, Santa Cruz Island, Galapagos Islands, Ecuador. (0°45'06"S., 90°15'38"W.). March 5, 1971

Station #15: Intertidal, south side of North Plaza Island, Galapagos Islands, Ecuador. (0°34'36"S., 90°09'40"W.). March 20, 1971.

OVOVIVIPAROUS VOLUTES

By TWILA BRATCHER

Reproduction within the molluscan world is an extremely varied process. So much so that I wrote an article on it for SKIN DIVER MAGAZINE a few years ago. I did not title it, "The Sensuous Male" but rather "The Sensuous Snail, an X-rated Shell Story." In the article I discussed those species which are males for the first half of a normal life span and become females for the remainder of their lives, and those which change sex each year; the species in which the sexes are separate and those which are hermaphroditic; the species which copulate and those which shed eggs and sperm freely into the sea. There is one type of reproduction among molluscs of which I was unaware. Some are ovoviviparous.

On our recent trip to Senegal, West Africa, we brought in some specimens of volutes, Cymbium marmoratum Link, 1807, collected while night diving. The next morning we cooked the shells, and Jackie Grundman prepared to cut out the animal. She was using her knife to cut away the meat when it struck something solid. "Feels like there's a shell in there," she said. To everyone's amazement, out came six perfectly formed baby C. marmoratum.

Three undeveloped C. marmoratum were within another female. Two could have been mistaken for the egg yolks found within stewing hens before the shell has started to form. The third was a perfectly formed C. marmoratum except for the protoconch, which was like a small yellow egg yolk.



Female Cymbium marmoratum, Link, 1807
with babies

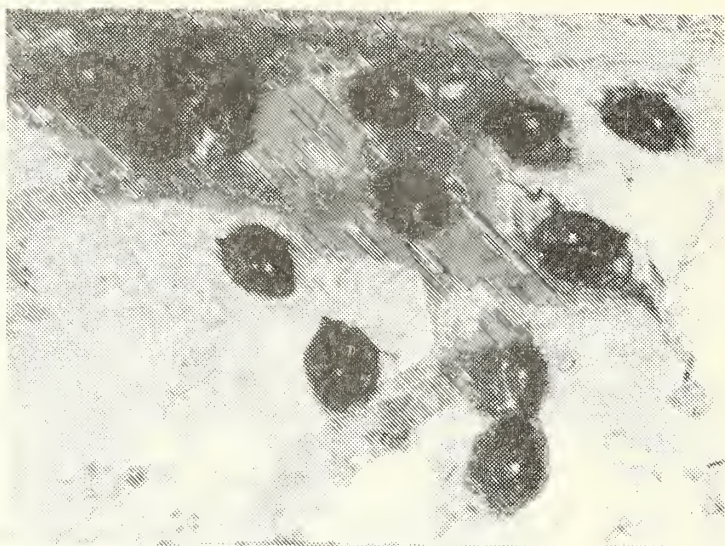
← Cymbium marmoratum, aperture view

A few days later I purchased a large Cymbium pepo (Lightfoot, 1786) from a Senegalese diver. It was too large for our cooking pot, so it sat on the cement outside our cottage door for a day and a half. In the evening we were visited by Jules, a Senegalese man whom Marge had met when she accidentally walked through a commando post while shelling on the island of N'Gor. He had become a friend of our group. Knowing the local people eat the meat of the volutes, I asked if he would like to take it for the meat and return the shell. It was dark when I picked up the volute and put it in a plastic bag to protect Jules' clothing. The next morning when I stepped out the door, I saw thirteen baby Cymbium pepo, evidently born before I had picked up the female.

It was too late to put them on the sand in shallow water to see if they would live and dig in. Each was about 50 mm. in length.



Cymbium pepo (Lightfoot, 1786)



Cymbium pepo babies

Though the subfamily Cymbiinae may be found in Australia, South China Sea, East Africa, and some places in between as well as West Africa, only the genus Cymbium gives birth to live young.

Enjoyed at the Club auction/potluck and printed by popular demand.

PINK MUREX CHOWDER

adapted from his mother's recipe by Chris and
Linda Stowell*

Recipe is for one gallon of chowder.

Take: 3 large potatoes, diced into 1/4" pieces

3 medium sized onions " " " "

1 Lb. swiss chard ribs" " " " (or substitute celery)

Throw in pot and barely cover with water. Boil until vegetables are tender.

Add: 9 Hexaplex erythrostomus diced in 1/4" pieces (to make Hexaplex more
tender, remove from shell and freeze twice before dicing)

1/2 stick margarine

salt to taste

milk to make a gallon of soup

Heat through but do not boil.

* The original recipe adds crisp bacon diced and substitutes bacon fat for the margarine.

CLIMBING FOR SEA SHELLS

BY DON KITTS MILLER

When I first moved to Washington, D.C. from Key West, Florida, I was anxious to do more shelling since I had recently been bitten by the shell bug.

My first trip was to Chesapeake Bay, Maryland since it was the closest prospective area. I wasn't expecting to find much and was not disappointed. I found a few bivalves and lots of sand and mud. I walked about a half mile down the bay alongside the ominous 100 foot cliffs which are similar to Sunset Cliffs in San Diego but without the heavy surf. I was not finding any shells of interest, but noticed a great deal of shell fragments along the shoreline, and I started looking these over. I was picking through a large pile of bivalve fragments when I spotted my first partial Ecphora. When I first examined it I knew I had something unusual. I had never seen anything like it. After this find, I doubled my efforts and came up with fragments of a cone, turritellas, an olive and pieces of coral. I remember telling myself that if there are bleached and broken beach shells here, there have to be live goodies around this area. Then it hit me,--Coral in Maryland!! A few minutes later I spotted a black shark's tooth and the mystery was over. (I had seen fossil sharks teeth from Florida).

On my second trip there, I discovered where the shells came from. Half-way up the cliffs was a ten foot wide row of shells just waiting for someone to climb up and start collecting. This is when I began my cliff climbing for sea shells.

From then on I experimented with different techniques for extracting the shells from the cliffs. I soon found out that the shells could not be so easily gathered. It's one thing to find them and another to preserve them. The shells were as soft as marshmallows. A slip, a jar, or too much pressure and your fine rare specimen lay at your feet looking like a pile of dust never to have form again. After this happened a few times I got angry and discouraged and started working at ways to beat the odds. With hints from other collectors and a few of my own ideas, success started coming my way.

I find my shells by gently digging and brushing an area while clinging to the cliffs. I then dig out a large matrix around the shell to hold it firmly so I can get it home intact. When I get home I bake the blocks to get the shells and sand thoroughly dry. (My wife really likes this idea) I next start separating the shells from the sand with pins, picks and patience. Without patience as your main tool you can forget this hobby..

If the shells were difficult when soft at the beach, now when they are dry it's like removing sand from around a shell made of baby powder. I worked on some shells for two or three days before I could say I had a specimen. I used Super Glue on my shells so I could harden an exposed area of the shell in a matter of seconds allowing me to continue my work. I spent many hours extracting these shells knowing that if I got careless or impatient I would have nothing for my labors.

What a feeling of accomplishment when success has been reached! My largest Ecphora quadricostata (Say), took me six days to retrieve and is my most prized shell. After doing some research on Ecphora I zeroed in on this species. Besides being an index fossil and looking like no other modern-day shell I know of, this species retains its coloration which is unusual for fossils.

I was stationed in Washington, D.C. for only seven months but in that time I collected 97 different species including varieties of Fissuridea, Calliostoma, Architectonica, Turritella, Epitonium, Crucibulum, Crepidula, Sinum, Polinices, Xenophora, Lynatia, Ecphora, Busycon, Aurinia, Olivea, Terebra, Conus, numerous bivalves, bones, teeth and corals.



Two views of *Ecphora quadricostata* (Say)
(Original slides by Bob Schoening)

Those who don't collect fossils and have the opportunity to do so are missing a very interesting part of shell collecting. Besides finding shells that have been extinct for millions of years, it can be interesting comparing those fossils that did survive with their present day counterparts. Maryland fossils are very plentiful for those who want to brave the cliffs and have the patience to extract them from the elements. Another nice thing is that you don't have to worry about overcollecting because the damage was done long ago by Mother Nature.

My fossils were in the neighborhood of twenty-six million years old which intrigues me. How about you?

CHANGES OF ADDRESS

KIRKPATRICK, June
3050 Rue D'Orleans, Apt. 451
San Diego, Ca. 92110

AMES, W.M.
P.O. Box 93
Eureka Springs, Ark. 72632

[The article by Roy Poorman to be printed this month will be in the June issue. Ed.]

THE

FESTIVUS



WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSCS

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968
MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....Hugh Bradner
Vice-President:.....Billee Dilworth
Recording Secretary:.....June King
Corresponding Secretary:..Martin Schuler
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

QL
401
F418
Moll.

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.
CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII June 1977 No. 6

PROGRAM: Red Howard, a graduate student at Scripps Institute of Ocean-
ography will give a popular lecture on Abalone illustrated with
slides.
Slides of the Auction will also be shown this month. (We ran
out of time last month).
Bonus shell drawing this month!! The shell will be Cypraea
goodallii!!
Date : June 16, 1977 Time: 7:30 P.M. Room 104

FROM THE MINUTES By JUNE KING

Forty-five people were present at the May 19, 1977 meeting. The meeting
was called to order at 8:00 P.M.
Bob Schoening introduced Gregory Kwik, the winner of the Shell Club Award
at the annual Greater San Diego Science Fair. Bob presented Gregory with Barnes'
"Invertebrate Zoology" as the Club's gift. Gregory had his apparatus set up and
gave an informative and interesting talk on his project: "Sea Urchin Pheromone."
(Writeup appears in this issue.)
Billee Dilworth introduced our speaker, Gene Everson, a PanAm pilot from
Florida who talked about diving for shells off the coasts of Florida at night.
He said that the most interesting shells were off the East coast, and many of
his slides showed what he had collected. The slides, for the most part, were
photographs of shells in aquaria rather than undersea, but nonetheless had alot
of us impressed. Many rare shells were shown, some from the West coast of Flo-
rida as well as a few from the Caribbean and a few from South America. There
were many slides, all fascinating to see, especially those of the live molluscs.

After refreshments--a very short business meeting. (Slides of the Auction/Potluck will be shown at the June meeting).

Bob Schoening asked that we all pay for our Auction purchases and next meeting he will tell us how much our treasury was enriched.

From now on we will meet in Room 104 instead of 101--across the patio.

Reminder of the annual plant sale sponsored by the Botanical Foundation was made. There was no raffle since Marty and Sherry were absent. A few people did bring their "freak" shells for the "Show and Tell" table.

Meeting adjourned just in time to get us all out by ten.

SEA URCHIN PHEROMONE

by Gregory Kwik

Kelp beds, familiar sights along the Pacific Coast, are havens for hundreds of species of marine life. For the fisherman, these beds provide bountiful amounts of game fish. The kelp beds are also harvested for giant kelp, Macrocystis pyrifera, which has a rich yield of chemicals and contains the principal source of algin.

The kelp forest goes through a natural cycle. Mature strands continually die and break away from the plant, giving way to new fronds shooting up from the root structure called "holdfasts." But in the late 1950's, California's kelp forests were unable to regenerate themselves, thus resulting in their near extinction. This was partially blamed on a period of warmer ocean temperatures. But the main cause of the diminishing canopy growth was the infestation of sea urchins. These spiny marine creatures feed on kelp holdfasts, fronds, and young plants. The cause of the unchecked population of urchins is due to the large-scale hunting of their predator, the sea otter. This ruthless killing has upset the ecological balance of the kelp beds. Therefore, man must discover a way to control the urchin's destructive force.

My research is based upon this growing concern. I found a solution to this problem from an article in Science Magazine. A scientist discovered that sea urchins will move away from injured sea urchins. This reaction is caused by a chemical stimulus, known as a pheromone, which the injured sea urchin secretes to warn other sea urchins of danger. I then tested to see if it is practical to use this pheromone as a sea urchin repellent. The advantage of using a pheromone over a pesticide is that it will not repel any beneficial marine life because pheromones affect only the same species from which it was secreted. It will also not pollute since it will not harm any organism.

I first tested the pheromone by extracting it from purple sea urchins, Strongylocentrotus purpuratus, and applied this to other purple sea urchins in a fibreglassed trough. Their reaction was measured by the distance they moved. The average distance was 61.4 cm after 10 minutes, compared to 1.2 cm with a placebo. Additional experiments were conducted to determine its properties. From my tests, I have found that the purple sea urchin does contain a pheromone; the chemical is produced from an internal gland; it is a protein; and the pheromone can be stored.

I plan to continue this research by further isolating the pheromone to determine the extent of the application on kelp beds. These tests are only the beginning. There is a lot more to know about the alarm pheromone in sea urchins.

A DIARY OF RETIREES*

By ROY POORMAN

Some people think it is easy to be retired--that all you have to do is sit on the front porch and watch the tulips grow. Well, we thought we had better warn you about this so we have looked into our diary for 1976 and this is what we found.

We were away from our comfortable mobile home and leading the rough life for nearly seven of the twelve months. This is really the story of those seven months.

Our year started out with a return to Manzanillo. We travelled with Carl and Laura Shy and took our trucks with Alaskan campers and our boats. Our stay in Manzanillo was four weeks, with a one week break for short trips north to several different locations. We stayed at the La Audiencia trailer park, where one of the chief sports for many is "The Party." Las Hadas Hotel is just over the hill and within walking distance. Some of our people would walk over the hill each day to have breakfast there. The charge--\$3.20. One of the men wanted to spend a night there just to say he had stayed at Las Hadas. He was told the cheapest single occupancy was \$98. per day. Carl Shy says the Las Hadas is built on a beach that was the best collecting spot in the entire region.

Manzanillo is a great place for fishing. Marlin and sailfish were being caught daily. The avid fishermen in camp would go out in fourteen foot aluminum boats as much as fifteen miles in to the open Pacific for prize fish. Several times boats did not return by late afternoon and friends would go out looking for them. There were no losses while we were there.

We took time out to run north about 80 miles to Bahía de Tenacatita. This is a large bay made up of three smaller bays. The middle one of these is known as Bay of Los Angeles--not to be confused with Bahia de los Angeles in Baja California. This is L.A. Bay, Jalisco. We camped at the south end of the beach which is about $1\frac{1}{2}$ miles long.

Our first afternoon here we met a pig. Now, this was no ordinary pig. She was pink with brown undertones. She had been left in charge of an abandoned house, rooster and two chickens. They spent most of their time on the ridge pole so her duties were minimal. Forrest named her Evelina because of her resemblance to Cadlinia evelinae. She soon proved she was no ordinary pig and from then on, Evelina was a people-pig. Pancakes were a great American treat for her, though her all-time favorite was pickled beet juice. There was an immense mudbath in the estero behind the house, but Evelina remembered that she was a people-pig and preferred the sea. She would go out until the waves would take her off her feet. Then she would race for shore and scamper about like a frisky dog. If one made a trip to the bushes, Evelina went along. If one went for a walk along the beach, she would walk at heel but would gradually turn back toward camp. The day we left, Forrest mixed a bowl of my instant oatmeal for her so she wouldn't follow us out to the main road. Now, if one of us mentions Evelina, Carl gets a faraway look and says, "Wasn't that the darndest thing?"

Chamela Bay, next above Tenacatita, was a big disappointment for me. Perhaps dredging is good, but intertidal hunting yielded nothing new. The bay has been marked for development for tourists but it is not nearly as tropical and interesting as the Bay of Los Angeles or La Manzanilla.

The first two weeks in May saw us on the road to Bahia de los Angeles, Baja California, with only our campers for the two week trip. Our first night took us to Catavina, 425 miles from home. We arrived there at the same time as an international road race for bicycles! By noon that day, we were in camp at Punta La Gringa. Smith Island was a short trip by boat from camp and about 18 miles northeast of this island is Angel de la Guarda Island. The water in

between the two islands is very deep. The tidal currents are strong among the many islands and studies have shown that the currents bring cold water from the deep into the bay. Perhaps this explains why many of the species we found here are truly giants. We were joined here by Dave and Peggy Mulliner, Nola Michel and Gale Sphon.

Collecting and dredging this area has never been as rewarding as at Guaymas but we have gotten a few really nice things and have taken 160 species never previously reported from here. Several undescribed species of chitons and nudibranchs were taken from the rocks and sargassum weed on Smith Island and are being studied. The channel off Smith Island was a prime dredging area and also turned out to be an alternate route for whales migrating down the Gulf.

Last fall we left for our annual trip to Guaymas. Our friends were all converging there and so we were raring to go. We got in on the afternoon of September 30. The Shys had gone down ten days before and were already set up. We put the trailer beside our slab and connected it but did not unpack anything. The next morning we were awakened at 4:00 A.M. by Carl pounding on the trailer to say we had three hours to get out before the hurricane was to hit. But where to go? Finally, most of the rigs then in the park decided to line up at the higher end of the park and ride it out. Daylight found us huddled close together waiting.

At 9:00 o'clock we were still waiting. It was very cloudy but no wind or rain. About this time we heard on the radio that La Paz had been hit during the night with great loss of life. After that, the hurricane had headed north-east for Guaymas. The radio said that all schools were dismissed and warned people to get off the streets. In another hour the sea had gotten a bit rough. The left hand point at the mouth of our little cove is nearly 40 feet above the waterline. Some of the seas were splashing 40 feet higher than the point! The swells were so high that I couldn't see the one-story La Posada Hotel across the little bay. There was absolutely no wind but the swells were coming in with such speed that their tops were being blown off as though a gale were blowing from the land.

After lunch things quieted down. Damage had been done at the hotel. Their beach was badly hurt, several windows were broken and several rooms were flooded. Later we heard that the main force of the storm had hit further south and had done damage greater than at La Paz but without the loss of life. By late afternoon we moved back to our sites and resumed normal living.

Later in October, we took a one day trip about 50 miles north to Moro Colorado and San Augustin. In 50 to 90 meters of water off the point in this area Antonio Luna has dredged many beautiful and new species. Pecten lunaris Drillia cunninghamae, and Conus poormani all came from here.

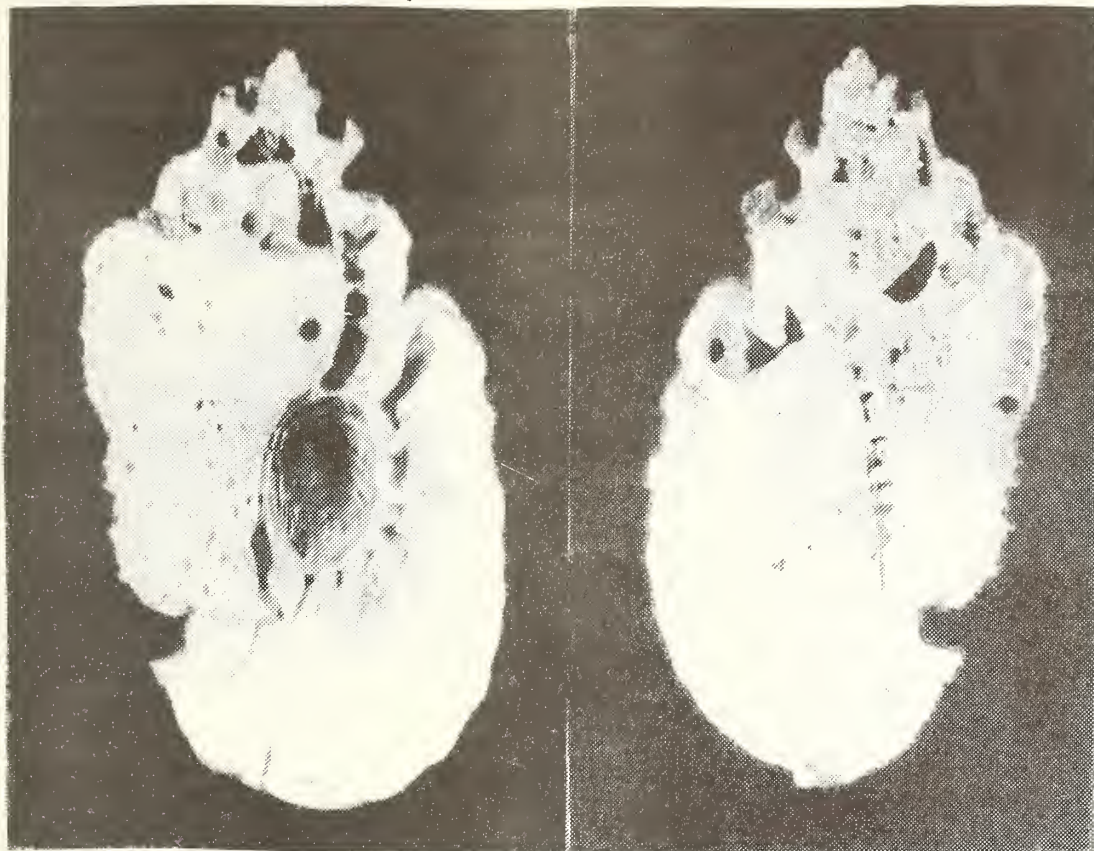
During our annual fall migration to Guaymas we took a week off and drove 800 miles south looking for just one shell--Typhis fimbriatus. We knew of three which had been taken in the Banderas Bay area and we were determined to add to the number.

The north end of Banderas Bay is bordered by Punta Mita. There is a road out on the point along the south side which is paved about halfway and a fairly good dirt road for the rest. We camped in the shelter of some sand dunes at the end of the point, and there were some very inviting and rewarding reefs in front of our camp at low tide.

At the root of the peninsula and on Banderas Bay about one mile from the main highway, is the small town of La Cruz de Juanacastle. The town is named for the large wooden cross which stands at the entrance and is made of the wood of the giant Juanacastle tree which is found here.

November 20, the day after our arrival, was both Flag Day in Mexico- an occasion for great celebrating by the children of this little town- and the first of the low tides. We walked down the beach about a mile to a likely

looking reef and started hunting. Right away we began to find all kinds of goodies. After half an hour, Forry cried that she had found a Typhis- and sure enough, she had a dead but good Typhis fimbriatus. Ten minutes later Laura cried, "I got one, too."



Two views of Pterotyphis fimbriatus (A. Adams, 1854)

Margaret Cunningham had arrived a week earlier and had made arrangements for Carl and me to go dredging on Sunday morning. The dredge was old and came apart several times but we patched it up with fishing line. (This is standard procedure in Mexico). We made eight runs and brought up lots of gooey mud which would not wash through the wire mesh. So, we just dumped the whole mess in tubs and brought it all ashore. It took the work force about two hours to wash out the mud. We were pleasantly surprised to find that we had taken many Persicula bandera and Glyptaesopus phyllira as well as many other small species.

We had some "Big Thrills" in 1976, a few of which are mentioned below. In general, dredging and collecting was the poorest we had experienced in 25 years. But here and there was a shell to make it just as exciting as the first time. Many of these were completely new to our collection. A few were not new, but by their very nature must be included in a list of "greats". Placiphorella velata Dall occurs all the way from Alaska to Bahia de los Angeles and Guaymas, though it is rare in the Gulf. We found it on the islands in Bahia de los Angeles. We found Nasarius shaskyi McLean, one of the largest and heaviest of the genus, by dredging at Manzanillo, Colima and in 90 meters off San Carlos in Sonora.

After twenty three years of looking for our first Trophon carduus, we

dredged nine in one trip off Pt. Juluapan, Colima. A recent well-known author on the Muricidae comments that he has never even seen a specimen of Trophon sorenseni. We have had a set of three for many years from Captain Luna but were thrilled to get several ourselves in very deep water at Guaymas.

In fact we found many interesting specimens, some newly collected by us, in dredging the deep hole at Guaymas. Mitra fultoni, Typhis latipennis, Crassispira chacei, Cochlespira cedonulli, Cymatium amictoideum, and Amaea derooyae were all taken there.

Forry found our first Phyllocoma scalariformis at Guaymas, and then we got several more on a trip further south. And of course the fabled Typhis fimbriatus. We had known of six in private collections, and we hear that there are five in the Smithsonian. It was for this shell we drove 800 miles south of Guaymas in November.

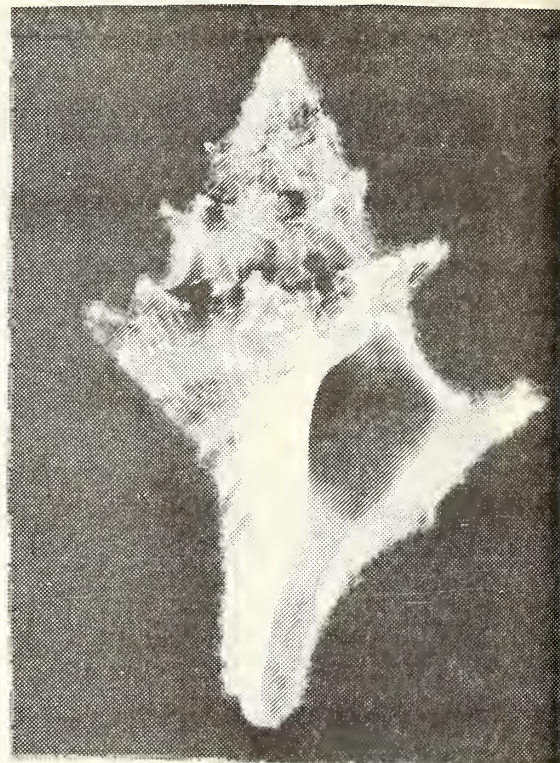
Several species of Persicula were collected: P. bandera dredged at La Cruz, Nayarit, P. phrygia found at Tenacatita Bay, Jalisco, P. imbricata in ten meters of water just north of Manzanillo, and P. hilli at the same location but in thirty meters of water.

A recent author synonymized Murexiella humilis, Murexiella keenae and M. laurae as geographical variations of Murexiella humilis which is rather common offshore at Guaymas.

However we dredged a number of each of these species within a half mile of each other in the middle of the range at Pt. Juluapan, Colima.

Bizetiella shaskyi and Mitromorpha carpenteri found under rocks on Pt. Mita, Fusinus zacae found off San Carlos, Microcythara harpiformis from the reefs at Pt. Mita are a few of the other specimens that made up the "Big Thrills" in 1976.

Some people think it is easy to be retired--that all you have to do is sit on the front porch and watch the tulips grow....



Trophon sorenseni Hertlein & Strong
1951

Original photography by Roy Poorman. Black and white prints from the 35 mm color slides by Dave Mulliner.

*Summarized from Roy Poorman's notes for his talk to the San Diego Shell Club in March 1977. Any errors are those of the editor.

LIBRARY NOTES

The Club has purchased a copy of Frank Mace MacFarland's, "Studies of Opisthobranchiate Mollusks of the Pacific Coast of North America", Memoirs of the California Academy of Science; Vol. VI, April 8, 1966. It is a hardcover edition with both the plates and descriptions. In the past the library has had only the softcover book of the colored plates. This book will be ready to circulate at the June meeting.

Hugh Bradner announces that he has a complete set of the Hydrographic Office Publication 80 of "U.S. Oceanographic Office: Sailing Directions (Worldwide)" given to him by Scripps library since they are replacing it with later editions. The volumes are filled with useful information on shorelines, tides, weather, people government etc. with many maps. They will be kept at Brad's house (since the Club Library is too small) and will be available to Club members.

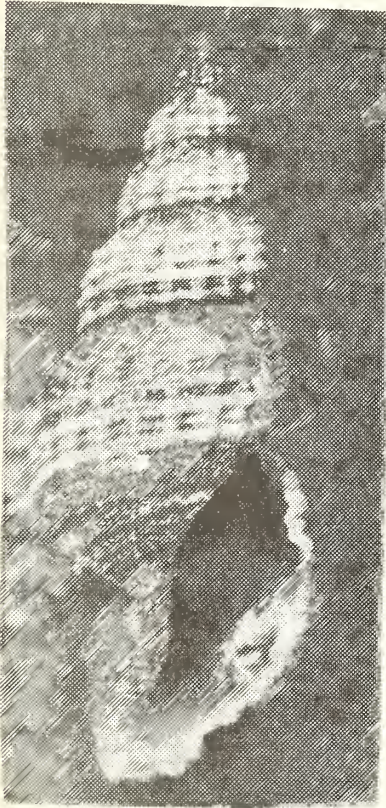
MINUTE SHELLS

By JULES HERTZ

This month we start featuring a series of minute shells from the Mulliner collection. The shells were dredged by Dave and Peg Mulliner in 50 to 60 feet of water, west of Smith Island, Bahía de Los Angeles, Baja California, Mexico on May 10, 1976. Photography is by Dave Mulliner, FESTIVUS staff photographer.

Philbertia doris Dall, 1919 is a member of the Turridae. It is brown in color, and the specimen shown below is representative of a fully mature specimen.

Tripterotyphis lowei (Pilsbry, 1931) is a beautiful white shell whose recorded range is from Escondido Bay, Baja California, to Panama and the Galapagos Islands. The shell pictured below is 9 mm. long which is about one-half the maximum length of 18 mm.



Tripterotyphis lowei (Pilsbry, 1931)
Length: 9 mm., width: 4.5 mm., depth: 3 mm.

← Philbertia doris Dall, 1919
Length 8 mm., diameter 3 mm.

FOR YOUR INFORMATION

1. A book ordering service will be available to members. Frequently Club members will be able to order books at discount.
2. It is time to pay for auction purchases if you have not already done so.
3. **SAVE THE DATE!** The September party will be on the 17th at the home of Clara and Bob Schoening. The party will have an African theme. Details later.
4. Shell donations are wanted for the WSM auction. For information, contact Bob Schoening.
5. Our meeting room at the Casa del Prado will now be Room 104, directly across the long patio from Room 101.

Q L
401
F418
Moll.
THE

WILLIAM H. HALL
SECTION LIBRARY
DIVISION OF COLLETS

41.

FESTIVUS

SAN DIEGO SHELL CLUB



FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 104 7:30 P.M.

President:.....Hugh Bradner

Vice-President:.....Billee Dilworth

Recording Secretary:.....June King

Corresponding Secretary:..Martin Schuler

Treasurer:.....Bob Schoening

Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII

July 1977

No. 7

* PROGRAM: Anthony D'Attilio will give an illustrated talk on new Latiaxis. *
* Slides of the Auction will also be shown. *
* Bonus shell drawing this month. The shell will be Cypraea *
* goodalli!! *
* *
* Date: July 21, 1977 Time: 7:30 P.M. Room 104 *

FROM THE MINUTES

By JUNE KING

Twenty-two people were present at the June 16 meeting. The minutes were accepted as published in the FESTIVUS.

A report was read from the Botanical Foundation thanking us for our participation in their annual plant sale, and stating that they made a profit of \$839. all told. It was agreed that we continue our membership in their organization.

The bonus shell drawing is to be in July (instead of June) since they are held every third membership meeting. Somehow it was forgotten that we had the auction in April in lieu of a regular meeting. Brad's C. goodalli awaits the July meeting.

Some questions were raised about the possibility of buying books at discount through the Club—such as minimum order necessary and a list of books available.

Speaker of the evening was Red Howard, a graduate student from Scripps. The subject was abalone from the culinary point of view. It was very entertaining and informative. He is one of the authors of an amusing cookbook about abalone and their preparation. Copies were available at the meeting. On the table was a grand display of abalone—local and exotic, from the Myers', Bradner's (and others?) collections. There was some discussion of hybridization of abalones.

No slide projector so no pictures of the Auction. Next time, maybe?

COLLECTING IN ANTARCTICA

By JULES HERTZ

For those of us in attendance at the October 19, 1972 meeting of the San Diego Shell Club, Dr. Gordon A. Robilliard's talk and slide show on "Marine Biology of Antarctica" was fascinating and exciting. There were many who would have loved to explore in seemingly virgin territory, although the rigorous weather and diving conditions sounded a little frightening. Gordon described (Robilliard 1972) the project that he and Dr. Paul Dayton, now a professor at Scripps Institution of Oceanography, conducted during 1967 and 1968 at McMurdo Station and Cape Armitage on Ross Island in McMurdo Sound, Antarctica. A detailed report on this work was published in Ecological Monographs (Dayton, et.al. 1974).

When we heard that Gordon was returning to McMurdo Sound for additional biological observations in the fall of 1974, we implored him to bring back a sample of grunge from their diving area. Another member of the 1974 group going to McMurdo Sound was James (Jimmy) R. Stewart, Diving Officer at Scripps Institution of Oceanography. Since Jimmy Stewart had also been a guest speaker several times at the San Diego Shell Club, it was hoped that he, too, might bring back interesting mollusks for photographing.

When Gordon returned, he dutifully delivered a gallon jar of "grunge," but it was not like any grunge that we had seen before. It was a bottom sample taken by him in 24.4 meters (80 ft) of water on October 15, 1974 at Cape Armitage, Ross Island, McMurdo Sound, Antarctica.

It consisted of a loose mat of sponge spicules interspersed with valves of Limatula hodgei Smith, 1907 and occasional small members of other marine phyla. It had been immersed in formaldehyde, so besides looking strange it also smelled bad. Figure 1. shows a typical view of this "grunge." Many small shells were found in the grunge, and it led the author on a search for identifications. It was found that there exists a very extensive literature on Antarctic mollusca, with early references more than 100 years old. The seemingly virgin territory has been extensively explored by dredging and trawling.

Victoria Land near Cape Adare was first sighted by Sir James Clark Ross on 11 January 1841 (Bullivant and Dearborn, 1967) and with his ships Erebus and Terror, he charted the coast of Victoria Land and the edge of the Ross Ice Shelf. In the summer of 1842-43, Ross made the first oceanographic observations and collections in the Ross Sea. During the late 1800's and early 1900's, many famous explorers led expeditions to this area and took many samplings. Among the most famous were W.J. Bull, C.E. Borchgrevink, R.F. Scott, E. Shackleton, C.A. Larsen, and R.E. Byrd.

Those of us who are intertidal collectors would find Antarctica completely frustrating. In McMurdo Sound, the shallowest zone (0-15m) is essentially devoid of sessile organisms because of the annual certainty of the ice disturbance from both anchor ice and scouring action of drift ice. In winter, ice accumulated



Fig. 1. Antarctic grunge

along the shore may grind against the bottom to depths of 5 m or more, and this scouring action along the shoreline effectively eliminates an intertidal fauna. An intermediate zone (15-33 m) is below the limit of ice scour but is still influenced by anchor ice formation capable of removing heavy objects (Dayton et. al. 1969). The larger invertebrates are sometimes found in the shallow waters adjacent to ice foot formations but this mostly occurs in summer after some melting has occurred. Benthic invertebrates have been found embedded in sea ice in very shallow water. However, it is believed that the animals become entrapped in ice on the sea bottom and the ice subsequently rises.

Most of the shells pictured in this article were obtained by scuba diving. The water temperature is about -1.8°C (28°F) the year round. During the first visits of Robilliard and Dayton to McMurdo Sound, (October to December, 1967 and 1968) the Sound was covered with 1.8 to 2.4 m (6-8 ft) of ice. The water could only be entered by open-air dives through cracks in the ice or by first blasting a hole in the ice. Horizontal visibility ranged from 183 m (600 ft) in October to 61 m (200 ft) in early December to 0.6 m (2 ft) in mid-December. Most of the species were collected in depths greater than 25 m.

Below 33 m, anchor ice does not form and scouring rarely occurs. Dayton et. al. (1970) reports that most of the conspicuous species in the benthic community at depths between 33 and 60 m are sponges and their asteroid and molluscan predators. In 30 to 60 m at Cape Armitage, McMurdo Sound, sponges are the most conspicuous sessile species and cover almost 55% of the surface area. The extensive mats of sponges found on the bottom in much of McMurdo Sound, usually below 50 m, are formed largely of siliceous species. The substratum below 33 m is a mat of siliceous sponge spicules which varies from a few cm to more than 2 m (cf. Koltun 1968).

Limatula hodgsoni Smith, 1907 is the most abundant bivalve in McMurdo Sound and has been reported embedded in sponge of the softer, horny types, and in certain areas it occurs burrowing in the upper centimeter or two of a sediment of sand and grit matted with sponge spicules.



Fig. 2. Outside of Limatula hodgsoni

Fig. 3. Edge view of L. hodgsoni

In the "grunge" brought back by Gordon Robilliard, there were many single valves of assorted sizes. Figures 2 and 3 show a typical specimen of this common bivalve. The height of this specimen is 25mm and the width 19 mm.

Looking for microscopic specimens in the "grunge" is a very time consuming and sometimes painful task. One must hazard the millions of potential silica fiber splinters and the floating silica dust. To date, about half of the grunge has been carefully examined and a variety of small shells found. Some species are plentiful, while others are so far represented by only one or two specimens. Figures 4 through 21 show these microscopic shells. The excellent photography is a result of the patience and skill of FESTIVUS staff photographer, David K. Mulliner. The author is equally indebted to Barbara Myers for most of the beautiful photographs of the larger species.

Many of the microscopic species were first brought back by the National Antarctic Expedition, 1901-1904, ("Discovery" Expedition - R.F. Scott) and were described by Edgar A. Smith (Smith, 1907). The most common minute species found in the grunge was Margarella refulgens (Smith, 1907). Approximately 50 specimens were found, varying in both greatest diameter and height from about 1 to 5 mm. Dorsal and apertural views are shown in Figures 4 and 5. The shells are turbate, narrowly umbilicated, pearly iridescent and beautifully bluish, pearly within. Smith originally called this species Valvatella refulgens.

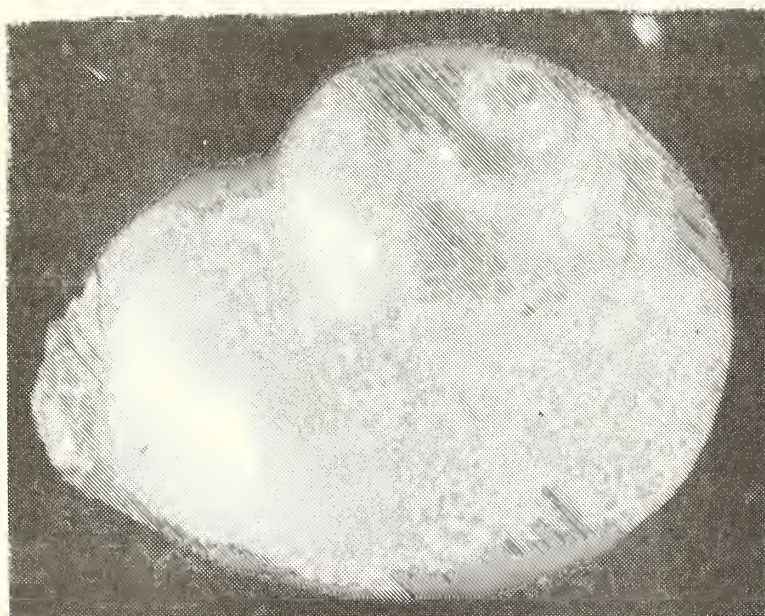


Fig. 4. Dorsal view of Margarella refulgens

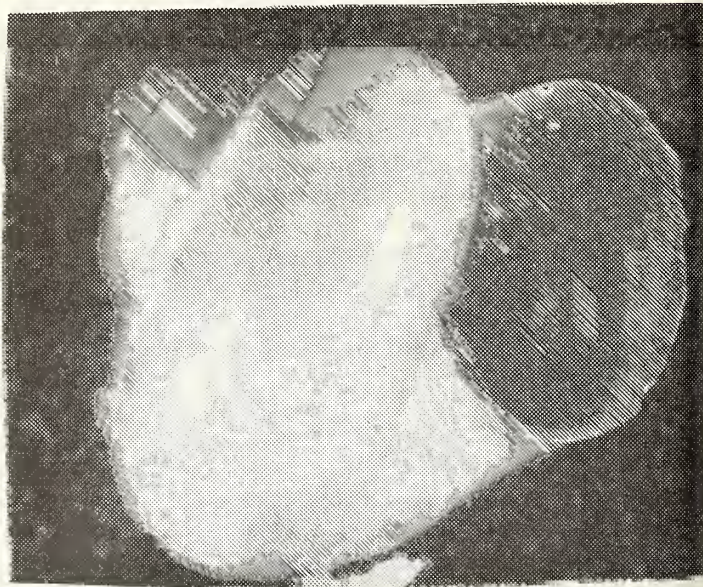


Fig. 5. Apertural view of M. refulgens
Height: 3 mm, width: 5 mm

Another member of the same family figured in Figures 6 and 7, is believed to be Margarites dulcis (Smith, 1907). Only one specimen has been found to date and although it resembles the figure in Smith, 1907, there is some doubt in this identification. Smith originally called this species Valvatella dulcis.



Fig. 6. Dorsal view of Margarites dulcis

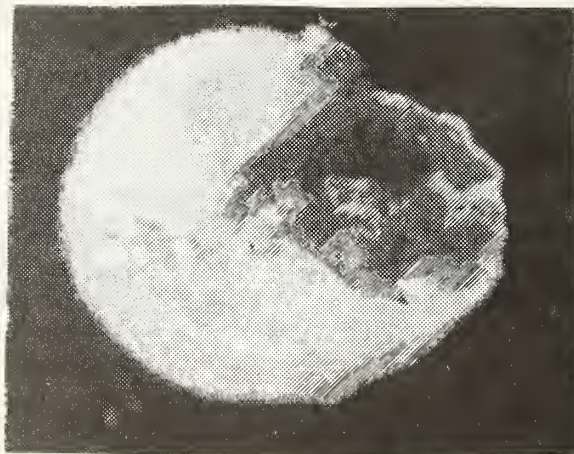


Fig. 7. Apertural view of M. dulcis
Diameter: 1 mm

The second most common gastropod found in the grunge was Rissoia glacialis Smith, 1907. Twenty specimens have been found so far. Specimens were about 3 mm long, and a typical specimen is shown in Figure 8. The shell is white, smooth, and glossy and contains 5 to 6 very convex whorls separated by deep sutures. A second Rissoia, Rissoia gelida Smith, 1907 was also found in the grunge. This was represented by five specimens varying in size from 1 to 3 mm. The largest specimen is pictured in Figure 9. It is a dirty white shell with fine spiral lirae.

One of the largest, and perhaps the most

beautiful, species found in the grunge was Epitonium antarcticum (Smith, 1907). Four specimens varied in size from 7 to 10 mm. The species was originally named as Scala antarctica. The shell is dirty white, globose, with somewhat oblique sutures, and is minutely cancellate in appearance. It has a yellowish, horny operculum. Dorsal and ventral views are shown in Figures 10 and 11.



Fig. 8 Rissoia glacialis
Smith, 1907
Diameter: 3.5 mm



Fig. 9. Rissoia gelida
Smith, 1907
Diameter: 3 mm



Figures 10 and 11
Dorsal and ventral views of
Epitonium antarcticum (Smith, 1907)
Height: 10 mm Width: 3.5 mm

Another beautiful small shell is pictured in Figure 12. Two specimens, 3.5 and 6 mm in length have been found of this species, identified as Eulima convexa Smith, 1907. This is very similar but somewhat smaller than another species later described by Smith (1915) as Eulima exulata.

Another small, dirty white gastropod found in the grunge was Pareuthria innocens (Smith, 1907). This member of the Cominellidae was originally called Thesbia innocens by Smith. Only two specimens have been found in the grunge, both about 7 mm in length. The larger shell is shown in Figure 13.

Figure 14 shows one of the specimens which has been most difficult to identify. The specimen is approximately 5.5 mm and resembles a specimen described (Tomlin, 1939) from Macquarie Island. That species, Eumetula macquariensis Tomlin, 1939 was described from a single, dead, immature (?), 3 mm long specimen. This species belongs to the family Cerithiopsidae. A number of species are found over a wide range in the Antarctic, in fact some are circumpolar. Therefore, it is quite possible that the shell in Figure 14 is a mature specimen of Eumetula macquariensis. Macquarie Island (54°30'S., 158°45'E.) and Cape Armitage, McMurdo Sound (77°46'S., 166°26'E.) are not that far away. The effective boundary to marine life is not the coastline of Antarctica but the Antarctic Convergence. This is a zone in the southern oceans between about 48° and 60° south latitudes, where the colder waters flowing northward from Antarctica mix with the southward moving warmer waters from the north. This places Macquarie Island right in the Antarctic Convergence zone.



Fig. 12. Eulima convexa Smith, 1907

Height: 6 mm Width: 1.9mm



Fig. 13. Pareuthria innocens (Smith, 1907)

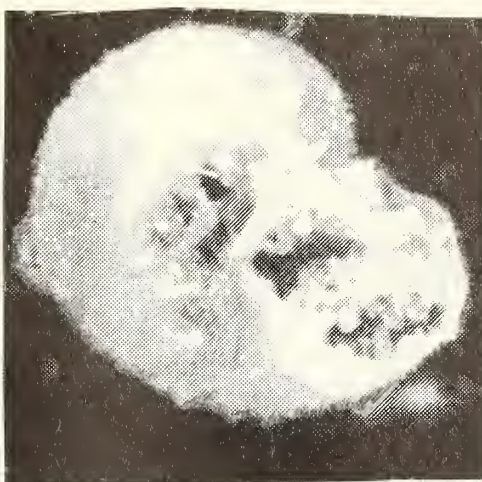
Height: 7 mm Width: 2.8 mm



Fig. 14. Eumetula macquariensis Tomlin, 1939

Height: 5.5mm Width: 1.5mm

Some of the minute gastropods have yet to be identified. Figures 15 and 16 show ventral and dorsal views of what appears to be a member of the Vitrinellidae. Several specimens have been obtained but generally in a broken or very chalky condition. Sinistral specimens of this Family have also been observed but in extremely friable condition, which seems to disintegrate when touched. It is



Figs. 15 and 16.
Dorsal and apertural views
of a probable Vitrinella
Size: less than 1 mm

hoped that the remaining grunge will reveal additional specimens of both types. Figure 17 shows a minute tube worm shell believed to be a member of the Vermetidae. No identity has been established for this shell.

The most common minute bivalve found in the grunge is pictured in Figure 18. It is believed that this is the shell from the Ross Sea pictured by Smith, 1907 as Philobrya limoides, although I couldn't find adductor scars on the dead valves. The specimen pictured in Figure 18 is complete and is likely to have been live collected. The family Philobryidae badly needs revision (Soot-Ryen, 1948) since there are some 20 generic or sub-generic groups proposed and more than 80 species described, (mostly Subantarctic and some true Antarctic). Hedley (1916) referred the Antarctic species to the genera Philippiella Pfeffer, 1886. Therefore the specimen in Figure 18 is tentatively identified as Philippiella limoides (Smith, 1907).



Fig. 17. probable member of Family Vermetidae Size: 1 mm

A single valve of another small bivalve is shown in Figure 19. This has been tentatively identified as Adacnarca nitens Pelseneer, 1903, which is another

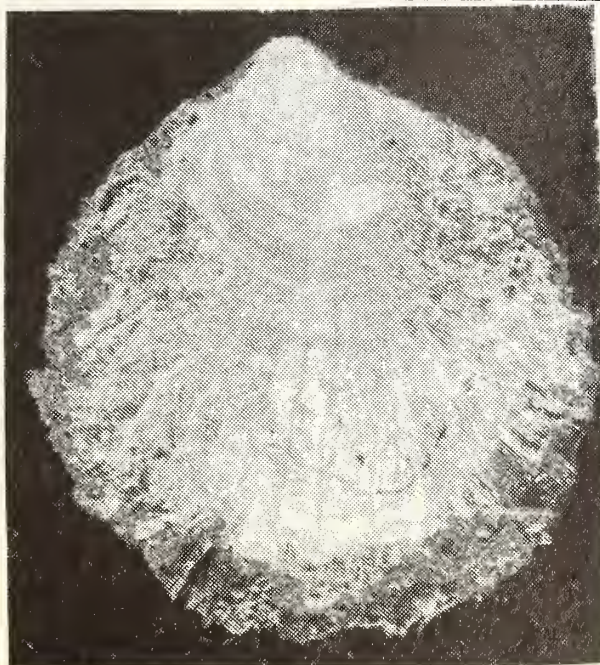


Fig. 18.
Philippiella
limoides (Smith,
1907)
Size: Height: 8mm
Width: 6mm



Fig. 19. Adacnarca nitens
Pelseneer, 1903 Size: 1 mm

member of the Family Philobryidae. A very minute (less than 1 mm) shell is pictured in Figures 20 and 21. No identification has been found for this shell, although it may be a member of the Mytilidae.



Fig. 20. Side view of ? Mytilus

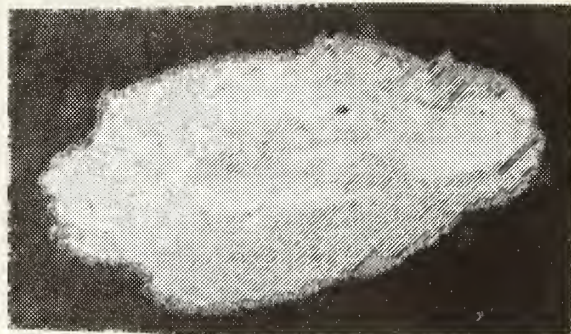
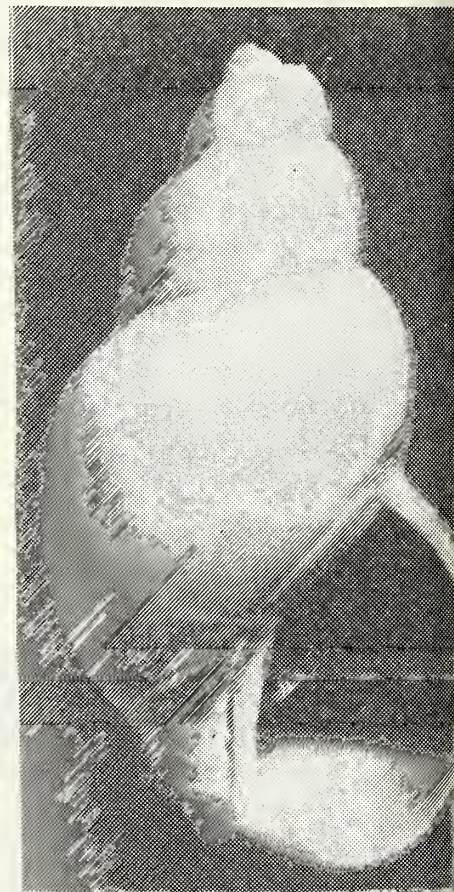


Fig. 21. Ventral view of same specimen

One of the largest mollusks found in Antarctic waters is Neobuccinum eatoni (Smith, 1875). The specimen pictured in Figures 22 and 23 was collected by Jimmy Stewart using scuba in 40 m (130 ft) of water at Cape Evans, Ross Island, McMurdo Sound, Antarctica in October 1974. Similar specimens were collected by Gordon Robilliard in 24.4 m (80 ft) off Cape Armitage. The specimens are generally dull white with occasional traces of a light brown periostracum. The specimen pictured has a height of 63 mm and a diameter of 33 mm. The original description (Smith, 1875) called the species Buccinopsis eatoni.



Figs. 22 and 23. Dorsal and apertural views of Neobuccinum eatoni (Smith, 1875)

A second gastropod found by Jimmy Stewart in 40 m off Cape Evans was Trophon longstaffi Smith, 1907. The specimen pictured in Figures 24 and 25 was 40 mm in height and 25 mm in diameter. Again similar specimens were found by Gordon Robilliard in 24.4 m off Cape Armitage. The shells are dirty white and beautifully ornamented, which is unlike most cold water species. Original specimens were brought back by the National Antarctic Expedition of 1901- 1904 and named by Smith in 1907.

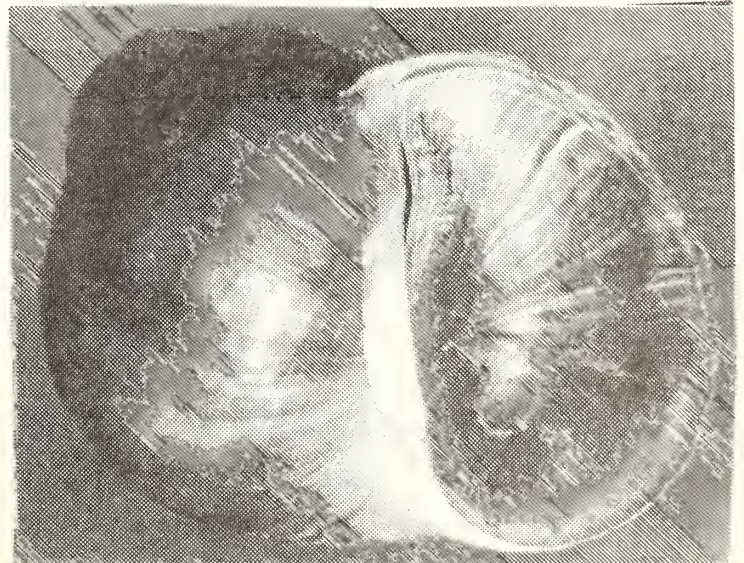
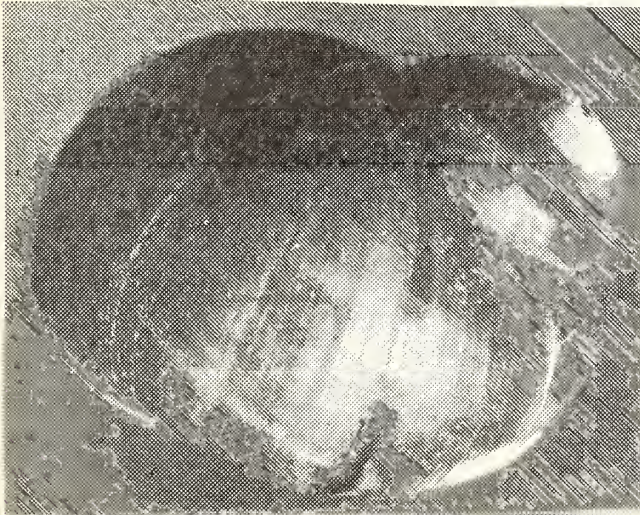


Fig. 24. Dorsal view of Trophon longstaffi
Smith, 1907

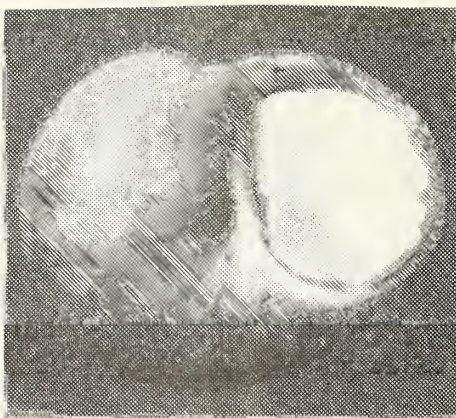
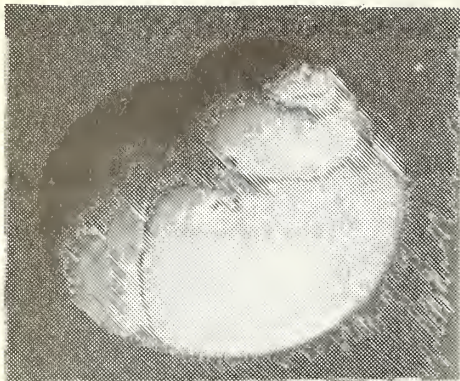


Fig. 25. Apertural view of
T. longstaffi

Two species belonging to the Naticidae were brought back from off Cape Evans by Jimmy Stewart, both taken in 40 m by scuba. The first, Pellilitorina rossiana (Smith, 1907) is shown in Figures 26 and 27. The shell measured a height of 24 mm by a width of 21 mm. A slightly smaller specimen of the same species was live collected by Gordon Robilliard in 24.4 m off Cape Armitage. The shells are medium brown and complete with animal and horny operculum. The species was originally called Amauropsis rossiana, but was later assigned (Hedley, 1916) to Pellilitorina. Amauropsis occurs in the Arctic region, and it is unlikely that it would have bipolar distribution.



Figs. 26 and 27. Dorsal and apertural
views of Pellilitorina rossiana (Smith, 1907)



Figs. 28 and 29. Dorsal and apertural views of Natica (Kerguelenatica) grisea (Martens, 1878)

The second member of the Naticidae which was collected by Jimmy Stewart was Natica (Kerguelenatica) grisea (Martens, 1878). The specimen shown in Figures 28 and 29 measures 11 mm in height and 10 mm in width. The species was originally placed in the genus Amauropsis by Martens and has since been placed, at various times, in Natica, Friginatica, and Polinices. The species is easily recognized by the composite nature of the oper-

culum. Powell (1951, p. 117) felt that the unusual operculum warranted a new subgenus and described the Subgenus Kerguelenatica. The unusual operculum is formed of both horny and calcareous materials. There is a thin calcareous layer over a strong, horny interior, and this horny interior projects uncovered around the entire edge of the operculum.

In November 1970, Jimmy Stewart, using scuba, collected several bivalves off Turtle Rock, Ross Island, McMurdo Bay, Antarctica. The first, Adamussium colbecki (Smith, 1902), is shown in Figure 30. It first was brought back by the "Southern Cross" and called Pecten colbecki. It has at various times also been called Chlamys colbecki Smith and Pecten racovitzai Pelseneer. The specimen pictured is 33 by 32 mm which is relatively small since specimens up to 85 by 90 mm have been found. The species has almost a circumpolar range. It is deep purple on both valves and purple within.

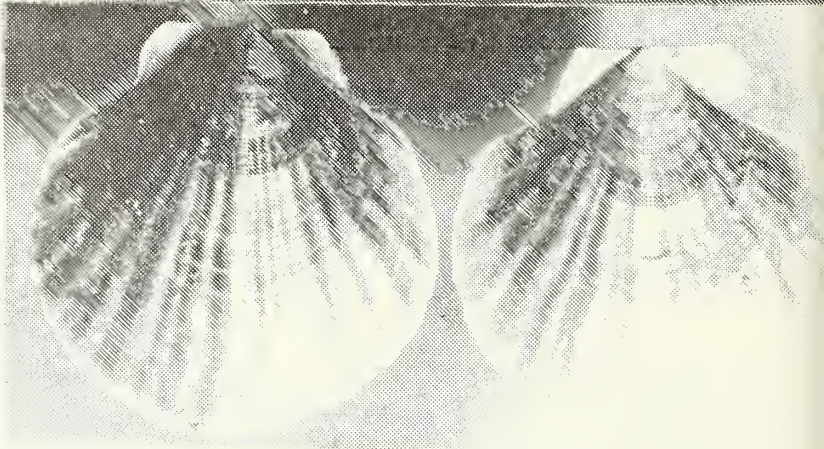


Fig. 30. Adamussium colbecki (Smith, 1902)

The other species brought back from off Turtle Rock is pictured in Figures 31 and 32. This has caused an extensive literature search. It is tentatively called Laturnula elliptica King and Broderip, 1831, although pertinent litera-

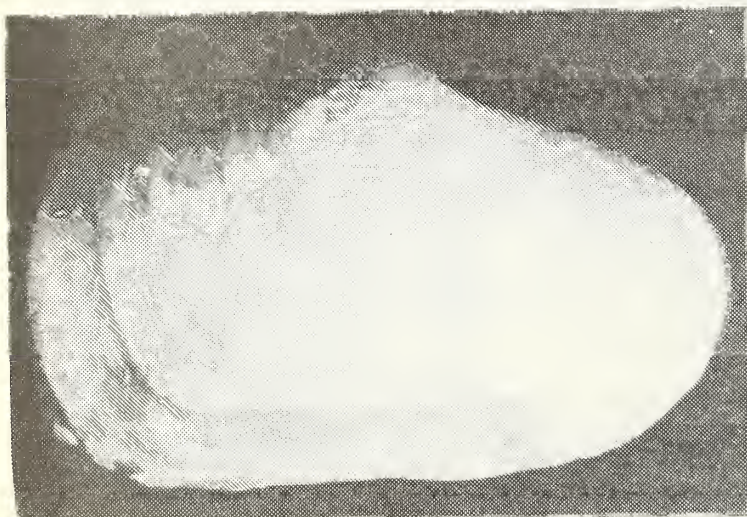


Fig. 31. Laturnula elliptica King and Broderip, 1831

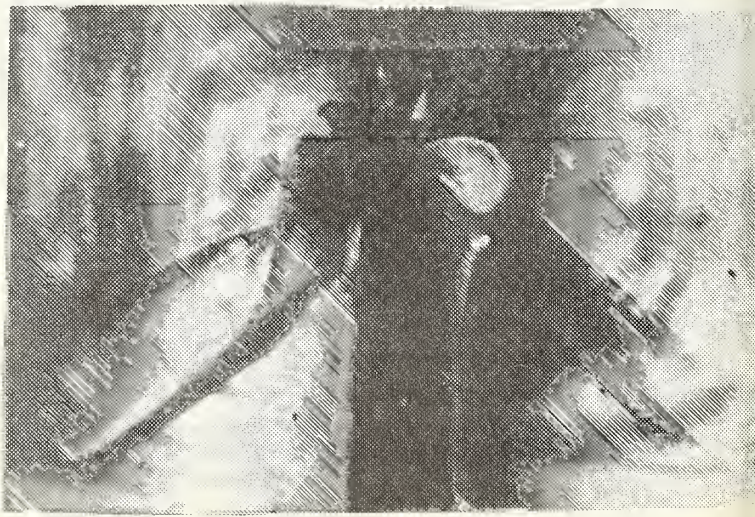


Fig. 32. Internal view of hinge area of L. elliptica

ture and plates were not available in local libraries. The shell measures 30 by 20 mm which would be rather small for L. elliptica. Specimens are reported in the literature (Soot-Ryen, 1948) up to 97 mm, and the species is apparently circumpolar.

The bivalve pictured in Figure 33 was trawled in January 1967 off Macquarie Island (54°30'S., 158°59'E.) in 29 to 37 m. by Ronald McPeak who is presently Senior Research Biologist at Kelco in San Diego, Ca.. The specimen is Chlamys subantarctica Hedley, 1916. The original description by Hedley was from a single valve dredged in 1913 from the same general area. The original valve was worn with a large gap in its margin and was 80 mm high by 75 mm wide. This compares with the 57 by 56 mm dimensions of the pictured specimen. The top valve of this specimen is a peach color and the bottom valve is white.

Perhaps the rarest of all the large specimens figured in this paper is shown in Figures 34 to 36. The specimen shown is one of two dredged by Ronald McPeak in 567 m (1860 ft) in the Ross Sea in January 1967. The volute which

is 35 by 17 mm belongs to the Genus Harpovoluta Thiele, 1912. The two shells have been examined very carefully, and they show some characteristics of the species Harpovoluta charcoti (Lamy, 1910) and others of Harpovoluta vanhoeffeni Thiele, 1912. The shell pictured has a pointed spire as noted (Weaver and

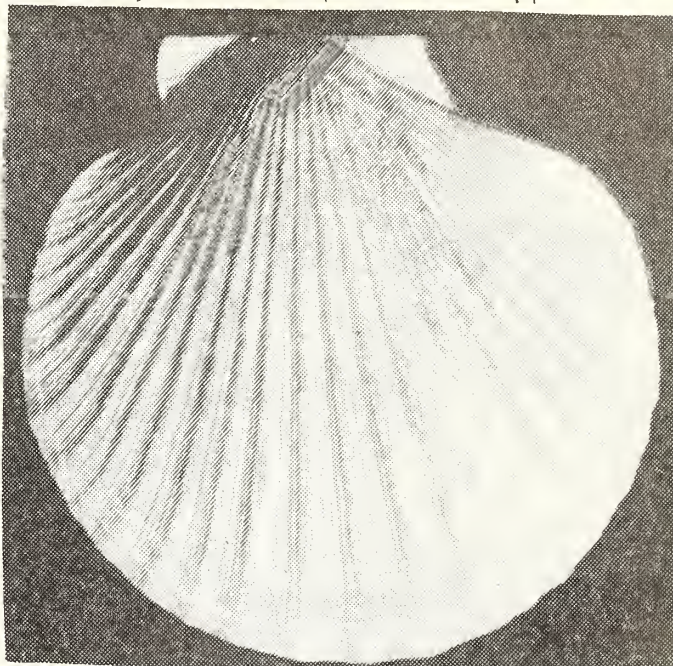
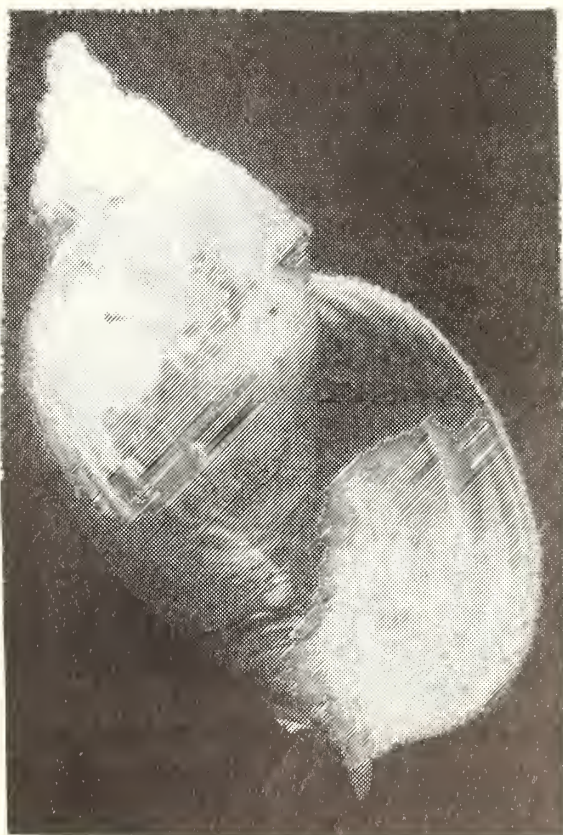


Fig. 33. Chlamys subantarctica Hedley, 1916



Figs. 34 and 35. Dorsal and apertural views of Harpovoluta ?

duPont, 1970) in the description of H. vanhoeffeni, whereas the second shell has a low, blunt spire as noted in the description of H. charcoti. The presence of a gray-yellowish periostracum and fine revolving striae over all the whorls of the teleoconch agree with the description of H. charcoti. In contrast, there is no mention of a periostracum for H. vanhoeffeni and the latter species is supposed to have revolving striae on the whorls of the teleoconch except for the adult whorl. There is mention of a glaze for H. vanhoeffeni which is present on the pictured specimen. H. charcoti is supposed to have a thin callus that covers the entire parietal area, and in the pictured specimen this is absent except perhaps on the parietal lip. The animal as seen in Figure 36 has a prominent eye which is mentioned in the description of the animal for H. charcoti. Hedley (1916, p. 53) in his description of H. vanhoeffeni noted that when the animal is present, a large commensal actinian is usually seated on the back of the shell. This agrees with the picture of the live animal as taken by Ronald McPeak in 1967. To further confuse the identification, Weaver and duPont (1970) note that a somewhat atypical specimen was given the varietal name striatula by Thiele in his original description of vanhoeffeni. According to

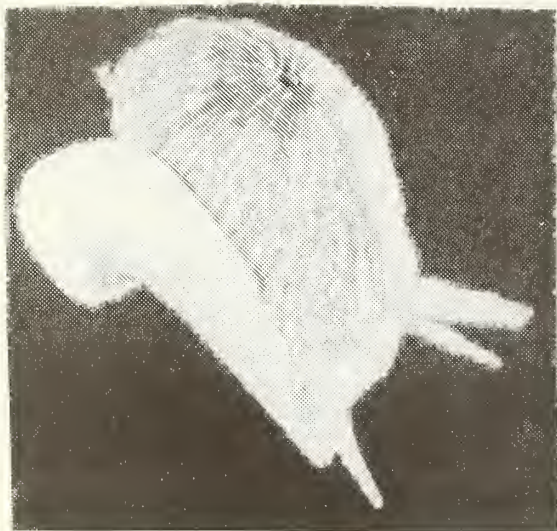


Fig. 36. Live animal and commensal actinian of Harpovoluta ?

Thiele, this form was smaller, had a higher spire, and had microscopic striae covering the entire teleoconch. Moreover, the columella had a higher, more twisted edge than the typical vanhoeffeni. The form striatula was relegated to the synonymy of vanhoeffeni by Weaver and duPont (1970). There have been few specimens found of the charcoti, vanhoeffeni, and vanhoeffeni striatula, and it is possible that they are all forms of the same species. Therefore, this author has referred to the pictured shell as Harpovoluta ? .

The last mollusk figured is a species of Lamellaria, collected by Gordon Robilliard off Cape Armitage in 24.4 m on October 15, 1974. The specimen may be the same species reported by Dayton, et.al. (1974) as a chrome yellow lamellarian which was observed to feed on ascidians, frequently drilling holes in the ascidians and depositing eggs therein. The color is right and the location and depth are approximately the same. The shell is extremely fragile and misshapen due to handling as can be seen in Figures 37 and 38. The species is most likely Marseniopsis conica (Smith, 1902) since quite a few specimens have been taken over the years in McMurdo Sound in similar depths. The original description and figure of this shell were not available in local libraries. Eales (1923) has a complete description of the animal, but it would require dissection of the available specimen to confirm the suspected identification. Such investigation is beyond the scope of this article. There have been other lamellarians reported from McMurdo Sound (Eales, 1923) but they are generally found at greater depths. These include Marseniopsis mollis (Smith, 1902) collected in 379 m; Marseniopsis sp. collected in 549 m; and Marseniopsis sp (second unnamed species) collected in 406 to 441 m. There are many other lamellarians found in other areas of the Antarctic, and there is need for work on the Family Lamellaridae to determine the proper taxonomy and to establish the ranges for the individual species.



Fig. 37. Lamellaria ? Dorsal view Fig. 38. Apertural view of Lamellaria ?
Size as shown: Height: 17 mm Width: 17 mm

As noted earlier, the literature on Antarctic mollusca is extensive. However, the author has been hindered by the unavailability in San Diego libraries of much of the pertinent literature. The author would be indebted to anyone who can assist in the identification of the unnamed species in this article or in correcting the names of any specimens which have been misnamed. Such identifications or corrections will be printed in future issues of the FESTIVUS. Any additional Antarctic material would also be appreciated for use in future articles.

The author expresses his gratitude and appreciation to the original collectors of the Antarctic mollusca featured in this article, Gordon Robilliard, James Stewart, and Ronald McPeak; the excellent photography by David Mulliner (figures 1 and 4 to 21), Barbara Myers (figures 2, 3, 22 to 35, 37 and 38) and Ronald McPeak (figure 36); and to Barbara Myers and Carole Hertz for their long hours of library research and help in shell identification.

LITERATURE CITED

- Bullivant, J.S. and J.H. Dearborn. 1967. The fauna of the Ross Sea. New Zealand Department of Scientific and Industrial Research. Bulletin 176. Part 5. 9-78.
- Dayton, P.K., G.A. Robilliard, and A.L. DeVries. 1969. Anchor ice formation in McMurdo Sound, Antarctica, and its biological effects. *Science* 163: 273-274.
- Dayton, P.K., G.A. Robilliard, and R.T. Paine. 1970. Benthic faunal zonation as a result of anchor ice at McMurdo Sound, Antarctica. p.244-258. Vol.1, *Antarctic Ecology*. Academic Press, London.
- Dayton, P.K., G.A. Robilliard, R.T. Paine, and L.B. Dayton. 1974. Biological accomodation in the benthic community at McMurdo Sound, Antarctica. *Ecological Monographs*: 44, No.1, 105-128.
- Eales, N.B. 1923. British Antarctic ("Terra Nova") Expedition, 1910. British Museum (Natural History). *Zoology*. Vol. VII Mollusca.
- Hedley, C. 1916. Australasian Antarctic Expedition, 1911-1914. Series C, Vol. IV, Part 1.

Koltun, V.M. 1968. Spicules of sponges as an element of the bottom sediments of the Antarctic, p. 121-3. In Symposium on Antarctic Oceanography, Scott Polar Res. Inst., Cambridge.

Powell, A.W.B., 1951. Antarctic and Subantarctic Mollusca: Pelecypoda and Gastropoda. Discovery Reports. Vol. XXVI. pp. 47-196.

Robilliard, G.A. 1972. Marine biology in Antarctica. The FESTIVUS, Vol. III, No. 11, pp. 1-5.

Smith, E.A. 1875. Description of Some New Shells from Kerguelen's Island. Annals and Magazine of Natural History. Vol. XVI. p. 68.

-----, 1902. Report on the Collections of Natural History made in the Antarctic Regions During the Voyage of the "Southern Cross." Vol. VII. Mollusca. pp. 201-213. British Museum, London.

-----, 1907. National Antarctic Expedition, 1901-1904. Natural History, Vol. 2, Gastropoda, 1-12; Amphineura, 1; Lamellibranchiata, 1-6.

-----, 1915. British Antarctic ("Terra Nova") Expedition, 1910. Natural History Reports, Zoology. VOL II.

Soot-Ryen, T. 1948. Norwegian Antarctic Expeditions, 1927-1928, Vol. III.

Tomlin, J.R. LeB. 1939. B.A.N.Z. Antarctic Research Expedition, 1929-1931. Series B. Vol. 5.

Weaver, C.S. and J.E. duPont. 1970. The Living Volutes. Delaware Museum of Natural History. Greenville, Maryland.

401
F418
Moll.
THE

WILLIAM H. DALE
SECTIONAL LIBRARY

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 104 7:30 P.M.

President:.....Hugh Bradner
Vice-President:.....Billee Dilworth
Recording Secretary:.....June King
Corresponding Secretary:.....Martin Schuler
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. VIII

August 1977

No. 8

PROGRAM: Barbara and John Myers will give an illustrated talk on their
Puerto Rican Holiday--diving and collecting off Puerto Rico.
They will bring, as well, a sampling of the shells they collected

SAVE THE DATE! September 17 is the date for the Club's Fall Party--this
year with an African theme. It will be held at the home of Clara
and Bob Schoening, 258 Slate St., Chula Vista. (Map and details
in the September issue).

FROM THE MINUTES By JUNE KING

Twenty-six people were present at the July 21 meeting. The speaker of the evening was Anthony D'Attilio who spoke on "New Coralliophilidae and Muricidae from the Western Pacific." It was a very enjoyable and informative slide lecture with the superb photography by Dave Mulliner. (The talk will be featured in the September issue of the FESTIVUS). Ed.

A specimen of Amaea siapnoi DuShane was on display at the meeting. This shell was just recently described (Nautilus, July 1977). A short article on it will appear in a future issue.

After refreshments, the business meeting. Minutes of the last meeting were approved. The Shell Club Auction in April netted \$600.

Plans for the September social event with African theme are going on. Offers of help and suggestions needed.

It was decided that in the future those people bringing the refreshments will be responsible for setting up and making coffee and helping with the cleanup.

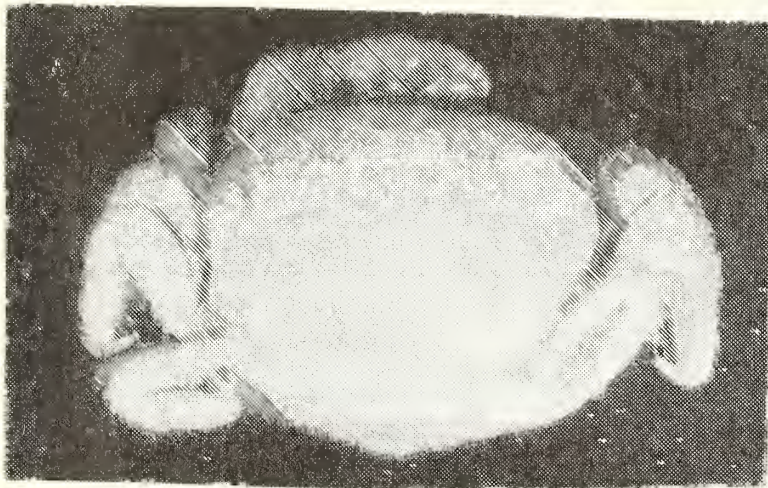
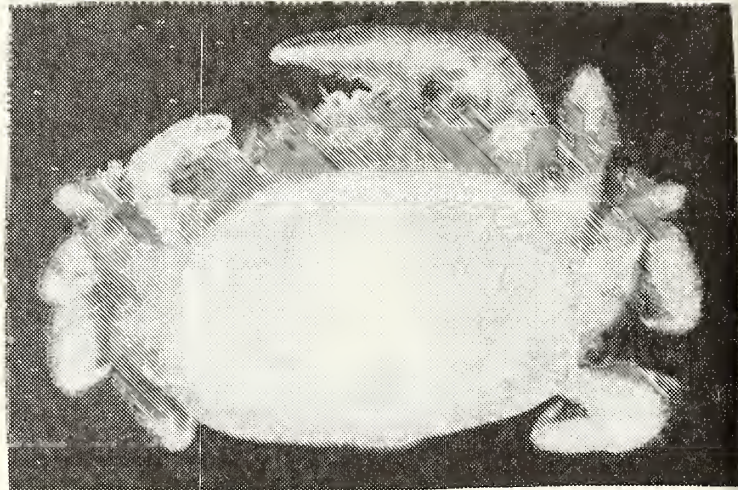
Bob Schoening won the coveted Cypraea goodalli, the bonus shell drawing prize. A member must be present in order to win. (Those who could have won, in the order listed here, were John Myers, Kay Taylor, Phil Faulconer and Norm Currin)Ed. Next bonus drawing is in November.

SYMBIOTIC RELATIONSHIP?

By BILLEE DILWORTH

Anyone who has cleaned a Megathura crenulata (Sowerby, 1825) knows how tightly the shell covers the animal. While cleaning a M. crenulata for eating, I was surprised to find a small crab living inside and underneath the shell. When I had cut away the shell, out came the little crab, Opisthopus transversus Rathbun, 1893. (See Veliger, Vol. 16, no.4, p. 427, article by Fay Wolfson) Scripps Institute of Oceanography says this is not an uncommon occurrence.

Do you wonder how to prepare keyhole limpets for eating? I had heard them called keyhole abalone so in the past I had tried to slice and pound them like abalone. They were as tough as old shoe leather. The book, "The Edible Sea" says to thinly slice the animal and then put it into boiling water. It was tender in a few minutes, and when minced made a delicious chowder. An even easier way is to bring the entire shell and animal to boil. Then remove the shell and clean the limpet. Again it is tender in a few minutes. Chowder, anyone?

Dorsal view of Opisthopus transversus

Ventral view of same animal

NOTES ON THE ANNUAL W.S.M. MEETING

By BARBARA GOOD

The tenth annual meeting of the Western Society of Malacologists was held at the Kellogg West Center, California State Polytechnic University from June 15-18, 1977. A varied program was enjoyed by those attending under the capable chairmanship of Helen DuShane.

Many interesting papers were presented--less technical papers than in previous years and more of general interest. (Some comments were made both pro and con on this). Among the many interesting papers was a discussion of the "Trophoninae--muricid subfamily or catchall," by Dr. George Radwin, a paper on "Guidlines for Writer and Reader Alike," by Dr. A. Myra Keen and "New Records of the Monoplacophoran from Cortez Bank, California," by Dr. James McLean. Of special interest to me was a paper on the Xenophora by Kate St. Jean.

On Wednesday evening a "Get Acquainted Party" was held with slides shown by members and hosted by Bert Draper. On Tuesday evening a profitable auction was enjoyable and increased the Society's treasury. The No Host Party and Banquet on Wednesday with speaker Dr. Heinz Lowenstam rounded out our activities.

Next year's meeting is scheduled to be held at Santa Clara University under the presidency of Dr. Peter D'Eliscu.

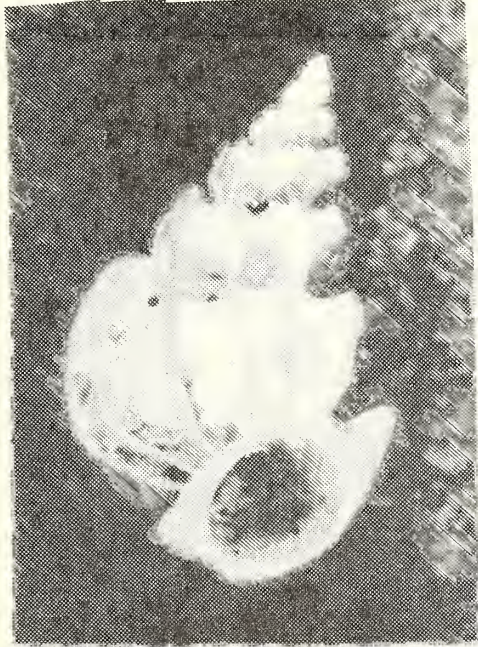
MINUTE SHELLS

By JULES HERTZ

Pictured below are two more beautiful minute shells from the Panamic region. The shells were dredged by Dave and Margaret Mulliner in 50 to 60 feet of water, west of Smith Island, Bahía de los Angeles, Baja California, Mexico, May 10, 1976. Photography is by Dave Mulliner, FESTIVUS staff photographer.

Epitonium replicatum (Sowerby, 1844) is one of the most beautiful of Panamic Epitonidae. The species is reported from the Gulf of California to the Galapagos Islands. The specimen pictured below is quite small, since the height of adult specimens are reported as 6.5 to 15 mm with diameters varying from 4 to 10 mm.

Heliacus mazatlanicus Pilsbry & Lowe, 1932 is the most common of the small Heliacus ranging from San Felipe, Baja California to Ecuador and the Galapagos Islands. The specimen pictured below is of average size, with a large specimen having a diameter of 10 mm and a height of 6.3 mm.



Epitonium replicatum (Sowerby, 1844)
Height: 5mm; width: 3mm



Heliacus mazatlanicus Pilsbry & Lowe, 1932
Diameter: 6mm

The Radwin & D'Attilio book, "Murex Shells of the World: An Illustrated Guide to the Muridicae," was entered in the AAUP Book Show 1977 (Association of American University Presses) as one of the entries of Stanford University Press. This book show was judged by three internationally famous book designers. Their initialled comments appeared in each entry of each publisher. Out of twenty-five first prizes, Stanford University Press won four and the Murex book was one of them!

NEW MEMBERS

SCHMALTZ, Jane BIBBEY, Joe
869 Emerald St. 49 Citrus Ave.
San Diego 92109 Imperial Beach, 92032

WIENOLD, Peter
8508 Ivory Coast Dr.
San Diego 92126

British Museum of Natural History
% Audrey Meenan, Serials Dept.
Cornwall Road
London, England SW7-5BD

CHANGE OF ADDRESS

SCHOENING, Bob & Clara
258 Slate St.
Chula Vista, 92011
425-3628

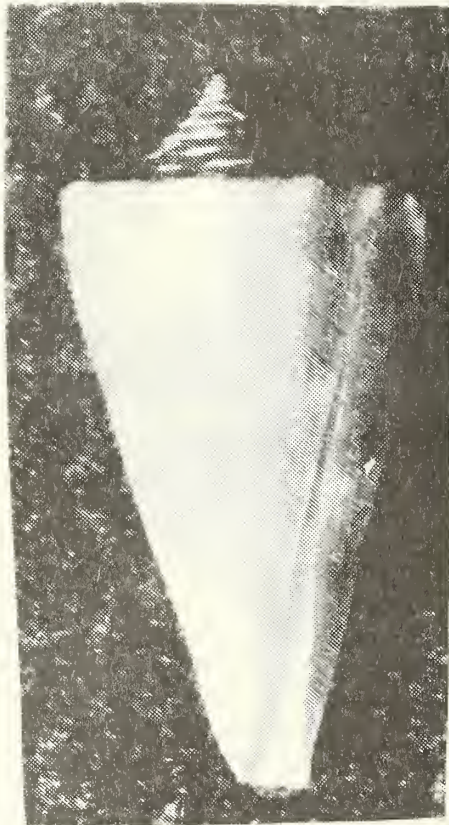
A FIRST DREDGING TRIP

By GREG HAMANN*

In December 1975 we set off for Baja California with a homemade dredge and high hopes. Having never even seen another dredge in our lives before, it was a real adventure. We found, at first, that it worked better as an anchor than a dredge. But after a few minor adjustments we were on our way.

Dredging with a fifty pound dredge is backbreaking work--especially when we found that to dredge to 100 feet you need 300 feet of rope. During that Christmas vacation we put in several days of hard work pulling rope in the waters around Buena Vista, Baja California. On the whole it was rather disappointing--terebra, mitra, lyria, strombus, but none of the cones we were hoping for. We packed up to head home vowing to buy a winch for our next trip.

As an afterthought we stopped in Loreto on the way home. After waterskiing on glass all day we decided to take a few evening dredges. Up came the first dredge from 100 feet full of rubble and there in bottom gleamed a yellow cone. Quick examination produced consternation. Research at home brought only further confusion. During the next year it was classified as everything from a Conus fergusonii to C. virgatus. Finally, in utter frustration, I brought it to the Club shell auction. Roy Poorman took one long look at it. He pronounced it Conus xanthicus Dall, 1910--quite a rare find, perhaps the best possible in Baja California. Somehow the rope burns on my hands mean more now.



Two views of Conus xanthicus Dall, 1910

* Original 35 mm slides by Dave Mulliner and reprinted into black& white by him.

"NewsMeter DIGEST," a publication of the San Diego Gas & Electric Company reported that Gregory Kwik (San Diego Shell Club Science Fair Winner, 1977) received a second place award in the California State Science Fair in Los Angeles. Gregory's study of sea urchins won a first place award in the Greater San Diego Science Fair in April which qualified him to compete in the state competition.



QL
401
F418
Moll.
THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 104 7:30 P.M.

President:.....Hugh Bradner

Vice-President:.....Billie Dilworth

Recording Secretary:.....June King

Corresponding Secretary:..Martin Schuler

Treasurer:.....Bob Schoening

Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
2828 Flax Drive, San Diego, Ca. 92154.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. ~~IX~~ (VIII)?

September 1977

No. 9

*
* COME TO THE PARTY!!! Come to a bit of Africa at the Schoenings' home at
* 258 Slate St., Chula Vista. Partytime at 6:00 P.M. (For details
* see map page--last page of this issue.) DATE: September 17.
*
*

FROM THE MINUTES

By Marty Schuler

The August 18 meeting at the Casa del Prado was well attended. The meeting commenced with an excellent program on shelling in Puerto Rico by Barbara and John Myers with a display of many of the shells they collected.

During the business meeting a food list for the September party was passed around (see map page for particulars). The shell drawing was won by John Myers. Jane Schmaltz offered to donate her shell sketches on cards as an additional monthly door prize--which Peter Wienold won this month.

CHANGE OF ADDRESS

SCHWARZ, Anne
7431 Caminito Carlotta
San Diego, Ca. 92120
286-0335

NEW MEMBERS

FERGUSON, Raymond A.
8517 Rumson Drive
Santee, Ca. 92071
562-1916

WALL, Toni
1930A Florida Ct.
San Diego, Ca. 92104
295-4055

A NEW EPITONID FROM THE OCEAN DEPTHS

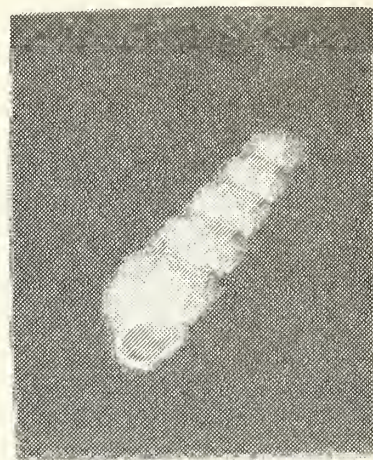
By HUGH BRADNER

The abyssal ocean was long considered almost devoid of life, until deep flash-cameras showed fish, brittle stars and crustacea. In recent years oceanographers have learned that the ocean floor supports a large variety of creatures in spite of the lack of light, the scarcity of nutrients, the great pressure and the cold.

In May 1975 Bill Siapno, Chief Scientist of Deepsea Ventures, brought to La Jolla a number of interesting specimens that had been found among the manganese nodules dredged on an exploratory mining venture in 14,521 ft. deep water about 1200 miles SSW of San Diego. The finds included large Carcharodon teeth ten to twenty million years old, teeth of Miocene pelagic sharks, worm tubes, small brittle stars, a small bivalve and a whale ear bone, which were donated to the Western Society of Malacologists for their 1976 Spring Auction. In addition, the San Diego Museum of Natural History was given a live-collected specimen of a new species of Amæa (Gastropoda: Epitoniidae). This new species, named Amæa siapnoi by Helen DuShane, is described in the Nautilus 91 87-88 (July 1, 1977).

The shell is off-white in color; length about 40 mm. (The nuclear and immediate post-nuclear whorls are missing. DuShane conjectures that the live-taken specimen was damaged in the dredge); sides of the whorls are more perpendicular than in most Amæa, giving it a columnar outline. Costae are not continuous from whorl to whorl. (I am abridging Helen DuShane's description because I consider that few FESTIVUS readers will have occasion to check whether they own an Amæa siapnoi).

DuShane mentions three other Amæa collected in deep water as shown below:



Amæa siapnoi DuShane, 1977

<u>Species</u>	<u>Location</u>	<u>Depth (meters)</u>
<u>Amæa</u> (<u>Scalina</u>) <u>terminiana</u>	Peru	118-1333
" " <u>pompholyx</u>	Galapagos Is.	1485
" " <u>luxus</u>	Aogashima Is.	3150-3350
" " <u>siapnoi</u>	540 mi. from Clarion Is.	4428

Bill Siapno has set an admirable precedent among deep-ocean miners, by his alertness in collecting unusual specimens and his thoughtfulness in making them available to malacologists.

As always, the FESTIVUS needs articles. They need not be long and they need not be typed but they need to be submitted--more often and by more members. Without your articles we have only a front page. Send or give your article to Carole Hertz--anytime soon.

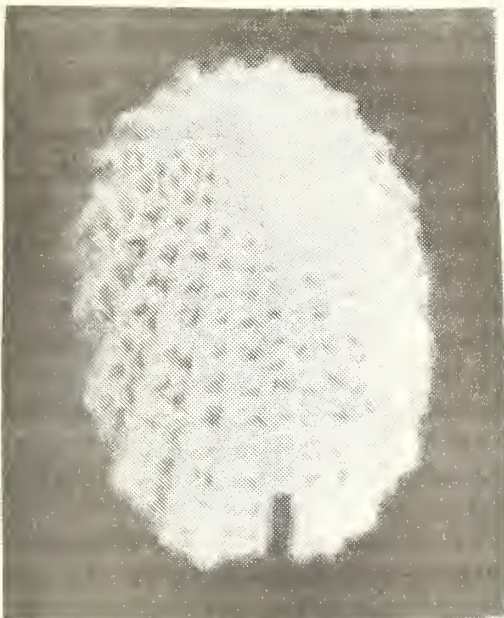
MINUTE SHELLS

By JULES HERTZ

Featured this month are two shells of the Family Fissurellidae dredged by Dave and Margaret Mulliner. They are from west of Smith Island, Bahía de los Angeles, Baja California, Mexico. They were dredged from 50 to 60 feet on May 10, 1976. Photographs are by Dave Mulliner, FESTIVUS staff photographer.

Emarginula velascoensis Shasky, 1961 is a small white shell from the Genus Emarginula Lamarck, 1801. It is typified by its slit at the anterior margin, apex posterior, and cancellate structure.

Rimula mexicana Berry, 1969 is a small white shell with cancellate structure. The elongate fissure midway on the anterior slope identifies it as a member of the Genus Rimula DeFrance, 1827



Emarginula velascoensis Shasky, 1961
Length: 5.5mm, Width: 4mm,
Height: 2mm



Rimula mexicana Berry, 1969
Length: 4mm, Width: 2.5mm,
Height: 2mm

From ADHESIVES AGE magazine of July 1977, "Sea Mussel to Yield Dental Adhesive" comes information on research being done by Dr. Dale P. DeVore from Battelle's Columbus Laboratories. Dr. DeVore had been studying the adhesive material of the sea mussel. The goal of this study is the development of an "efficient waterproof adhesive" for dental work such as filling small cavities, cementing fillings in place, mending broken teeth and fastening orthodontic appliances to teeth.

The scientists began by studying the fluid secreted by the mussel's foot. They found that this material forms the byssus thread but that a chemically different adhesive (a protein of low molecular weight with qualities which control as well as cause hardening) forms the discs at the ends of the threads which attach the byssus threads to the rocks or other substrate.

It is in this disc cement that Dr. DeVore's interest lies. He believes that this material which is "secreted from a depression on the outer tip of the 'foot'" will result in a "practical dental cement." There are still, however, problems to be solved such as the color of this mussel disk cement--dark brown is not quite suitable for dental cement.

PUERTO RICAN HOLIDAY

By BARBARA MYERS*

The easternmost island of the Greater Antilles, Puerto Rico lies a thousand miles southeast of Miami. Rectangular in shape, 111 miles long and thirty-six miles wide, lush, historic, controversial and strategically important because of its central location between North and South America at one of the major entrances to the Caribbean Sea, it is a link in the chain of 7,000 tropical islands called the West Indies.

Discovered by Columbus on his second voyage in 1493, he named it San Juan Bautista replacing the Indian name of Boriquen. Ponce de León, who had been with Columbus on his second voyage of discovery, began colonization of the island for Spain in 1508 and became its first Governor in 1508. He named the first settlement Puerto Rico (Rich Port), but in 1521 moved the settlement across San Juan Bay and in the process the settlement was renamed San Juan and the island eventually took the name Puerto Rico.

Puerto Rico continued as a Spanish colony until 1898 when, by the Treaty of Paris, Spain ceded Puerto Rico to the United States. The Jones-Shafroth Act of 1917 proclaimed American citizenship for Puerto Ricans and in 1950 President Truman signed into law the right of Puerto Rico to draft its own constitution under the Commonwealth form of government.

The Puerto Rican connection is Lt. Robert Carter, USNR, scuba diver, boat owner, pilot and superhost. He and his wife, Linda, and their two children showed us their favorite diving spots, collected with us and shared their treasures if we weren't so lucky.

The Navy Base, Roosevelt Roads, is located at the extreme eastern end of the island. Most of our diving and collecting was here in and around the numerous coves, reefs and the island of Vieques (easily reached by boat) nine miles to the east.

The Spanish Main, pirate treasure, El Morro Castle which made San Juan the best fortified harbor in the West Indies, are all part of the romantic legend of Puerto Rico. Construction of this massive fort at the harbor entrance was begun in 1539. The rock and limestone sea walls rise 140 feet in four successive tiers of fire, each tier self-contained and completely separated from the others except for narrow, cunningly contrived communications. The fort is honeycombed with rooms for powder magazines, supply depots, repair shops, prisons, kitchens, offices and living quarters. In 1949 it was made a National Historic Site.

With Bob as pilot we were able to fly to Mona Island, 42 miles off the southwest coast of Puerto Rico. A small island on nineteen square miles rising 150 feet from the sea, hot, flat and uninhabited, it is home for the rare mammoth (7ft.) iguana. The waters off Mona are shark infested and all paths leading to the beach warn of "tiburones." Although we saw no sharks that day, we did see two five foot barracudas and our diving area was lined with stinging fire coral. There is no water on the island and exploring in one of the many caves, we discovered an old five gallon can collecting water



Epitonium lamellosum
(Lamarck, 1816) 29 X 12 mm.
Intertidal--dead collected

from a stalactite labelled "the fountain of youth." Landing and takeoff were a little hairy because of the offshore winds and barely cleared runway, but our intrepid pilot made it look like a piece of cake.

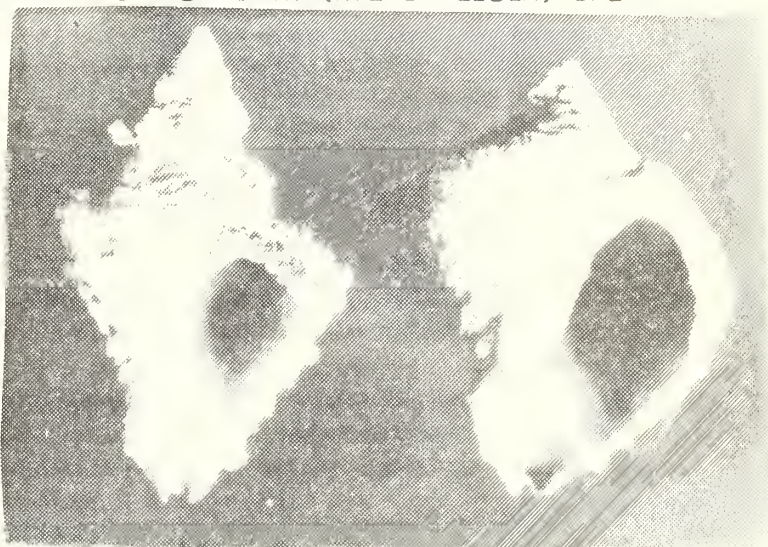
Returning from Mona Island we flew over Arecibo Ionospheric Observatory located in the isolated rugged Krast area of Puerto Rico. This 1,000 ft. diameter radio telescope keeps vigil for radio signals from outer space.

Our trip up the narrow, winding mountain road to the 30,000 acre National Rain Forest was a scenic, although drenching, adventure. Shrouded with clouds, El Yunque, 3,483 feet above sea level receives 180 inches of rain a year and contains nearly 250 species of trees, more than any national forest in the U.S.

We visited St. Thomas, one of the U.S. Virgin Islands, only thirteen miles long and three miles wide, but Charlotte Amalie, a free port, is one of the best known shopping areas in the Caribbean. A quaint town with its narrow winding lanes, cobbled streets, 300 year old Fort Christian (now a museum) and Bluebeard's Castle.

Some of the highlights of the scuba dives John made offshore to 60 feet were finding Lyropecten nodosus (Linne, 1758); Spondylus americanus Hermann, 1781; Murex brevifrons Lamarck, 1822; Cassis tuberosa (Linne, 1758); Xenophora conchyliophora (Born, 1780); Eymatium femorale (Linne, 1758) and a two inch Coralliophila abbreviata (Lamarck, 1816). Finding an \$18,000 Polaris dummy added an extra excitement to an otherwise routine Spondylus dive.

In shallow water free diving, we found the common Cyphoma gibbosum (Linne, 1758) and the rather uncommon C. signatum Pilsbry & McGinty, 1939 on sea fans together with Coralliophila caribaea Abbott, 1958



Coralliophila caribaea (Lamarck, 1816)
22X14 mm.

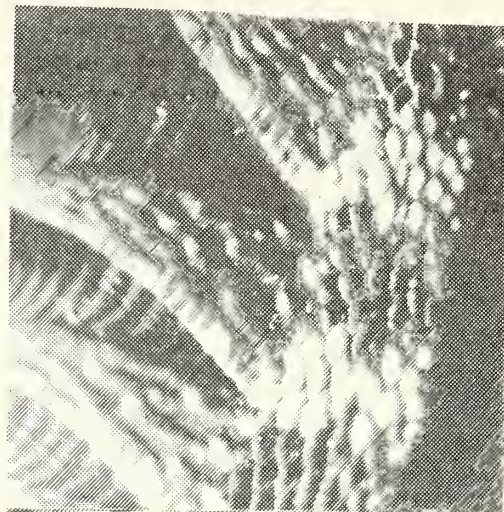
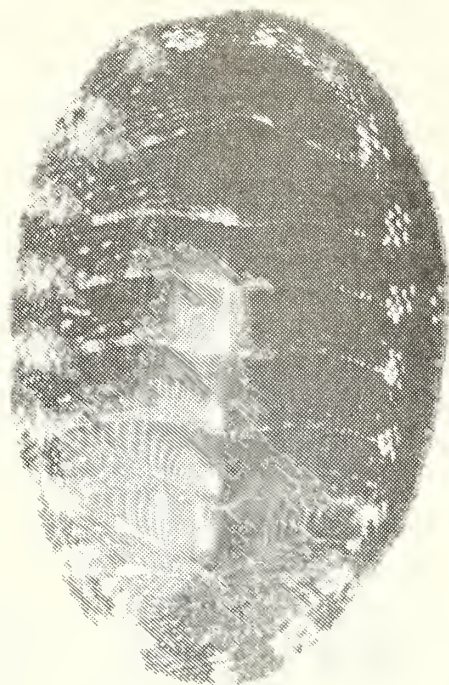


at the base of the sea fans. Modulus modulus (Linne, 1758); Cerithium eburneum Bruguiere, 1792; C. litteratum (Born, 1778) and Turbo castanea Gmelin, 1791 were abundant on Halimeda sp., a green calcified algae covering the bottom of the lagoons. Astraea tuber (Linne, 1758) was very common but Astraea caelata (Gmelin, 1791) and Astraea phoebia Röding, 1798, long spined with a faint orange ring around the umbilicus, were hard to find. Engoniophos unicinctus (Say, 1825) was uncommon in sand just below low tide. Stings from the black long spined urchin and a barracuda following me around were some of the hazards, but the fantastically clear, warm water and the all new flora and fauna outweighed caution, fear and pain.

Nerita versicolor Gmelin, 1791; Nodilittorina tuberculata (Menke, 1828); Tectarius muricata (Linne, 1758) and Acanthopleura granulatus (Gmelin, 1791) were the dominant species in the high inter-

← Engoniophos unicinctus (Say, 1825)
26X13 mm.

tidal zone with Chiton tuberculatus Linne, 1758 being the most obvious in the under rock habitat. Puperita pupa (Linne, 1767) and Nerita peloronta Linne, 1758 were only found in abundance at Mona Island.



Closeup of girdle of Chiton tuberculatus

Chiton tuberculatus Linne, 1758
45X25 mm. Color variable from black
to green to tan--speckled and clouded

A complete list of species collected is:

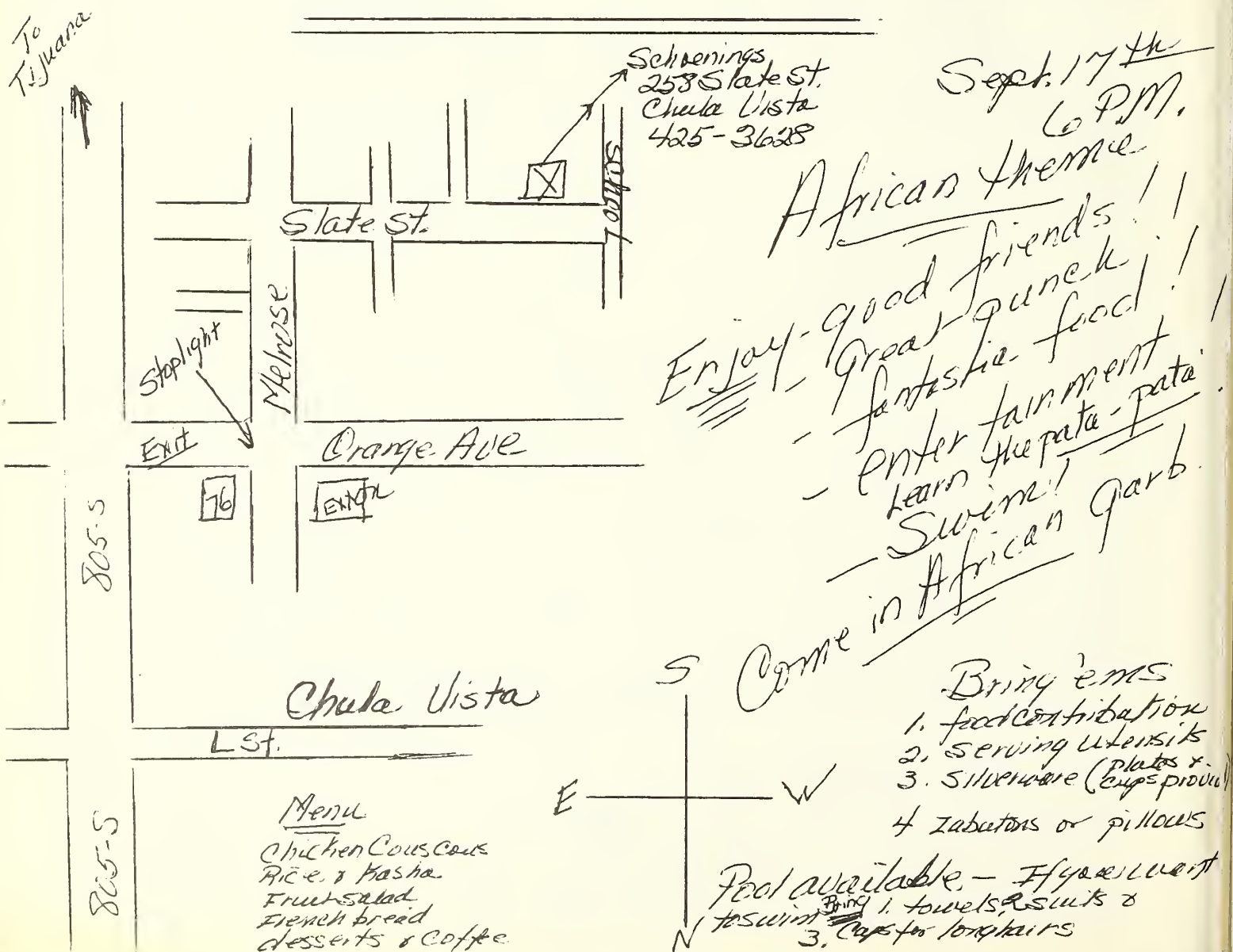
Hemitoma octoradii (Gmelin, 1791)
Diodora listeri (Orbigny, 1842)
Diodora minuta (Lamarck, 1822)
Fissurella nodosa (Born, 1778)
Fissurella barbadosensis (Gmelin, 1791)
Fissurella rosea (Gmelin, 1791)
Acmaea antillarum (Sowerby, 1831)
Acmaea pustulata (Helbling, 1779)
Acmaea leucopleura (Gmelin, 1791)
Cittarium pica (Linne, 1758)
Tegula fasciata (Born, 1778)
Tegula lividomaculata (C.B. Adams, 1845)
Tegula excavata (Lamarck, 1822)
Tegula hotessieriana (Orbigny, 1842)
Turbo castanea Gmelin, 1791
Astraea caelata (Gmelin, 1791)
Astraea tuber (Linne, 1758)
Astraea phoebia Roding, 1798
Astraea tecta americana (Gmelin, 1791)
Nerita peloronta Linne, 1758
Nerita versicolor Gmelin, 1791
Nerita tessellata Gmelin, 1791
Puperita pupa (Linne, 1767)
Littorina lineolata Orbigny, 1840
Littorina angustior (Morch, 1876)
Littorina meleagris Potiez and Michaud, 1838
Littorina ziczac (Gmelin, 1791)
Littorina angulifera (Lamarck, 1822)

Nodilittorina tuberculata (Menke, 1828)
Tectarius muricatus (Linne, 1758)
Petalocochnus erectus (Dall, 1888)
Planaxis lineatus (da Costa, 1778)
Planaxis nucleus (Bruguiere, 1789)
Modulus modulus (Linne, 1758)
Batillaria minima (Gmelin, 1791)
Cerithium atratum (Born, 1778)
Cerithium lutosum Menke, 1828
Cerithium litteratum (Born, 1778)
Cerithium eburneum Bruguiere, 1792
Cerithium eburneum form algicola C.B. Adams, 1845
Epitoneum lamellosum (Lamarck, 1822) - dead
Crucibulum auricula (Gmelin, 1791)
Xenophora conchyliophora (Born, 1780)
Strombus gigas Linne, 1758
Strombus pugilis Linne, 1758
Strombus raninus Gmelin, 1791
Strombus costatus Gmelin, 1791
Cyphoma gibbosum (Linne, 1758)
Cyphoma signatum Pilsbry and McGinty, 1939
Morum oniscus (Linne, 1767)
Cassis tuberosa (Linne, 1758)
Cassis flammea (Linne, 1758)
Cassis madagascariensis Lamarck, 1822 - gift from Carters
Cypræacassis testiculus (Linne, 1758) - dead
Charonia variegata (Lamarck, 1816) - gift from Carters
Cymatium muricinum (Roding, 1798) - one
Cymatium femorale (Linne, 1758)
Murex pomum Gmelin, 1791
Murex brevifrons Lamarck, 1822 - one
Morula nodulosa (C.B. Adams, 1845)
Purpura patula (Linne, 1758)
Thais haemastomafloridana (Conrad, 1837)
Thais rustica (Lamarck, 1822)
Thais deltoidea (Lamarck, 1822)
Coralliophila abbreviata (Lamarck, 1816)
Coralliophila caribaea Abbott, 1958
Columbella mercatoria (Linne, 1758)
Nitidella nitida (Lamarck, 1822)
Mitrella ocellata (Gmelin, 1791)
Cosmioconcha nitens (C.B. Adams, 1850)
Engoniphos uncinatus (Say, 1825)
Leucozonia nassa (Gmelin, 1791)
Leucozonia ocellata (Gmelin, 1791)
Fasciolaria liliun G Fischer, 1807
Oliva reticularis Lamarck, 1810
Hyalina tenuilabra (Tomlin, 1917) - one
Vasum muricatum (Born, 1778)
Conus mus Hwass, 1792 - one small
Conus jaspideus Gmelin, 1791 - one
Conus jaspideus stearnsi Conrad, 1869 - one small

Chiton tuberculatus Linne, 1758
Chiton viridis Spengler, 1797
Chiton squamosis Linne, 1764 - Mona Is.
Chiton marmoratus Gmelin, 1791 - Mona Is.
Acanthopleura granulata (Gmelin, 1791)
Callaplastis janeirensis (Gray, 1828)
Callistochiton shuttleworthianus Pilsbry, 1893
Stenoplax erythronota (C.B. Adams, 1845)

Barbatia cancellaria (Lamarck, 1819)
 Barbatia candida (Helbling, 1779)
 Barbatia domingensis (Lamarck, 1819)
 Arca zebra (Swainson, 1833)
 Anadara notabilis (Roding, 1798)
 Pteria colymbus (Roding, 1798)
 Pinctada imbricata Roding, 1798
 Isognomon radiatus (Anton, 1839)
 Isognomon alatus (Gmelin, 1791)
 Lyropecten nodosus (Linne, 1758) - one
 Ostrea equestris Say 1834
 Spondylus americanus Hermann, 1781
 Lima lima (Linne, 1758) - one small
 Lima scabra (Born, 1778)
 Chama macerophylla (Gmelin, 1791)
 Laevicardium laevigatus (Linne, 1758)
 Trachycardium muricatum (Linne, 1758)
 Macoma constricta (Bruguiere, 1792)
 Cyclinella tenuis (Recluz, 1852)
 Codakia orbicularis (Linne, 1758)

* Photographs by Barbara Myers



THE

FESTIVUS

401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 104 7:30 P.M.

President:.....Hugh Bradner

Vice-President:.....Billee Dilworth

Recording Secretary:.....June King

Corresponding Secretary:..Martin Schuler

Treasurer:.....Bob Schoening

Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
258 Slate St. San Diego, Ca. 92011
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.
Vol. ~~IX~~ (?) October 1977

No. 10

IN MEMORIAM

With sorrow we report the untimely death of our friend and mentor, Dr. George E. Radwin. When he died suddenly of a heart attack on September 30, George Radwin was only 37 years old--an active, vital man.

Since 1968 when Dr. Radwin came to San Diego to join the San Diego Natural History Museum as its Curator of Marine Invertebrates, he had been a frequent speaker at and advocate for The San Diego Shell Club of which he was an honorary member.

Dr. Radwin had done extensive work on the Columbelloidea in the western Atlantic which has just come out in THE VELIGER and his recent book, MUREX SHELLS OF THE WORLD, co-authored with Anthony D'Attilio was just published last year. This comprehensive work has received much well deserved praise from both professional and amateur workers.

Our heartfelt sympathy goes out to his wife, Rhoda and their two young sons, Marshall and David.

A memorial issue dedicated to Dr. Radwin will be published by the FESTIVUS in February 1978.

 PROGRAM: DATE: October 20. TIME: 7:45 promptly Room 103

This evening will be a double feature.

SHELL SWAP NIGHT
 and

Marge Bradner giving an illustrated talk on
 REMOTE ISLANDS OF TAHITI--TAHA'A 1977

 This meeting will be a departure from the usual format. The brief business meeting will be first (Nomination of Officers for 1978), followed by the speaker for the evening. Swap Night will follow this talk and continue for the rest of the evening. For this reason the meeting will begin promptly at 7:45P.M. Bring your shells for swapping. Tables will be set up in the meeting room. Enjoy coffee, refreshments and comaraderie while wheeling and dealing.

SHELL CLUB FALL PARTY

By MARGE BRADNER

It was a clear and balmy evening. The iridescence of the pool was surrounded by flaming tiki torches and glowing coals. The bou bou and caftan garbed guests danced and pranced to African music and jungle drums...interspersed frequently with the wild call of our own Tarzan.

The sheltered safari buffet was covered with tantalizing dips and chips, mouth-watering fresh fruits, steaming kasha...with the aroma of couscous wafting over all. The inner person was revitalized continually by an invigorating dark continent libation.

Our own starlets presented an enchanting leopard water ballet. As the evening wore on others joined the swimmers and by the end of the evening unsuspecting by-standers were thrown into the gyrating cauldron.

A good time was had by all....much admiration for the Schoenings new homemany thanks to our genial host and hostess.

COUSCOUS- a la Shell Club

adapted by Marge Bradner

Boil one chicken and cut in bite sized pieces, reserving 6 cups of chicken broth. Saute 4 cloves garlic and 2 med. onions chopped, in 2 tbsp. oil until soft. Add 6 oz. tomato paste and 4C. chicken broth. Stir and add 1/2 tsp. each salt, cumin, cayenne, trumeric, pepper. Prepare 4 ribs of celery and 1 bell pepper cut in 1" pieces and 4 carrots sliced in rounds, and add to above mixture. When the vegetables are tender, add chicken and 15 oz. can of garbanzo beans well drained, one 8 oz. can artichoke hearts (not marinated) and 2 tbsp. caraway seeds. Heat and serve with rice and kasha.

Coconut Whutney *

To each 1/4 lb. grated or flaked coconut, add the juice and rind of one large lemon, 3 green onions chopped fine, dash salt, red pepper to taste. Let mellow two or three hours before serving.

Peanut Sauce

To one pound jar Laura Scudder's peanut butter add equal amount boiling water. First stir carefully and then beat. Add more water if needed to make somewhat blobby sauce. Add 2 tbsp. dried chopped onions and few drops hot sauce (salsa type) to taste. Serve warm or at room temperature.

*Thanks to June King for the side dishes.

MINUTE SHELLS

By JULES HERTZ

Although seldom featured, bivalves are also commonly found in dredging off Baja California, Mexico. The two shells pictured below were dredged by Dave and Margaret Mulliner, west of Smith Island, Bahía de los Angeles, Baja California, Mexico on May 10, 1976 in 50 to 60 feet of water. Photographs are by Dave Mulliner, FESTIVUS staff photographer.

One of the prettiest of the minute bivalves is Lucina undatoides Hertlein and Strong, 1945. This shell is extremely rare in grunge and is generally confined to the Gulf of California area. It is a member of the Family Lucinidae.

Another small bivalve found in the dredging was Chione mariae (Orbigny, 1846). This has a much wider range, and grows to a maximum length of about 23 mm. It has strong raised lamellae and is a member of the Family Veneridae.



Lucina undatoides Hertlein & Strong 1945
Width: 5mm.; Height: 6mm.



Chione mariae (Orbigny, 1846)
Width: 7mm.; Height: 5mm.

TIDES FOR THE NORTHERN GULF OF CALIFORNIA
OCT. - DEC. 1977

The time is Mountain Standard (MST).
No tides higher than -4' are listed here.

Oct. 12. -4.0' at 7:00 P.M.	Nov. 9. -4.0' at 6:00 P.M.	Dec. 9. -5.5 at 7:00 P.M.
Oct. 13. -4.4' at 8:00 P.M.	Nov. 10. -5.0' at 7:00 P.M.	Dec. 10. -6.0 at 7:30 P.M.
Oct. 14. -4.0' at 8:30 P.M.	Nov. 11. -5.5' at 8:00 P.M.	Dec. 11. -6.0 at 8:30 P.M.
	Nov. 12. -5.0' at 8:30 P.M.	Dec. 12. -5.0 at 9:00 P.M.
	Nov. 13. -4.0' at 9:00 P.M.	

Our thanks to Margaret Mulliner for the preparation of this table.

New Member

WCOLSEY, Mary Jo (Jody)
3717 Bagley Ave. #206
Los Angeles, Ca. 90034

Change of Address

DILWORTH, Billee
6333 La Jolla Blvd #171
La Jolla, Ca. 92037

HAIGH, Ernest S.
6533 Orangewood Ave.
Cypress, Ca. 90630

NEW OR POORLY-KNOWN CORALLIOPHILIDAE AND MURICIDAE FROM THE WESTERN PACIFIC

By ANTHONY D'ATTILIO*

This series of articles will consist of species of Coralliophilidae and Muricidae recently discovered and apparently undescribed which do not appear in some of the latest works on Muricacea. The species to be covered are from the western Pacific, principally off Bohol Island in the Philippines, and a few from Hawaii and Guam.

None of this material, as you may surmise, is found intertidally. The shells have been taken by scuba diving or gained by means of trapping or trawling. The specimens, none of exceptionally large size, range from a few millimeters to about 35 mm. The Philippine species are the result of collecting by dropping tangle nets in various depths ranging from 200 to 600 feet. Bohol Island is south of Cebu and separated from Mindanao Island by the Mindanao Sea. Just where on this extensive shoreline the specimens are being obtained is not indicated. I suppose the information is considered a trade secret by the captains or owners of the vessels used in these operations.

The negative results of this form of collecting and sales are, from the scientific viewpoint, that much information touching on taxonomy as well as other biological disciplines remains unknown. I refer to all the living conditions of these animals in their environment and factors of a functional nature which undoubtedly contribute to their form or morphology in the widest sense of these words.

However let us be thankful for even these small gifts of shells obtained only because collectors, as a numerous clan, are willing to underwrite the expense of operating these collecting vessels by their willingness to purchase specimens thus made available.

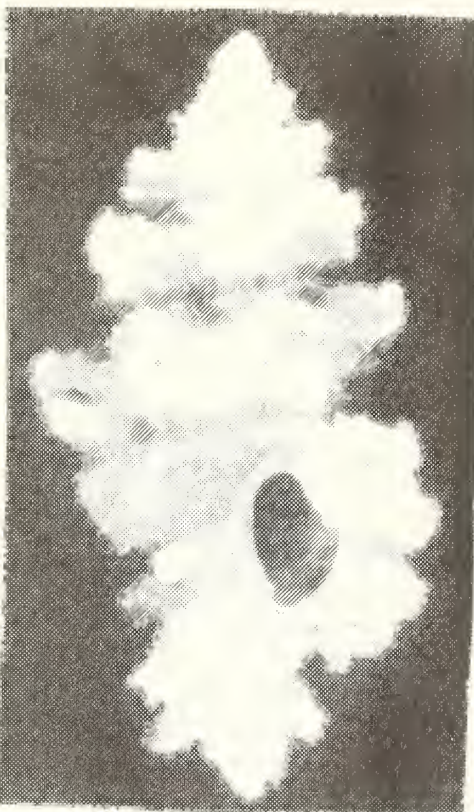
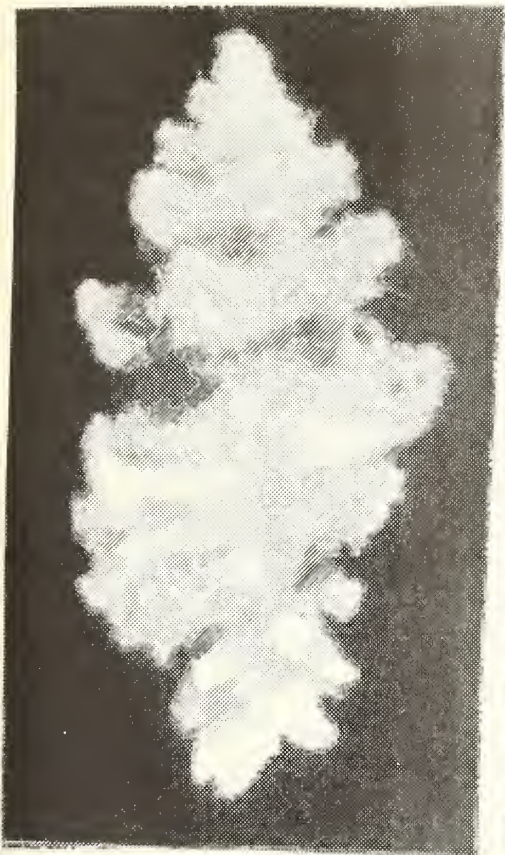
Taxonomy has always been a branch of science which has been largely ignored or looked down upon as of relatively little importance. Governments and private funding bodies through educational institutions, grants etc. have in the past contributed very little in the way of financial aid to taxonomic workers, professional or otherwise.

As for the inclusion of non-professional workers or amateurs in the field of Taxonomy I would recommend the remarks of the famous entymologist, Richard E. Blackwelder, an officer and founder of the publication "Systematic Zoology" For his thoughts on the valuable contributions made by conscientious amateurs, read the following taken from his article "Twenty-five Years of Taxonomy," Systematic Zoology, Vol. 26, No.2, pp. 107-137, June 1977.

"In our time there has been a tendency to look down on the idea of taxonomy by amateurs. This is very unfortunate. Many of these people are highly experienced, dedicated to their work, and unusually productive....

The record of the "amateurs" in systematic zoology will not justify the opinion(of those scientists who insist on observation of the results of laboratory experiments) that amateurs are deleterious and unscientific. Taxonomy is the field of observation of the results of Nature's experiments; in this occupation there is no sharp line between self-trained scientists and those that earned a Ph.D. in a university laboratory. Many of the most prolific taxonomists have started out in such prosaic jobs as locomotive factory worker, housewife, professional collector, or physician, as well as in such more glamorous situations as gentleman of leisure, member of the House of Lords, or officer in the army."

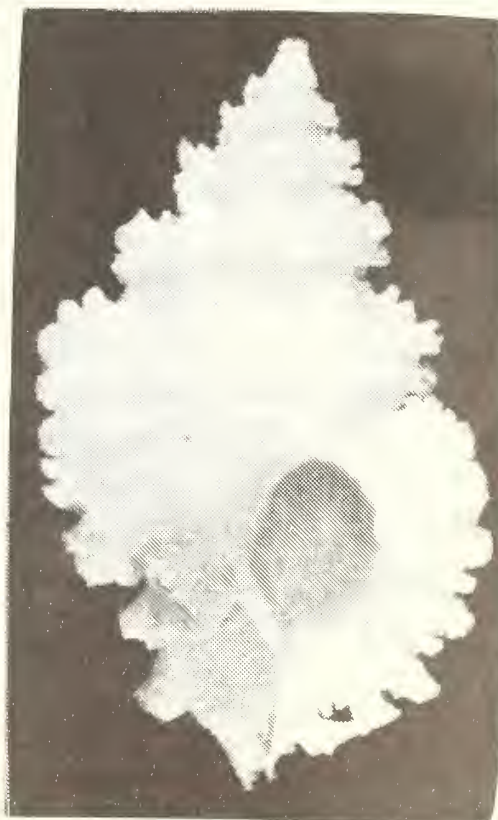
In this first article, the pictured specimens are all from the family Muricidae; the genera Favartia and Murexiella in the subfamily Muricopsinae, and Pazinotus in the subfamily Muricinae.



Favartia sp. Dorsal and ventral views

Approx. size: 10-12 mm.
Location: Guam

This specimen of Favartia was taken by diving in 60 ft. of water in coral rubble. The shell is translucently colored either yellow, pink or orange and is very frilly.



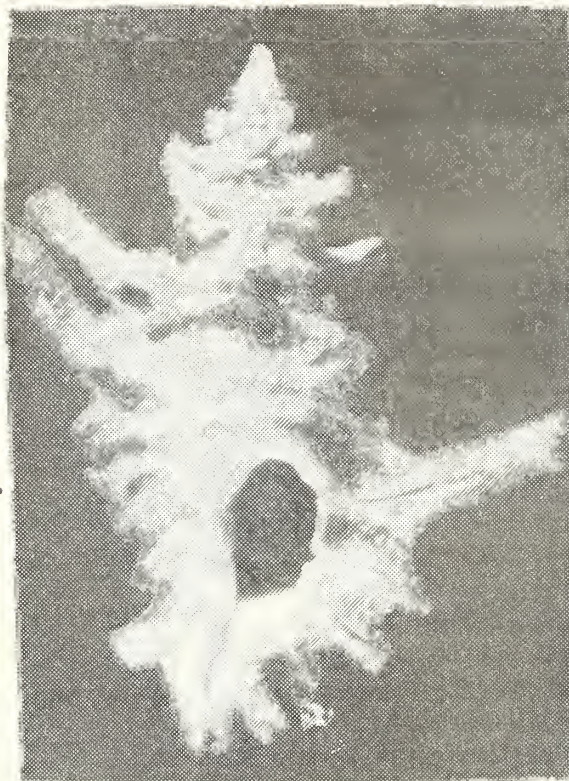
Favartia sp. Dorsal and ventral views

Approx. size: 15 mm.
Location: off Bohol Is.
Philippines

This small frilly shell was taken in tanglenets. It is white with a pink aperture and is flushed with pink around the aperture.




Murexiella sp. Dorsal
and ventral views
Approx. size: 19 mm.
Location: off Bohol Is.
Philippines



Murexiella sp. Dorsal
and ventral views
Approx. size: 19 mm.
Location: off Bohol Is.
Philippines

Both of the above Murexiella were taken in tanglenets in the Mindanao Sea off Bohol Is. They are both the same species with the bottom specimen having the more characteristic length of canal. It is likely that the upper specimen with the elongate canal came from a muddy or sandy substrate. These specimens are unquestionably Murexiella as determined by radula studies done by the author and Dr. George Radwin.



Pazinotus sp.
Approx. size: 25 mm.
Location: Hawaii

George Radwin and I considered this dredged specimen to be a species described in the last century as Murex funafutiensis Hedley, 1899. This, and a species we refer to as Pazinotus smithi (Schepman, 1911) extend the range of the genus from the single recent Caribbean species to the Indo Pacific. (For Pazinotus stimpsoni, see the Murex book).

FOR YOUR INFORMATION

The San Diego Shell Club will order the Radwin & D'Attilio book, MUREX SHELLS OF THE WORLD at a discount. The price for this \$35. book will be \$24.78 including tax and postage. If interested, contact Bob Schoening on or before the October.

The annual Christmas Party will be on December 10 at the Cafe Del Rey Moro in the Granada Room. SAVE THE DATE.

COLLECTOR TIPS

By BILLEE DILLWORTH

Are you tired of the foam rubber in your shell boxes disintegrating on your shells? Twila Bratcher came up with a marvelous idea. She took a package of Dacron batting (meant for filling a quilt), cut it in four pieces for easy handling and cooked them one at a time in a laundry tub with about 1/4 bottle of Rit liquid dye. By turning the Dacron a few times, the sheet of material comes out quite nicely dyed. She used royal blue and ended up with a pretty blue background for shell boxes.

Use any color that you like for your collection. When Dacron is at the desired color, squeeze out the dye and hang it over a line or fence. It dries very quickly. Dacron batting costs under \$6. and a bottle of dye about \$1.50. Size of the batting is 72" X 90" and that will fill alot of boxes.



THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....Hugh Bradner
Vice-President:.....Billee Dilworth
Recording Secretary:.....June King
Corresponding Secretary:..Martin Schuler
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
258 Slate St. San Diego, Ca. 92011

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. ~~IX~~ ^{VIII(?)}

November 1977

No. 11

PROGRAM: Greg Hamann will speak on Shelling in Madagascar in Nosey Be
(which means big island. He will bring in shells from the
area.

November 17, 1977 Casa Del Prado, Room 104 7:30 P.M.

Bonus Shell Drawing at this meeting. A Cypraea sanguinolenta
donated by the Bradners will be the prize. YOU MUST BE PRESENT
TO WIN.

COME TO THE CHRISTMAS PARTY! December 10 in the Granada Room at the
Cafe Del Rey Moro in Balboa Park. Cocktails (no host bar) 6:00 P.M.
Dinner at 7:15P.M. For details see inside page of this issue.

FROM THE MINUTES - OCTOBER 20, 1977
By JUNE KING

The meeting came to order at 7:45 P.M.. Thirty-six people were present.
Announcement was made that the February issue of the FESTIVUS would be a
memorial issue to George Radwin. Carole Hertz, editor, asked for suggestions
and articles of a scientific nature to include in this issue which will be
a tribute to his scientific accomplishments.

The Christmas Party was discussed and the program and bonus drawing for
the November meeting.

The slate of nominations for officers for the coming year was presented.
June King, president; Phil Faulconer, vice-president; Bob Schoening, treasurer;
June Kirkpatrick, recording secretary; Sandy Seckington, corresponding
secretary. Nominations from the floor will be accepted at the November meeting
at which time the election will be held.

After the business meeting, Marge gave a charming and informative talk with slides on a recent trip to Tahaa-Remote Island of Tahiti. (Writeup to appear in January FESTIVUS. Ed.).

The latter part of the meeting was given over to cookies and shell swap. The swap appears to have been a great success with members participating happily and, we think, profitably. It was fun and many shells changed owners. Many thanks to Don Pisor who arbitrated on values.

NEW MEMBERS

BERZINS, Ivars and Jacqueline
4667 W. Talmadge Drive
San Diego, Ca. 92116
280-9643

RILEY, Ken and Jackie
9393 Helix
Chula Vista, Ca. 92011
427-4568

ROWORTH, Edwin
1301 Windsor Dr.
Cardiff-By-The-Sea
Ca. 92007
753-3903

THE FESTIVUS DOES NOT PUBLISH AN ISSUE IN DECEMBER.

ABOUT THE CHRISTMAS PARTY

The Club's annual Christmas Party will be held on December 10, at the Granada Room of the Cafe Del Rey Moro. A no host cocktail hour will begin at 6:00 P.M. Dinner will be at 7:15 P.M.

At the November meeting we will vote, without discussion, between two entrees.

1. Baron of Beef (last year's choice)
2. Breast of Capon Cordon Bleu

Dinner includes green salad, vegetables, dessert and coffee or tea. (The Club will furnish the table wine). Cost of the evening is \$7.20.

Participate in the gift exchange at the party. Remember that each member brings a gift wrapped, quality shell with data. (On the outside put only general area i.e. Indo-Pacific, Caribbean). These gifts will be placed under the tree for the gift exchange, one of the highlights of the evening. Only those who bring gifts may participate.

To make your reservation, send your check for \$7.20 to Bob Schoening by December 3.

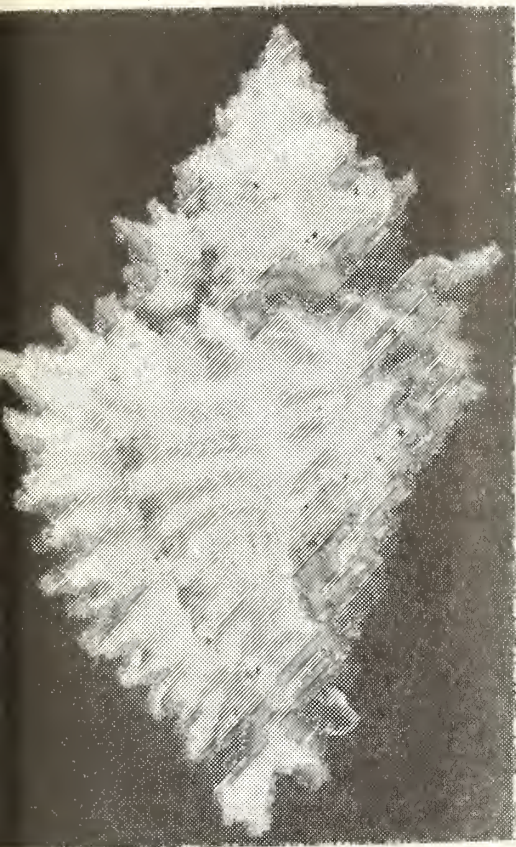
FOR YOUR INFORMATION

1. A fund has been established in memory of Dr. Radwin by the Natural History Museum. It is being called "The George Radwin Memorial Fund for Marine Invertebrate Studies." For those who wish to donate, the address is: Box 1390, San Diego, Ca. 92112. For further information you can call the museum at 232-3821.
2. The FESTIVUS does not publish a December issue.
3. Bob Schoening is accepting orders for "The Living Cowries" by Burgess. The price will be \$37.50 plus postage and handling. Notify Bob by November 11.

NEW OR POORLY-KNOWN CORALLIOPHILIDAE AND MURICIDAE FROM
THE WESTERN PACIFIC
PART II

By ANTHONY D'ATTILIO

In this second article, the pictured specimens are in the Coralliophilidae. One is in the genus Coralliophila and the rest are Latiaxis. As with the Muricidae in the last article, most of these specimens were taken in tanglenets. The location data received on these shells is also of a general nature.



Coralliophila sp.
Dorsal and ventral views

Approx. size: 40 mm
Location: Hawaii

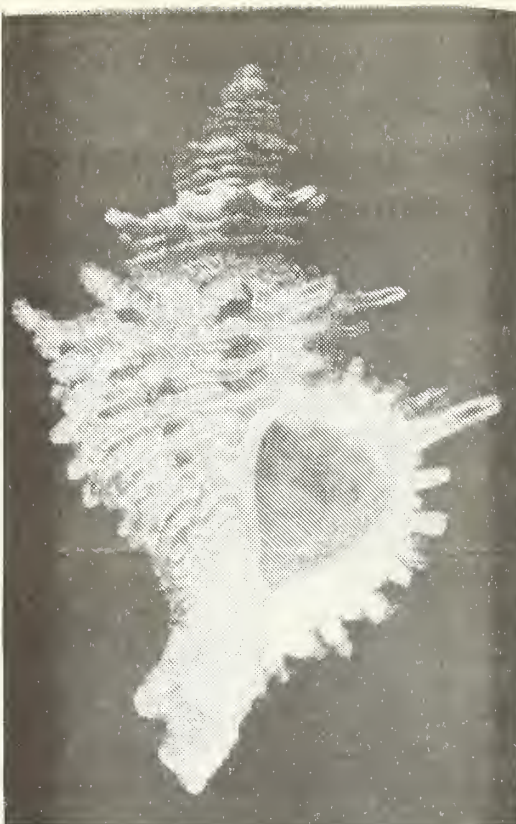
This is a robust shell, off-white, tinged with tan and taken by diving.



Latiaxis sp.
Dorsal and ventral views

Approx. size: 70 mm
Location: East Durban,
South Africa

This specimen was taken in commercial fishing traps. It is a member of the Latiaxis kawamurai complex although it was named as a new species. Shell color is white.



Latiaxis sp. Dorsal and ventral views

Approx. size: 30 mm
Location: Bohol Is.
Philippines

This also is probably a form of the kawamurai complex from Tosa Bay, Japan. Shell color is white. The more frilly nature of the keel is indicative of more tropical waters.

Latiaxis sp. Dorsal and ventral views.

Approx. size: 40 mm
Location: Bohol Is. Philippines

This splendid specimen is a very pure white shell without any spines but with extremely fine spiral chords and lamellae which at the shoulder keel are very apparent.



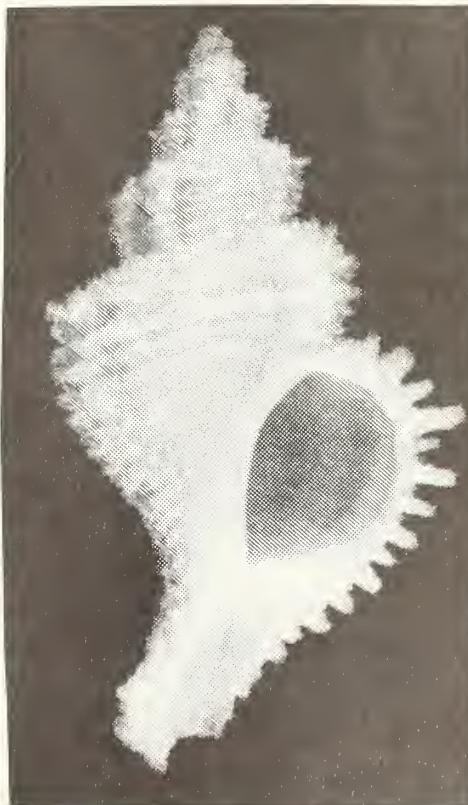
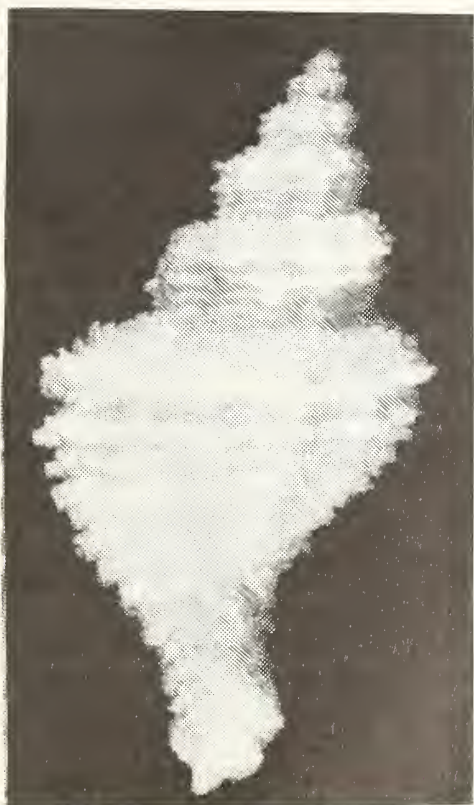


Latiaxis sp. Dorsal and ventral views

Approx. size: 30 mm

Location: Bohol Is., Philippines

This shell is from deep water off the continental shelf in the Mindanao Sea. It has a well-defined shoulder keel and is white tinged with warm brownish red.

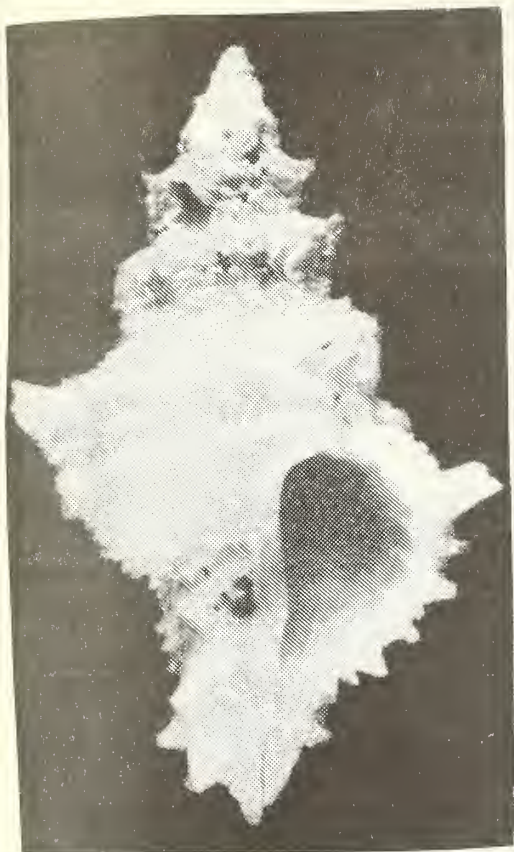


Latiaxis sp. Dorsal and ventral views

Approx. size: 33 mm

Location: Bohol Is., Philippines

Because of its lack of a spiny shoulder keel, species of this type are often referred to as Coralliophila rather than Latiaxis.



Latiaxis sp. Dorsal and ventral views

Approx. size: 30 mm

Location: Bohol Is.
Philippines

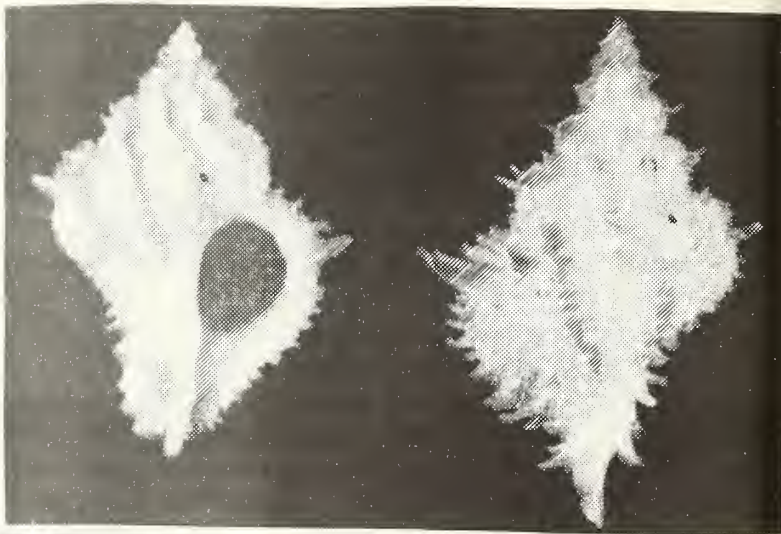
This is a pale, reddish brown shell taken, as the others, in tanglenets.

Latiaxis sp. Ventral and dorsal views

Approx. size: 20 mm

Location: In Japanese waters (Tosa Bay?)

This is a white shell with pink tipped spines. It is shorter and more biconic with lower and more close-set ribs than the following specimen. It has well developed spiral sculpture.



Latiaxis sp. Ventral and dorsal views

Approx size: 20 mm

Location: In Japanese waters (Tosa Bay?)

This white shell with pink tipped spines is a more slender and spiny species than the previous one, with its costae, (axial ribs) more distantly placed.



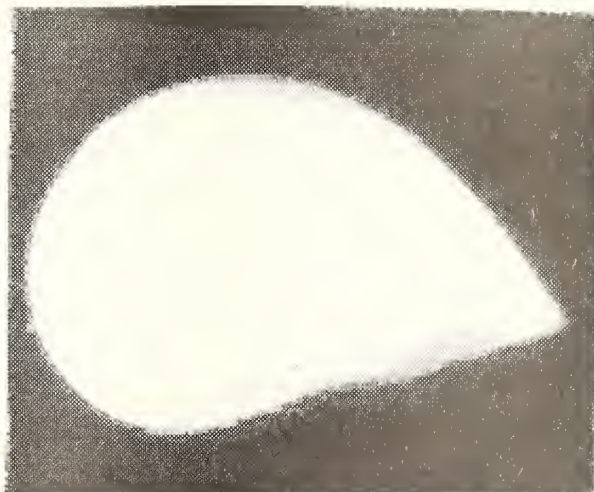
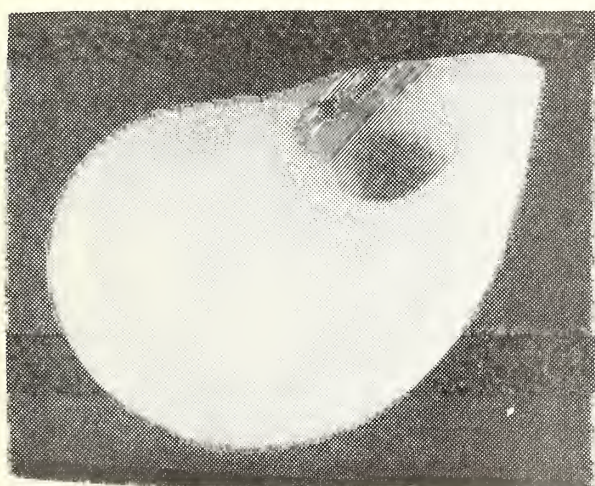
MINUTE SHELLS
By JULES HERTZ

This month again we feature minute shells from the Mulliner Collection obtained by dredging in Bahia de los Angeles, Baja California, Mexico. The Mulliners are presently collecting in Kuaui and perhaps we will be fortunate in future issues to picture some minute shells from that area.

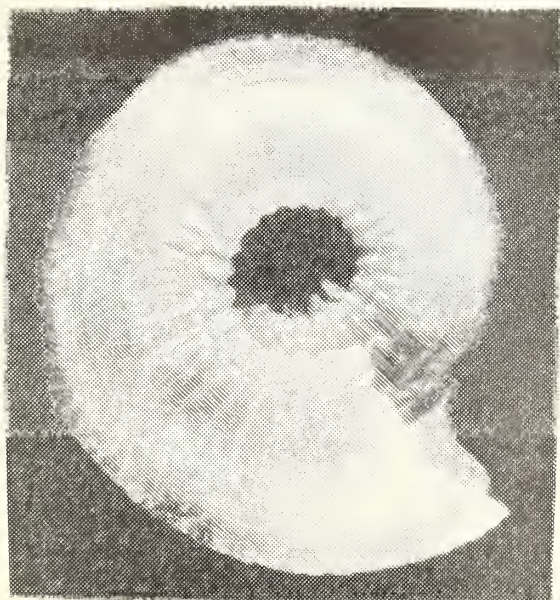
It is believed that the Teinostoma featured below is Teinostoma politum A. Adams, 1851. This is a large, white specimen and is considerably larger than the species found in San Diego: i.e. Teinostoma supravallatum (Carpenter, 1864).

The second shell figured this month is Architectonica placentalis (Hinds, 1844). This is a small, flat shell that is creamy white mottled with buff or brown.

Both the Teinostoma and Architectonica were dredged in 100 ft. in the mud channel toward La Gringa Pt., Smith Island, Bahia de los Angeles, Baja Calif., Mexico. The former was dredged on June 19, 1977 and the latter on June 15, 1977.



Teinostoma politum A. Adams, 1851
Width: 8 mm, Length: 5 mm



Architectonica placentalis (Hinds, 1844)
Diameter: 9 mm

SHELLING ON THE MEDITERRANEAN

August - September 1971

By ROLAND AND KAY TAYLOR

Roland's brother Cliff, who had collected shells in Florida in 1958 and 1959, thought we were "daft" when we crawled around the rocks on the Giant's Causeway in Northern Ireland, and delightedly exclaimed over the Gibbula cineraria, Littorina littorea, Acmaea testudinalis, Lacuna vineta and Patella vulgata we found there. He was even more horrified when we sent the shells home, only slightly less smelly due to insufficient time in alcohol, wrapped inside some lovely white sheepskin rugs. "I wouldn't even bother with such little, ugly shells," he exclaimed, remembering the extravagant shells he had found in Florida's then-generous Keys.

He was driving us around Northern Ireland on our first trip to the "Emerald Isle", and it is truly named. Of course, it is also cold, rainy, windy and generally disagreeable for golf, which was our chief activity while there. Roland said the rain came down horizontally; we held our umbrellas against the wind, resting almost on the ground, while we took our shots, and would quickly pull on rainproof pants and jacket when it started to rain, then as quickly pull them off when the sun shone and they became suffocating. We played Carnoustie and the Royal and Ancient, St. Andrews among others, mostly in the rain...fantastic!

We persuaded him to stop again and again, both in Ireland and later in Scotland, in between golf games, for a bit of shell collecting. Cliff had lived in Ireland for several years, and had the distinction of being the only "Yank" ever elected to be Captain (President) of any golf club in all of Ireland. We sampled some of the famous Irish hospitality in homes which could have been the setting for a Galsworthy novel, or of the present-day Gothics.

A letter from Phil Clover, then at Rota, told us of a low tide there, so we entrained from Dundee to Edinburgh Airport and arrived by plane at Seville one balmy midnight in early September. Our rental car was there, and the driver led us out of the city telling us the best place to find a hotel at that hour would be down the road a few kilometers or so. The Seat 124 was comfortable, and the roads were good enough, but the hotel was locked up tight for the night - the gatekeeper sleepily told us to go on into the town and maybe someone would take us in. The streets were alive with lights and people (do they stay up all night in Spain?) who agreeably directed us to a home where the family welcomed us to their best...a balcony off the room was its most distinguishing feature; bath down the hall; but the family gathered to show us the mirror over the little table, to put embroidered pillow cases on the pillows, and wanted to stay and talk. They didn't get many American tourists...all we wanted was a little sleep. There was noise in the street and mosquitos.

Next morning early we drove through Jerez (the town which makes the wine the English called "sherry") and right into the annual Wine Festival. This explained the gaiety of the night before...but also prevented us from touring the wine factory...no one was working for the whole week.

In Rota, Phil directed us to the only hotel, which was full. We finally settled into a five-bedroom, five-bath apartment, of which we were the only occupants. Phil took us shelling on the reef at Puerto de Santa Maria. At low tide, we found Murex brandaris, Murex trunculus, Solen marginatus, Bulla striata, Nassa reticulata, Apporrhais pes-pellicani and Ocenebra erinacea. After a few days of enjoying the beach, the fruit and cheeses, we drove on, through Cadiz because there were no rooms there, (the Wine Festival), hotels all full.

At Chiclana, a little later in the day, we stopped to eat a picnic lunch, replete with that famous wine and visited a bit (Spanish and Portuguese are different) with a Portuguese family (we still exchange Christmas cards) who were cooking something in a big bucket which smelled divine. They offered us cupsful of caracoles (small snails) which they had gathered out of the trees during the morning, and showed us how to eject the tiny animal with a pin. Cooked in spices and under the spell of the Spanish sun, we found them delicious.

We drove on along the Costa de La Luz (on the Atlantic side), stopping frequently at pleasant hotels and shelling the beaches and swimming a bit (water was cold) until we reached Tarifa, the point of land closest to Africa, across from Tangiers. Now we were on the Mediterranean. Near Tarifa, we were intrigued with some rocks and great shelling spots, but the area was enclosed inside a Military Installation. Roland approached the Commandant and, with the aid of his U.S. Navy card, persuaded him to allow us to shell on the rocks. He sent along a young soldier to accompany us. He carried a gun. He was pleasant and agreeable, until Roland asked too many questions, like what was that big gun emplacement used for now? when he clammed up and told us we were permitted to shell only (for scientific purposes). It was a bit unnerving to realize the gun was pointed directly at our backs as we assumed the typical sheller's pose...especially since Phil had told us to stay off the beaches at night, because the soldiers shoot first, ask questions after. We found Columbella rustica, Pisania maculosa, Cerithium rupestre, Conus mediterraneus, Mitra cornicula, Ocenebra corallina, Littorina saxatilis, Mangelia purpurea, Ocenebra erinacea, Nassa reticulata, Nassa pygmaea, Calliostoma exasperatum. The soldier helped us, as he watched the shells we picked up.

Presently we gave up plans to drive as far as Barcelona, and settled into an exchanting hotel, the Patricia, at Estepona. At Estepona, we found Bittium reticulata, Clanculus jussieui, Ocenebra carolina, Ocenebra edwardsii, Nassa incrassata, Gibbula magus, Trochachlea crassa, Trochlea turbinata, Nassa corniculum, Gibbula adansoni, Gibbula umbilicus, Eulima incurva, Turritella communis, Clanculus corallinus, Purpura haemastoma, Crepidula unguiformis, Cymbium philipinum (beach).

We took side trips out of Estepona, one day driving 200 km. to Ronda, the famous city built on two sides of a deep chasm; set on a high plane well inland, with the city on the flat, then the sudden sheer cliff dropoff, with houses and farms 700 feet below.

Finally, it was time to head toward Madrid, up the Costa del Sol, through Marbella, Torremolinos, Malaga (too many tourists, you couldn't get near the water). At a lovely Parador at Nerja, where we stopped for lunch and stayed on for two more days, we encountered a couple who looked foreign, spoke to them in Spanish and after some conversation discovered they were not only American, but Phil a Native San Diegan... Phil and Heidrun Faulconer. They are again living in San Diego and members of our Shell Club.

After a delightful week in Madrid, visiting the Royal Palace, El Prado Museum, the Archeological Museum, the University and all the sights; sipping coffee or eating Yogurt at the sidewalk cafes at 6 o'clock in the evening, we boarded our plane at Barajas Airport for Paris, London and home.

List of other shells, not mentioned above:

Collected at Castlerock, North Ireland
County Derry:

Ensis siliqua	Trivia monacha
Donax anatinum	Trivia arctica
Venus gallina	Littorina littorea (Between Belfast
Natica alderi	Nassa reticulata and Whitehead)
Acmaea virginea	
Lepidochitona cinereus	
Donax semistriatus	

Collected at Larne,
North Ireland:

Lacuna vincta
Patella vulgata

Collected at Tarifa, Spain:

<i>Haliotis tuberculata</i>	<i>Mitra cornucula</i>
<i>Patella coerulea</i>	<i>Calliostoma granulata</i>
<i>Cerithium vulgatum</i>	<i>Calliostoma striatum</i>
<i>Cyclonassa neritea</i>	<i>Calliostoma exasperatum</i>
<i>Cerithium rupestre</i>	<i>Gibbula cineraria</i>
<i>Nassa pygmaea</i>	<i>Gibbula varia</i>
<i>Littorina obtusata</i>	
<i>Littorina saxatilis</i>	

Collected in Scotland: (near Ayr)

<i>Psammechitenus miliaris</i>
<i>Gibbula cineraria</i>
<i>Littorina littorea</i>
<i>Gibbula umbilicus</i>
<i>Nassarius reticulatus</i>
<i>Littorina saxatilis</i> (at Carnoustie)

LIBRARY NOTES

Anthony D'Attilio has generously donated reprints of his published articles on Malacology to the San Diego Shell Club library. (His articles published in The New York Shell Notes are already in the library). These reprints will be housed in one binder in the library. The included titles are as follows:

1. Remarks on TRITON RANZANII Bianconi (Mollusca, Gastropoda), By Emerson & D'Attilio, American Museum NOVITATES, October 10, 1962.
2. Remarks on CONUS TELATUS Reeve (Mollusca: Gastropoda), By Old & D'Attilio, The Veliger, Vol. 6, No. 2, October 1, 1964.
3. LATAXIENA Jousseume, A Little Known Muricid Genus, By Anthony D'Attilio, Hawaiian Shell News, January, 1965.
4. Remarks on CULUBRARIA SCVERBII (Reeve, 1844) and Related Species, By Emerson & D'Attilio, The Veliger, Vol. 8, No. 3, January 1, 1966.
5. Notes on the Japanese Species of the Family Muricidae, By Anthony D'Attilio, Hawaiian Shell News, May 1966.
6. MURICANTHUS MELANAMATHOS, A West African Muricid, By Anthony D'Attilio, Nautilus, Vol. 80 (3), January 1967.
7. A New Species of LATIAXIS (Gastropods: Magilidae) From Queensland, Australia, By Anthony D'Attilio, Journal of the Malacological Society of Australia, No. 11, March 22, 1968.
8. A New Species of STROMBINA from the Galapagos Islands, By Emerson & D'Attilio, The Veliger, Vol. 11, No. 3, January 1, 1969.
9. Remarks on the Taxonomic Placement of PURPURELLUS Jousseume, 1880, with the Description of a New Species (Gastropoda: Muricinae), By Emerson & D'Attilio, The Veliger Vol. 12, No. 2, October 1, 1969.
10. A New Species of MUREXSUL (Gastropoda: Muricidae) from the Galapagos Islands, By Emerson & D'Attilio, The Veliger, Vol. 11, No. 4, April 1, 1969.
11. ASPELLA MYRAKEENAE, New Species From Western Mexico, By Emerson & D'Attilio, NAUTILUS, Vol. 83 (3), January, 1970.
12. Three New Species of Muricacean Gastropods from the Eastern Pacific, By Emerson & D'Attilio, The Veliger, Vol. 12, No. 3, January 1, 1970.
13. A New Species of MURICOPSIS from West Mexico, By Radwin & D'Attilio, The Veliger, Vol. 12, No. 3, January 1, 1970.
14. The Intritacalx, an Undescribed Shell Layer in Mollusks, By D'Attilio & Radwin, The Veliger, Vol. 13, No. 4, April 1, 1971.
15. A New Muricid Gastropod from Western Australia, By D'Attilio & Old, The Veliger, Vol. 13, No. 4, April 1, 1971.
16. Muricacean Supraspecific Taxonomy based on the Shell and the Radula, By Radwin & D'Attilio, The Echo, No. 4, 1971.
17. The Systematics of Some New World Muricid Species (Mollusca, Gastropoda), With Descriptions of Two New Genera and Two New Species, By Radwin & D'Attilio, Proceedings of the Biological Society of Washington, Vol. 85, No. 28, December 30, 1972.
18. A Catalogue of Muricacean Generic Taxa, By Radwin and D'Attilio, Transactions of the San Diego Society of Natural History, Vol. 17, No. 20, May 16, 1975.

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulstich
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.,
258 Slate St., San Diego, Ca. 92011
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.
CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

January 1978

No. 1

* PROGRAM: Bob Schoening will speak on Shells of Okinawa. His present-
* ation will be accompanied by slides.
*
* Pictures of the Christmas party will also be shown.
*
* Date: January 19, 1978 Time: 7:30 P.M. Room 104

THE CHRISTMAS PARTY By SANDY SECKINGTON

Those of you unable to attend the Christmas party at Cafe Del Rey Morris on December 10 missed a good one! In addition to lovely food and wine and the very best company, the Madison High School Honor Ensemble which came to entertain us, was superb. They mixed traditional Christmas songs with some not so traditional (Calypso Jingle Bells and We Three Kings being examples of the latter), pop tunes such as I Honestly Love you and a medley from The Music Man. They closed with The Lord Bless, a most apropos sentiment. An excellent group, they brought a special glow to the whole evening.

Carole Hertz, M.C. for the night, gave a short history of the Club and introduced the officers for the coming year. The shell gift exchange drew many oohs and aahs from those participating and the evening concluded with some lusty singing around the piano.

NEW MEMBER

EVANS, Roger
1900 Camino de La Costa, No. 1
Redondo Beach, Ca. 90277

CHANGE OF ADDRESS

ROBERTSON, Walter G.
c/o 1137 Prospect St.
La Jolla, Ca. 92037
459-6858 (work phone)

DUES ARE DUE!!

REMOTE ISLANDS OF TAHITI - 1977

By MARGE BRADNER

A vacation in Tahiti has been on our itinerary every summer for the past ten years. Each year we try to add to our experiences.....visit an island that is new to us; revisit an island whose enchantment prompts repeated visits; learn more of Polynesian customs and culture; meet Polynesian people and collect sea shells. Each year we leave hungry for more. The Leeward Islands have far from satiated our desire to return. Beautiful Bora Bora, isolated Paititi, commercial Raiatea and peaceful Huahine are all familiar. We know their lagoons, reefs and motus, villages and friendly people. Tahaa was unfamiliar. Our knowledge of the island was based on a couple of brief visits to the village of Tiva and a picnic on one of the motus several years before.

Tahaa is a mountainous volcanic island with several peaks, one reaching to almost 2,000 feet. There are several deep inlets and bays. Many small villages dot the shoreline but communication between the villages is on foot or by boat. The discontinuous island road does not lend itself to extended wheeled means of travel. Tahaa and her larger sister island, Raiatea, are enclosed within the same lagoon. When the wind is from the south, the usually calm lagoon between the two islands can become rough and the sail boat trip in an open boat becomes a wet one.

The wind was from the south the day we made the trip so we carried two sou'westers for the wet ride across the few miles of choppy lagoon to Tiva where we stopped for a few minutes to see the village and feed hibiscus to the turtles in a large pond near the dock. Our sou'westers came off as soon as the boat rounded the next point of land and we were on the lee side of the island. The lagoon smoothed out, a palm covered motu (small island) appeared at the edge of the barrier reef and in the distance Bora Bora stood out in all her majesty with her crown of clouds.

We had reservations at Tahaa Village.....the only tourist accommodations on the island. A long dock stretched over the inner reef to the edge of the deep channel. Spaced along the shore were six thatched-roof bungalows- four completed, two under construction. On this sheltered edge of the island the palms were swaying gently in front of a backdrop of forested mountain. We were greeted by our genial host, Tetuanui Fatai.

Tahaa Village covers more than an acre of grassy lawn with perhaps a dozen or more various sized fares: four for guests beside the lagoon; another a'wechroom with cold water showers and flush johns; a very large building open on all sides housed the kitchen, dining room, office, gift shop, workroom, bar, discoteque on Saturday night and the stage for the practice of the himene and dancing for the Fete (Bastille Day-the 14th of July). The rest of the buildings were for storage and housing Fatai's family of fourteen children. A lush hibiscus hedge grew along the front. Frangipani, tiare Tahiti and bougainvillea added color and fragrance around the buildings and under the palms. Constant activity and a cacophony of sounds came from the garden; children, dogs, birds, chickens, pigs. In the evening the generator and the put-put of motor bikes coming for the evening entertainment.

Ordinarily the generator was turned off sometime between nine and ten but on Saturday night it continued to the wee small hours to supply the colored light and the amplifiers for the steel guitars of the papeete. Sunday night young and old gathered for himene singing.....they sat in a circle on the floor. An elder led off with a song and the rest joined in. ..a mother nursed her baby, a father rocked his sleeping child, and the sparkling black eyes of the teenagers flirted with everyone. After the

himene, the beat on hollow wooden drums started the graceful native Tahitian dancing.

We were not the only guests at Tahaa Village. Two of the waterfront fares had been reserved as a rest and recreation center for French military personnel serving in Polynesia. Often we were joined by one, two or even three of them at meals. The food was superb! Poisson cru as only the Tahitians can make it; fresh grilled fish from the lagoon; umara (Tahitian sweet potato) and uru (breadfruit); fresh coconut cream; languste from the reef and oysters from the cultivated beds in the small bay between Tahaa Village and Tiva; pamplemousse (Tahitian grapefruit), papayas and bananas. There was always a stalk of bananas hanging from a breadfruit tree in the garden for in-between meal snacks. And....Petit always had the ice box stocked with chilled Hinano.

We were here to shell. We started in front of our fare where the water was shallow and the bottom was sandy. By the time the water was a foot deep, broken coral and occasional small live corals appeared. Not a great abundance of shells but occasionally a Cypraea erosa, obvelata or lynx. At about 18 inches depth, no more than 20 feet from shore, a turned dead coral slab exposed the most beautiful Cypraea vitellus I have ever seen. The regions of the corium were a very dark brown with the regular white spots, the base was a vibrant rose. This find spurred us on. In the deeper water the Cypraea became scarce, but the water and the coral were magnificent. Swimming and diving and getting lost in a jungle of coral heads was intoxicating, and then meandering to the edge where the corals drop and disappear into the midnight blue of the deep channel was breathtaking.

We returned with our collecting bags and found the Frenchmen huddled over a small table with one of the local boys. The table was covered with Cypraea: black-purple poraria, large ventriculus, tinis (of course), schilcerorum, maculifera, fimbriata to mention some. Bartering was going on at a rapid rate.....cigarettes seemed to be the best medium of exchange, a package was good - a carton much, much better. As each dark Cyp. poraria disappeared I wanted to enter the bargaining, but experience has taught me never to enter into an auction (except a San Diego Shell Club auction) unless you want the price to skyrocket. I consoled myself by the fact that the Frenchmen were leaving the next day and this was their last chance, so.... Petit assured me that the local boys could be back.

Our chance came a few days later. We were the only buyers. All Cypraea were sold in sets of seven, and all sets were the same price whether they were carneola, schilcerorum, ventriculus or caputserpentis. They didn't know their shells.....the carneola and schilcerorum were always mixed, as were the depressa and maculifera. When a mixed lot was brought in we arranged our own set: 2 scurra, 2 terres, 1 helveta, 1 schilcerorum and the little bugger.

Each day we tried a new shelling spot. One that was either within walking distance, bicycling, swimming or canoeing distance from Tahaa Village. There are several good spots between Tahaa Village and the small village of Tapuenu. Much coral interspersed with sandy spots yielded various species of Cerithiidae, Strombidae, Neritidae, Nitridae, Turbinidae and of course, many Irochus niloticus. We found a dozen different beach species of Cypraeidae in about five minutes of looking on an abandoned dredge pile. This gives some idea of the species to be found in the surrounding area. We collected a handful of live Cyp. isabelle from tiny pots less than a half inch in length to others over an inch; some with black anterior and posterior terminal spots, others with red or orange or even a mixture. Some were quite dark with black dorsal lines, others were almost an almost buff. We were musing over the various sizes, shapes and colors one afternoon when a sailboat tied up to the dock at Tahaa Village. The skipper was

old friend, Jerry, from Club Med. days on Moorea and Pora Pora. He is also a shell collector. He was convinced that we had at least three different sub-species of C. isabella and that there were seven known sub-species. . . . of Burgess did not help. Are there sub-species of C. isabella?

We found our best cone collecting a mile or so beyond the remains of the old Club Med. village and Tiva. Small cones are found everywhere and are probably the most common shell found on any of the Leeward Islands. However, Conus textile is elusive and found infrequently. On the flat top surface of the inner reef about fifty feet from shore directly inland from Tiaterara Pass in the barrier reef, there are many holes in the reef, little sand, spots and broken pieces of dead coral. Here we found three beautiful textile cones, one almost three inches in length.

One day we canceled with one of Petit's sons to the outer reef but the surge was heavy and it was difficult to keep one's footing let alone search for shells, so we paddled back to the center of the lagoon over the sand, ledge on the reef side of the channel. Brad dove into fifteen or twenty feet of water and followed the trails of terebras, miters and olives. Petit's son dive in as well carrying the canoe's lead line with him....as he followed trails in the sand the canoe would turn and follow him. I grabbed the shells from the two of them when they came up for air..... Terebra maculata, crenulata, guttata, dimidiata; Mitra casta, stictica; and Oliva annulata. We returned the less than perfect specimens to the lagoon in front of our fare. We watched their progress in the sand. The first night they moved about twelve inches; the second, more than a yard; by the third day we had lost them completely.

We felt very much at home on Tahaa. We knew when the hot coconut cakes were coming out of the oven at the Chinese store in Tifa. We welcomed the tourists when their tour made a brief stop at Tiva. We cheered the local speed canoe team during their practice sessions. Tahaa is not isolated, it is only a few miles across the lagoon from Utoroa, the trading center for the Leeward Islands. However, many of the islanders had never been to Utoroa, only a few had ever been to Papeete. Tourists rarely come to Tahaa..... other than the French military we saw none in residence during our week on the island. It is not isolated but it has a great feeling of isolation. We tried to buy aspirin at the Chinese store. They had none and we were told that we might be able to get some at the clinic on Raiatea. The closest place to buy a bottle of aspirin was in Papeete 137 miles over water to the south.

Early one morning we were returning to one of our favorite strolling areas near Tapuamu....on foot because the bicycles were being used by village members of the family. About a mile from Tahaa Village we met Petit with a gunny sack full of langouste over his shoulder and clutched in his hand was a plastic bag filled with Cypraea collected for us by the villagers on the reef the night before. One stood out in the melange of living mollusks: a small bright orange-gold cowrie. In size and color it reminded us of C. citrina, but this shell is not from French Polynesia. We retraced our steps and didn't quite break the four minute mile in getting back to Tahaa Village, but we were not far behind Petit on his bicycle.

Petit dumped the shells on a table. The little bugger was an anatala...not another resembling it in the least. Never had we seen a comparable shell in our collecting, in the collections of friends, or in museums. We immediately put it in a plastic jar of sea water to try to keep it alive long enough to take some photographs. All of the other Cypraea were pale and hearty. They raised their mantles and crawled up the sides of plastic containers....the jet black mantles of the C. isabella, the brilliant vermilion of the teres and everything else in between. The little bugger tried to join his more vigorous friends, but he was never able to extend his mantle much beyond the edge of the base. We did see that his body was

with a translucent yellow-orange spotted mantle. His dorsum was spotted white with fused orange-white stripes, white spots at both the posterior and anterior ends and bright orange-gold margin. The base showed white teeth blending to orange-gold at the margins. In talking with experts we have come to the conclusion that the little bugger is a unique, colored C. caputserpentis.

Tahaa was a delightful shelling-vacation spot. We collected, traded, bought and were given more than twenty-five species of cowries, as well as acquiring many other shells. We lived with Tahitiens, we ate local foods and participated in activities with the friendly Polynesians. It is a delightful island, and we expect to return to Tahaa Village.

CORRESPONDENCE ON THE ANTARCTIC ISSUE

By JULES HERTZ

The article, "Collecting in Antarctica," which we featured in the July 1977 issue of the FESTIVUS was recently reprinted in the Fall 1977 issue of OF SEA AND SHORE. As a result, we have had several interesting letters concerning the article and excerpts of these appear below.

The following comments are those of Robert R. Talmadge (Per. Com. # 101) found many similarities between your findings and those of Patrick M. Smith "Invertebres Marins des XII et XV, Expéditions Antarctiques Françaises en Terre Adélie" Tethys Supp. 4, 1972-- His work did bring up a few Lebete and Puncturella---

My own studies have been in the North, and from the illustrations in both your work and Arnaud's paper, there just has to be either a parallel evolutionary base, or else a common base from the Pleistocene glacial times. I cite the following: Trophon longstaffi Smith, 1907, can easily fall into Boreotrophon, B. clathrata Linnaeus, 1767, B. beringi Dall, 1902 or B. pacifica Dall, although perhaps I. condensatus Hedley is closer to the last named with more numerous, lower, lamellae. Your figure of Epitriton Smith, 1907, is extremely close to a lot at the California Academy of Sciences collected at Barrow by the late Dr. G. Dallas Hanna, and which are Epitriton borealis (Beck) in Lyell, 1839."

Dr. Myra Keen wrote expressing interest and more information in the small tentatively figured as a member of the Vermetidae (Fig. 17 of "Collecting in Antarctica"). She is actively working on the Vermetidae and states that in general they are tropical or subtropical mollusks. She stated that there was one species described from the southern Indian Ocean that is similar to that figured in the Antarctic article. The original black-and-white photograph of the minute shell was sent to Dr. Keen with the information that in all the searching of the Antarctic literature by this writer there was only one reference to the Vermetidae. This was in Tomlin's article, "The Molluscs of Macquarie Island," which was part of the work on the BANZ Antarctic Research Expedition, 1929-31. This article discussed a specimen originally thought to be a Siphonium and later identified as a species of Spirorbis (Polychaeta).

After reviewing the original black-and-white photograph, Dr. Keen stated "I see nothing to indicate that this is a member of Vermetidae. Much more likely this is an annelid worm of the genus Spirorbis, which often gets taken for being molluscan. For example, Dall's Bulletin 112, a checklist of New American mollusks published in 1921 lists Vermiculum anellum, which is without a doubt a Spirorbis.

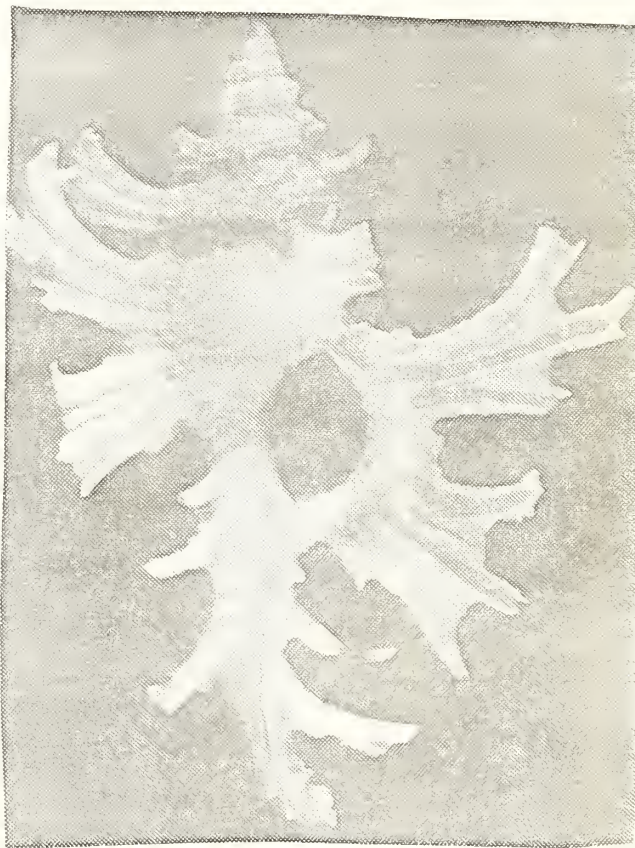
I have compared your figure with that of the type of Macgillia from the southern Indian Ocean, which I mentioned to you, but it doesn't match at all. As I think I told you before, the Vermetidae are in general warm-water to warm-temperate-water organisms."

CORRECTION: November 1977 issue of the FESTIVUS, p. 77, "New and Poorly-Known Coralliophilidae and Muricidae from the Western Pacific", Top pictures; Dorsal and ventral views of Latiaxis sp., size 30 mm, should read: richly and prominently sculptured shell from Bohol Is., Philippines. The color of the shell is tan.

NEW OR POORLY-KNOWN CORALLIOPHILIDAE AND MURICIDAE, PART III

By ANTHONY D'ATTILIO*

In this third article, three different genera are featured. They are from diverse regions rather than from the western Pacific as in the previous segments. Location data received on these shells is of a general nature.



Chicoreus sp. Dorsal and ventral views
Approx. size: 40 mm.
Location: from Taiwan fishermen

This Chicoreus is rather unique in its form. It is reminiscent of some fossils which are very strange. It is whitish in color.

Siphonochelus sp.
Dorsal and ventral views
Approx. size: 5 mm.
Location: Gulf of Mexico

This is probably the first true living Siphonochelus according to the author. This rather minute, off-white shell was dredge in the Gulf of Mexico



Pteropurpura sp. Dorsal and ventral views
Approx. size: 17 or 18 mm.
Location: off West Africa

This is the first known occurrence to science of a Pteropurpura in the eastern Atlantic. This light brown shell was taken by divers off the coast of West Africa.

* Original 35 mm slides and black and white prints from them by TIMOTHY photographer, Dave Mulliner.

MINUTE SHELLS

By JULES HERTZ

The shells featured below are from the Hertz collection and were obtained by Dave and Margaret Mulliner by dredging in 100 ft. of water, north of Punta La Gringa in Bahia de los Angeles, Baja California, Mexico on May 19, 1976. Similar in size, shape, and coloring and sometimes even in cross section, the minute members of the Families Dentaliidae and Caecidae are often confused by beginning collectors. The members of the Caecidae are always small, whereas members of the Dentaliidae may get to more than 150 mm.

The Dentalium hancocki Emerson, 1956 pictured below is 6 mm. long and pure white. The cross section is square shaped although the individual sides are wavy as a result of the shape of the major ribs. There are numerous pits in the grooves between the major ribs. The specimen figured by Keen (See Shells of Tropical West America, 1971) is 14 mm. long.

The two specimens of Caecum below are believed to be Caecum elongatum Carpenter, 1857. The shells have a white background with sections colored in various shades of brown ranging from beige to chocolate.



Dentalium hancocki
Emerson, 1956
Length: 6 mm.



Caecum elongatum Carpenter, 1857
Length: 3 to 4 mm.



LIBRARY NOTES
By BARBARA MYERS

GIFT-- From Rhoda Radwin to the San Diego Shell Club Library --
"Norges Geologiske Undersogelse #31 - Om de Senglaciale og Postglaciale
Nivaforendringer i Kristianiafeltet (Molluskfaunan)" Af W. C. Brogger
- 1900 og 1901. (On the Late Glacial and Postglaciale Changes of
Level in the Kristiania Fiord Region).

Disputing the opinion that the great terminal moraine ridges
(the ra's) on both sides of the Kristiania Fiord in Southern Norway
indicate the uttermost limit of the last great ice sheet and claiming
this area was completely covered during the last ice epoch to the
extreme limit of the land mass and beyond. Discussion of the various
molluscan fauna of the different shell banks and clay beds is enhanced
by 19 beautiful black and white plates, each plate containing pen and
ink drawings of many species. Although written in Norwegian, there
is a 52 page summary in English.

FROM THE MINUTES
By MARTY SCHULER

Twenty-seven shell enthusiasts were present at the November meeting of the
San Diego Shell Club. The topic for the evening was Shelling in Madagascar
given by Greg Hamann. It was a delightful talk as Greg told of his experiences
with transportation and the language barrier. No slides were shown, but there
was a photo album along with a large tray of shells collected while on the trip.

There was a refreshment break after the talk with the business meeting
following. The minutes of the last meeting were approved and so were the
officers for 1978. They are: Pres. - June King, Vice Pres.- Phil Faulconer,
Rec. Sec. - Walter Robertson, and Treas. - Bob Schoening. The menu for the
Christmas party was approved. Jayne Schmaltz brought more card packets for
both the drawing and for those interested in purchasing them. The door prize
was won by Roland Taylor and this month was the BIG shell drawing for the Cypraea
sanguinolenta. This was won by Marty Schuler.

FOR YOUR INFORMATION

1. Dues are due by the end of February in order that you be included in the
1978 Club roster which is included in the April FESTIVUS.
2. The February issue of the FESTIVUS will be the special memorial issue to
Dr. George E. Radwin.
3. Hugh Bradner has accepted the responsibility for ordering books for the
Club and its members. A list will be passed at the January meeting so that
members may list their preferences.
4. The Broward Shell Club invites exhibits for their 14th Annual Shell Show.
See June King for details.
5. For an excellent article, SHARK IN MINIATURE, see the Nov.-Dec. 1977 issue
of OCEANS. Article and photography by Barbara W. Myers.

401
F418
Moll.
THE

/ WILLIAM H. DALE
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

10.

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc., c/o Bob Schoening, Treas.
258 Slate St., Chula Vista, Ca. 92011.

Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address correspondence other than dues to San Diego Shell Club,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

February 1978

No. 2

*
* PROGRAM: Dave Mulliner will speak on "Photographing of Shells." He
* will give an illustrative lecture using slides and his
* actual equipment.
*
* SAVE THE DATE!! The Club auction will be held on April 15, 1978 at
* the home of Marge and Hugh Bradner (same as last year). Details
* in March issue.
*

CORRECTION: Page numbers for Vol. X, No.1 of FESTIVUS (January) should be
pp. 1-9 instead of 84-92.

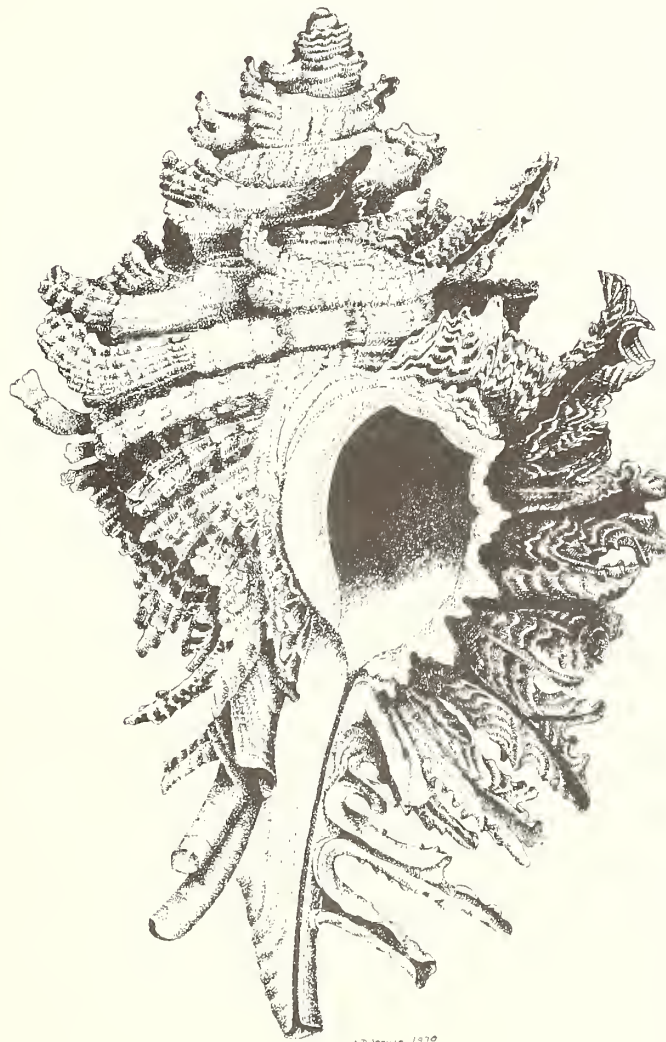
FOR YOUR INFORMATION

1. DUES ARE DUE!! Your dues must be received by the treasurer before April 1, in order for your name to be included in the membership roster printed with the April issue of the FESTIVUS.
2. Your shell donations are needed for the Club auction on April 15. It is the Club auction/potluck which pays for The FESTIVUS, supports Club social functions and donations to scientific programs, and keeps our dues very low. Your quality shells with complete collecting data, when possible, should either be brought to the February meeting or to a Board member. Arrangements can be made to have shells picked up at your home. The Club needs EVERYONE'S help in donating and buying.
3. We are requested to donate plants to the S.D. Botanical Garden Foundation's fund raising effort in April. Start your plants now--none smaller than 2" in diameter. More information at the February meeting.

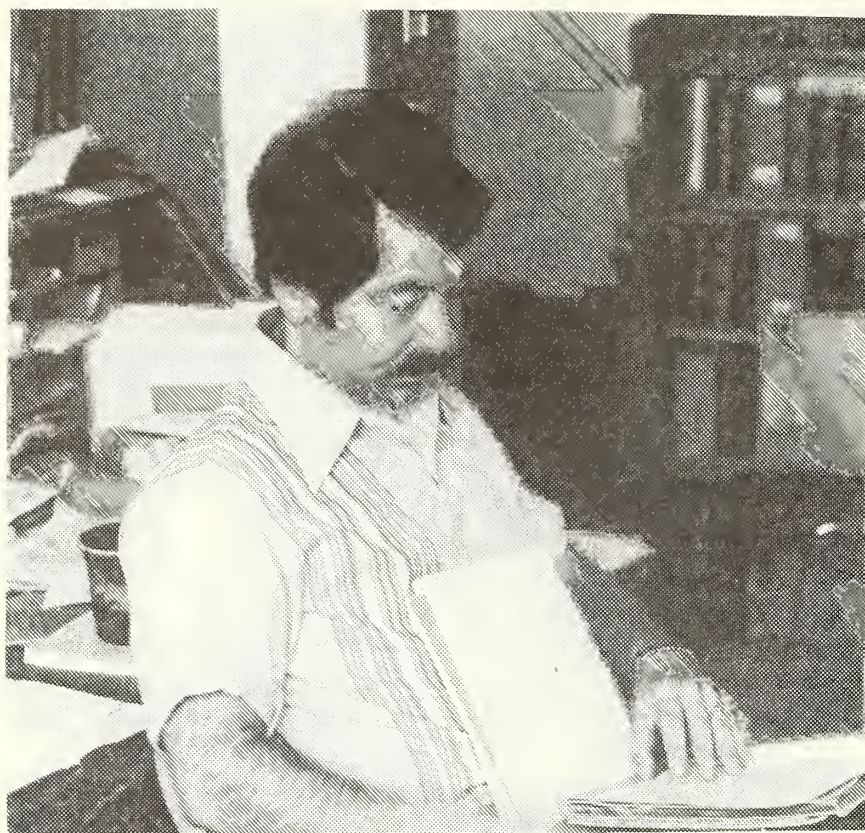
THE
FESTIVUS

VOL. X No.2 FEBRUARY 1978

MUREXIELLA RADWINI



GEORGE E. RADWIN
MEMORIAL ISSUE



1940 - 1977

GEORGE E. RADWIN 1940 - 1977

SOME BIOGRAPHICAL NOTES

By Anthony D'Attilio

George's interest in the sea was that of a lifetime. He was born and raised in Rockaway, New York, with the Atlantic Ocean and the surrounding bays within easy reach. As a child, he spent his time swimming, diving, and collecting the marine animals and sea shells of that area. This led to his interests, as an adult, in marine zoology with special emphasis on the taxonomy of marine mollusks. After graduating from Brooklyn College, he and his wife, Rhoda, went to Florida State University at Tallahassee where he worked on his masters program. The thesis to complete his studies there was on the "Morphological and ecological differentiation in muricid gastropods of the northeastern Gulf of Mexico."

Following this, he enrolled at George Washington University in Washington, D.C. where he undertook to finish his studies for his doctoral degree. As his doctoral dissertation he chose to study the western Atlantic Columbelloidea, a family with a complex group of genera, highly polymorphic at both the species and generic levels. Although the dissertation in its entirety was not published, portions of it were. The earliest was a paper in 1967, "Notes on the Taxonomy and Zoogeography of the Columbelloidea," published by the American Malacological Union.

Within a few months, he and his family moved to San Diego where he took the position of Curator of Marine Invertebrates at the San Diego Natural History Museum and remained there in this position until his sudden and unexpected death at the age of 37.

Working alone or with a number of co-authors he published, within a comparatively short period of ten years, a number of papers dealing with molluscan taxonomy. Among those works was a major one on the family Muricidae. In continuation of his studies on the Columbelloidea, two papers dealing with this family appeared in the *Veliger*, and a third in press is to appear in the *Veliger* soon, as noted in the bibliography. There are also some unfinished manuscripts not only on the Columbelloidea of the western Atlantic but on those of the eastern Pacific, an area extremely rich in species of this family, many not yet described.

In addition to his career and his family life (he was the father of two children, Marshall and David), George had developed also a keen interest in the study and collecting of succulent plants, especially the Cactaceae. Out of this interest there appeared over several years a number of short papers in *Espinas y Flores*, the journal of the Cactus and Succulent Society of San Diego. He also contributed three small papers to the *Journal of the Cactus and Succulent Society of America*.

A quick ability to learn and a keen interest in diverse subjects led him also to undertake the making of pottery. Following his own instincts he worked without the potters' wheel, developing the forms entirely manually. These creations were gaining in interest and a number finished within the last year or two found ready buyers. His untimely death brought to a close a promising, many-faceted career.

THE SAN DIEGO YEARS

1968 - 1977

George Radwin's professional life in San Diego was a busy and productive one. Soon after his arrival in San Diego in 1968 to accept the chairmanship of the Department of Marine Invertebrates at the San Diego Natural History Museum, he plunged into many activities in his field.

He immediately became involved in the San Diego Shell Club, willingly giving many talks to its membership and being its Vice-President (program chairman) in 1969. It was only through George's efforts that the Club was able to meet without charge in the Museum for several years.

Dr. Radwin was an enthusiastic supporter of the Western Society of Malacologists and regularly presented papers at its annual meetings. In 1973 he was elected to its Executive Council and in 1975 became its chairman. He was largely responsible for the very successful combined meeting of the WSM-AMU held in San Diego in June of 1975.

George was a consultant on practical problems relating to marine invertebrates for the San Diego Zoo and Wild Animal Park as well as the Western Salt Co. and the State Fish and Game Dept. He taught courses in marine biology both on the university level and in the adult education program.

Dr. Radwin was not satisfied to be an armchair scientist. In addition to his research and curatorial duties, he traveled into northern California and Oregon and into Mexico on collecting trips and greatly enjoyed field work. He led many tidepool walks in the San Diego area to share with others the wonders of the intertidal community. He even led occasional snorkeling outings off the La Jolla area. His on-site observations made him a valuable scientific advisor for the Rocky Shore Diorama of the Sefton Hall of Shore Ecology at the San Diego Natural History Museum.

George Radwin was an innovative curator. He interested many amateurs in volunteering and studying in the marine invertebrate department at the Museum and was a helpful and patient teacher. As a result there was an impressive increase in the cataloguing done after Dr. Radwin took over the department. Under his tutelage, amateurs made in-depth studies of particular molluscan families and then assisted in their curating.

During Dr. Radwin's tenure at the Museum, a considerable amount of research was conducted by his department, as can be noted in the bibliography in this issue.

CUASTECOMATE

By Don Shasky

It was a lot of fun in planning. It was great fun being there, and for all of the effort expended we were richly rewarded, not only with good shells but with the lasting memories of camaraderie.

It was October 1968. The Olympic Games were on in Mexico City, but for Jim McLean and Pete Oringer of the Los Angeles County Museum, George Radwin of the San Diego Museum, Ed Wagner of Loma Linda University, and myself it was games of a different sort in Cuastecomate, Jalisco, Mexico.

Ed's games were a little different from the rest of us since he is a parasitologist. His interest---intestinal worms. It was amazing how much time it took to remove all of the worms in the two to three fish I caught for him in the surf each day. About midnight one night, as we returned from Manzanillo I hit an opossum with my car. It took Ed most of the rest of the night to pick out all of its intestinal worms.

But I'm getting ahead of my story. We had to get there first. George and Pete arrived in a San Diego Museum Travelall. Ed and I came in my car and Jim flew into Guadalajara and then came on by bus.

My car which was grossly overloaded was riding low. In Mazatlan I hit a high spot in the street with my muffler which greatly reduced its capacity. Then someplace between Mazatlan and Tepic it fell off. We literally roared on to Tepic where I found a curb service welder.

The Travelall brought the one piece of equipment that was to keep us underwater for our sojourn--the Los Angeles County Museum compressor. The temperament of this monster was to keep us frustrated on a continuing basis. If it hadn't been for Pete's expertise as a gadgeteer we would have had very little time in the water. The peace and quiet of the gentle cove was attacked about eight hours a day with the gasping, balky, raucous intonations of this device that tried to keep our ravenous appetites for air satisfied. It protested and protested and protested.

With Ed sitting at his microscope, forceps in hand, picking and sorting worms, the rest of us were gulping down our precious air. George was the least experienced diver and he generally stayed in shallower water. Wisely, he was cautious and he had a great time--except for the one day when the comidas of the El Dorado cocina provided a little something "extra." He suffered as much from knowing that the rest of us were under water as he did from the El Dorado special.

I had brought a box of food with me just in case the El Dorado fare wasn't to my liking. George never, but never, let me forget that I ate smoked albacore while he chewed on shoe leather (or whatever that stuff was).

At the end of eight days, I was so tired and my feet so sore from walking over the rocks to get to our diving spot that Ed and I left for Guadalajara to rest up. The rest of the gang joined us a couple of days later.

I had tire trouble in Guadalajara and the Travelall blew a tire between Guaymas and Hermosillo, which is all part of a trip to Mexico. We had had great fun--non-stop fun. Scientifically the fun continued as we worked up the specimens after our return. Several new species were subsequently described from this trip.

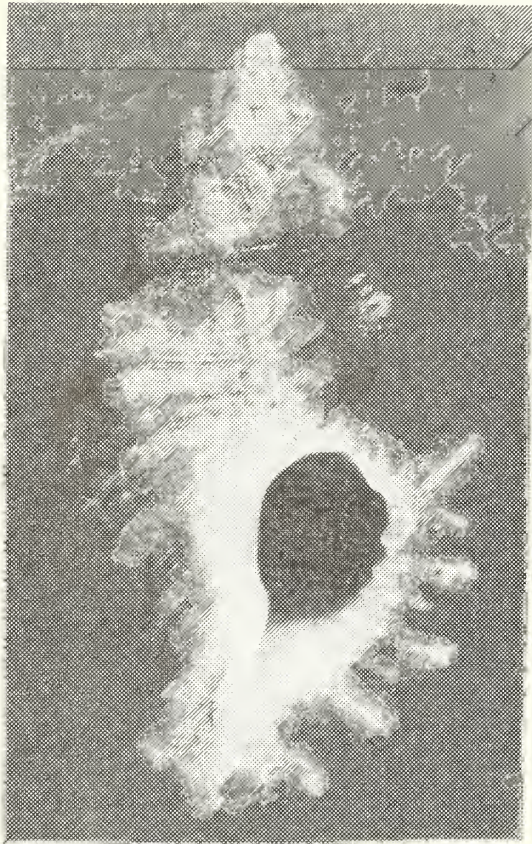
This was the only collecting trip that I made with George. I treasure the movie I made of it. George was a special guy to me. We enjoyed many pleasures. We enjoyed many arguments. We shared many moments. He was a dear friend. I miss him.

NOTE: The following three species were named as a result of this trip.

Muricopsis jaliscoensis Radwin and D'Attilio, 1970

Bizetiella micaela Radwin and D'Attilio, 1972

Aspella pollux Radwin and D'Attilio, 1976



Muricopsis jaliscoensis
Radwin and D'Attilio, 1970



Aspella pollux
Radwin and D'Attilio, 1976

GENERA AND SPECIES NAMED FOR GEORGE E. RADWIN

Radwinia Shasky, 1970

Type species: Radwinia tehuantepecensis Shasky, 1970

Holotype: Height: 8.7 mm
Diameter: 2.8 mm

This new columbellid genus was named in The Veliger, Vol. 13, #2, pp. 188-195, "New Gastropod Taxa from Tropical Western America," by Donald R. Shasky.

Murexiella radwini Emerson and D'Attilio, 1970

Holotype: Height: 33.5 mm

This new species was named in The Veliger, Vol. 12, #3, pp. 270-274, pls. 39-40, "Three New Species of Muricacean Gastropods from the Eastern Pacific," by Emerson and D'Attilio.

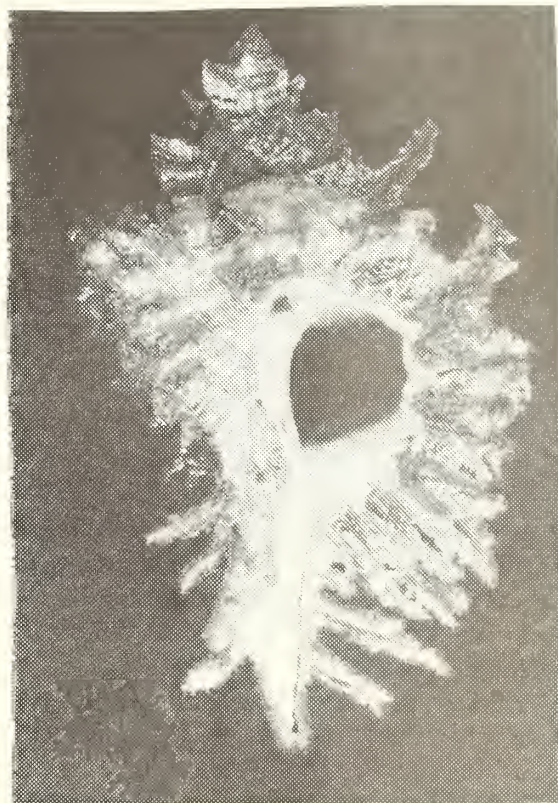


Radwinia tehuantepecensis
Shasky, 1970



Murexiella radwini Emerson and
D'Attilio, 1970

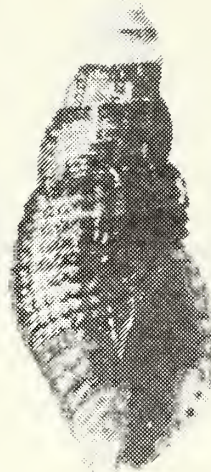
Dorsal and ventral views



Salitra radwini Marinovich, 1973

Type species of Salitra
Holotype: Height: 6 mm

This new columbellid species was named in the Bulletin of the Natural History Museum of Los Angeles County; No. 16, Feb. 20, 1973, pp. 36-38, Figs. 77, 78, 86; "Intertidal Mollusks of Iquique, Chile," by Louis Marinovich.

Salitra radwini Marinovich, 1973

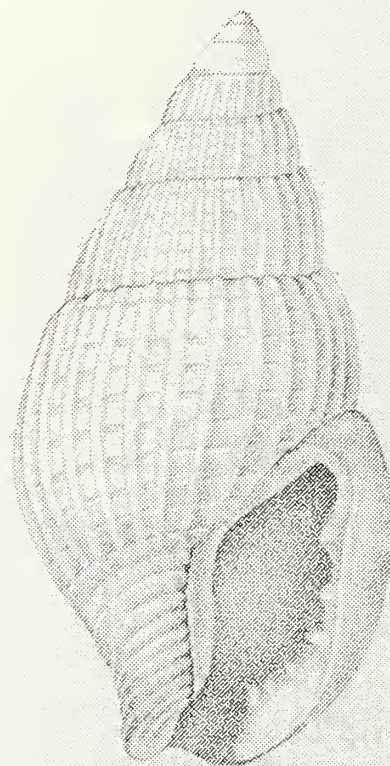
This photo of the holotype used with permission of Dr. James McLean of the Los Angeles County Natural History Museum.

Anachis (Parvanachis) radwini Altena, 1975

Holotype: Height: 5.6 mm

This columbellid species was named in Zoologische Verhandelingen, a publication of the Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands, No. 139, March 6, 1975, pp. 49-51, pl. 17, "The Marine Mollusca of Suriname (Dutch Guiana) Holocene and Recent Part III Gastropoda and Cephalopoda," by C.O. Van Regteren Altena.

In Dr. Radwin's work, "The Family Columbellidae in the Western Atlantic. Part IIa- The Pyreninae," The Veliger, Vol. 20, No. 2, pp. 128-129, he states, "I disagree with Dr. Altena as to the distinctness of P. radwini and consider the form to probably be conspecific with Parvanachis isabellei."

Anachis (Parvanachis) radwini
Altena, 1975

This photo of the holotype used with permission of Dr. E. Gittenberger of the Rijksmuseum Van Natuurlijke Historie.

NEW TAXA DESCRIBED BY GEORGE E. RADWIN

The following group of genera and species were first described in the Proceedings of the Biological Society of Washington, Vol. 81, pp. 143-150, April 30, 1968.

Rhombinella new genus

Type species: Buccinum laevigatum Linne, 1758

Anachis (Suturoglypta) new subgenus

Type species: Columbella pretrii Duclos, 1846

Anachis (Parvanachis) new subgenus

Type species: Buccinum obesum C.B. Adams, 1845

Anachis (Parvanachis) rhodae new species

Anachis (Costoanachis) fenneli new species



Buccinum laevigatum Linne,
1758



Columbella pretrii
Duclos, 1846



Buccinum obesum
C.B. Adams, 1845

Photo from files of
Dr. Radwin.



Anachis (Parvanachis)
rhodae new species

Photo from files of
Dr. Radwin.

The next two species were first named in The Veliger, Vol. 12, No. 2, pp. 149-156, Figs. 1-5, 2 plates, October 1, 1969. They were described by Dr. Radwin in collaboration with Dr. William K. Emerson in the article entitled, "Two New Species of Galapagan Turrid Gastropods."

Mitrolumna keenae Emerson & Radwin spec. nov.

Hindsiclava hertleini Emerson & Radwin spec. nov.

In 1970, "A New Species of Muricopsis From West Mexico," was published in The Veliger, Vol. 12, No. 3, pp. 351-356, pl. 52, Figs. 1-4. The new species described by Dr. Radwin and Anthony D'Attilio:

Muricopsis jaliscoensis Radwin & D'Attilio spec. nov.
(Photo of this species appears on page of this issue).

A new mitrid was described by George E. Radwin and Loyal J. Bibbey in Transactions of the San Diego Society of Natural History, Vol. 17, No. 7, pp. 95-100, Figs. 1-8, one plate, August 31, 1972 in the paper, "A New Mitrid From the Western Atlantic."

Mitra (Pleioptygma) helenae n. sp.

Mitra (Pleioptygma) helenae
new species

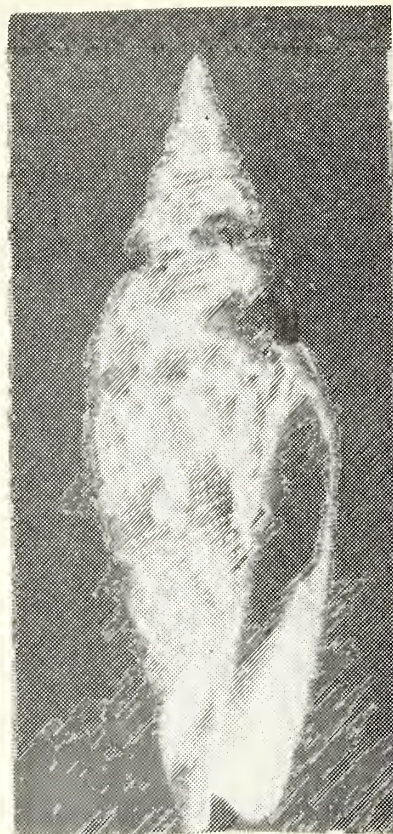
New taxa described by George Radwin and Anthony D'Attilio appeared in the Proceedings of the Biological Society of Washington, Vol. 85, No. 28, pp. 322-353, one plate, Figs. 1-26, on December 30, 1972. The article is entitled, "The Systematics of Some New World Muricid Species (Mollusca, Gastropoda) with Descriptions of Two New Genera and Two New Species." The new genera and species follow.

Evokesia new genus

Type species: Sistrum rufonotatum
Carpenter, 1864

Bizetiella new genus

Type species: Tritonalia carmen
Lowe, 1935



Sistrum rufonotatum Carpenter, 1864

Bizetiella micaela new species

Bizetiella shaskyi new species

In 1976, the eagerly awaited, 284 page "Murex Shells of the World," by George E. Radwin and Anthony D'Attilio, with photography by David K. Mulliner was published by Stanford Press. The sixteen new species described in the book are listed below.

Aspella castor sp. nov.

Aspella cryptica sp. nov.

Aspella mauritiana sp. nov.

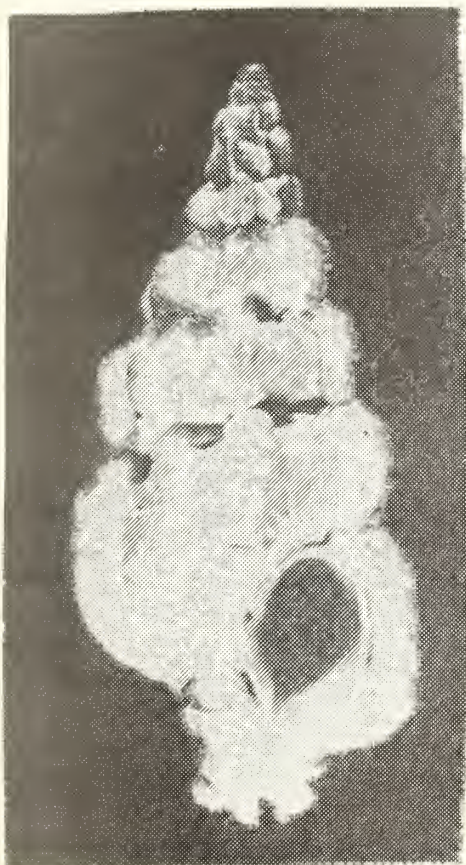
Aspella marchi sp. nov.

Aspella platylaevis sp. nov.

Aspella pollux sp. nov.



Tritonalia carmen, Lowe, 1935



Aspella castor sp. nov.



Aspella pollux sp. nov.

Aspella ponderi sp. nov.

Chicoreus akritos sp. nov.

Marchia bibbeyi sp. nov.

Murex purdyae sp. nov.

Favartia poormani sp. nov.

Muricopsis huberti sp. nov.

Muricopsis tulensis sp. nov.

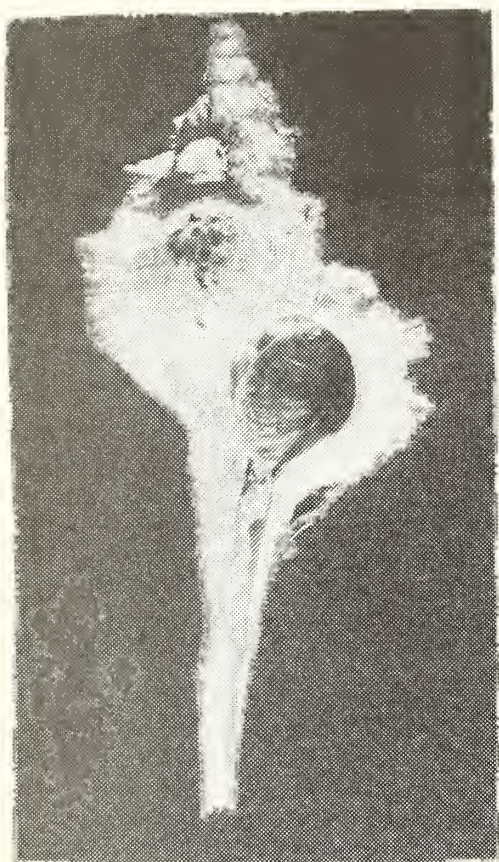
Talityphis bengalensis sp. nov.

Talityphis campbelli sp. nov.

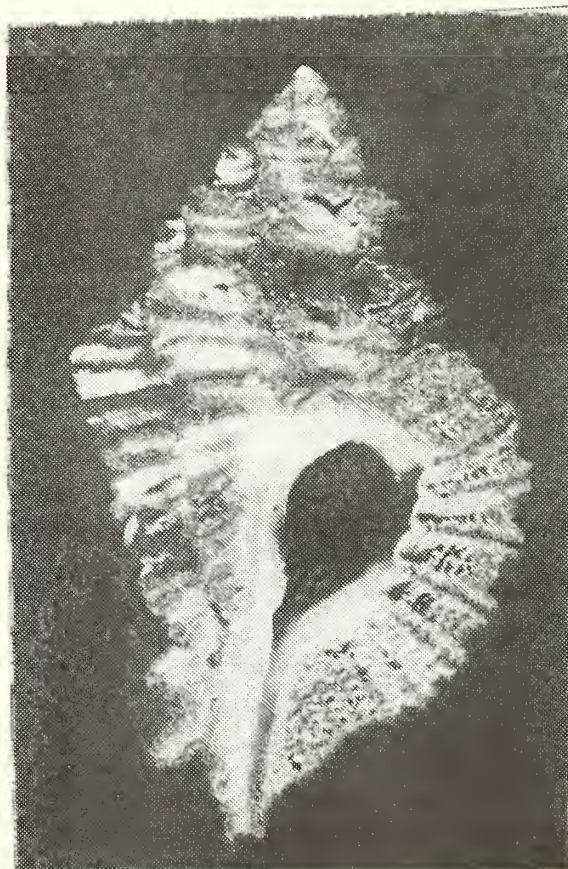
Talityphis perchardei sp. nov.



Marchia bibbeyi sp. nov.



Murex purdyae sp. nov.



Favartia poormani sp. nov.

BIBLIOGRAPHY OF GEORGE E. RADWIN

This bibliography of articles by George E. Radwin includes all his published material on mollusks and early unpublished works later cited in his research. In addition to his papers dealing with original biological and taxonomic research; his articles relating to marine environments, written in a lighter vein, are included here also.

- 1964 Morphological and ecological differentiation in muricid gastropods of northeastern Gulf of Mexico. (Unpublished masters thesis) Florida State University, 73 pp., pls. 1-14.
- 1967 Notes on the Taxonomy and Zoogeography of the Columbelloidea, Annual Reports for 1967 of Amer. Malac. Union, Pac. Div., pp. 22-23.
- 1968 A systematic revision of the family Columbelloidea in the western Atlantic. (Unpublished doctoral dissertation) George Washington Univ., 255 pp., 54 pls.
- New Taxa of Western Atlantic Columbelloidea (Gastropoda, Prosobranchia). Proc. Bio. Soc. Wash., Vol. 81, pp. 143-150, Figs. 1-10, (April 30).
- _____ and WELLS, H.W.
Comparative radular morphology and feeding habits of muricid gastropods from the Gulf of Mexico. Bull. Mar. Sci., Vol. 18, No. 1, pp. 72-85, 19 figs., one plate.
- The Systematic Position of Glyptaesopus. Nautilus, Vol. 82, No. 1, pp. 18-19, Figs. A-E, (July).
- 1969 A Recent Molluscan Fauna from the Caribbean Coast of Southeastern Panama. Transactions S.D. Soc. Nat. Hist., Vol. 15, No. 14, pp. 229-236, Fig. 1, (June 27).
- Technique for Extracting and Mounting Gastropod Radulae. The Veliger, Vol. 12, No. 1, pp. 143-144, (July 1).
- EMERSON, WILLIAM K. & RADWIN, G.E.
Two New Species of Galapagan Turrid Gastropods. The Veliger, Vol. 12, No. 2, pp. 149-156, 2 plates, Figs. 1-5, (October).
- The European Brown Snail, a Pest in California, Environment Southwest, S.D. Soc. Nat. Hist., No. 417, pp. 4-5, Figs. 1-2, (October).
- 1970 _____ and D'ATTILIO, ANTHONY
A New Species of Muricopsis from West Mexico. The Veliger, Vol. 12, No. 3, pp. 351-356, pl. 52, Figs. 1-4, (January 1).
- Notes on the Evolution of the Muricidae. The FESTIVUS, Vol. 1, No. 1, pp. 3-5, (January).
- The Columbelloidea. (From a talk in Jan. 1970 to the S.D. Shell Club), The FESTIVUS, Vol. 1, No. 2, pp. 1-3, (February).

____ and D'ATTILIO, ANTHONY

Notes on the Evolution of the Muricidae. (Abs.) The Echo for 1969, Abs.&Proc. of Sec. Ann.Mtg. of W.S.M., pp.21-22, (Mar.9).

Food for Thought. Environment Southwest, S.D.Soc.Nat.Hist., No.425, pp.3-4, Figs.1-5.

- 1971 D'ATTILIO, ANTHONY & RADWIN, GEORGE E.
The INTRITACALX, an Undescribed Shell Layer in Mollusks. The Veliger, Vol. 13, No.4, pp.344-347, one plate, Figs.1-8, (Jan.1)
The Radula. The FESTIVUS, Vol.II, No.1, pp.4-6, (Jan.)
Notes on Generic Names and Placement in the Muricacea and Buccinacea. The FESTIVUS, Vol.II, No.2, pp.1-3, (Feb.).
D'ATTILIO, ANTHONY & RADWIN, GEORGE E.
The Intritacalx, A Previously Uninvestigated Surface Layer of Some Muricid Gastropod Shells. The Echo, Abs.&Proc. Third Ann.Mtg. W.S.M. for 1970, pp.21-22, (March 7).
Notes on Generic Names and Placement in the Muricacea and Buccinacea. The Echo, Abs.&Proc.of Third Ann.Mtg. W.S.M. for 1970, pp.29-31, (March 7).
Feeding Habits in Prosobranch Gastropods. The FESTIVUS, Vol.II, No.10, pp.2-5, (October).
____ and D'ATTILIO, ANTHONY
Muricacean Supraspecific Taxonomy Based on the Shell and the Radula. The Echo, Abs.&Proc. W.S.M. for 1971, No.4, pp.55-67, Figs. 1-23, (Dec. 27).
- 1972 The Systematic Position of Urosalpinx carolinensis Verrill, 1884 with comments on the genus Mohnia Friele, 1878. Transactions, S.D.Soc. Nat.Hist., Vol.16, No.16, pp.339-342, Fig.1, (Jan. 12).
A Systematic Note on Ocenebra poulsoni Carpenter, 1865. The Veliger, Vol. 15, No.1, pp.35-37, Figs.1-6, (July 1).
____ and BIBBEY, LOYAL J.
A New Mitrid From the Western Atlantic. Transactions, S.D.Soc.Nat. Hist., Vol.17, No.7, pp.95-100, Figs.1-8, (August 31).
____ and D'ATTILIO, ANTHONY
The Systematics of Some New World Muricid Species (Mollusca, Gastropoda), with descriptions of two new genera and two new species. Proc. Bio. Soc. of Wash., Vol.85, No.28, pp.322-353, one plate, Figs.1-26, (December 30).
- 1973 ____ and CHAMBERLIN, J. LOCKWOOD
Comments on the incidence of non-pelagic larval development in the Stenoglossa (Gastropoda: Prosobranchia). (Abs.), The Echo, Abs. & Proc. of Fifth Ann. Mtg. of W.S.M., p.40, (March 5).

____ and CHAMBERLIN, J. LOCKWOOD

Patterns of Larval Development in Stenoglossan Gastropods.
Transactions, S.D. Soc. Nat. Hist., Vol.17, No.9, pp.107-117,
Figs.1-8, Table 1, (March 12).

What is a Species? The FESTIVUS, Vol. IV, No.7, pp.50-53, Figs. 1-6.
(July)

1974 Columbellid Genera of the Eastern Pacific. The FESTIVUS, Vol. IV, No.1,
pp.88-91, Figs.1-5, (January).

Columbellid Genera of the Eastern Pacific. (Abs.), The Echo, Abs. &
Proc. of Sixth Ann. Mtg. of W.S.M., p.24, (February).

Tijuana Slough. Environment Southwest, S.D.Soc.Nat.Hist., No.461,
p.10, (February).

A Marine Oddity. Environment Southwest, S.D.Soc.Nat.Hist., No.464,
p.9, one plate, (May).

Acanthina lugubris Reappears in San Diego. The FESTIVUS, Vol.IV, No.5,
p.14, (May).

Gastropod Feeding. Environment Southwest, S.D.Soc.Nat.Hist., No.466,
p.8-9, one plate, (Aug.-Sept.).

A Review of the genus Muricopsis. Ann. Rept. of W.S.M. for 1974,
pp.27-28, (Nov.12).

1975 ____ and D'ATTILIO, ANTHONY

A Catalogue of Muricacean Generic Taxa. Transactions, S.D.Soc.Nat.
Hist. Vol.17, No.20, pp.279-292, (May 16).

A Review of the Genus Aspella (Gastropoda; Muricidae) (Abs.) Bull.
of A.M.U. for 1975, pp.58-59.

1976 ____ and HEMINGWAY, GEORGE T.

Muricanthus radix and Eupleura triquetra (Gastropoda; Muricidae) New
Range Records from Western Baja California. The Veliger, Vol.18,
No.3, pp.339-340, (January 1).

Why Save a Marsh? Environment Southwest, S.D.Soc.Nat.Hist., No.474,
pp.9-10.

____ and D'ATTILIO, ANTHONY

Murex Shells of the World, An Illustrated Guide to the Muricidae.
Stanford Univ. Press, 284pp., 32 plates.

____ and COAN, EUGENE V.

A Catalogue of Collations of Works of Malacological Importance.
W.S.M., Occasional Paper 2, ppl-34, (Aug. 17).

Phyllonotus (Gastropoda, Muricidae) a Worldwide Tropical and Sub-
Tropical Genus. (Abs.) Ann.Rept. of W.S.M. for 1976, p.42, (Oct.12).

1977 The Family Columbelloidae in the Western Atlantic. The Veliger, Vol.19, No.4, pp.403-417, 2 plates, Figs.1-4, (April 1).

The Family Columbelloidae in the Western Atlantic, Part IIa.- The Pyreninae. The Veliger, Vol.20, No.2, pp.119-133, 4 plates, Figs.1-47, (October 1).

IN PRESS

The Family Columbelloidae in the Western Atlantic, Part IIb.- The Pyreninae.

The Columbelloidae (in) The Treatise on Invertebrate Paleontology. (ed.) Raymond D. Moore.

ACKNOWLEDGEMENTS

The editor wishes to acknowledge the assistance of the following in the preparation of this memorial issue.

Front cover: Anthony D'Attilio

Photography (unless otherwise noted): David K. Mulliner

Research assistance: Barbara W. Myers

Scientific consultant: Anthony D'Attilio

Photo of Dr. Radwin on inside cover by David K. Mulliner, used with permission of the San Diego Natural History Museum.

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

March 1978

No. 3

PROGRAM: Ronald McPeak, senior marine biologist and diver at Kelco,
will speak on the Fauna of the Kelp Beds.

A large Conus geographus will be awarded the winner of the
bonus drawing at this meeting. You must be present to win.

Date: March 16. Time: 7:30 P.M. Room 104.

COME TO THE AUCTION/POTLUCK!! April 15, 1978 at the home of Marge and
Hugh Bradner. Time: 6:00 P.M. -? . Map will be in the
April issue. Bring your shell donations to the March meeting

FROM THE MINUTES OF THE FEBRUARY MEETING

By SANDIE SECKINGTON

President June King called the meeting to order at 7:45 P.M. The meeting was turned over to Dave Mulliner, who spoke on the techniques of photographing shells. It proved fascinating to everyone and his presentation was excellent. He first showed some wonderful slides which illustrated the various techniques he uses. He commented on the types of film, flashes, backgrounds and textures that he has found most successful and answered many questions from the members. He then demonstrated equipment that he had brought with him. Of particular delight to us all were his statements that proper lighting is the key to good photography and that no matter what kind of camera one uses, if the subject is prepared properly, successful photography can result!! (An article by Dave on his talk will appear in a future issue of The FESTIVUS. Ed.).

Following a refreshment break, the business meeting commenced. The

minutes of the previous meeting were read and approved as corrected.

Hugh Bradner, Book Chirman, announced that the first book order has been received and distributed. In the future, London Associates will bill each individual and payment will then be made directly to the Club. The catalogue for orders will be at each meeting and members may sign up for their orders.

Dues must be in by April 1 if a member wishes to be included on the Club roster. Marty and Sherry Schuler will head the Publicity Committee.

The Tidepool Gallery in Malibu announces an exhibition of rare shells from eight private collections on March 10, 11, 12, 1978 from 11A.M.-5:30 P.M.

ABOUT THE AUCTION

The Auction/Potluck on April 15 at the Bradners' home (map next issue) is THE ONLY FUNDRAISER of the San Diego Shell Club. The money earned here keeps the Club productive and solvent. The auction proceeds pay for the FESTIVUS, presently costing about \$40. per issue; it keeps the dues low, probably the lowest in the world; it buys the books for the Club's considerable library; it pays Club memberships in appropriate organizations; it makes possible the Club award in the S.D. Science Fair for youth as well as making possible inimitable social events which are well known to friends of the San Diego Shell Club.

Bring your donations of quality shells to the April meeting, or call a Board member for their pickup. Then come to the Auction, have fun and buy, buy, buy!! It's an enjoyable and painless way of supporting the San Diego Shell Club.

From the TIDE CALENDAR FOR THE NORTHERN GULF OF CALIFORNIA University of Arizona

Compiled by MARGARET MULLINER

Only low tides of -4' or greater are listed here.

Tide times given in Mountain Standard Time.--one hour later than Pacific Standard.

For San Felipe subtract one hour from calendar time.

For Los Angeles Bay add 15-30 minutes to calendar predictions.

Amplitude of tides at L.A. Bay are half that of San Felipe tides.

MARCH				MAY				JUNE			
24	8:00a.m.	-4'	8:00 p.m.	-4'	5	6:30 a.m.	-4'	19	6:00a.m.	-4'	
25	8:30 "	-4'			6	7:00 "	-4'	20	6:30 "	-4.5'	
26	9:00 "	-4'			7	8:00 "	-4'	21	7:00 "	-5'	
27	10:00 "	-4'			20	6:00 "	-4'	22	9:00 "	-4.5'	
					21	6:30 "	-4'				
APRIL					22	7:00 "	-5.5'	JULY			
5			6:30 p.m.	-4'	23	8:00 "	-5.5'	19	7:00a.m.	-4.5'	
6	7:00 a.m.	-4'			24	9:00 "	-4.5'	20	7:30 "	-5'	
7	8:00 "	-4'						21	8:00 "	-4.5'	
22	7:00 "	-4'						22	9:00 "	-4'	
23	7:30 "	-5'			AUGUST						
24	8:00 "	-5'			17	7:00 a.m.	-4'	SEPTEMBER			
25	9:00 "	-4'			18	7:30 "	-5'	15	7:00 a.m.	-4'	
					19	8:30 "	-4.5'	16	7:30 "	-4'	
								17	8:00 "	-4'	
OCTOBER				NOVEMBER				DECEMBER			
14	7:00 p.m.	-4'		1	8:00 p.m.	-4'		1	7:30 p.m.	-4.5'	
15	7:30 "	-4'		12	6:30 "	-4'		2	9:00 "	-4'	
16	7:30 "	-4'		13	7:00 "	-4'		27	6:00 "	-4'	
31	7:30 "	-4'		14	7:30 "	-4'		28	6:30 "	-4.5'	
				28	6:00 "	-4'		29	7:00 "	-6'	
				29	6:30 "	-5'		30	7:30 "	-6'	
				30	7:00 "	-4.5'		31	8:00 "	-4.5'	

MINUTE SHELLS

By JULES HERTZ

The two shells figured below are from the Hertz collection. They were dredged by Dave and Margaret Mulliner in 100 ft. of water, north of Punta La Gringa in Bahia de los Angeles, Baja California, Mexico on May 19, 1976.

The small representative of the Family Columbellidae is Aesopus sanctus Dall, 1919. Aesopus is distinguished by short aperture and small size. The shell shown below is approximately 4 mm. long and white in color. Keen reports dimensions of 5 mm. in length and 1.7 mm. in diameter and a range of southern California to the Gulf of California.

The second shell pictured below is a member of the Family Pyramidellidae. The shell belongs to the Genus Turbonilla Risso, 1826 and there are many species of this genus from the Gulf of California. The specimen below is tentatively identified as Turbonilla histias Dall & Bartsch, 1909, although comparative material was not available to this writer. Assistance in identification of these minute shells would be most welcome. Three shells of this Turbonilla were found, varying in length from approximately 5.5 to 7.0mm. The anterior end of the shells are light orange in color with the shells tending towards brown on the posterior. The type specimen of T. histias is reported as 4.8 mm. in length.



Aesopus sanctus Dall, 1919
Length: 4 mm.



Turbonilla histias Dall & Bartsch, 1909?
Length: 7 mm.

□ CALIFORNIA □

PALAU

By M. FRANK KING

"A funny name to go on a California automobile license plate," I thought as I saw Dr. Pete Farmer pull into the hospital parking lot. Months later when I planned a tour of Micronesia, I found its significance. He took a year returning to the mainland after discharge from the military in Vietnam. After diving the Great Barrier Reef and islands all over the Pacific, he returned to Southern California, took up residence in a sailboat in Newport Harbor, and went to work in the Emergency Department. His memory of Palau was so impressive that he wanted to keep it close. After a visit of only four days I could easily understand his feeling.

My family, including sons aged eight and ten, had been on Majuro, Ponape, and Saipan where we had had great adventures both in and out of the water; so we felt like seasoned island hoppers when our Air Micronesia jet landed on the big island of Babelthaup. As we waited for the ferry to Koror and the modern Continental Hotel, we turned rocks at the roadside and got a sample of the great shelling we had in store.

As is customary "on tour," a guided excursion about the city was the first item on the itinerary. Koror is historically important in the South Pacific story. After domination by the Spanish and Germans, the Japanese made it a major center of commerce after W.W.I. After W.W. II, local rule and provincial interest returned under the protection of the U.N. and U.S. The pace of life became appropriate to the tropical island tradition.

Our guide, Saburo, had recently arrived from Japan. His father had worked on the islands in the prewar era and had sent his son to sample the good life. He was still getting acclimated and his English was not quite polished; so the perspective was not the same as the local folks might have given. To get this we stopped by the hospital to try and contact Dr. Nobuo Swee, who Dr. Farmer had known during his visit. It was Wednesday, so naturally he was playing golf.

The most sought after souvenirs of Palau are its story boards, carved wooden planks, each with a traditional story in bas relief. The place to get your story board is the jail. We were delivered to the Police Station at the prescribed hour and ushered to the carving area where the prisoners were hard at work. Most were serving terms for fighting and drunkenness. The processing of the boards was explained with demonstrations of carving, dying the wood with lime water, and polishing it with shoe polish. The boys bought small boards with stories of Yap stone money and some gory tale involving decapitation of the hero. The carver posed for a picture and we noted his cheeks were tattooed "Jesus Christ."

We admired one beautiful piece obviously too large to carry with us. A prisoner who was obviously a promoter volunteered to mail it for us for a small fee. It had begun to rain and visiting hours were over; so we hastily gave him our address and a fistful of money as we were rushed out to our taxi. The package never arrived, of course, and I later wrote the Chief of Police that I thought he had a dishonest person in his jail.

The formalities of rubbernecking about the city over, we were ready for some serious sightseeing--the Rock Islands. Chris, our guide, met us

at the dock at the foot of a steep drive below the hotel. The tide was high, covering the mud flats we had seen the previous evening. We sped away in a roomy outboard. Helen Osterman from Seattle was with us as we wove our way between the limestone cliffs of the larger islands and the familiar mushroom shaped small islets with their coiffeurs of lush vegetation. We went into a cave with stalactites and bats, and besides W.W. II machine gun emplacements. The propeller and tail antenna of a downed Japanese Zero protruded from the water of a bay near the beach where the movie "Hell in the Pacific" was filmed. We hoped to glimpse one of the local salt water crocodiles as we skirted the undercut banks of the headland, but they were elsewhere. Past a ~~small~~ white sandbar, we came to some islands of about one acre size and landed on one with picnic tables and a privy. I had hoped for something less civilized fearing that the nearby waters would be shelled out. Happily, I was wrong!

As the boat was beached, we could see innumerable trails in the sand through the clear water and before snorkeling gear could be unloaded we were gathering Terebra maculata of impressive proportions. After a quick lunch, we were able to spend five uninterrupted hours face down over coral jungles, sand, rock rubble and turtlegrass flats. This was by far the best picture of tropical water and its contents we had ever seen or could hope to find. The sand was full of not only Terebra maculata but I. dimidiata, I. crenulata, I. subulata, I. affinis and one long skinny specimen unlike any in my books. There were Oliva mineacea, O. tessellata, and O. annulata amythistina. Ceriths and cones filled the spaces between.

Out on the coral, the profusion of iridescent multicolored fish distracted us from shell collecting and we moved onto the rubble areas where cones were plentiful. We sacked Conus litteratus, C. distans, C. eburneus, C. pulicarius, C. musicus, C. flavidus, C. lividus, C. magus, C. rattus, C. catus, C. coronatus, C. ebraeus, and the beautiful C. imperialis. A full grown C. litteratus weighs about five pounds and two of those in a collecting bag can really slow down progress.

The tide was receding and a school of tiny fish moved through giving the impression of an underwater rain squall. For several minutes the scene was obscured by millions of flashing bits of silver, all moving together as a single organism. When we were ready to give up ever seeing another spot of bottom, the "cloud" blew away and there was the usual fauna of the area, poking about as if nothing had happened.

There was a blood curdling scream from David, aged ten. Investigation revealed a one inch laceration on the top of his head. He was retrieving some Murex brunneus from rocks under a limestone cliff and surfaced under the overhang. This slowed us only a few moments and we moved out over the turtlegrass flats toward the fringing reef. Cypraea moneta were scattered over the bottom, usually in pairs or threes. Lumbering Lambis lambis moved about the deeper holes where pairs of Conus imperialis were found. Here we also found more of the large cones.

Finally, I decided to swim out to the reef in hopes of finding some Cypraea. As I snorkeled along the shore in two foot deep water, I rounded a large rock and the depth dropped off to over twenty feet. There, facing me nose to nose, was a white tip shark whose dimensions I did not wait to assess. I looked back after clambering onto the rocks and noted that he was only about five feet long. I never got to the reef, however.

At the end of the day we surveyed our bounty to decide what to keep. We found few bivalves. A couple of Strombus lentiginosus, a variety of ceriths and turbans, and a host of still unidentified little snails filled our bags. Our only large cowry was a tiger found by Chris as he sought out his lunch, a ten inch Hippopus hippopus, which he devoured raw with lime juice. He shared

a portion and it is not entirely unpalatable though I suspect it is an acquired taste.

The next day was scheduled as "free" but with the help of some money, we persuaded Chris to take us back to some other islets, beaches, and reefs where we added more numbers than variety to our collections. We found Cypraea helvola inside coral rocks on the reef and some trochus to add weight to our bags. Lambis chiragra were more numerous toward the reef while Lambis lambis seemed to prefer calmer water.

Exhausted after the two full days in the water, we arrived at the hotel ready to clean up and pack for the next day's trip to Yap. There at the office was an invitation to a dinner party with Dr. Swee. It had arrived the day before, but somehow it was not important to get it to us. I called and found that the occasion was a farewell party for a husband-wife team of physicians who had completed their two year hitch in government service and were returning to Seattle the next day. I went alone to this one. The island's storied tradition of hospitality and conviviality was punctuated with a potluck consisting of everything from fried chicken to raw fish. Bread-fruit, taro root, yams, squash, banana, papaya, lobster---what a feast! Government lawyers, accountants, auditors, doctors, and dentists along with their wives swapped yarns about native customs and experiences. A lawyer whose assignment was to assist the islanders in collecting for damages to their property during W.W.II told about one man's claim for the loss of 250 trees from a plot barely large enough to support a dozen. It turned out that no dishonesty was intended. He had counted each stem of his taro plants as separate trees.

Dr. Swee was trained in Fiji as an M.O.---Medical Officer. With no basic science background, the natives are taught practical medicine and do a great job in their element, performing complicated surgery and caring for the seriously injured when necessary. He had taken additional training in New Zealand and he shivered as he told about being stranded in the snow on one occasion. Micronesians uniformly despise cold weather.

The party was held in the Community Center and while the entire staff of the hospital came to pay respects to the guests of honor, anyone in town was welcome to partake of the bountiful table and they did. In the postwar days this became the "watering hole" for the Navy personnel and civilian expatriates when it ceased to be an officers' club.

All this social life left limited time for packing our raft of shells, and certainly nothing got cleaned. The hotel had allowed storage in the freezer and in the early morning hours plastic bags were filled and placed in boxes and bound with ropes. It was with some doubts that we lined up at the check-in shed at the airport. Our baggage now consisted of eight suitcases, four flight bags, four boxes of shells, and 18 pound prism-shaped 3½foot long carton containing a carved wooden shark from Ponape, and three large carved wooden ships. The man in front of us was headed for Japan and had to pay an impressive overweight charge on just two suitcases. I'll never know why they let us on the plane, but they did. We looked forward to the next few days in Yap with eager anticipation, and the fabled Truk Lagoon lay ahead for us. But there was an unfulfilled feeling as we settled into our seats and got ready for the nuts and coke we'd learned to expect on the short flights. We had had more adventures than were morally justifiable, yet we had not even seen the "real Palau" of the countryside outside Koror.

Almost two years later, I get out my still unsorted shells and reminisce about the underwater paradise that once was their home. The area is now a hotbed of international controversy over the placement of an extensive industrial complex inside the reef. The current issue of OCEANS Magazine vividly describes the prospects for the future, and the memory of all these islands and reefs I did not get to visit reinforces my feeling that we had better see as much of our world as we can while it is still beautiful.

THE

FESTIVUS



QL
401
F418
Moll.

SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

April 1978

No. 4.

*
* SEE YOU AT THE AUCTION/POTLUCK!! *
*
* (There is no regular meeting this month). *
*
* Date: April 15, 1978 Time: 6:00 P.M. -? Place: The Bradners' home *
*
* For details and directions, see map on last page of this issue. *
*
* If you have not yet donated your shells, make arrangements to get them to *
* a board member before the auction date so they can be prepared for auction. *
*

FROM THE MINUTES

The speaker at the March 16 meeting was Ron McPeak, senior marine biologist and diver at Kelco. His was a knowledgeable and most enjoyable talk on The Fauna of the Kelp Beds. Ron gave insights into the biota of this complex environment in which the fastest growing perennial plant in the world, Macrocystis pyrifera, is the mainstay. He described the life cycle of this plant which lives for seven to eight years and grows thirty to forty feet in six months.

He explained the harvesting of the kelp canopy, a process beneficial to both the kelp and industry. The old stipes at the surface, which can absorb 99% of the light, are trimmed allowing sunlight to reach the new plants below and keeping the forest healthy.

He touched briefly on the commercial uses of kelp i.e. algin and on the problems of predation of kelp primarily by sea urchins.

His spectacular underwater slides highlighted the many creatures benefiting from the kelp forest--abalone, astraeas, and the many fish that find shelter there. In addition, his pictures of sponges, hydroids, anemones, crustaceans, mollusks etc. taken by Ron in their natural habitat among the kelp were works of art as well as part of his informative lecture.

At the business segment of the meeting, the April 15 Auction/Potluck was discussed as well as the Botanical Garden Foundation plant sale. No motions were made.

Marge Bradner won the bonus drawing of a perfect, very large Conus geographus.

The extra special refreshments in honor of St. Patrick's Day were provided by the Lindebrekke family.

COWRIE HUNTING ON MAUI

February 12, 1978

By HUGH BRADNER and BILLEE DILWORTH

Refuting widely held belief, eight species of cowries were collected in four hours, at less than five feet depth off a public beach on the west side of Maalaea Bay, on that theoretically shelled-out island of Maui. The most common, not surprisingly, was Cypraea caputserpentis under almost every good turnable rock. Cypraea isabella were fairly plentiful and large. In the same area, one hundred yards long and within thirty feet of shore we also collected live Cypraea teres, maculifera, granulata, fimbriata, mauiensis, helvola and semiplota. This last species was found while shivering slowly toward shore, thus demonstrating perhaps how important it is to keep looking. (An even more spectacular demonstration had occurred the previous day when Richard Dilworth live collected a beautiful pair of Cypraea gaskoini thirty feet above high-tide line, beside his parked car).

Finds were usually under volcanic rocks very close to shore rather than under coral slabs---perhaps because a carpet of green sea anemone covered the coral bottom a little farther out. We do not have first-hand evidence on the growth rate of the green carpet, but suspect that it may be very rapid since the region is described as having a good Cypraea mauiensis colony under flat coral slabs five years ago. Moderately fresh beach specimens of Cypraea mauiensis and Cyp. semiplota indicate that the region still boasts significant numbers of these prized Cypraea.

FOR YOUR INFORMATION

1. The Botanical Garden Foundation's plant sale will be held on April 22 & 23 at Granite Hills High School gym (719 Madison Ave., El Cajon). Hours: Sat. 10-6, Sun. 12-5. Admission \$1.00. Please contact June King if you have plants to donate for this sale.
2. Back issues of The FESTIVUS are available. Complete original sets are available for the years 1972-1977. Duplicated copies can be made for 1970 and 1971 for those interested. Cost is \$3.00 per set (year) including mailing.
3. Articles are needed for The FESTIVUS!!

MINUTE SHELLS
By JULES HERTZ

This month two shells of the Family Triphoridae are featured. They are from the Hertz collection and were dredged by Dave and Margaret Mulliner in 100 ft. of water, north of Punta La Gringa in Bahía de los Angeles, Baja California, Mexico on May 19, 1976.

The identification of the first shell is tentative since it is based on a comparison of photographs and a review of several original descriptions. Final identifications would require microscopic examination and comparison with existing holotypes. This writer has tentatively identified the shell on the lower left as Triphora peninsularis (Bartsch, 1907) even though the holotype was collected at Point Abreojos, Lower California. A single worn specimen was reported by Fred Baker as having been collected at the main wharf at La Paz, Lower California. The shell also looks like Triphora stephensi Baker and Spicer, 1935 reported from the Gulf of California. The T. stephensi were taken by Capt. George D. Porter during his final disastrous trip, when he and his companion were murdered on Tiburón Island by the Seri Indians. The specimens were labeled as from the Gulf of California, but it is possible that they may have been collected from Espíritu Santo Island near La Paz at the southern end of the Gulf since that is where Capt. Porter made most of his collections of minute shells. It is possible that the earlier worn shell reported by Baker from La Paz is T. stephensi or that both T. stephensi and T. peninsularis are the same. This would require study of the shells presently housed in the San Diego Natural History and U.S. National Museums.

The second Triphora has not been identified. It looks somewhat like a picture of Triphora inconspicua C.B. Adams, 1852 which is reported from Mazatlan, Mexico to Panama.



Triphora peninsularis
(Bartsch, 1907)
Length: 2.8 mm



Triphora sp.
Length: 3.7 mm

- Bartsch, Paul. 1907. The West American mollusks of the genus *Triphoris*.
Proc. U.S. Nat. Mus., vol. 33, no. 1569, pp. 249-62, pl. 16 (Dec. 12).
- Baker, Fred. 1926. Mollusca of the family Triphoridae. Proc. Calif. Acad Sci.,
ser. 4, vol. 15, no. 6, pp. 223-39, pl. 24 (Apr. 26).
- Baker, Fred, and V.D.P. Spicer. 1935. New species of mollusks of the genus
Triphora. Trans. San Diego Soc. Nat. Hist., vol. 8, no. 7, pp. 35-46, pl. 5,
(Mar. 21).

MINUTE INVADER

By BARBARA W. MYERS

In May 1977 my husband, John brought back a live collected *Ocenebra foveolata* (Hinds, 1844) from a scuba dive at 65 ft. in the area of the sewage outfall pipe off Pt. Loma, San Diego, Ca.. This specimen had its siphonal canal overgrown with encrusting coralline algae. It had sealed off and bypassed its normal canal and diverted the siphonal canal upward, completely reversing direction so that the canal pointed backward toward the spire. I began speculating as to the probable cause for this peculiar, possibly inefficient and aberrant growth of the canal. There were no signs of injury to the shell other than this irregular positioning of the canal.

I have seen crustose algae completely covering the shell of a mollusk, but never blocking the openings of a live specimen. Dr. Joan Stewart of Scripps Institute of Oceanography, a specialist in marine algae, advised that the growing edge of coralline algae is soft and the normal movement of the siphon in the canal should prevent the algal growth from blocking the passage.

In trying to find the answer, my next step was to remove the encrusting algal growth and expose the old siphonal canal. Working under the microscope, I cleared the canal of algae and debris, sand etc. The canal appeared undamaged, but wedged back up the canal near the sealed off opening nestled a tiny mytilid bivalve less than a millimeter (.9 mm) long, complete with byssal threads. If this minute invader was the culprit, why had the *Ocenebra* taken such drastic evasive measures? Possibly this bivalve was capable of burrowing. Some species in this family bore into rock and mollusk shells. Perhaps its target was inside the siphon itself, its byssal threads enabling it to attach tenaciously and in this niche being assured of an incoming supply of food. If this was so and it grew larger, it could interfere with the efficiency of the siphon as far as the *Ocenebra* was concerned.



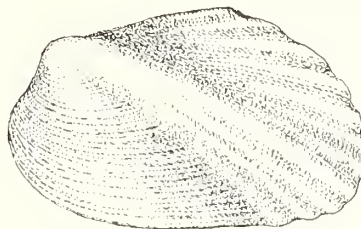
Ocenebra foveolata (Hinds, 1844)

19 mm X 12 mm

Collected off Pt. Loma near kelp
on gravel bottom.

Photo by B.W. Myers

After a careful search of the readily available literature dealing with mollusks of this area, I could not place the mytilid into any known genus or species. The detailed drawing by Anthony D'Attilio of the Department of Marine Invertebrates of the San Diego Natural History Museum, shows clearly its distinctive shape and character. The shell is .9 mm long and 1.5 mm wide, equivalve, trapezoidal in shape and the beaks are behind the anterior end. The umbonal area is swollen and continues diagonally to form a dorsal ridge. Sculpture on the posterior dorsal slope consists of 10 axial ribs. Strong radial growth striae make up the ventral anterior slope; they are very numerous and become very fine over the prodisoconch. The color of the shell is a translucent white with traces of an ochreous periostracum over the axial sculpture. Byssal threads are centrally placed.



Mytilidae sp. .9 mm X 1.5 ..
camera lucida magnification
10X at 50
Drawing by Anthony D'Attilio

I want to express my appreciation to Anthony D'Attilio for his beautiful drawing and much needed assistance and to Dr. Joan Stewart for her information on coralline algae.

SAN DIEGO SHELL CLUB, INC., MEMBERSHIP ROSTER 1978

ALLEN, Letha S.
187 Argyle Street
Yarmouth, Nova Scotia
Canada 85A 3X2

AMES, Waneta
Rt. 1 Box 93
Eureka Springs, Ark. 72632

BAILY, Dr. Joshua (H)
4435 Ampudia Drive
San Diego, Calif.

BERZINS, Ivars & Jacqueline
4667 W. Talmadge Drive
San Diego, Calif. 92116
280-9643

BIBBEY, Joe
490 Citrus Ave.
Imperial Beach, Calif. 92032
423-5133

BRADNER, Hugh & Marge
1867 Caminito Marzella
La Jolla, Calif. 92057
459-7681

BRATCHER, Twila
8121 Mulholland Drive
Hollywood, Calif. 90046

BREWER, Norval & Blanche
3612 Roselawn Ave.
San Diego, Calif. 92105
282-0148

BROSIUS, George & Doris
Dep. Mail Sect., Box 11
APO San Francisco, Calif. 96301

BURCH, Mrs. Beatrice L.
236 Kuuhoa Place
Kailua, Hawaii 96734

CHACE, Emery (H)
Rm. 51, 29661 So. Western Av.
San Pedro, Calif. 90732

CLOSSON, Fred
5750 Amaya Dr. #24
La Mesa, Calif. 92041
462-6923

CLOVER, Phillip W.
P.O. Box 83
Glen Ellen, Calif. 95442

CONNOLLY, Hubert
4785 Leathers
San Diego, Calif. 92117
270-2865

CURRIN, Norman
5431 Via Alcaczar
San Diego, Cal. 92111
278-3831

D'ATTILIO, Anthony & Rose
2415 29th Street
San Diego, Cal. 92104
281-9731

DILWORTH, Billee
6333 La Jolla Blvd.
La Jolla, Calif. 92037
459-1087

DRAPER, Bertram C.
8511 Bleriot Ave.
Los Angeles, Cal. 90045

EVANS, Roger
1900 Camino de La Costa #1
Redondo Beach, Cal. 90277

FAULCONER, Philip & Heidrun
P.O. Box 82632
San Diego, Cal. 92138
222-8082

FERGUSON, Raymond A.
8517 Rumson Drive
Santee, Cal. 92071
562-1916

FERNANDES, Francisco
Santa Rita
Vila Nova De Cacela
Elgarve, Portugal

GEMMELL, W.E. & Joyce
Space 47C
150 S. Anza
El Cajon, Cal. 92020
447-8004

GOOD, Frank (H) & Barbara
3142 Larga Court
San Diego, Cal. 92110
222-5605

GOOSEN, Bob and Dorothy
59 Bayside Village
Newport Beach, Cal. 92660

GREENBERG, Ruth
c/o Tidepool Gallery
22762 Pacific Coast Hwy.
Malibu, Cal. 90265

HAIGH, Ernest & Marilyn
6533 Oranewood Ave.
Cypress, Cal. 90630

HANSELMAN, George & Virginia
5818 Tulane St.
San Diego, Cal. 92122
453-3019

HERTZ, Jules & Carole
3883 Mt. Blackburn Dr.
San Diego, Cal. 92111
277-6259

HEWITT, Susan J.
1600 Chapel St.
New Haven, Conn. 06511

KING, Bob & June
4269 Hawk Street
San Diego, Cal. 92103
296-0574

KING, Frank & Family
859 E. Vista Way
Vista, Cal. 92083

KIRKPATRICK, June
3050 Rue D'Orleans
Apt. 451
San Diego, Calif. 92110
222-2369

LEVINE, Morris & Anita
139-62 Pershing Crescent
Jamaica, New York 11435

LINDEBREKKE, Kenneth & Lynn
6306 Lake Badin Ave.
San Diego, Cal. 92119
465-1092

MACQUIN, Hazelle B.
437 Douglas St.
Salt Lake City, Utah 84102

MARTIN, Clifford & Clifton
324 Kennedy Lane
Oceanside, Cal. 92054
757-1528

MCPEAK, Ronald H.
10370 Limetree Lane
Spring Valley, Cal. 92077
469-8964

MICHEL, John & Nola
4758 Mt. Cervin Dr.
San Diego, Cal. 92117
278-9088

MINOR, Michael & Marilyn
10191 Maya Linda Road
Apt. #59
San Diego, Cal. 92126

MULLINER, David & Margaret
5283 Vickie Drive
San Diego, Cal. 92117
488-2701

MYERS, John & Barbara
3761 Mt. Augustus Ave.
San Diego, Cal. 92111
279-9806

PELTON, Donald
3775½ 38th St.
San Diego, Cal. 92105

PERRIN, William & Marilyn
2947 Luna Ave.
San Diego, Cal. 92117
272-1285

PISOR, Don & Jeanne
10373 El Honcho Place
San Diego, Cal. 92124
279-9342

POORMAN, Leroy & Forrest
15300 Magnolia
Westminister, Cal. 92683

PURDY, Ben & Ruth
3658 Euclid Ave.
San Diego, Cal. 92105
281-6547

RICHART, Mae Dean
4090 Brant St.
Apt. #4
San Diego, Cal. 92103
298-1032

RILEY, Ken & Jacki
9393 Helix
Chula Vista, Cal. 92011

ROBERTSON, Walter
c/o London Associates
1137 Prospect St.
La Jolla, Cal. 92037
459-6858

ROSECRANS, Jennie
1855 Diamond #5-234
San Diego, Cal. 92109
270-3595

ROWORTH, Edwin
1301 Windsor, Dr.
Cardiff-By-The-Sea
Calif. 92007
753-3903

RUHL, Deborah A.
10669 San Diego Mission Rd.
Apt. 108
San Diego, Cal. 92108
284-1083

SCHMALTZ, Jayne
1215 Felspar
San Diego, Cal. 92109
270-6753

SCHOENING, Robert C.
Med Lab Tech School
Naval School Health Sciences
San Diego, Cal. 92134
233-2715 (Work)

SCHULER, Marty & Sherry
5150 Balboa Arms Dr. Apt B-3
San Diego, Cal. 92117
279-8188

SECKINGTON, Sandra
6313 Lake Badin Drive
San Diego, Cal. 92119
462-9455

SHORT, Ronald B.
1016 Guatay Ave.
Chula Vista, Cal. 92011
420-0235

SEAY, Jim & Eunice
3290 San Carlos Dr.
Spring Valley, Cal. 92077
466-8994

SKOGLUND, Carol
3846 E. Highland Ave.
Phoenix, Ariz. 85018

SMITH, John E.
VF-121
NAS, Miramar
San Diego, Cal. 92145

SNELL, Chuck
P.O. Box A.C.
Trinidad, Cal. 95570

SOUDER, John
7845 Michelle Dr.
La Mesa, Ca. 92041

STOHLER, Dr. Rudolf (H)
1584 Milvia St.
Berkeley, Cal. 94709

STOWELL, Christopher & Linda
9755 Austin Dr.
Spring Valley, Cal. 92077
462-4653

TAYLOR, Roland & Kay
2437 Aster St.
San Diego, Cal. 92109
274-2998

The THOMAS Family
c/o The Shell Shop
590 Embarcadero
Morro Bay, Cal. 93442

THOMPSON, Ivan & Agnes
716 Second St. Sp. 178
El Cajon, Cal. 92020
447-0191

UPTON, Virginia
Box 1614
Sierra Vista, Ariz. 85635

VOSO, Edward & Helen
Terrace Mobile Homes #134
1815 Sweetwater Road
Spring Valley, Cal. 92077
469-8308

WALL, Toni
1930 Florida Court
San Diego, Cal. 92104
295-5044

WEBB, Ray & Kay
501-A Anita St., Sp. 186
Chula Vista, Cal. 92011
420-4900

WOOLSEY, Mary J.
3717 Bagley Ave. #206
Los Angeles, Cal. 90034

401
F418
Moll.

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

May 1978

No. 5

PROGRAM: "Staring at Snails' Teeth---Scanning Electron Microscope
Studies of Radula" will be the topic of Hugh Bradner's
talk which will be illustrated with pictures and 'teeth'.

Club Science Fair winner, Michael Jay will present an
outline of his winning project (see p.39) and receive
his award from the Club.

DATE: May 18 TIME: 7:30 P.M. ROOM 104

THE BEST AUCTION EVER!

By SANDIE SECKINGTON

On a scale of 10, it had to rate a 10+! Lovely setting, stupendous food,
superb punch, exceptional companions and ---shells. It was a terrific auction
and many, many shells found loving new homes.

Some of the more exciting bargains auctioned by our super salesmen, Norm
Currin and Bob Schoening included A Cypraea exusta, C. semiplota, Conus
kintoki, C. bullatus, Voluta cymbiola, V. kurodai, and a Siratus alabaster.
An exquisite drawing by Tony D'Attilio saw very spirited bidding as did a
lovely large Iridacna squamosa with stand.

Many overstuffed, satisfied Club members sleepily left for home in the
early hours, convinced that this had been the best auction ever. Our thanks
to our gracious hosts, Marge and Hugh Bradner.

NOTES ON GENKAIMUREX FIMBRIATULUS (A. ADAMS, 1862)

ANTHONY D'ATTILIO

San Diego Natural History Museum

During the early part of 1977 Dr. George E. Radwin and I had been preparing a paper dealing with a species of Muricidae which has had a checkered career in its reassignment from one family to another. Its history is as follows:

1862. Trophon fimbriatulum (A. Adams, 1862). Description, but not illustrated.
1869. Murex (Ocenebra) fimbriatulus (A. Adams, 1862). This assignment was by E. A. Smith and the apparent single specimen was figured in Proceedings of the Zoological Society of London for that year.
1880. Murex fimbriatulus (A. Adams, 1862). A copy of E. A. Smith's figure published by Tryon in the Manual of Conchology.
1953. Genkaimurex varicosa Kuroda, 1953. Description and illustration.

Specimens studied are apparently all from the Sea of Japan, Korea Straits and the surrounding area. The species has also been assigned to Coralliophilidae where it has remained for a number of years. Except for its ocenebrine-like closed canal, all other external features suggest the characters of a coralliophilid.

Material on loan to us from the mollusk collections of the National Museum (No. 205484) and from the Academy of Natural Sciences of Philadelphia (A.N.S.P. No. 247882) included the soft parts. The shells in both instances were small and immature. A specimen is illustrated in Fig. 1. Preserved specimens of mature varicosa were not available to us and the shell alone is illustrated (Fig. 2). The protoconch of the A.N.S.P. specimen was well preserved and appears in Fig. 3.

My early doubts as to the familial placement of this species were aroused primarily by the presence of the closed siphonal canal. I pointed out the problem to George Radwin, and we undertook the radula studies (Fig. 4). The results necessitate removing the species from the Coralliophilidae; however, appropriate familial placement is unknown at this time. Students from the mid-nineteenth century to the present time have not been able to detect the presence of a radula in any coralliophilid species, nor is any species known to possess a closed canal. Other writers had previously noted the possible synonymy of fimbriatulum and varicosa. All material studied herein was discovered in the same geographical area.

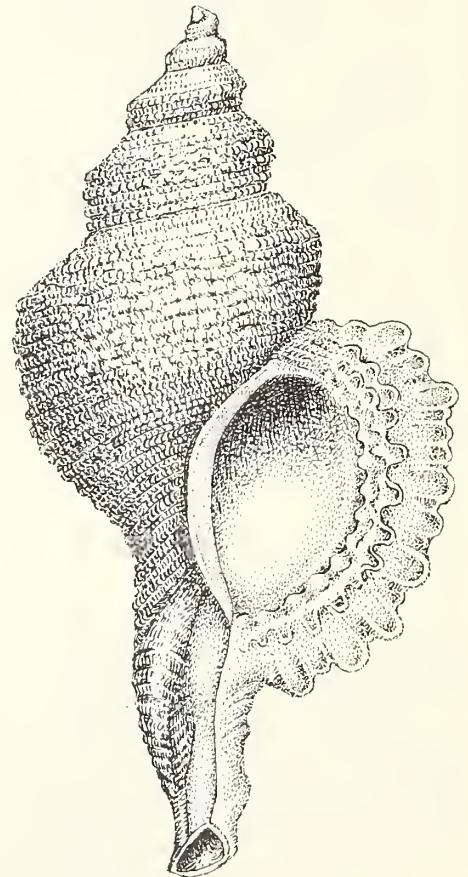


Fig. 1. Genkaimurex fimbriatulus (A. Adams, 1862)

9mm W. x 17mm H. Korea Straits
U.S.N.M. 205480

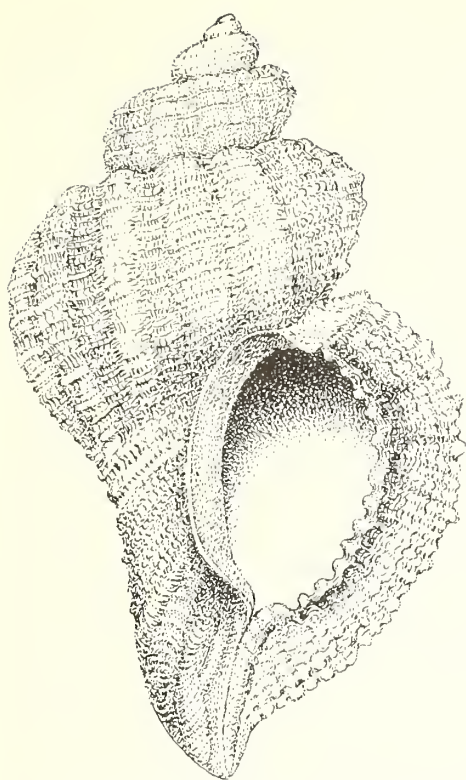


Fig. 2. Genkaimurex varicosa
Kuroda, 1953
?Locality, probably Korea Straits

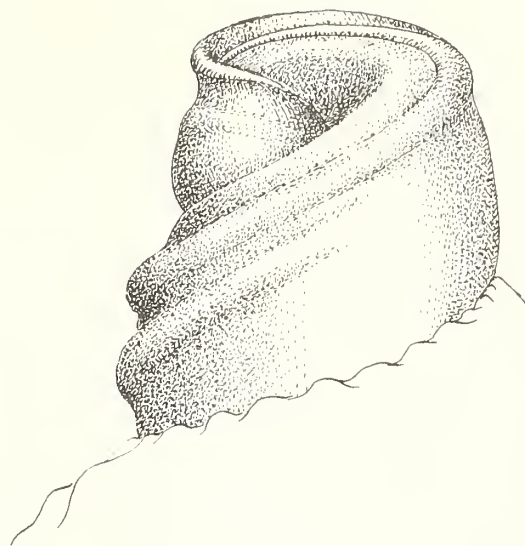


Fig. 3. Genkaimurex fimbriatulus
A.N.S.P. 247882
10x at 50 camera lucida

George Radwin passed away in September, 1977, before a paper could be finally prepared. In the following month Matsukuma (1977) had an extensive article published which illustrated the radula and other details of biological interest concerning Genkaimurex varicosa with no mention of fimbriatulum or of a recognized family.

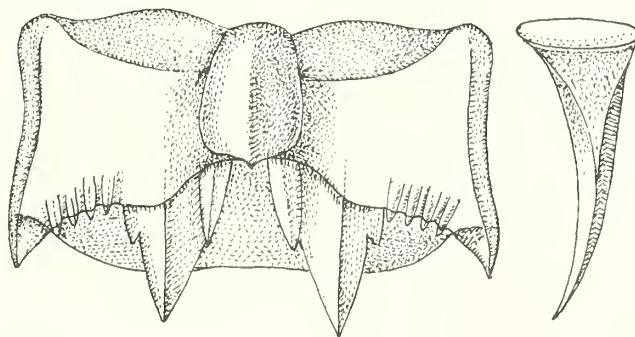


Fig. 4. Genkaimurex fimbriatulus (A. Adams, 1862)
U.S.N.M. 205480

The radula, as figured by Matsukuma, differs in minor respects from that of Fig. 4 by not showing the fine lateral denticles typical of Ocenebrinae. Other observations of interest in his paper are that 10 living specimens were

collected on a sand bottom in the Sea of Japan, these being attached to the left valve of Pecten (Notovola) albicans (Schroeter) in which they had drilled holes. Apparently the soft parts of the Pecten had not been damaged, and the author concluded that this species sucks juices from the scallop. In the words of Matsukuma, G. varicosa is a "hole-boring, inactive predator, namely, parasitic or commensal on mollusks, preferably P. (N.) albicans."

Although his description of the protoconch refers to a "smooth, paucigyrate protoconch" his illustrations lack detailed features (Fig. 2, this paper).

Acknowledgment

Dr. William C. Cummings kindly read the manuscript and suggested changes.

Literature Cited

- Adams, A. 1862. On the species of Muricinae found in Japan. Proc. Zool Soc. London. Vol. 30: 370-376.
- Kuroda, T. 1953. New genera and species of Japanese Rapidae. Jap. Jour. Malac. (Venus) Vol. 17(3): 117-130. Genkai Sea, off Kyushu, 25 fms.
- Matsukuma, Akihiko. 1977. Notes on Genkaimurex varicosa (Kuroda, 1953). Jap. Jour. Malac. (Venus) Vol. 36(2): 81-88. Pl. 88. Fig. 1-9, text Figs. 1-2.
- Smith, E.A. 1879. On a collection of mollusca from Japan. Proc. Zool. Soc., pp. 181-217. Pl. 19-20 (p.20, Pl. 20, Fig. 31).
- Tryon, G.W., Jr. 1880. Muricinae, Purpurinae. Manual of Conchology. Vol. 2, p. 105. Suppl. Pl. Fig. 537, Figure copied from E.A. Smith.

THE SAN DIEGO SHELL CLUB SCIENCE FAIR AWARD

The Club's participation in the Greater San Diego Science and Engineering Fair is in its sixth year. Our award is presented annually to an outstanding upper division entrant in the category of marine life.

This year's committee was Bob Schoening, Hugh Bradner, David Mulliner and alternate, Anthony D'Attilio.

Michael Jay, a senior at Crawford High School was the Club's choice with his project, "Chemotactic Reaction by Zooplankton With Application to Chemical Attraction Fishing." Michael won third place in the Biology-Microbiology division and eight special awards from scientific and professional organizations. Coincidentally, Michael Jay won the San Diego Shell Club Award two years ago when as a tenth grader his project was Testing For Red Tide in San Diego Bay, (see FESTIVUS, June 1976).

Michael will be at the May meeting to present his project to the membership and to receive his award, Barnes' "Invertebrate Zoology."

NOTE: Bills for Auction purchases will be presented at the May meeting. Bills will be sent to those not present.

MINUTE SHELLS

By JULES HERTZ

As in recent months, we feature below two more minute shells from the Hertz collection. These were dredged by David and Margaret Mulliner in 100 ft. of water, north of Punta La Gringa in Bahia de los Angeles, Baja California, Mexico on May 19, 1976. Photographs are by FESTIVUS staff photographer, David K. Mulliner.

The shell on the lower left is from the family Turridae, although it hardly looks like the common members of that family. The worn shell, identified as Pyrgocythara helena (Dall, 1919) is rosy brown and approximately 3.5 mm long.

The shell on the lower right is quite worn but is identified as a member of the family Cerithiidae, as Alaba jeanettae Bartsch, 1910. There have been some questions raised as whether this is a form of Alaba supralirata Carpenter, 1857. Bartsch, in his original description, differentiated the two by the sculpture of the nucleus which in supralirata is very pronounced and by the strength of the varices and spiral sculpture which are more pronounced in supralirata. This is difficult to see in the highly worn specimen below.



Pyrgocythara helena (Dall, 1919)
Length: 3.5 mm.

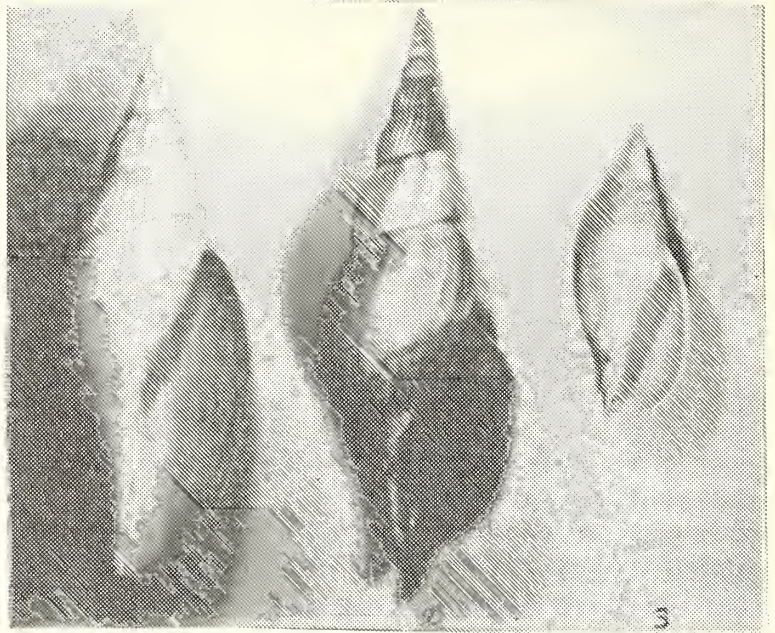


Alaba jeanettae Bartsch, 1910
Length: 2.5 mm.

SMITHS VOLUTA

By PHILLIP W. CLOVER

It is very seldom in a popular family for three species to have the same name. In fact, most authors avoid doing this because of genera changes. Their names could become synonyms. In cones and cowries, where many genera are in doubt, the same name is never used twice, much less three times. But in Volutidae the genera are well established and in the past 75 years we have three smithi all with the exact same spelling.



Illustrations: Left to right 1, 2, 3.

1. Fulgoraria smithi (Sowerby III, 1901) is from deep water off Chiba Pref., Japan. The illustrated specimen is 180 mm in length and Mr. E.A. Smith was so honored for pointing out that Sowerby's uniplicata had prior usage.
2. Teramachia smithi (Bartsch, 1942) also from very deep water--over 600 meters off Bohol Is., Philippines. The illustrated specimen is 200 mm and is named for the director of the Philippine Albatross Expedition, Dr. H.M. Smith.
3. Pachymelon smithi Powell, 1950 is from 100-160 meters off South Island, New Zealand. The illustrated specimen is 100 mm and is named for Mr. J.G. Smith who donated the holotype to the New Zealand museum. This last species is possible for most collectors to add to their collections. But the first two are most rare and it is seldom that all three species will be seen together.

CORRECTION: April 1977 issue of The FESTIVUS, "Minute Invader" by Barbara W. Myers, p. 35, line 8. Width of shell should read 0.5 mm instead of 1.5 mm.

DO YOU NEED ANY PLASTIC BOXES????

Feg Mulliner has the following sizes available for immediate delivery. Contact her at 488-2701.

#15 1"x1"x3/8" @\$.08 ea.
 #215 2"x1 1/8"x3/8" @ .10 ea.
 #780 2 7/8"x2"x3/4" @ .14 ea.

401
F418
Moll.

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X June 1978 No. 6

* PROGRAM: Phil Faulconer will give a preview of the upcoming Amela
* Expedition (trip to Melanesia soon to be taken by several
* Club members).
*
* Pictures of the Auction will also be shown.
*
* Date: June 15, 1978 Time: 7:30 P.M. Room 104
*

FROM THE MINUTES OF THE MAY MEETING

President, June King, called the meeting to order at 7:45. New members and guests were introduced as was Dr. Hans Bertsch, the new curator of marine invertebrates at the San Diego Natural History Museum. Hans spoke of his hopes and aspirations as curator and said that there would be an "open door" policy on the third floor in an effort to encourage the use of the Museum collection for study and research.

Our Science Fair award winner, Michael Jay, was unable to attend the meeting and will speak to us about his project at the July meeting.

Hugh Bradner was our speaker for the evening and gave a fascinating presentation on Cypraea radula. His slides showed scanning electron micrographs of radulae and were excellent illustrations of his descriptions of the structure and function of these fascinating "tongue teeth."

Following the break the minutes of the February meeting were approved. Bob Schoening reported on the auction totals. June King announced the 44th Annual AMU meeting in Santa Clara. Anyone interested in attending, contact her for details. She also advised the membership that we will be donating a huge Syrinx aruanus to public television station KPBS for its annual auction.

The Botanical Garden Foundation has thanked us for our participation in their recent sale and mentioned that they were very impressed with the exhibit set up by Lynn Lindebrekke.

Our next bonus shell drawing will be held in July. Attendance is necessary to qualify for this drawing.

FOR YOUR INFORMATION

1. It's time to pay for Auction purchases. If you do not plan to attend the June meeting, send your checks to the Club address.
2. The Club needs a host for the September party. If you have a backyard you are willing to volunteer for the occasion please notify June King at 296-0574.
3. The Club's purchase of the four volumes of Oldroyd's "The Marine Shells of the West Coast of North America," has arrived and will be available for circulation at the June meeting.
4. The FESTIVUS needs your articles---NOW!

Additions to the List of New Taxa Proposed by George E. Radwin inadvertently omitted from the Memorial Issue of The FESTIVUS (Vol. X, No. 2, Feb. 1978).

Chicoreus artemis Radwin & D'Attilio, 1976

Favartia emersoni Radwin & D'Attilio, 1976

ADDITIONS TO THE ROSTER

Fisichella, Melba A.
7873 Forrestal Rd.
San Diego, Ca. 92120

Massey, Bonstance R.
4060 Huerfano Ave. #310
San Diego, Ca. 92117
483-0359

Weber, Gladys C.
6439 W. Myrtle, Sp. 79
Glendale, Ariz. 85301

OUR HATS OFF TO DAVE DWYER

By SILLEE DILWORTH

Some of us, who think we are good shell conservationists, should take a lesson from Dave Dwyer. He insists any shell he takes be perfect. When I collected what I thought was a lovely Cypraea tessellata Swainson, 1899, Dave pointed out a tiny flaw. I almost needed a magnifying glass to see the flaw. I asked if he could see that small a flaw under water. He assured me he could. Dave said my Cypraea tessellata should go back in the water.

Dave has a special diving spot where he found a giant size Cypraea tessellata which had a break on its dorsum that it had started to repair. He left it. Twice more he found the same shell. Each time he found the shell it was more nearly perfect than the time before. Recently he found it for the fourth time. It was now a beautiful, perfect, exceptionally large Cypraea tessellata but this time it was sitting on an egg mass. Dave hopes he can be lucky enough to find it for the fifth time and hopes all its babies will be as large as the mother.

Our hats off to a great shell conservationist.

MINUTE SHELLS

By JULES HERTZ

Below are two more shells from the Hertz collection. As one might guess, the ones easiest to identify have been featured in earlier issues of the FESTIVUS. Those remaining, from the dredgings by David and Margaret Mulliner, have all presented problems in identification and this writer invites comments and assistance. The two shells below were dredged in 100 ft. of waters north of Punta La Gringa in Bahía de Los Angeles, Baja California, Mexico on May 19, 1976. Photographs are by FESTIVUS staff photographer, David Mulliner.

The shell on the lower left is from the family Turridae. It is identified as Tenaturris merita (Hinds, 1843). The shell pictured is about 8 mm. in length by 3 mm. in diameter. It is white and has brown lines which define the shoulders. Keen reports the range as the head of the Gulf of California to Santa Elena Peninsula, Ecuador.

The shell on the lower right was obviously a member of the family Rissoinidae, but none of the literature available to this writer seemed to fit. The various species of this family are generally very similar in appearance, but microscopic examination of the specimen revealed some characteristics which set it apart from many of the more common species. This writer is indebted to Anthony D'Attilio and Barbara Myers for identification of the species and for making the original description available. The shell is identified as Rissoina (Folinia) ericana Hertlein & Strong, 1951. The subgenus Folinia Crosse, 1868 is characterized by shells having sinuous axial ribs and apertures with a slight posterior notch. The original description for R. ericana is in Hertlein & Strong: Mollusks of Mexico and Central America, 1951, 5. Eastern Pacific Expeditions of the New York Zoological Society. XLIII. Mollusks from the West Coast of Mexico and Central America. Part X. In addition to the posterior notch of the aperture, the specimen below has a tumid basal area or fasciole. The outer lip is rendered nodulous by the ends of the spiral cords and this is distinctive for this species.



Tenaturris merita (Hinds, 1843)
Length: 8 mm, Diameter: 3 mm



Rissoina ericana Hertlein & Strong,
1951

Length: 3mm, Diameter: approx. 1 mm

SOME NOTES ON THE FAMILY CONIDAE

by Clifton L. Martin

For almost three years I had been working on the Conidae, with a hoped-for goal of publishing a list of all of the species, both recent and fossil, that were described since the publication of the Catalogue of Recent and Fossil Cones, by J. R. le B. Tomlin, together with any name changes that may have occurred since the publication of that work in 1937. I had just completed a first draft and had taken it to Dr. Radwin for any corrections or suggestions he may offer when he informed me that Dr. Alan J. Kohn, of the University of Washington, had been working on essentially the same thing and very generously gave me a copy of Dr. Kohn's preliminary draft, which had already been published. As a result I sent my paper, together with other information to Dr. Kohn with the hope that it may be of some benefit to him in his research. I was quite pleased when he informed me that one species I had listed was a reference he did not have. However, in all fairness, I must admit that his preliminary draft contained several new names that I did not have.

One of the results of my research has been two notebooks filled with information pertaining to the Conidae. Some of these, from my notes, may be of interest to others working with this family.

1. Conus gloriamaris Hwass in Bruguière, 1792, new accreditation of authorship. The works of J. H. Chemnitz have been rejected for nomenclatural purposes and are not available (opinion 184 of the International Commission on Zoological Nomenclature). Conus gloriamaris Hwass in Bruguière, 1792, is a junior homonym of C. gloriamaris Chemnitz, 1777, and the two are synonymous. The holotype of C. gloriamaris Hwass in Bruguière, is in the Museum d'Histoire Naturelle, Geneva, and is no. 1106/84. It measures 88 mm. x 34 mm. See, Jour. Linn. Soc. (Zool.) 47, 313, p. 459; October 1968.
2. Darioconus bengalensis Okutani, 1968. A specimen of D. bengalensis was sold at auction by Sotheby's, London, March 4, 1971, for \$2,510.00. The specimen measured almost exactly four inches and was one of four specimens known to exist at that time. It was trawled off northwest Thailand, December 1970. This was the highest price ever paid for any shell to that date. However, Edward Swoboda, of Beverly Hills, California, paid well in excess of that amount for the largest known specimen of Conus gloriamaris in 1977. Other shells have exceeded this price in recent years as well. See the last paragraph of note no. 3 below.
3. Conus thomae Gmelin, 1791. In his remarks pertaining to this species Dr. Alan J. Kohn wrote.... "The diagnosis of C. thomae appears to be derived entirely from Chemnitz's diagnosis of the 'St. Omastute' or 'St. Thomastute' (1788: 84). A detailed account and accurate illustration were given by Chemnitz, who noted that the earlier figure of Martini (1773; pl. 53, fig. 590) was based not on an actual specimen but on a picture of a specimen belonging to Bolten which the latter had given to Martini. For this reason the figure in Chemnitz (1788; pl. 138, fig. 1331²) of a specimen from the Moltke collection is here selected representative of the lectotype of C. thomae and is reproduced as Pl. 3, fig. 26.

The diagnosis and the cited figure in Chemnitz (1788; pl. 143, fig. 1331²)

are considered adequate to identify the previously undescribed species Gmelin intended to denote by the name C. thomae. The species, which does not appear to be well known, is considered provisionally valid. It possibly represents a variety of C. amadis Gmelin, but requires further study. It occurs in the Indo-Malayan region (Dautzenberg, 1937, (as C. omaicus Hwass))."

A specimen of C. thomae was recently offered on a dealer's list for \$4,500.00. If sold for its asking price it will be the greatest price ever paid for a single shell. It is an extremely rare species.

4. Conus dusaveli H. Adams, 1872, was until recently the rarest named shell in the world. Until 1977 the only known specimen was one that had been taken from the stomach of a fish caught off Mauritius. This specimen was acquired by James Cosmo Melvill (1845-1929) and was in his collection, together with many other rarities, until after World War I. In 1919 John Read le Brockton Tomlin (1864-1954) purchased the Melvill collection and combined it with his own, making what was probably the largest and finest privately owned collection ever assembled. The holotype, from the Melvill-Tomlin collections, is now in the National Museum of Wales, Cardiff. It was a unique specimen until 1977, or more than a hundred years, when a very few specimens were found in the Philippines.
5. Conus viola Cernohorsky, 1977, new name for Conus violaceus Reeve, 1844. Reeve first described C. violaceus in 1844, based on three specimens in the Hugh Cuming collection. However, Reeve's C. violaceus is a primary homonym of C. violaceus Gmelin, 1791, which is an earlier name for C. tendineus Hwass in Bruguière, 1792. The lectotype of C. viola measures 41.0 mm. x 15.0 mm. and is in the British Museum (Nat. Hist.), London. See, Nautilus, vol. 91 (2), pp. 72, 73; April 1977.
6. Conus tendineus Hwass in Bruguière, 1792, is Conus violaceus Gmelin, 1791. See, Jour. Linn. Soc. (Zool.), 47, 313, p. 486, pl. 9, fig. 115; October 1968. Also see, Jour. Linn. Soc. (Zool.), 46, no. 308, p. 95, pl. 3, figs. 30, 31; May 1966.
7. Conus mediterraneus Hwass in Bruguière, 1792. In his 'Catalogue of Recent and Fossil Cones', p. 274; 1937, Tomlin listed 66 named varieties of C. mediterraneus. It is probable that most of these names will be found to be synonymous.
8. In 'Poisonous and Venomous Marine Animals of the World', vol. 1, by Bruce W. Halstead, M. D., a list of eight species of Conus with venom apparatus so highly developed as to be a danger to man is given. The eight species are Conus aulicus, C. geographus, C. gloriamaris, C. marmoreus, C. omaria, C. striatus, C. textile, and C. tulipa, all of which are capable of inflicting fatalities on man. It was emphasized that the bite of other species may also be fatal but due to lack of data this has not been confirmed. A list of twenty-eight recorded cases of Conus bites that occurred from 1848 to 1963 states that eight were fatal. This is almost twenty-five percent. It is thought that many, perhaps most, bites were not reported and have not been recorded in medical statistics.

NOTES ON THE SIPHONAL CANAL IN MURICIDAE

By ANTHONY D'ATTILIO

The process of canal formation in the subfamily Ocenebrinae is a simple one. However, a brief explanation of this process seems timely based on some evidence which has recently come to my attention.

As a general rule, the immature shell has an open canal. This holds true also if a specimen is examined at a time when a new but unfinished varical area is being formed by the mantle edge. At this stage of growth, when the outer apertural margin is unfinished, the apertural edge is thin and the canal open. As varical growth continues, the outer lip is thickened and closure takes place. Fig. 1a. is an illustration of a semi-formed outer aperture. Fig. 1b. shows how the formation of the closed canal starts. The mantle edge produces shell matter equally from both the left and right sides towards a center area and the dentate aperture begins to take shape. Fig. 1c illustrates the fully developed canal with a barely perceptible suture and the distal opening.

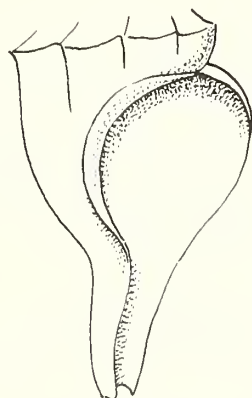


Fig. 1a
immature lip

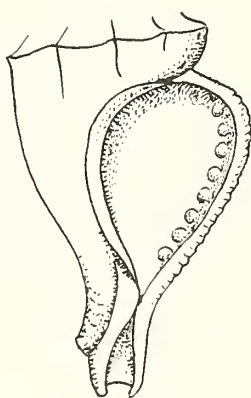


Fig. 1b
semi mature lip

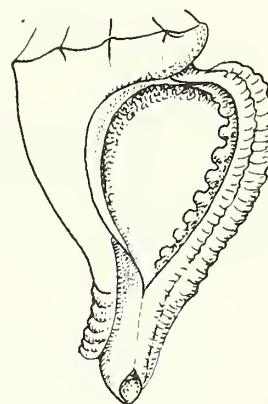


Fig. 1c
mature lip

Figs. 1a-c Ocenebra foveolata

Further examples of closed canals in Muricidae occur in the genus Purpurellus of the subfamily Muricinae, and in the subfamily Typhinae with the exception of the monotypic genus Cinclidotyphus DuShane, 1969. Muricinae is an example of one subfamily usually with an open canal having a genus with a closed canal. On the other hand the usually closed canal subfamily Typhinae has a genus of which Cinclidotyphis has an open canal.

The closed canal in the genus Purpurellus Jousseaume, 1880 is formed not by equal accretions of shell matter from both sides but, instead, the left side is advanced over and appressed to the right side. The margin of the left side is found well beyond the anterior center point of the aperture as shown in Fig. 2a. This character of closure of the canal is shared by the Typhinae with the one exception noted, the monotypic genus Cinclidotyphus myrae DuShane, 1969.

As I have touched upon the subject of Purpurellus, I will add another unusual structural feature of this genus. The possession of a varical wing or flange (hence Ptery, Greek for wing) is found in Pterynotus as well as Pteropurpura (subfamily Ocenebrinae). As a rule the flange is more or less continuous from whorl to whorl and often on the canal as well. The singularity of the flange in Purpurellus becomes evident in that portion of the flange above the shoulder. At this area the flange bends forward (the leading side) sharply and becomes appressed to the surface of the flange. This portion of the flange has then a double layered area, Fig. 2b.

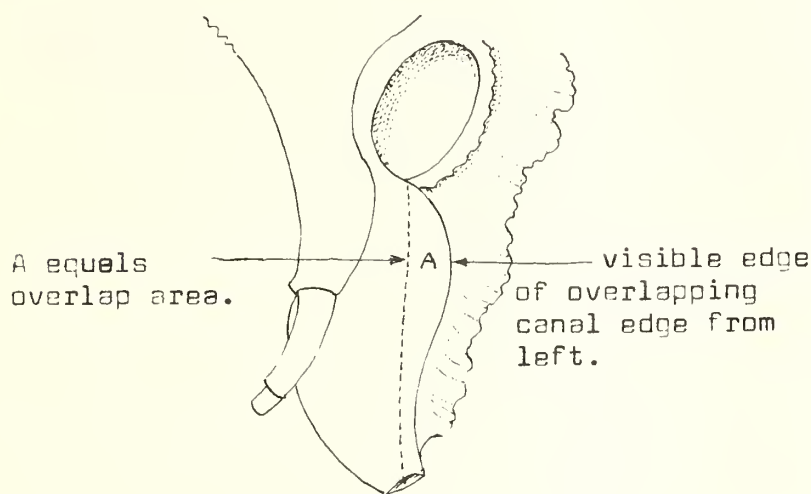


Fig. 2a

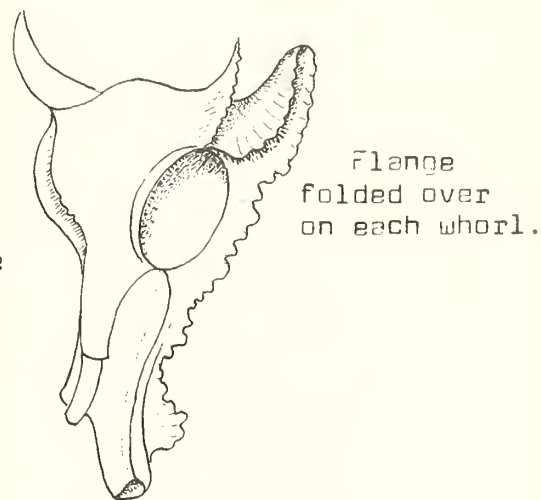


Fig. 2b

Fig. 2a drawing shows extent of overlapping edges of canal as it is closed

Figs. 2a-b = Purpurellus pinniger

A fossil species of Purpurellus collected recently from the Miocene of the Dominican Republic (communication from E.H. Vokes) displays the same folded over portion of the varical flange in its posterior position.

401
F418
Moll.

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

July 1978

No. 7

PROGRAM: Miter Night. June King will give a short talk on
Researching Vexillum ornatum and will have a display of this
miter. Bring your miters to the meeting to show and identify.
Michael Jay, the winner of the Club, Science Fair Award, will
receive his gift and give a presentation on his winning project.
There will be a bonus shell drawing this month. A member
must be present to win.

SAVE THE DATE!! The September party will be held at the home of
Sherry and Marty Schuler on Saturday evening September 16.
Details will follow in the next issue.

FROM THE MINUTES

By SANDIE SECKINGTON

The June 15 meeting was called to order at 7:50 P.M. by President,
June King. There were 28 members present.

Following the introduction of new members and guests, Billie Dilworth
told the members about the forthcoming trip to the Solomons, explaining the
work that went into making all necessary arrangements and outlining their
itinerary. Then Phil Faulconer showed some very lovely slides of a trip he
had made to the same general area so that members could get a feel for the

character of the area to be visited. An excellent photographer, Phil succeeded so well that all those not making the trip were sick with envy!

Refreshment break was followed by a brief business meeting. The minutes of the previous meeting were approved as reported in the June FESTIVUS. The Oldroyd books have arrived and will be in circulation at the next meeting.

ADDITIONS TO THE ROSTER

BRITISH MUSEUM OF NATURAL HISTORY
Cromwell Road
London, SW7 5BD
England

WEBER, Gladys, C.
6439 W. Myrtle. Sp. 79
Glendale, Ariz. 85301

CHANGES OF ADDRESS

HEWITT, Susan J.
Box 605 Yale Station
New Haven, Conn. 06520

NELSON, Mr. & Mrs. John
2165 Heather Lane Apt. 2
Arcata, Ca. 95521

REPORT ON THE ANNUAL MEETING OF THE WESTERN SOCIETY OF MALACOLOGISTS

By BARBARA GOOD

The annual meeting of the Western Society of Malacologists was held at the University of Santa Clara from June 28th through July 1, 1978. Dr. Peter D'Eliscu of the Dept. of Biology of that university presided. Although not as well attended as ordinarily, the meeting was an interesting and stimulating event.

Dr. Hans Bertsch, curator at our Natural History Museum, gave an informative and amusing talk on nudibranchs. Scott Johnson, also of our museum, collaborated in this study.

"Intertidal Marine Mollusks of the Southeast Farallon Island, San Francisco County" as presented by David R. Lindberg and James Carlson gave us new information on this seldom explored island.

An informal talk, with slides, on "Marginellidae and other Mollusks from Senegal" was given by Phillip Clover of our Club and was enjoyed by all.

"Mytilids from the Galapagos Rift," as described by Dr. Veda C. Kenk gave us some seldom seen examples of a giant clam from that area.

A shell auction was held which netted the W.S.M. over \$600. On Friday a Wine and Cheese Reception preceded the banquet at which Dr. Eugene Coan spoke on the life of James G. Cooper.

IN MEMORIAM

It is with sorrow that we report the passing of our friend, Ivan Thompson in his home on May 18, 1978. We deeply regret that the news of his death did not reach us in time for the June issue of The FESTIVUS.

Ivan was a longtime member of the San Diego Shell Club; joining in 1968. He was one of the early collectors in both Florida and Mexico and always had interesting stories to tell of his collecting experiences and his dealings with the fishermen.

RANGE EXTENSION FOR TEGULA PULLIGO---REDISCOVERED

By CAROLE M. HERTZ

In March of this year I found a dead Tegula pulligo (Gmelin, 1791) in a tidepool at the base of Archer St. in San Diego. Finding even a dead specimen of this Calliostoma-like Tegula in this area is unusual. We had only found two others in our collecting along this coast.

In August of 1970, I had found a small (D=10.8mm, H=7mm) live T. pulligo on a rock in Santo Tomas, Baja California, Mexico while diving in 20 ft. of water. Then in December of 1971 my husband, Jules, found a small (D=13.5mm, H=12mm) live T. pulligo in Cayucos, California high on a rock in the high tide zone.

On first finding this species at Santo Tomas, we didn't know what we had found. It appeared to be a Calliostoma but it was unlike any west coast species in our personal library. The old Baily & Keep, WEST COAST SHELLS gave us our first hint though the shell was not figured and no range given. McLean's MARINE SHELLS OF SOUTHERN CALIFORNIA (Second Edition) does not include T. pulligo and Abbott's AMERICAN SEASHELLS (Second Edition) gives the range as Alaska to Santa Barbara, California.

The range for T. pulligo given in the books studied seems to follow that of Tryon in the MANUAL OF CONCHOLOGY published in 1889, which lists the range as Sitka, Alaska to the Santa Barbara Islands, California. (Interestingly the fossil record shows it occurs in the Pleistocene of San Pedro and San Diego, California) [Oldroyd, 1927].

The specimens I examined at the San Diego Natural History Museum show a much greater range than we had expected. They range from Alaska in the north, past Santa Barbara with specimens collected in San Diego, Point Loma, Coronado, including two lots of specimens collected in Baja California, one lot in a location called "Point of Rocks" and the other "Round Is.". (We could find no listing of Round Island on any of our three Baja California maps but did find a "Punta Roca" which roughly translates to "Point of Rocks," at approximately 28°N.

Collection Data Obtained From The San Diego Museum of Natural History

<u>Specimens</u>	<u>Location</u>	<u>Collector</u>
2	Forrester Is., Alaska	Geo. Willett "H.N. Lowe Estate"
2	Sitka, Alaska	Geo. Willett "A.M. Strong Estate"
1	Alaska	Harriman Expedition "H.N. Lowe Estate"
4	Sitka, Alaska	Faye Howard
7	Davidson Point, Annette Is., Alaska (1945)	Edwin C. Allison
2	Monterey	"H.N. Lowe Estate"
4	Farrallones Islands	J.S.A. "H.N. Lowe Estate"
3	Long Beach, Cal.	"H.N. Lowe Estate"
1	Pt. Vincent (15 fms)	"A.M. Strong Estate"
1	Mussel Cove (Laguna Coast)	A.M. Strong
4	San Diego (on kelp)	"H.N. Lowe Estate"

1	San Diego	F.W. Kelsey
1	Pt. Loma	"Mrs. E.M. Chaney Estate"
1	Coronado Beach	D.L. Emery
3	Round. Is., Lower Calif.	"Fred Baker Estate"
1	Point of Rocks, Lower Calif.	F.W. Kelsey "Fred Baker Estate"
4	Point of Rocks, Lower Cal., Mexico	Viola S. Bristol

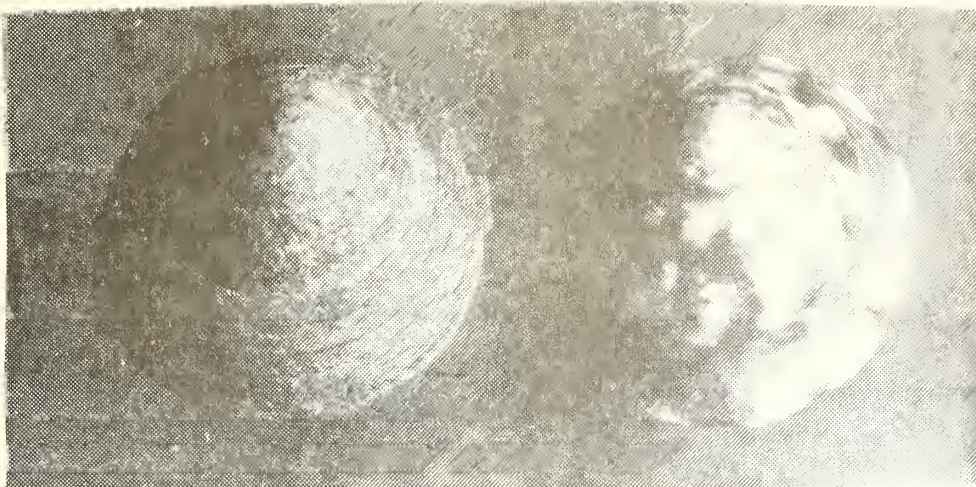
The visit to the Museum raised some questions. Why was the information available in the museum collection but not in the current literature? We were intrigued and began looking through our own library at every publication that could possibly mention T. pulligo. What we found was enlightening. Keen in 1937 in AN ABRIDGED CHECKLIST & BIBLIOGRAPHY OF WEST NORTH AMERICAN MARINE MOLLUSCA corrected the range for T. pulligo from its then southern end at Santa Barbara to 28°N (putting the southernmost end of the range at an area near a location called Punta Rocosa--north of Scammons Lagoon. (SDNHM Collection).

The search was on. The DISTRIBUTIONAL LIST OF WEST AMERICAN MARINE MOLLUSKS, Proc. Conch. Club of S. Calif. in a section printed in February 1946 lists T. pulligo as being collected at Natividad, Lower California, (on the map at approximately 28°N). Johnson & Snook in SEASHORE ANIMALS OF THE PACIFIC COAST (1967) listed the southern end of the range as San Diego. Tom Rice in MARINE SHELLS OF THE PACIFIC NORTHWEST (1971) lists the southern end of the range as Baja California. THE INTERTIDAL UNIVALVES OF BRITISH COLUMBIA by Griffith lists T. pulligo's range as Sitka, Alaska to Lower California.

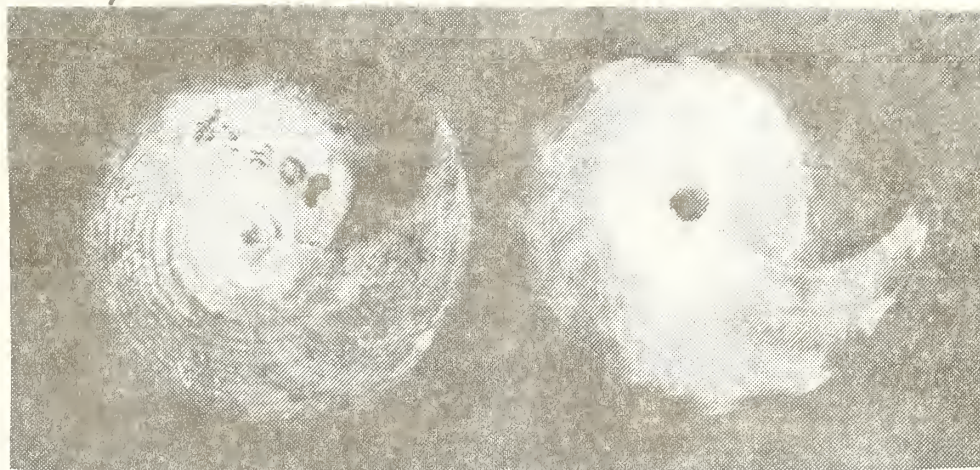
It is interesting that the more comprehensive recent books on mollusks list either an outdated range for the species or do not include it at all. (It is not included in Keen's SEASHELLS OF TROPICAL WEST AMERICA (Second Edition) though it occurs in the northernmost end of the range covered in her book. However, T. pulligo would be outside of the Panamic fauna which she treats since it is a California species ranging to Alaska. Although the range has been extended as far south as 28°N there have been few citations of this species in southern and Baja California and the specimens we collected help to confirm the extent of the range.

At first it is easy to confuse T. pulligo with T. montereyi (Kiener, 1850). In fact Abbott in AMERICAN SEASHELLS, (Second Edition) stated that "it (pulligo) is also very similar to montereyi but its whorls are more rounded and without the white color and faint spiral ridges found in montereyi." However, the prominent pointed tooth on the columella of T. montereyi with the spiral ridge within the umbilicus distinguish it unmistakably from T. pulligo. (See photos next page).

Tegula pulligo was first named and figured by Martyn, 1784 (non-binomial) but he did not describe the species. Because the Martyn name is invalid, the accepted author is Gmelin, 1791. Dall, in 1909, erected the subgenus Promartynia of which T. pulligo is the type and which includes T. montereyi among other Tegula with an umbilicus.



Dorsal views

Left: Tegula montereyi (Kiener, 1850) SDNHM collectionRight: Tegula pulligo (Gmelin, 1791) Hertz Collection

Apertural views

Left: T. montereyiRight: T. pulligo

According to a paper by Jean A. Merriman (1967) "On comparison of Tegula pulligo (Plate 54, Figure 1) with other Tegula species, the radula was found to be quite dissimilar. The extent of difference would confirm Dall's erection of a separate subgenus, Promartynia, for this species. Tegula pulligo is primarily found off-shore on kelp while the rest of the Tegula species are chiefly found scraping algal film from rocks. (Smith & Gordon, 1948). Consideration of the shell shows that it is not radically different from other Tegula species. This lends support to the expectation that the radula might undergo edaphic* evolution resulting in quite distinctive radular structure in an animal whose shell evolved more conservatively."

Fritchman (1965) who also did work on radular structure in west coast Tegula suggested that T. pulligo, T. aureotincta, T. brunnea, T. montereyi were closely related based on their radular structures.

Oldroyd, in 1922, named Tegula pulligo taylori for a large form found originally at Hope Island at the north end of Vancouver Island.

From my observations of the S.D.N.H.M. collection, I find T. pulligo an extremely variable species--these variations not necessarily related to location. Small Calliostoma-like conical specimens were collected at both ends of the range and large, heavy, rounded-whorl specimens were also

* resulting from or influenced by the soil rather than the climate.

collected throughout the range. The shell is consistently flattened basally, the base being smooth and lacking spiral lines, the umbilicus wide and deep. The shell shape is conical, varying from strongly angulate to obtusely angled and from the flattened to somewhat rounded whorls.

Acknowledgments

I would like to thank Anthony D'Attilio, Associate Curator of Marine Invertebrates at the San Diego Museum of Natural History, for generously giving of his time and help in reviewing this article with me. My appreciation to Barbara W. Myers for preparing the photographs for this article and to my husband, Jules, for his enthusiastic assistance in searching our library and for proofreading the article.

BIBLIOGRAPHY

- Abbott, R.T., American Seashells, Second Edition, p.51, fig.389-390, 1974
- Baily, J. & Keep, J.L., West Coast Shells, p.155, 1935
- Belcik, F.P., Notes on a Range Extension and observations on Spawning in TEGULA, The Veliger, Vol.7, pp233-234, 1965
- Burch, J.Q., ed. Distributional List of the West American Marine Mollusks, Proc. Conch. Club of S. Calif., 1944-1946
- Dall, W.H., Prof. Pap. U.S. Geol. Surv., No.59, p.94, no.11, 1909
- Fritchman II, H.K., The Radulae of TEGULA species from the West Coast of North America and Suggested Intrageneric Relationships, The Veliger, Vol. 8; No. 1, pp.11-14, figs. 1-10, 1965
- Griffith, L.M., The Intertidal Univalves of British Columbia, p.28, 1967
- Johnson & Snook, Seashore Animals of the Pacific Coast, p.549, 1955
- Keen, A.M., An Abridged Check List & Bibliography of West North American Marine Mollusca, p.46, 1937
- Keen, A.M., Seashells of Tropical West America, Second Edition, 1971
- Martyn, T., Univ. Conch.II, fig.76, (1788) [TROCHUS PULLIGO]
- McLean, J.H., Marine Shells of Southern California, Revised Edition, 1978
- Merriman, J.A., Systematic Implications of Radular Structures of West Coast Species of TEGULA, The Veliger, Vol.9; No.4, pp.399-403, figs.1-8, 1967
- Rice, T., Marine Shells of the Pacific Northwest, p34, 1971
- Oldroyd, I.S., The Marine Shells of the West Coast of North America, Vol. II, Part III, pp.179-180, Pl.91, figs. 1,3,4,6, Reprinted from 1927 edition
- Tryon, H.A., Manual of Conchology, Vol. 11, 1889

MINUTE SHELLS

By JULES HERTZ

The two shells featured below are from the Hertz collection and were dredged by David and Margaret Mulliner in 100 ft. of water, north of Punta La Gringa in Bahía de los Angeles, Baja California, Mexico on May 19, 1976. Photographs are by David Mulliner, FESTIVUS staff photographer.

The small limpet was extremely difficult to identify and many hours were spent looking through books. It suddenly struck me that what I had was an extremely juvenile specimen of the largest limpet in the world. The shell, Ancistromesus mexicanus (Broderip & Sowerby, 1829), gets to over 150 mm and has been used in the past by local natives for wash bowls. An adult shell is generally eroded and shows a few low angles or obsolete ridges. I have found immature shells of about 50 mm north of Manzanillo, Colima, Mexico which show the same ribbing and rib projection as shown on the minute shell pictured below. Each specimen of A. mexicana seems to have a different shape, and that too led to confusion in identifying the juvenile (4 mm) specimen.

The shell pictured on the lower right is a member of the family Rissoidae. The specimen was quite worn and is believed to be Alvinia monserratensis (Baker, Hanna & Strong, 1930). This is quite a variable species and was originally collected at Monserrate Island, Gulf of California.



Ancistromesus mexicanus (Broderip & Sowerby, 1829)
Length: Approx. 4 mm.
Dorsal view

Ventral view



Alvinia monserratensis
(Baker, Hanna & Strong, 1930)
Length: Approx. 1.5 mm

HANS BERTSCH

The FESTIVUS is pleased to announce the arrival in San Diego of Dr. Hans Bertsch to assume the position of Curator of Marine Invertebrates at the San Diego Natural History Museum.

Dr. Bertsch's credentials are impressive. He received his PhD in zoology from the University of California at Berkeley in 1976. At that time he accepted an Assistant Professorship at Chaminade University of Honolulu, Hawaii, where he has been teaching biology until the present time.

Dr. Bertsch has been working in science since 1967 when, at 22, he was an Associate in Invertebrate Zoology at the Santa Barbara Museum of Natural History. He has been a grade school science teacher as well as teaching on the college level. He has taught at the College of the Holy Name in Oakland, University of California at Berkeley and Chaminade University.

He is fluent in Spanish and for the summer of 1975 he served as Assistant Resident Marine Biologist at the University of Arizona-Universidad de Sonora Cooperative Marine Station in Puerto Penasco, Sonora Mexico. Dr. Bertsch has said that he would like to initiate cooperative marine study projects in and with Mexico in the future.

Dr. Bertsch's area of specialization has been the Opisthobranchia and the amount of published work he has already contributed is almost staggering. In the over thirty papers he has written for scientific journals, he has done intensive research into the Opisthobranchs--nudibranchs in particular. He has been a visiting investigator at marine laboratory facilities here and in Mexico and has recently become a member of the editorial board of The VELIGER. His long list of grants and awards is another indication of the activity and diligence of our new curator of marine invertebrates.

In speaking briefly to the San Diego Shell Club at its June meeting, Hans strongly stated that he would like to maintain "an open door policy" at the Museum, encouraging members to come to the department when they need his help and/or wish to use the museum collection.

Dr. Bertsch is a dynamic person and his enthusiasm for his new position is quickly evident in conversation with him. We wish Dr. Bertsch much success in his new position and we hope for a long, pleasant, and productive association with him.

 CLASSIC REPRINTED

By BARBARA W. MYERS

THE MARINE SHELLS OF THE WEST COAST OF NORTH AMERICA
by Ida Shepard Oldroyd; 4 vols.; 165 black and white plates;
1188 text pages; Stanford University Press; \$100.00

This four volume classic reprinted this year for the first time is in answer to an ever increasing demand. Originally published in 1927, it was greeted with less than enthusiasm by the shell collector of that day. Time, however, has proved this set of books to be a valuable reference for the serious amateur and a helpful tool for the professional.

Although mostly a compilation and not an original work (she described only one new species and two new subspecies therein), it was and is a tremendous convenience to have the marine molluscan species of this coast, from the Arctic Ocean to San Diego, condensed into one

set of books containing original citations and where possible original descriptions, as well as location of type specimens, type locality, range etc. Assembling this amount of material must have been an arduous task; it took her eight years. The books today are a testament to her ability as a capable and careful worker.

Systematic arrangement is according to the principal system in use some years ago, beginning with the most highly developed forms and proceeding to the simplest forms in each class. This takes a little extra time to become familiar with as there is no comprehensive index; each volume has its own index. Plates and text are often in separate volumes and this is another slight nuisance. Foreign language descriptions are in most cases followed by an English translation.

There are no colored plates, they are all black and white, either wash drawings, pen and ink or line engravings or photographs. Her figures for the most part are extracted from other published works. Many of the plates used are from the Proceedings and Bulletins of the United States National Museum. Most of the figures then are reproductions of a reproduction. In a comparison with the original 1927 set many of the wash drawings and photographs are less well defined and somewhat darker. The line engravings although a little darker distinctly show the characters of each specimen. Where there is no figured specimen, there is a reference to the location of a figured specimen. Strangely there is not one figure of a chiton, this group of mollusks being such a notable feature of the fauna of this coast of North America.

Since it is just a reprint, there is no revision of names and as would be expected, many of the names are out of date.

There is an accompanying unbound correction sheet for the plate legends prepared by Dr. Myra Keen, part of which was first published in "An Abridged Checklist and Bibliography of West North American Marine Mollusca", Keen, 1937. Added corrections were made by Dr. Keen in January, 1978. These corrections are vital to the user of the books and I think they should have been bound into each volume. I have made the corrections in pen and ink in our library volumes.

It is important to stress that although these books are a good preliminary aid, recourse should always be to the original citation and they must be used with other references as there have been many nomenclatural changes in the past 50 years.

This set of books is a needed acquisition for our library and will be most helpful to those working on material from our area.

FROM OUR MAN IN THE SOLOMONS WITH THE AMELA 1978 EXPEDITION

Twenty-five hours on a plane and in airports. Arrived Honiara, Solomons via Honolulu, Fiji and New Hebrides. The weather in the Solomons has been beautiful, warm and humid, beautiful clouds over the distant islands. We have been night diving once and snorkeling both night and day. Lots of fine shells. Tonight we board the boat for a ten day cruise and diving. Then back for the Independence celebration. Then back to diving and cruising. Lots of pictures, beautiful scenery and handsome people.

DAVE MULLINER

401
F418
Moll.

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

August 1978

No. 8

* PROGRAM: The Amela '78 Expedition, Part I. This will be a first re- *
* port by the participants in the trip to the Solomons. Their *
* talk will be accompanied by slides, both of land and under- *
* water. *
* SAVE THE DATE! September 16 is the date for the party to be held pool- *
* side at Sherry and Marty Schuler's residence. The theme will *
* be Beachcombers. Details will be given at the August Meeting. *
* Date: Aug. 17, 1978 Time: 7:30 P.M. Place: Room 104 *

FROM THE MINUTES

Twenty six people were present at the July 20, meeting. The principal speaker for the evening was the Club's Science Fair winner, Michael Jay, who gave a report on his winning project, "Chemotactic Reaction by Zooplankton with Application to Chemical Attraction Fishing." (Article to follow in a future FESTIVUS) There was a spirited question and answer period following Michael's excellent lecture. Hugh Bradner, Science Fair Committee chairman, presented Michael with his award, an inscribed copy of Barnes' "Invertebrate Zoology".

Following Michael Jay's talk, June King discussed the variation in Vexillum ornatum and showed a selection of the color patterns of this shell. Members brought in their miters for display at the meeting.

After the coffee break, there was a brief business meeting. The June minutes were accepted. No treasurer's report was given.

The September party will be held at Sherry and Marty Schuler's home. The theme and details of party planning will be announced at the August meeting.

John Smith won the door prize and June King won the bonus door prize, a beautiful Voluta ebraea. A door prize "gift" was given to Michael Jay.

NEW MEMBERS

BERTSCH, Hans (Honorary)
840 Turquoise St. Apt. 207
San Diego, Ca. 92109
273-2706 (home)
232-3821 (Museum)

HOGAN, Karen
2736 Worden St.
San Diego, Ca. 92110
223-5968

BOOK REVIEW By BARBARA W. MYERS

FIELD GUIDE TO SEASHELLS OF THE WORLD

By Gert Lindner - Translated and Edited by Gwynne Ververs
Van Nostrand Reinhold Company, New York - 1978
\$8.95 -- 271 pages; 64 color plates
Originally published in Germany, 1975 under the name
"Muscheln und Schnecken der Weltmeere"

What separates this book from the "picturebooks" that have become very popular is the author's knowledgeable and comprehensive background of the Phylum Mollusca with scientific facts introduced in a clear, concise and easy to read style. It includes anatomy, morphology of the shell, distribution and taxonomy. The systematics used in the book, as stated in the Forward, are based mainly on R. C. Moore's "Treatise on Invertebrate Paleontology" and R. Tucker Abbott's "Indo-Pacific Mollusca". The bibliography is not extensive.

The color photography in this paperback is outstanding. The author, who is also the photographer, has pictured more than 800 species grouped with artistic symmetry on 64 color plates. There are common as well as exotic species, but all are attractive.

The Gastropoda and Bivalvia are well represented, but, as usual, the Polyplacophora (chitons), Scaphopoda and Cephalopoda get very little attention and these three Classes only rate one color plate among them.

There is a paragraph describing each Class and a few lines for each Superfamily; a more detailed summary is given for each Family, i. e. a brief discussion of the nomenclatural problems in the Cypraeidae. Genera and subgenera are listed. A number of black and white close-up photographs emphasize a distinctive shell character which should help in the recognition of the different families. Descriptions of species are restricted to simple remarks; sizes and areas are approximate. The index is brief and lists no species names.

In my opinion this is an exceptional book for the casual collector which should pique the curiosity of its readers and lure them into a more "in depth" investigation of the various aspects of the study of "seashells". In addition it would also be a handy reference for the serious collector as it condenses a wealth of information into one volume, easy to use, carry or travel with.

THE ART OF BOAT MATING

By FORREST POORMAN

Our small time dredging operation for mollusks is not a one person operation! As first and only mate of the Captain, I know. The duties and responsibilities on a 13.5 ft. Gregor with a Johnson 15 HP. motor are unheralded but vital; and I propose to reveal all.

Assembling and remembering all the peripheral equipment is the first step in becoming a first mate. In order of importance in this area is the snacking material for the captain, including water. The check-off list also includes: boat pillows, insect repellent, tool box, "goodie jar", gloves, comfort pan, tubs, C.B., hats, and keys to unlock removable equipment in the boat. With good management, one can carry all of this to the boat in one load.

The first mate assists in launching the boat. In most situations the boat is lounging on a sandy or rocky beach. The primary duty then is to keep the canvas roller under the boat as the captain pulls it toward the water. The greatest problem is getting the roller exactly in the middle of the boat as the Captain holds the heavy thing up in the air. So many times the boat tips sideways and does the Captain growl!

Cruising, one can't say sailing, along to the dredging spot is a time of wonder and contemplation. Sometimes it is only for a five minute period, other days it takes 20-30 minutes to get to the exciting "deep hole." The Captain often consults the first mate on bearings to determine the previous day's good dredging spot. It is strange that two perceptive, observing people can remember so differently. The Captain is almost always right!

"Dredge overboard" time usually brings a timid question, "Are all the knots tight?", which does not gain brownie points for the first mate. The next big responsibility is to see that the weights at the 500 ft. mark on the rope do not hit the back of the Captain as the rope flies from the box at the feet of the sometimes daydreaming mate. At the right depth, the rope must be secured at the bow. To tie square knots with a snaking rope while leaning backwards and sideways takes great skill. When the word is passed that the "censored" dredge is finally on the bottom and is dredging, the crew will have 20-30 minutes to observe the fascinating sea life of the Gulf of California. Stories could be told of the porpoises, finback whales, sharks, sea turtles, bats, butterflies and myriads of sea birds and their antics. Then too, one can sunbathe and nap. Because of the motor noise, conversation is at a minimum.

When the work is passed that the dredge will be lifted, the mate cannot "step lively" but can sit up and wrap legs with towels. It took some weeks to discover that the red itchy spots on the mate's legs were caused by minute strings of jellyfish which were flipping from the rope as the mate was coiling it into the box. While retrieving the line, the entire crew concentrates on the approach of each 100 ft. marker on the 1,000 feet of rope. Since the line is made up of three different purchases, the color and characteristics are different. With the appearance of the 500 ft. marker, tension mounts throughout the boat. The hand operation is over and the loud and lusty Briggs and Stratton motor is cranked and cussed into action. While the noise is deafening, the sheer joy of having the winch, not the wench, pull up the heavy dredge is almost the ultimate. As the last 100 ft. is in the rope box in an irregular coil of 8, not remotely resembling the accepted nautical

technique, the tension changes to apprehension. For the ultimate performance of the first mate is to shut off the winch motor before the chain and loaded dredge are thrown into the boat. The winch motor has a mind of its own and a will to achieve and nothing will deter it. One time the motor was started while the dredge was caught on the bottom. The winch tore itself loose from the boat seat and nearly joined the dredge at the bottom of the Gulf. Fast action on the part of the mate in shutting off the motor saved it and the boat. The desperate act of turning it off consists of having one hand on the metal strap that at the exact moment must be firmly pressed down on the spark plug. To know this exact moment, the rest of the body must be hanging over the side of the boat, eyes glued on the speeding rope. Sometimes one wishes the little fellow would get lazy and slow down just a little. While the Captain hoists the dredge over the side, the next uninspiring job for the mate is to carefully slide over to the other side of the boat, trying not to topple the standing Captain while endeavoring to balance the boat. This takes delicate concentration and justifies not going on a much needed diet. A tub must be immediately available so the Captain can transfer the grunge from the dredge.

While the Captain proceeds with the next dredging run, the mate's real reward is at hand. The first look at the virgin grunge is exhilarating. All the large rocks go over the side as well as common shells dead and alive. The San Carlos seagulls, who faithfully follow the boat, puzzle over the discards. Why are there no fish scraps like those from all the other boats? They do not dive for the starfish, sand dollars, crabs, small fish and other creatures that are returned to the sea. The desirable shells and "squealers" are placed in sea water in the "goodie jar." By the time the next dredge load is ready to be taken aboard, the previous load has been reduced to a few inches in the bottom of the tub. Wonderful surprises are sometimes lingering in the grunge and hunting for these provides the evening entertainment on the dining table.

Lying dead in bouncy water, while changing spark plugs, is one of the hazards of the action. The mate can be favorably compared to the nurse on a T.V. medical team. With tool box on lap the mate must slap screw driver, pliers, pipe, and spark plug into the hand of the Captain with the same skill as a nurse. What a joy when the motor decides to go again. The Captain has not yet accepted the mate's skill in rowing. He feels that rowing in circles takes too much time in getting to the desired shore. Anyway, the C.B. is his insurance against rowing-- he can always call for help.

The purpose of this account has been to explain the necessity of having a skilled, intelligent, alert mate who can help make things happen. Naturally the Captain must have these skills also.

FOR YOUR INFORMATION

1. Dr. Hans Bertsch, Curator of Marine Invertebrates and Dr. Amadeo Rea, Curator of Birds and Mammals, will lead a research field study to Hawaii from December 14-28, 1978. This trip, under the auspices of the San Diego Natural History Museum is limited to 25 persons. For information, contact Dr. Bertsch or the San Diego Natural History Museum.
 2. The sixth annual convention of the Conchologists of America will be held at the Island Inn, Westbury, Long Island, New York on September 27 ending September 30. It will be hosted by the Long Island Shell Club. For more information, contact the Convention Chairman, Martin Lerner, 64 Thompson Ave., Oceanside, N.Y., 11572.
-

MINUTE SHELLS

By JULES HERTZ

The two shells shown below are from the Hertz collection and were dredged by David and Margaret Mulliner in 100 ft. of water, north of Punta La Gringa in Bahía de los Angeles, Baja California, Mexico on May 19, 1976. Photographs are by David Mulliner, FESTIVUS staff photographer.

The specimen in the lower left was identified by Anthony D'Attilio as Cerithiopsis tuberculoides Carpenter, 1857. This specimen is in the Family Cerithiidae, Subfamily Cerithiopsinae, Genus Cerithiopsis Forbes & Hanely, 1851. The original description for this species was by Carpenter (1857) and outline drawings are in Keen (1968). The specimen below was compared with a lot (#5351) in the San Diego Natural History Museum, collected in the "Gulf of California." Type locality for this species is Mazatlán.

The specimen shown on the lower right is in the Family Pyramidellidae, Genus Turbonilla. With the help of Anthony D'Attilio, the specimen has been tentatively identified as belonging to the Subgenus Strioturbonilla, Sacco, 1892. This Subgenus encompasses species having strong axial ribs, fine spiral cords, and a subquadrate aperture. There are many species of Strioturbonilla from the Mazatlanic faunal area. Bartsch (1912) listed eleven from there and quite a few have been recorded from there since then. This writer has examined many of the original descriptions and figures of the Strioturbonilla species from the Mazatlán faunal area without being able to make a positive identification.



Cerithiopsis tuberculoides
Carpenter, 1857
Length: 2mm



Turbonilla sp.
Length: 3.2mm

Carpenter, P.P., 1857c. Catalogue of the collection of Mazatlan shells in the British Museum: collected by Frederick Reigen, London (British Museum), pp. i-iv & ix-xvi & 552 (Aug. 1, fide Sherborn, 1934).

Keen, A. Myra, 1968. West American mollusk types at the British Museum (Natural History) IV. Carpenter's Mazatlan collection. The Veliger, vol. 10, no. 4, pp. 389-439, pls. 55-59, 171 text figs. (Apr. 1).

Bartsch, P., 1912. A zoogeographic study based on the pyramidellid mollusks of the west coast of America. No. 1906. From the Proc. of the U.S.N.M., vol. 42, pp. 297-349 with pl. 40 (June 15).

DIVING EXPERIENCES IN PUERTO RICO

By JOHN D. MYERS

Lured by the crystal clear water, the exotic fauna and the ease of collecting, November, 1977 found us back in Puerto Rico, seven months after our first visit, again the guests of our generous friends, Bob and Linda Carter.

Although plagued this time by black flies, mosquitos, hot, humid weather and torrential downpours, this second trip was filled with as much enjoyment and excitement as the first. Our host had many new collecting spots and methods for us to check out. Familiar with the area and the fauna now, our collecting was more specialized.

First, a dive on the wreck that Bob had discovered while flying over the passage between Vieques Island and Puerto Rico. The Emma L. Atwood, a three-masted wooden schooner, 200 ft. long, en route from New York to the small port of Humacao on the east coast of Puerto Rico, sank in 1906. Not much is left today of what once must have been a proud sailing vessel. Her superstructure has long since disappeared, broken up and scattered by wave action soon after the disaster. The wooden hull was covered with copper sheathing and pieces of the sheathing and copper nails can still be found. Wooden hulls can be destroyed by teredos, bivalves commonly called shipworms, in less than twenty years and we only found blackened scraps of wood here and there. We located the massive anchor, the old fashioned flukes much eroded. As we dove around this fragment of history, we could sympathize with the men that had to winch this monster up from the deep. Although within a few miles of the coasts of both Puerto Rico and Vieques Island and in shallow water, history records no survivors and we assume she foundered in a severe storm. The currents in this passage are so strong we had to dive at slack tide, trailing lines and diving up-current. While Bob was attempting to uncover the rudder, I scrounged some square brass spikes and bars, a sheet of copper sheathing and copper nails and from the meager debris tried to visualize the ship's contour. Our time was limited to thirty minutes and then the current began to race; slack tide was over.

Continuing across the passage to Vieques Island, which lies nine miles east of Puerto Rico, we dove off the end of the Pier despite dire warnings from the local fishermen of sharks -- big sharks. We saw barracuda -- big barracuda, but no sharks and collected several long spined Spondylus americanus Hermann, 1781. These were covered with a purple-black spongy growth which camouflaged their spiny beauty. We also found Charonia variegata (Lamarck, 1816), but the much sought

after gold specimen that I found turned out to be rather eroded. We picked up some large specimens of Astraea caelata (Gmelin, 1791), the very attractive Trachycardium isocardia (Linne, 1758), Lima scabra form tenera Sowerby, 1843 and L. pellucida C. B. Adams, 1846. Bob collected the only Turbo canaliculatus Hermann, 1781,

Later dragging each other behind the boat in Vieques Passage, we collected Cassis tuberosa (Linne, 1758), C. madagascariensis Lamarck, 1822, C. madagascariensis form spinella Clench, 1944, several perfect Strombus gallus Linne, 1758 and a few Conus daucus Hwass, 1792.

Day followed day of perfect diving, each new spot yielded new species -- Astraea tecta (Lightfoot, 1786), rare in this area, only two specimens; Murex brevifrons Lamarck, 1822, not at all common; Xenophora conchyliophora (Born, 1780), Cymatium femorale (Linne, 1758), Strombus gigas Linne, 1758, with flaring pink apertures, S. costatus Gmelin, 1791, S. raninus Gmelin, 1791, S. pugilus Linne, 1758, Vasum muricatum (Born, 1778) and Antigona rigida Dillwyn, 1817. I would find myself hypnotized by the variety and color of the small reef fishes and the intricate shapes of the corals, especially attractive is the flower coral.. A stinging on my arm or leg would remind me to watch for fire coral or the much hated long spined black urchin. Poking into a crevice, I disturbed a sleeping nurse shark that darted out the other end startling Bob, who didn't see me laughing at him.

All too soon this stimulating and pleasant interlude ended and it was time to head back to San Diego and cold water diving.

I would like to thank my wife, Barbara, for her identification of the species collected and assistance in writing this article.

A SPECIAL ISSUE THIS FALL

The FESTIVUS is proud to announce its publication of a special issue this Fall entitled, "Muricacea; Catalogue of the Family Coralliophilidae." by Anthony D'Attilio, co-author of "Murex Shells of the World," and assistant to the curator of Marine Invertebrates at the San Diego Natural History Museum. In the words of the author, this "catalogue consists of all taxa proposed for the family, specific and supraspecific. The list is complete as far as my research has shown."

This work, an ambitious undertaking, will be a valuable tool for the researcher and amateur alike. As a service, the FESTIVUS will make copies available to non-members and/or additional copies to members at \$2.00 a copy. (To get this issue along with the complete set of the FESTIVUS for 1978, send \$3.00 for U.S. membership, \$3.50 overseas).

IN MEMORIAM

It is with sadness that we report the death of Frank Abbottsmith of West Australia on June 18, 1978. Frank was a noted collector of the Volutidae and the author of a book on the family entitled "Australian Multiform Volutes." He was a friend to the San Diego Shell Club, visiting here twice and giving illustrated talks on Australia and its volutes to Club members.

QL
401
F418
Moll.

WILLIAM H. DALL
SECTIONAL LIBRARY
DIVISION OF MOLLUSKS

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

September 1978

No. 9

*
* COME TO THE BEACHCOMBERS' BALL!! September 16 at 6:00 P.M. poolside
* at Sherry and Marty Schuler's residence. Details and map on last
* page of this issue. Come in your best beachcomber costume.
*
*
* Speaker for the October 19th meeting will be Dr. Hans Bertsch.
*

FROM THE MINUTES

By SANDIE SECKINGTON

There was a large turnout (47) members plus many new friends at the Aug. 16th meeting which saw Phil Faulconer give part one of the much anticipated report on the Amela Expedition. With other members of the expedition chiming in at appropriate times, he presented an array of exquisite slides depicting the underwater life they encountered. Included in the slides were many wonderful closeups taken by Dave Mulliner. Also included was an interesting view of village life on an atoll. (Phil's talk will appear in a future issue of The FESTIVUS. Ed.).

During the business portion of the meeting the minutes were approved as published in the August FESTIVUS.

The Beachcombers' Ball on September 16th was discussed. The main dish will be bouillabaisse. Each member is asked to bring his food contribution, serving utensils, and eating utensils and come in his best beachcomber garb.

The phone committee will be calling those members not in attendance.

June announced that a proposal has been made to the City Council to close Village Drive (the street directly in front of the Casa Del Prado) to all vehicular traffic. This would include loading and unloading. A motion was made that the Club as a group protest the proposal and that the Executive Board write a letter to the City Council on this matter. The motion was seconded and passed.

CHANGES OF ADDRESS

RILEY, Jacki & Ken
c/o Zapata Marine Service
Zapata Towers, Box. 4240
Houston, Tex. 77001

W.A. SHELL CLUB
/o Mollusc Dep., W.A. Museum
Francis Street
Perth, 6000, Western Australia

SPECIAL ISSUE THIS OCTOBER

The FESTIVUS' special issue entitled, "Muricaceæ; Catalogue of the Family Coralliophilidae," by Anthony D'Attilio will be published next month. Mr. D'Attilio, co-author of "Murex Shells of the World," and assistant to the curator of Marine Invertebrates at the San Diego Natural History Museum, has prepared a complete catalogue "of all taxa proposed for the family, specific and supraspecific. The list is complete as far as my research has shown." This catalogue of over twenty-five pages will comprise the entire issue with the exception of a first page of necessary Club information.

The FESTIVUS will make copies available to non-members and/or additional copies to members at \$2.00 a copy.

AT TOURMALINE CANYON SURFING BEACH - September 1978

By CAROLE M. HERTZ

Jules and I went to Tourmaline Canyon Surfing Beach in Pacific Beach, San Diego during the Labor Day weekend. This beach is a frequent stop for us since the kelp which we need for our aquarium can always be found freshly washed in.

For many months the beach had been almost all large rocks and cobbles, many covered with algae and hydroids, from the parking lot to the water's edge. From the parking lot north to Archer Street, the beach has been a combination of cobbles and calf-deep, rotting kelp.

All this changed suddenly. The cobbles have almost disappeared, except for a thin line abutting the high, sandstone cliffs. The rotting piles of kelp have disappeared as well. Instead, there is a hard sand beach with deeply imbedded rocks at the low tide line and below. The usual high tide-pool areas - where we've found uncommon Calliostoma (dead) washed in have disappeared at least for the present. Perhaps the recent storm activity has caused this dramatic change.

However, the area is not devoid of interest. Tidepools are still in evidence but in deeper water and the fresh kelp and surf grass continues to wash in. Walking along the now sandy beach we found some shells (dead) not commonly found in this area. Jules' find of the weekend was an Opalia wroblewskii (Morch, 1876). Not only had we never found it before but we had none in our collection. Also found were large (approx. 22 mm.) of Epitonium indianorum (Carpenter, 1864). Dentalium neohexagonum Pilsbry & Sharp, 1897 were washed up in quantity and one Calliostoma gemmulatum Carpenter, 1864 was also found as well as a Turbonilla which we have not yet identified.

MINUTE SHELLS

By JULES HERTZ

The species featured this month were found in Newport Bay, Ca., and were collected in the early 1900's. They are not pictured in McLean and not normally collected in San Diego.

The species on the left is from the Family Acteocinidae, Genus Acteocina Gray, 1847. The species is identified as Acteocina magdalenensis Dall, 1919 whose range is listed in Oldroyd as Southern California to Magdalena Bay, Lower California. It was earlier called Acteocina infrequens Carpenter, not of C.B. Adams. A. magdalenensis differs in shape from the more common Acteocina inculta Gould, 1856 which is commonly found in Morro Bay, Ca. and whose range is from Monterey, Ca. to the Gulf of California. Besides the difference in body shape, the A. magdalenensis has a narrow aperture and a straight outer lip which rounds below into the thickened pillar which has a strong plait and a groove behind it.

The species on the right is from the Family Pyramidellidae, Genus Turbonilla Risso, 1826. The species is identified as Turbonilla tridentata Carpenter, 1865. The range is reported in Oldroyd as Monterey to San Diego, Ca. The specimen pictured below varied in color from light tan at the apex to an orange-brown at the aperture.



Acteocina magdalenensis
Dall, 1919
Length: Approx. 5 mm



Turbonilla tridentata
Carpenter, 1865
Length: Approx: 8.5 mm

McLean, J.H., Marine Shells of Southern California, 1978.

Oldroyd, I.S., The Marine Shells of the West Coast of North America, vol. 11, parts 1 & 2, 1927.

COLLECTING IN PLAYA DE SANTIAGO

By CAROLE M. HERTZ

During the Christmas vacation this past year, our family spent two delightful weeks traveling in Mexico. First we visited some of the Mayan ruins in Yucatán, surely an area of wonder. Here the modern-day viewer is humbled before the awesome accomplishments of an earlier people. We then flew to Manzanillo in Colima and basked in the sun and sea for five days at Playa de Santiago, a lovely spot just about seven miles north of Manzanillo. For us this was a fortuitous choice since a small, man-made jetty at the southern end of the hotel beach (Hotel Playa Santiago) formed a protected cove, ideal for the average swimmer or novice snorkeler. Colorful tropical fish abounded here, the jetty providing sanctuary for them while protecting the swimmer from the strong currents prevalent in the area. Varieties of pufferfish, triggerfish, butterflyfish, pipefish, porcupinefish were our everyday companions in the warm waters off Playa de Santiago.

Although this was a popular beach area, a considerable variety of mollusks were found here either by shore collecting or snorkeling to a depth of twenty feet. A listing of those species found follows.

Fissurella decemcostata McLean, 1970

Fissurella gemmata Menke, 1847

Fissurella nigrocincta Carp. 1856

Ancistromesus mexicanus (Brod.&Sow., 1829) juv.

Acmaea sp.

Colisella mitella (Menke, 1847)

Colisella pediculus (Phil., 1846)

Scurria mesoleuca (Menke, 1851)

Tegula liqulata (Menke, 1850)

Astraea (Uvanilla) unguis (Wood, 1828)

Littorina aspera Philippi, 1846

Calyptrea (Trochita) spirata (Forbes, 1852)

Crucibulum cyclopium Berry, 1969

Cymatium lignarium (Brod. 1833) dead

Muricanthus princeps Brod., 1833

Neorapana muricata Brod. 1832

Thais speciosa (Valenciennes, 1832)

Thais triangularis (Blainville, 1832)

Cantharus sanguinolentus (Duclos, 1833)

Vasum caestus (Brod., 1833)

Oliva julieta Duclos, 1835

Olivella sp.

Olivella undatella Lamarck, 1810

Ageronia testacea Lamarck, 1811

Terebra sp.

Conus nux Broderip, 1833

Conus purpurascens Sowerby, 1833

Siphonaria maura Sowerby, 1835

Siphonaria sp.

Chaetopleura lurida (Sow. 1832)

Chiton albolineatus Brod. & Sow., 1829

Chiton articulatus Sowerby, 1832

Choromytilus palliopunctatus (Carp., 1857)

Trachycardium procerum (Sow., 1833) dead

Donax contusus Reeve, 1854 dead

Pitar lupanaria (Lesson, 1830)

Chione subimbricata (Sowerby, 1835)

DON'T YOU BELIEVE IT

By TWILA BRATCHER

If anyone says that night collecting during a full moon is poor, don't you believe it! That person has not dived at Bonigi on Guadalcanal in the Solomon Islands. In calm water with no current, we reached the bottom below the Coralita at 35 feet. I had not been there two minutes before picking up a beautiful Conus aculeiformis Reeve, and from then on the entire dive was pure excitement. The bottom was dark sand mixed with silt which remained suspended a while when stirred up by fins or by picking up a shell. Swimming a few feet put one once again into clear water. We swam down the slope to 100 feet and then turned back to 70 feet, where we remained for 35 minutes before slowly returning to the place we had entered, collecting all the way.

After separating from the others at 100 feet, my sister, Billee, and I saw a pair of lights in the distance only once. Therefore we were surprised when all five divers converged below the Coralita at the same time. As we neared that area I looked up to see if the light from the Coralita was visible. I could see it directly above me. Then after swimming about 50 yards, it was still above me. I realized then that it was the brilliant moon I was seeing instead of the light from the Coralita.

In spite of the bright moonlight, collecting at all depths, especially between 35 and 70 feet, was like a supermarket. Everything was out moon-bathing on top of the sand. One never expects to see Cypraea crawling in the open, but on dark sand around Guadalcanal, we have observed this on several occasions.

That night we collected: Cypraea bregiana Crosse, C. eburnea Crosse, C. labrolineata Gaskoin; Conus aculeiformis Reeve, C. collusus Reeve, C. eburneus Hwass, C. flavidus Lamarck, C. generalis Linnaeus, C. mucronatus Reeve, C. ochroleucus Gmelin, C. pilkyi Petuch, C. pulicarius Hwass, C. quercinus Solander; Nassarius comptus A. Adams, N. concinnus Powys, N. livescens Philippi, N. splendidulus Dunker; Nassaria acuminata Reeve (This is a buccinid.); Architectonica perspectiva Linnaeus; Oliva vidua Roeding, O. carneola Gmelin; Rimella cancellata Linnaeus; Strombus minimus Linnaeus, S. lukuanus Linnaeus; Neocancilla clathrus Gmelin, N. granatina Lamarck; Cancilla interlirata Reeve, C. praestantissima Roeding, Vexillum (Costellaria) exasperatum Gmelin, V. coronatum Helbling; Natica qualtieriana Recluz, N. vitellus Linnaeus; Phalium glaucum Linnaeus; Bursa margaritula Deshayes; Gyrineum bibubercularis Lamarck; Terebellum terebellum Linnaeus; Atys naucum Linnaeus; Peristernia nassatula Lamarck; Terebra columellaris Hinds, I. dimidiata Linnaeus, I. maculata Linnaeus, I. parkinsoni Cernohorsky & Bratcher; Dentalium elephantinum Linnaeus; Cerithium (2 sp.); Tegula (1 sp.); Turritella (1 sp.); Turrid (1 sp.).

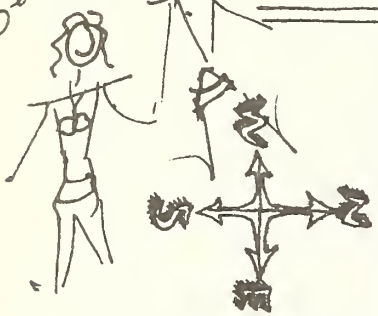
We admired a number of beautiful animals crawling over the sand, so pretty we had to stop and watch them. There were two species of Natica, Cassia glaucum Linnaeus, and two species of nudibranchs, one of which looked like black velvet trimmed with neon blue. It undulated over the sand. I photographed one of the Natica and the nudibranch the next morning.

With the water clear, calm, and a warm 86°, the bright moonlight, and the bountiful collecting of many species I had never before taken, I believe it was the most exciting dive I ever made.

Beachcombers' Ball !!

September 16th 6pm.

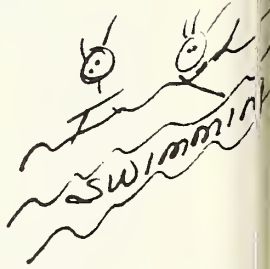
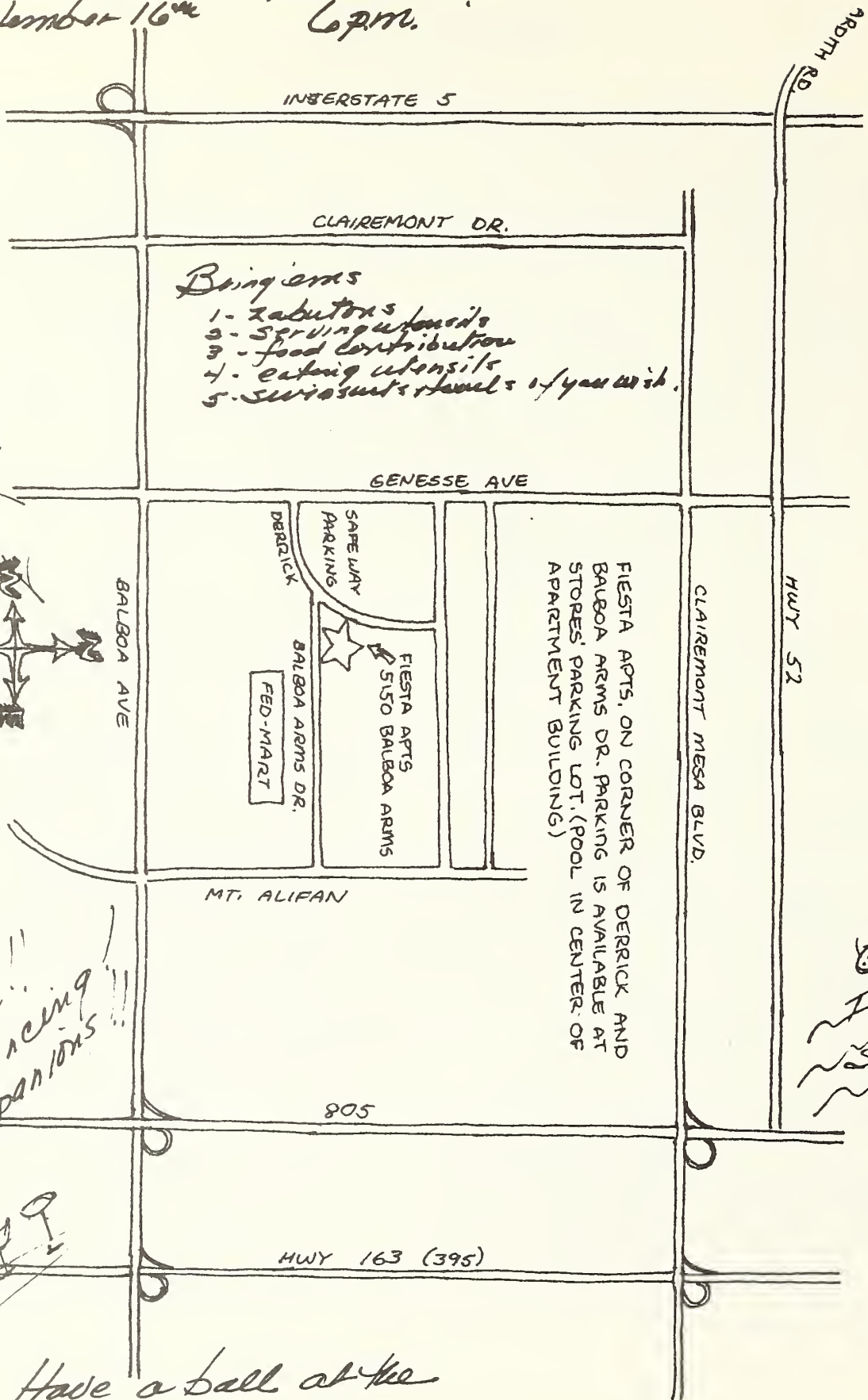
Wear your
most elegant
beachcombing
attire!



Enjoy
Good food
Great punch!!
Music & dancing
The best companions!!

Bring items

1. Labutons
2. Serving utensils
3. Food contribution
4. Eating utensils
5. Swimsuits & towels if you wish.



Have a Ball at the

San Diego Shell Club's Beachcombers' Ball
Fiesta Apts
5150 Balboa Arms
Balboa Arms Drive
at
Sherry & Marty Schuler's

QL
401
F418
Moll.

1 MOLL
DIVISION OF MOLLUSKS

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY
CASA DEL PRADO BALBOA PARK
ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

October 1978

No. 10

* PROGRAM: Dr. Hans Bertsch, Curator of Marine Invertebrates at the *
* San Diego Museum of Natural History will be our speaker. *
* *
* Date: October 19. Time: 7:30 P.M. Place: Rm. 104. *
* *
* SAVE THE DATE! The Christmas Party will be on December 9, 1978 and *
* will be held at the Cafe Del Rey Moro. Details later. *
* *****

NOTICE

The San Diego Museum of Natural History has had to rid its "attic" of discards and non-collection material to comply with fire safety regulations. The Club has offered to sell these marine specimen discards by silent auction at its regular meetings and share equally with the Museum the proceeds from their sale, thus benefitting both the Club and the Museum.

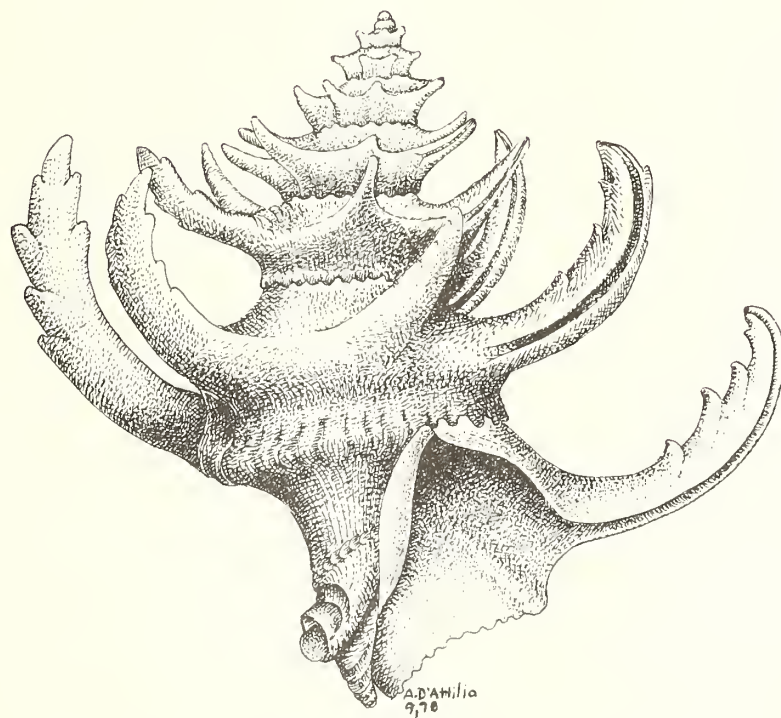
Corals, sponges and shells will be at auction each meeting. The shells are unsorted, unnamed and without data. The corals range from magnificent decorative specimens to small pieces suitable for aquarium use. Minimum bids will be placed on some of the exceptional pieces. Members and guests are invited to participate. However, the material will be available only at meetings.

SUPERFAMILY: MURICACEA

A Catalogue of CORALLIOPHILIDAE

ANTHONY D'ATTILIO

SAN DIEGO NATURAL HISTORY SOCIETY



LATIAxis DIADEMA A. ADAMS

THE

FESTIVUS

Vol. X No. 10 October 1978

SAN DIEGO SHELL CLUB

MURICACEA
CATALOGUE OF THE FAMILY CORALLIOPHILIDAE

ANTHONY D'ATTILIO
San Diego Natural History Museum

INTRODUCTION

The following catalogue consists of all taxa proposed for the family, specific and supraspecific. The list of nominal species is complete as far as my research has shown. Unless otherwise cited with the notation "not seen", references are primary. In order to keep the catalogue as objective as possible, the original orthography has been retained. Mostly due to the polymorphic nature of species characters, I have not reassigned species or indicated synonyms. Dates of the publication of proposed family names reveal that "Coralliophilidae" is the oldest. There are more than 20 genera in the literature listed herein with their respective types.

The characteristic sculpture of the majority of species in the family is the fine or coarse spiral cording on what is usually a spindle-shaped shell. Cords and interspaces are crossed by growth striae elevated into prominence as lamellae. The lamellae over the cords frequently develop into a scabrous surface and often further into vaulted scales. The spiny, scaly processes are frequently present, either alone on the shoulder carina or also on the shoulder or the whorls. Lirae may be present within the aperture. The anal sulcus is not very distinguished. The canal is open and variable in length. If present, the operculum is thin and ocenebrine in form. When dried and after separation from the soft parts, it is often sharply folded at mid-length. The shells are generally white; however, either the body or the body and the spines sometimes are tinted with shades of orange, yellow, pink, or violet. The aperture in some species is richly violet. The protoconch may be variably smooth for about one and one-half whorls, or for three to four angled whorls it may have fine transverse lamellae (D'Attilio 1972). There is no radula according to all investigators. Feeding presumably is by suctorial means.

A few forms are found living within soft or stony corals (Magilus). Another small group (Rhizochilus) attach themselves permanently to the host by means of spiny extensions originating from the margin of the aperture. In addition to feeding on corals, certain species feed on various other coelenterates. The feeding habit of the Coralliophilidae is for the most part poorly known, except for the few species which can be observed in intertidal areas.

Most coralliophilids are tropical. Their distribution extends from the intertidal zone to depths of more than a thousand fathoms. Deep water specimens were obtained by the U.S.S. Albatross off the Celebes and Leyte islands in the Philippines.

Larval development has not been extensively studied. Many similar species are widely distributed over both the Atlantic and Indo-Pacific indicating a dispersal by means of free swimming veligers, probably in the plankton.

The fossil record of the Coralliophilidae extends to the Upper Cretaceous (Sohl et. al., 1964), although the present catalogue contains only Recent species.

FAMILY NAME

- Family: CORALLIOPHILIDAE Hoyle, 1888
 Zoological Record, 1888. The Mollusca, Vol. XXV, p. 71.
- Family: MAGILIDAE Thiele, 1929
 see: Thiele, J., Handbuch der Systematischen Weichtierkunde 1, (1-778)
- Family: RAPIDAE Barnard, 1959
 Contributions to the knowledge of South African marine mollusca Part 2,
 Gastropoda: Prosobranchiata: Rachiglossa vol. XLV, 238 pages, 52 text
 figures, (p. 185)

GENERIC CATALOGUE

Coralliophilidae

A Catalogue of Nominal Genera

- BABELOMUREX Coen, 1922.
 Type species: Fusus babelis Requier, 1848. Cat. des coquilles de l'île
 de Corse. pt. 49, p. 76, sp. 549. (O.D.)
- BULBUS Hermannsen, 1848.
 Type species: Bulla rapa Linne, 1767. Indici Generum Malacozoorum 1:1-
 637 (p. 135)
- CORALLIOBIA Adams, H.&A., 1853.
 Type species: Leptoconchus (Coralliobia) fimbriata H.&A. Adams, 1853
 (nomen nudum) (Concholepas (Coralliobia) fimbriata A. Adams, 1854)
 Proc. Zool. Soc. London 19: 93. (M)
- CORALLIOFUSUS Kuroda, 1953.
 Type species: Coralliofusus acus Kuroda, 1953, Venus 17:(3), 119-120,
 figs. 3-4. (O.D.)
- CORALLIOPHILA Adams, H. & A., 1853.
 Type species: Murex neritoideus Chemnitz (non-binomial) (= Fusus
neritoideus Lamarck, 1816). Neues Systematisches Conchylien-Cabinet 10:
 280, pl. 165, figs. 1577, 1578. (S.D. Iredale, 1912)
- EMOZAMIA Iredale, 1929.
 Type species: Murex licinus Hedley & Petterd, 1906. Mollusca from
 300 fathoms off Sydney, Australia. Records of the Australian Museum 6:
 219, pl. 37, fig. 6. (O.D.)
- FUSOMUREX Coen, 1922.
 Type species: Purpura alucoides Blainville, 1829. Faune française ou
 histoire & naturelle....Mollusques. p. 128, pl. 58, fig. 1. (O.D.)
- GENKAIMUREX Kuroda, 1953. (not Coralliophilidae)
 Type species: Coralliophila (Genkaimurex) varicosa Kuroda, 1953
 (= Murex fimbriatulum A. Adams, 1863) Venus 17(3) 120-121. (O.D.) The
 possession of a closed canal and radula indicates a placement not in
 Coralliophilidae. For figure of radula see:
 Matsukuma, A., 1977, Notes on Genkaimurex varicosa (Kuroda, 1953)
 Venus, 36(2): 81-87, text figs. 1, 2, pl. 1, figs. 1-5.

HIRTOMUREX Coen, 1922.

Type species: Coralliophila (Hirtomurex) lamellosa (Philippi, 1836).
Enum. Moll. Sicil. vol. 1, pp. 1-267, pls. 1-12. (p. 204, pl. 11, fig. 30) (O.D.)

LAMELLATIAXIS Habe & Kosuge, 1970.

Type species: Latiaxis (Lamellatiaxis) marumai Habe & Kosuge, 1970.
Venus 24(4): 182. (M)

LATIAXIS Swainson, 1840.

Type species: Pyrula mawae "Gray" Griffith & Pidgeon, 1834, (in Cuvier, Regne Animal) Mollusca & Radiata, p. 599, pl. 25, figs. 3, 4. (M)

LATIMUREX Coen, 1922.

Type species: Coralliophila (Latimurex) meyendorffii (Calcare, 1845).
Cenno. Moll. Viv. e fossili di Sicilia, (p. 33, pl. 4, fig. 22) (O.D.)

LEPADOMUREX Coen, 1922.

Type species: Coralliophila (Lepadomurex) brevis (Blainville, 1832).
Disposition methodique des especes Recentes et fossiles des genres Pourpres, Ricinule, Licorne et Concholepas de M. de Lamarck. Nouvelle Ann. du Mus. 1: 189-263, pls. 9-12. (p. 283, pl. 11, fig. 10)

LEPTOCONCHUS Ruppell, 1834.

Type species: Leptoconchus peroni Lamarck, 1818. Hist. Nat. Anim. s. Vert. 5: 374.

MAGILOPSIS Sowerby, 1919.

Type species: Leptoconchus lamarckii Deshayes, 1863. Cat. Moll. Conchyl. l'ile de la Reunion (Bourbon), p. 127, pl. 12, figs. 1-3. (O.D.)

MAGILUS Montfort, 1810.

Type species: Magilus antiquus Montfort, 1810. Conchyliologie systematique, et classification methodique des coquilles, Paris, 2: 42. (M)

MIPUS De Gregorio, 1885.

Type species: Trophon gyratum Hinds, 1844, Voy. H.M.S. Sulphur, Zoology, 2: 14, pl. 1, figs. 14-15. (O.D.)

ORANIA Pallary, 1900.

Type species: Pseudomurex spadae Libassi, 1859. Att. Acad. Palermo, 3: 43, fig. 29. (O.D.)

PSEUDOMUREX Monterosato, 1872.

Type species: Murex bracteata Brocchi, 1814. Moll. Foss. Subapp., p. 409, pl. 9, fig. 3. (O.D.)

QUOYULA Iredale, 1912.

Type species: Purpura monodonta Quoy & Gaimard, 1833. Voy. Astrolabe, Zoology: 2, p. 561, pl. 37, figs. 9, 11. (O.D.)

RAPA "Klein" Bruguiere, 1792.

Type species: Bulla rapa (Linne, 1767). (Murex rapa Linne, 1758), Syst. Nat. Ed. 12, p. 1184, no. 384. (S.D. Hermannsen, 1848) See Dodge, H., 1955 A historical review of the mollusks of Linne, part 3, the genera Bulla and Voluta of the class gastropoda. p. 34 as to the equivocal validity of this type designation

RAPA Roeding, 1798.

Type species: Rapa raphanus Roeding, 1798. Museum Boltenianum.

RAPELLA Swainson, 1840.

Type species: Pyrula papyracea Lamarck, 1816. Tab. Ency. Meth. pl. 436, fig. 1. Liste. 1799, p. 8.

RHIZOCHILUS Steenstrup, 1850.

Type species: Rhizochilus antipathum Steenstrup, 1850. Overs. K. Danske Vidensk. Selsk. Forh. 1850: 75. (M)

RHOMBOTHAIIS Woolacott, 1954.

Type species: Rhombothais arbutum Woolacott, 1954. Proc. Roy. Soc. Zool. New South Wales 1952-53: 38, pl. 3, figs. 1-2. (O.D.)

TARANTELLAXIS Habe, 1970.

Type species: Latiaxis (Tarantellaxis) kuroharai Habe, 1970. Venus 29 (3): 85. (O.D.)

TOLEMA Iredale, 1929.

Type species: Purpura sertata Hedley, 1903. (Thaididae)

Note: Although not a valid designation as originally proposed, later placed on the accepted list of generic taxa in Coralliophilidae by the International Commission of Zoological Nomenclature with:

Type species: Tolema australis Laseyron, 1955. The genus Tolema and its allies. The Marine Zoologist 1(3): 70-74, pl. 1, figs. 1,2. (O.D.)

A CATALOGUE OF NOMINAL SPECIES

abbreviata Lamarck, 1816. Pyrula

1816. Lamarck, J.B.P.A., Tableau encyclopédique et methodique des trois regnes de la nature. Paris. pls. 391-488 & Liste des objets representes, pp. 1-16. (pl. 436, figs. 2a, 2b).

aberrans Adams, C.B., 1850. Purpura

1850. Adams, C.B., Descriptions of supposed new species of marine shells which inhabit Jamaica. Contributions to Conchology 4: 58-59.

acus Kuroda, 1953. Coralliofusus

1953. Kuroda, T., New genera and species of Japanese Rapidae. Venus 17(3): 119-20, text figs. 3,4.
Off Tosa, Japan.

aedonius Watson, 1886. Murex (Pseudomurex)

1886. Watson, R.B., Report on the Scaphopoda and Gastropoda collected by H.M.S. Challenger during the years 1873-76. Challenger Expedition, Zoology, 15(42): v & 756 pp, pls. 1-50. (p. 161, pl. 17, fig. 5).
Tristan da Cunha Is. (Nightingale Is.) 100-150 fms.

akibumi Kira, 1962. Coralliobia

1962. Kira, T., Shells of the western Pacific in Color. 224 pp, pls. 1-72. (p. 68, pl. 26, fig. 3).
Central Honshu and Shikoku Ids., Japan, on sandy and shelly bottoms of 50-200 meters depth.

alboangulata Smith, E.A., 1890. Murex (Ocinebra)

1890. Smith, E.A., Report on the marine molluscan fauna of the island of St. Helena. Proc. Zool. Soc. London 1890: 247-317, pls. 22-24. (p. 259, pl. 21, fig. 7)

alucoides Blainville, 1828-30. Murex

1828-30. Blainville, H.M.D. de, Faune française ou histoire naturelle, generale, et particuliere des animaux qui retrouve en France. Mollusques. 320 pp, pls. 1-42. (p. 128, pl. 58, fig. 1)
De La Mediterranee, sur les cotes de la Provence.

ameliae Kobelt, 1907. Pseudomurex

1907. Kobelt, W., Diagnosen neuer arten. Nachr. Deutsch. Malak. Gesell. 39: 167-69. (168-69)

amirantensis Smith, 1884. Coralliophila (fig. leg. spelling)

(amirantium - text spelling: p 487)

1884. Smith, E.A., Report on the Zoological Collections made in the Indo-Pacific Ocean during the Voyage of HMS Alert, 1881-82, pp. 1-684, pls. 1-52. (p. 494, pl. 44, fig. m)
Amirantes Ids., 10-17 fms., 11½ mm. x 6½ mm.

andamana Melvill, 1889. Coralliophila

1889. Melvill, J.C., Descriptions of three new species of shells. Jour. Conch. 6: 31, pl. 2, fig. 1.
"Ad Insulas Andamanensis"

antiquus Montfort, 1810. Magilus

1810. Montfort, P.D. de, Conchyliologie Systematique. Vol 2, 676pp. (42-44, pl. 11)

antipathum Steenstrup, 1850. Rhizochilus

1850. Steenstrup, J.J., New genus and new species. Oversigt over Det. Kgl. Danske Videnskabsnernes Selskabs (586) pp. 75-76

arabica Melvill, 1898. Coralliophila

1898. Melvill, J.C., A brief bibliographical resume of the Erythraean molluscan fauna, with descriptions of sixteen species from Aden. Ann. Mag. Nat. Hist. (7)1:194-206, pl. 12 (p. 199, pl. 12, fig. 3)

arbutum Woolacott, 1954. Rhombothais

1954. Woolacott, L., New Shells from New South Wales 1952-53: 1954, 38, pl. 3, figs. 1-2, (pp. 37-39, 1 pl.)

armatus Sowerby, G.B. III, 1912. Latiaxis

1912. Sowerby, G.B. III, Descriptions of a new species of Voluta, Latiaxis, and Calliostoma from Japan. Ann. Mag. Nat. Hist. (8)9: 471-473, 3 figs. (p. 471, fig. 3)

asper Adams, A., 1854. Rhizochilus

1854. Adams, A., Descriptions of thirty-nine new species of shells from the collection of H. Cuming. Proc. Zool. Soc. London 22: 130-38. (p. 137, pl. 4)
Gulf of California

asperima Adams, H. & A., 1863. Coralliophila

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumingian Collection. Proc. Zool. Soc. London 1863: 428-435. (431)

atlantica Smith, 1890. Coralliophila

1890. Smith, E.A., Report on the marine molluscan fauna of the island of St. Helena. Proc. Zool. Soc. London 1890: 247-316, pls. 21-24. (p. 264, pl. 23, fig. 8)

australis Laseron, 1955. Tolema

1955. Laseron, C.F., The genus Tolema and its allies. The Marine Zoologist 1(3): 70-74, pl. 1, figs. 1-2.
off Sydney, Australia in 110 fathoms.

babelis Requier, 1848. Fusus

1848. Requier, E., Catalogue des coquilles de l'Ile de Corse. 1-xii & 13-111. (p. 76, sp. 549)
Bonifacio in madreporis

barclayana Adams, H., 1873. Coralliophila

1873. Adams, H., Descriptions of seventeen new species of land and marine shells. Proc. Zool. Soc. London 1873: 205-209, pl. 23. (p. 205, pl. 23, fig. 1)
Mauritius

basileus Dautzenberg & Fischer, 1896. Pseudomurex

1896. Dautzenberg, P. & Fischer, P., Dragages effectués par L'Hirondelle et par La Princesse Alice. Mem. Soc. Zool. Français 9: 395-498, pls. 15-22. (pp. 440-441, pl. 18, fig. 3)
Azores

benoitii Tiberi, 1855. Murex

1855. Tiberi, N., Descrizione di alcuni nuovi testacei vivanti nel Mediterraneo. 16 pp, pl. 2, figs. 10-12
see also - 1857. Fischer, P., Jour. de Conchyl. 6: 291 (not seen)

borbonica Maravigna, 1842. Pyrula

1842. Maravigna, C., Descrizione di una nuova specie di conchiglia Siciliana vivente. Atti dell'Accademia Gioenia 18: 88-91, 2 figs. (91)

bracteatus var. minor Monterosato, 1875. Pseudomurex, nomen nudum

1875. Monterosato, Marchese di, Nuova Rivista delle conchiglie Medit. Atti Dell'Accademia Palermitana 5, 1-50. (p. 40).

brazieri Smith, E.A., 1876. Fusus

1876. Smith, E.A., A list of marine shells principally from the Solomon Ids. with descriptions of several new species. Jour. of the Linn. Soc. 12: 535-562, pl. 30. (pp. 539-540, pl. 30, fig. 16).

brevis Blainville, 1832. Purpura

1832. Blainville, H.M.D., Disposition methodique des especes Recentes et fossiles des genres Pourpres, Ricinule, Licorne et Concholepas de M. de Lamarck. Nouvelles Ann. du Mus. 1: 189-263. (p. 233, pl. 11, fig. 10)
Mediterranean coast of Sicily

brevis Forbes, 1843. Murex

1843. Forbes, E., Report on the Mollusca and Radiata of the Aegean Sea. Report of the British Association for the Advancement of Science. London, 130-193. (190).
Paros, Crete

bulbiformis Conrad, 1837. Purpura

1837. Conrad, T.A., Description of new marine shells from Upper California collected by Thomas Nuttall. Jour. Acad. Nat. Sci. Phila. 7: 227-268, pls. 17-20. (pp. 266-267, pl. 20, fig. 23)
Sandwich Islands (Hawaiian Ids.)

bulbiformis Sowerby, 1870. Rapa

1870. Sowerby, G.B., Description of forty-eight new species of shells. Proc. Zool. Soc. London 249-259, pls. 21-22. (252)
Tongataboo, Friendly Islands.

californica Adams, A., 1855. Rhizochilus

1855. Adams, A., Descriptions of two new genera and several new species of Mollusca from the collection of Hugh Cuming. Proc. Zool. Soc. London 1855: 121. (sp. 7).
Gulf of California

cancelleta Pease, 1860. Coralliobia

1860. Pease, W.H., Description of seventeen new species of marine shells from the Sandwich Islands in the collection of H. Cuming. Proc. Zool. Soc. London 1860: 397-400. (399)

cantrainei Montrouzier in Souverbie, 1861. Purpura

1861. Montrouzier, R.P., in Souverbie, M., Descriptions d'espèces nouvelles de l'archipel Calédonien. Jour. de Conchyl. 9: 271-284, pl. 11. (pp. 282-283, pl. 11, fig. 11)

capensis Tomlin, 1928. Latiaxis

1928. Tomlin, J.R. le B., Marine Mollusca in the collections of the South African Museum. Annals of the South African Mus. 25(2): 313-335, pls. 25-26. (p. 332, pl. 26, fig. 3)
Sandy Point, 95 fathoms

caribaea Abbott, 1958. Coralliophila

1958. Abbott, R.T., The Marine Mollusks of Grand Cayman Island, British West Indies. Monographs of the Acad. Nat. Sci. Phila. No. 11, 138 pp., pls. 1-5. (pp. 66-67, text fig. 3, pl. 1, figs. g, h)

cariniferoides Shikama, 1966. Latiaxis (Boberomurex) sic

1966. Shikama, T., On some new Latiaxis and Coralliophila in Japan. Venus 25(1): 21-25, pls. 1, 2. (pp. 23-24, pl. 1, figs. 7, 8)
Nada, Wakayama, Japan - shrimp net in 50 fathoms

cariniferus Sowerby, 1834. Fusus

1834. Sowerby, G.B., The Conchological Illustrations, fig. 58.
1939. Laurent, P., Une Collection de coquilles recueillies à Gouraya (Dep't. d'Algiers) pendant l'hiver 1936-37. J. de Conchyl. 83: 318-326, text fig. 1.

cariniferus Kiener, 1843. Murex

1843. Kiener, L.C., Icon. Coq. Viv. ... Murex vol. 7, 130 pp., pls. 1-47. (pp. 100-101, pl. 18, fig. 2) not Fusus cariniferus Sowerby, 1834, Conch. Illus. fig. 58.
see also Murex kieneri Hidalgo, 1904-5, nom. nov. for M. cariniferus Kiener, 1843, non Sowerby, 1834.

careus Smith, 1884. Fusus

1884. Smith, E.A., Report of the Zoological collections made in the Indo-Pacific Oceans during the voyage of H.M.S. Alert 1881-1882, pp. 684, pls. 144 (pl. 5, fig. D, 46-47).
(Assigned to Coralliophila by E.A. Smith, 1887).

clathrata Adams, A., 1854. Rapana (Rhizochilus)

1854. Adams, A., Descriptions of new species of Semele, Rhizochilus, Plotia, Tiara, in the Cumingian Collection. Proc. Zool. Soc. London 21(1853): 94-99. (sp. 23, p. 97)
Philippines.

confragosa Adams, H. & A., 1863. Coralliophila

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumingian Collection. Proc. Zool. Soc. London 1863: 428-435. (432)

constricta "Koch" Tryon, 1880. Coralliophila

1880. Tryon, G.W., Manual of Conchology, vol. 2, Muricinae and Purpurinae. 289 pp., pls. 1-70. (pl. 70, fig. 434)

coralliophila Adams, A., 1854. Rapana (Rhizochilus)

1854. Adams, A., Descriptions of new species of Semele, Rhizochilus, Plotia, Tiara in the Cumingian Collection. Proc. Zool. Soc. London 1853: 94-99. (sp. 24, p. 98)
Isle of Ticao (Philippine Ids.) on the reefs at low water (H.C.)

coronata Adams, H., 1869. Coralliophila

1869. Adams, H., Descriptions of a new genus and fourteen new species of marine shells. Proc. Zool. Soc. London 1869: 272-275, pl. 19.
(p. 272, pl. 19, fig. 4)
Mauritius

costata Blainville, 1832 Purpure

1832. Blainville, H.M.D., Disposition methodique des especes Recentes et fossiles des genres Pourpre Ricinule, Licorne, et Concholepas de M. de Lamarck. Nouvelles Annales du Museum 1: 189-263, (p. 231, pl. 11, fig. 8)
Coast of Mazatlan (Mexico)

costatus Sowerby, 1872. Magilus

1872. Sowerby, G.B., in Reeve, L.A., Conch. Icon. 18: pl. 2, sp. 5.

costularis Lamarck, 1816. Murex

1816. Lamarck, J.B.P.A., Tableau encyclopedique et methodique des trois regnes de la nature. pls. 391-488 & liste des objets representes, pp. 1-16. (pl. 419, figs. 8a,b)

costularis "Lamarck" Philippi, 1847. Fusus

1847. Philippi, R.A., Abbild. Besch. Conch. 2: 1-231, pls. 1-47. non Murex costularis Lamarck, 1816
Philippines (Cuming), Java (Winter)

couturierii Jousseaume, 1898. Latiaxis

1898. Jousseaume, F., Description de coquilles nouvelles, Le Naturaliste, ser. 2, 12:22.
New Britain

crebrilamellosa Sowerby, 1913. Pseudomurex

1913. Sowerby, G.B. III, Descriptions of eight new marine Gastropods mostly from Japan. Ann. Mag. Nat. Hist. (8)11: 557-560, pl. 9.
Kii, Japan

cumingii Adams, H. & A., 1863. Campulotus

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumingian Collection. Proc. Zool. Soc. London 1863: 428-435. (430-43)
California

cumingii Deshayes, 1863. Leptoconchus

1863. Deshayes, G.P., Catalogue des Mollusques - Conchyliologie de l'Ile de la Reunion. pp. 1-144, pls. 1-14. (pp. 125-126, pl. 12, figs. 26-27)

curta Sowerby, 1894. Coralliophila

1894. Sowerby, G.B. III, Descriptions of twelve new species, chiefly from Mauritius. Proc. Malac. Soc. London 1: 41-44, pl. 4. (p.42, pl. 4, fig. 4)
Mauritius

cuspidifera Dall, 1924. Murex (Langfordia)

1924. Dall, W.H., Notes on Molluscan nomenclature. Proc. Biol. Soc. Wash. 37: 87-90.
Hawaii

cuvieri Deshayes, 1863. Leptoconchus

1863. Deshayes, G.P., Catalogue des mollusques-Conchyliologie de l'Ile de la Reunion. pp. 1-144, pls. 1-14. (pp. 128-129, pl. 13, figs. 6-7)

dalli Emerson & D'Attilio, 1963. Latiaxis (Babelomurex)

1963. Emerson, W.K. & D'Attilio, A., A new species of Latiaxis from the western Atlantic. Amer. Mus. Novitates no. 2149: 1-9, figs. 1-6. (p. 3, figs. 1-3)

deburghiae Reeve, 1857. Pyrula (Rhizochilus)

1857. Reeve, L.A., Descriptions of seven new shells from the collection of the Hon. Sir David Barclay, of Port Louis, Mauritius. Proc. Zool. Soc. London 1857: 207-210, pls. 37-38. (pl. 38, fig. 3a,b)
southern Japan in 20-150 meters

deburghiae "Reeve" Dunker, 1882. Rapana

1882. Dunker, W., Index Molluscorum Maris Japonica. 301 pp., pls. 1-15. (p. 43, pl. 1, figs. 5-7) This is not Pyrula deburghiae Reeve, 1857.

deburghiae "Reeve" var. fusiformis Dall, 1889. Coralliophila

1889. Dall, W.H., Report on the Mollusca. II. Gastropoda (Report on dredgings...by the U.S. Coast Survey Steamer "Blake") Bull. Mus. Comp. Zool. 18: 1-492, pls. 10-40. (pp. 218-219)

deburghiae "Reeve" var. spinosa Dall, 1889. Coralliophila

1889. Dall, W.H., Report on the Mollusca. II. Gastropoda (Report on the dredgings...by the U.S. Coast Survey Steamer "Blake") Bull. Mus. Comp. Zool. 18: 1-492, pls. 10-40. (pp. 218-219)

deburghiae stenospinus Kuroda, 1961. Latiaxis

1961. Kuroda, T., A new identification of molluscan species described and figured in "Mokuhachi-Fu," 1843. Venus 21(4): 365-388.

deformis Lamarck, 1822. Pyrula

1822. Lamarck, J.B.P.A., Histoire Naturelle des Animaux sans Vertebres. 7:1-711. (p. 146)

delesserti "Chenu" Tryon, 1880. Rapana (Latiaxis)

1880. Tryon, G.W. Jr., Manual of Conchology vol. 2, Muricinae, Purpurinae; pp. 1-289, pls. 1-70. (p. 203, pl. 64, fig. 346)

densicostata Shikama, 1963. Coralliobia

1963. Shikama, T., On some noteworthy marine Gastropoda from southwestern Japan. Sci. Rep. Yokohama Nat. Univ. Ser. 2, 10:61-66, pl. 1. (pp. 62-63, fig. 63)
Nasa, Anami-Oshima; Japan

diadema Adams, A., 1854. Murex

1854. Adams, A., Descriptions of new shells from the collection of H. Cuming. Proc. Zool. Soc. London 1853: 69-74. (p. 70, sp. 5)
Philippine Islands

dissimulans Preston, 1904. Coralliophila

1904. Preston, H.B., Descriptions of some new species of Cingalese and Indian Ocean marine shells. The Jour. of Malacology. 11(4): 75-78, pls. 6-7. (p. 77, pl. 7, figs. 5-6)
Ceylon

distans Carpenter, 1857. Rhizochilus nomen nudum

1857. Carpenter, P.P., Catalogue of the collection of Mazatlan shells in the British Museum: collected by Frederick Reigen... London (British Museum), pp. 1-552. (p. 484)

diversiformis Kiener, 1836. Purpura

1836. Kiener, L.C., Icon. Coq. Viv., Genre Pourpre (Purpura), pp. 1-151, pls. 1-46. (p. 77, pl. 19, fig. 57). Figure legend is diversiformis Kiener but changed in text to violacea Kiener.

dorbignyana Petit, 1851. Trichotropis

1851. Petit, S., Descriptions de coquilles nouvelles. Jour. de Conchyl. 2: 259-266, pl. 7. (pp. 261-262, pl. 7, fig. 2)

dunkeri Kuroda & Habe, 1961. Latiaxis

1961. Kuroda, T. & Habe, T., Colored illustrations of the shells of Japan. (Append. p. 20, pl. 28, fig. 4). New name for Rapana deburghiae Dunker, 1882, not Reeve, 1857.

echinatus Azuma, 1960. Latiaxis

1960. Azuma, M., Catalogue of the shell-bearing Mollusca of Okinashima, Kashiwajima, and the adjacent area (Tosa Province), Shikokum, Japan, pp. 1-102, pls. 1-5 & Index, pp. 1-17. (p. 100, pl. 2, fig. 3)
Off Tosa (S.E. Japan) in about 100 fathoms.

elaborata Adams, H. & A., 1863. Coralliophila

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumingian collection. Proc. Zool. Soc. London 1863: 428-435. (433)

elegans Angas, 1878. Latiaxis

1878. Angas, G.F., Description of a new species of Latiaxis. Proc. Zool. Soc. London 1878: p. 74. (pl. 5, figs. 1-2)

ellipticus Sowerby, 1832. Magilus

1832. Sowerby, G.B., The Genera of Recent and fossil shells. vol. 1, pl. 238, fig. 1.

elstoni Barnard, 1962. Latiaxis

1962. Barnard, K.H., New species and records of South African marine Mollusca from Natal, Zululand, and Mocambique. Ann. Natal Mus. 15(19): 247-254. (248)

ex pisces

erosus Röding, 1798. Cantharus

1798. Röding, P.F., Museum Holtenianum, pp. 1-199. (p. 133)

erudescens "Dall" Shikama & Horikoshi, 1963. Latiaxis nomen nudum

1963. Shikama, T. & Horikoshi, M., Selected shells of the World in Colours. pp. 1-154, pls. 1-102. (p. 77)

erythrostroma Smith, 1890. Coralliophila

1890. Smith, E.A., Report on the marine Molluscan fauna of the island of St. Helena. Proc. Zool. Soc. London 1890: 247-316, pls. 21-24. (p. 264, pl. 23, fig. 7)

eugeniae Bernardi, 1853. Pyrula

1853. Bernardi, M., Description d'une nouvelle espèce du genre Pyrula. Jour. de Conchyl. 4: 305-306, pl. 7. (fig. 1)
southeastern Japan to ?Taiwan

exaratus Pease, 1860. Rhizochilus

1860. Pease, W.H., Description of seventeen new species of marine shells from the Sandwich Islands in the collection of H. Cuming. Proc. Zool. Soc. London 1860: 397-400. (399)

exfoliatus Sowerby, 1887. Latiaxis

1887. Sowerby, G.B. II, Thesaurus Conchyliorum vol. 5, Genus Latiaxis, p. 3, pl. 1, fig. 15. (New name for L. pagodus A. Adams, non Jonas. --however, no such name as L. pagodus Jonas. According to Tomlin, 1935 Sowerby meant L. idoleum Jonas)

expolitus Shikama, 1963. Leptoconchus

1963. Shikama, T., On some noteworthy marine Gastropoda from southwestern Japan. Sci. Rep. Yokohama Nat. Univ. ser. 2, 10: 61-66, pl. 1. (pp. 63-64, pl. 1, figs. 3-5)
Off the coast of Shionomisaki, Wakayama Pref., Japan.

fax Bayer, 1971. Coralliophila

1971. Bayer, F.M., New and unusual mollusks collected by R/V John Elliott Pillsbury and R/V Gerda in the tropical western Atlantic. Bull. Mar. Sci. 21(1): 111-236, figs. 1-72. (pp. 191-192, fig. 50)
Straits of Florida, off Settlement Point, Grand Bahama Is.

fearnleyi Emerson and D'Attilio, 1965. Latiaxis (Babelomurex)

1965. Emerson, W.K. & D'Attilio, A., A new Latiaxis from the western Pacific. The Nautilus 78(3): 101-103, pl. 10. (figs. 1-8)
Cooktown, Queensland, Australia

filiaregis Kurohara, 1959. Latiaxis

1959. Kurohara, K., On Latiaxis filiaregis n.sp. Venus 20(4): 342-344, text fig. 1.
Off Tosa, Shikoku Island

fimbriata Adams, A., 1854. Concholepas (Coralliobia)

1854. Adams, A., Descriptions of a new genus, and of several new species of Mollusca from the Cumingian Collection. Proc. Zool. Soc. London 1852. 20:92-95. (p. 93)

fimbriatulum Adams, A. 1862. Trophon

1862. Adams, A., On the species of Muricinae found in Japan. Proc. Zool. Soc. London 30: 370-376. (p. 375)
Gotto, Japan, 48 fathoms; Kuro-Sima, 55 fathoms

finchi Fulton, 1930. Latiaxis

1930. Fulton, H.C., Description of two new species of Latiaxis.
Annals & Mag. Nat. Hist. (10)5: 250-251, figs. 2, 2a.
Kii, Japan

foliacea Conrad, 1837. Purpura

1837. Conrad, T.A., Descriptions of new marine shells from upper
California collected by Thomas Nuttall. Jour. Acad. Nat. Sci. Phila.
7: 227-268. (p. 268, pl 20, fig. 24)
Island of Atooi

fortuni Adams, A., 1854. Rapana (Latiaxis)

1854. Adams, A., Descriptions of new species of Semele, Rhizochilus,
Plotia, Tiara in the Cummingian Collection. Proc. Zool. Soc. London 21:
94-99. (sp. 30)
China

foveolata Adams, C.B., 1852. Purpura

1852. Adams, C.B., Catalogue of shells collected at Panama... Ann.
Lyceum Nat. Hist., New York, pp. 1-324. (p. 76, sp. 70)
Panama

fragilis Adams, A., 1854. Rapana (Rhizochilus)

1854. Adams, A., Descriptions of new species of Semele, Rhizochilus,
Plotia, Tiara in the Cummingian Collection. Proc. Zool. Soc. London 20:
94-99. (sp. 28)
Philippines

fragosa Smith, E.A., 1916. Coralliophila

1916. Smith, E.A., On South African marine mollusca with descriptions
of new species. Ann. Natal Museum 2: 175-200, pls. 7-8. (pp. 194-195,
pl. 7, fig. 7)
Scottburgh, Natal, South Africa

frittschi Martens, E. von, 1874. Rapana

1874. Martens, E. von, Ueber einige Sudafrikanische mollusken. Jahrb.
Deutsch Malak. Gesell. 1: 119-146. (pp. 135-136, pl. 6, fig. 3)
Falsche Bai (False Bay), South Africa

fusiformis Roquan, 1853. Pyrula

1853. Roquan, R. du, Notice sur diverses coquilles classees dans le
genere Pyrula. Jour. de Conchyl. 4: 405-409. (pp. 406-407)
Refers to fusiformis Chenu, 1847, a vernacular name (Lecons
elementaires, pl. 9, figs. 3, 3a)

fusiformis Martens, E. von, 1902. Rapana (Latiaxis)

1902. Martens, E. von, Einige neue Arten von meeresconchylien aus
den Sammlungen der Deutschen Tiefsee-Expedition, (pp. 96-97, pl. 3,
fig. 1)
Not Chenu, 1847, not du Roquan, 1853.
südlich von Brawa, 0° 29' S.L., 42° 47' E.L. (Somalia)

gales Reeve, 1846. Purpura

1846. Reeve, L.A., Conchologia Iconica, Purpura, (pl. 12: fig. 65)
refers to Murex gales alba Chemnitz in Conchylien-cabinet 10: 237,
pl. 160, figs. 1518, 1519.

garrardi D'Attilio, 1968. Latiaxis (Pseudomurex)

1968. D'Attilio, A., A new species of Latiaxis (Gastropoda, Magilidae)
from Queensland, Australia. Jour. Malac. Soc. Austral. 11: 7-9, pl. 1.
Off Cape Moreton, Queensland, Australia (18 mi. N.N.E.) in 55-58 fms)

- gemmatus Shikama, 1966. Latiaxis (Baberomurex) sic.
1966. Shikama, T., On some new Latiaxis and Coralliophila in Japan. Venus 25: 21-25, pls. 1-2. (p. 24, pl. 2, figs. 1-6)
Okinoshima, Japan
- gibbosa Reeve, 1846. Purpura
1846. Reeve, L.A., Conchologia Iconica, Purpura. (pl. 13, sp. 78)
- globulus "Deshayes" Sowerby, 1872. Magilus
1872. Sowerby, G.B. II in Reeve, L.A., Conchologia Iconica. (pl. 3, sp. 10, fig. 10)
- gravesii Broderip, 1836. Purpura
1836. Broderip, W.J., Descriptions of some species of shells apparently not hitherto recorded. Proc. Zool. Soc. London 4: 43-45. (p. 44)
Marl Mediterraneo
- groschi Kilburn, 1977. Coralliophila (Liniaxis)
1977. Kilburn, R.N., Taxonomic Studies on the Marine Mollusca of Southern Africa and Mozambique Part 1,, Annals of the Natal Museum vol. 23, Part 1, pp. 173-214, figs. 1-42. (p. 191, figs. 19-20)
east of Ponta Lunga, Lunga Bay, northern Mozambique, in 25 ft
- gyratus Hinds, 1844. Trophon
1844. Hinds, R.B., Mollusca-Zoology, Voyage of H.M.S. Sulphur, 2 vols. (vol. 2, p. 14, pl. 1, figs. 14-15)
Straits of Maccassar, 17 fathoms.
- habui Azuma, 1971 Latiaxis (Lamellatiaxis)
1971. Azuma, M., Description of a new species of the genus Latiaxis from the Kii Peninsula, Honshu, Japan. Venus 30(2): 61-62, figs. 1-3.
off Kirime-Zaki, Kii Peninsula, Honshu, Japan, 45-50 fathoms
- hawaiiensis "Dall" Shikama & Horikoshi, 1963. Latiaxis nomen nudum
1963. Shikama, T. & Horikoshi, M., Selected shells of the world in colours. 154 pp., pls. 1-102. (p. 77)
- hayashii Shikama, 1966. Latiaxis (Baberomurex) sic.
1966. Shikama, T., On some new Latiaxis and Coralliophila in Japan. Venus 25(1): 21-25, pls. 1-2. (pp. 22-23, pl. 1, figs. 4-6)
Okinoshima, Japan
- helenae Azuma, 1973 Latiaxis (Babelomurex)
1973. Azuma, M., Description of a new species of the genus Latiaxis Swainson, 1840 from the South Mozambique Channel, Indian Ocean. The Veliger 15(3): 231, fig. 1.
50 miles off Inhaca Is., South Mazambique Channel, 270 fathoms
- hindsii Carpenter, 1857. Trophon
1857. Carpenter, P.P., Report on the present state of our knowledge with regard to the Mollusca of the west coast of North America. Rep. 26th meeting Brit. Assoc. Adv. Sci. 1856: 159-368, pls. 6-9.
"new name for Trophon muricatus Hinds, 1843, not Montagu, 1803
- hirasei Shikama, 1964. Latiaxis (Babelomurex?)
1964. Shikama, T., Selected shells of the world in colours. vol. 2, pp. 1-212, pls. 1-70, 243 text figs. (p. 138)

idoleum Jonas, 1847. Pyrula

1847. Jonas, J.H., Description of two new shells. Proc. Zool. Soc. London 1846, 14:120-121.

incompta Berry, 1960. Coralliophila

1960. Berry, S.S., Notices of new eastern Pacific Mollusca - IV. Leaflets in Malacology 1(19): 115-122. (p. 119)

incurvus Dunker, 1852. Bulbus

1852. Dunker, W., Diagnoses molluscorum novorum. Zeit. f. Malacozool. 1852: 125-128. (p. 126)

indica Smith, E.A., 1899. Coralliophila

1899. Smith, E.A., On Mollusca from the Bay of Bengal and the Arabian Sea. Ann. Mag. Nat. Hist. 22: 237-251. (pp. 244-245) off South India, 430 fathoms

inflata Dunker, 1847. Fusus

1847. Dunker, W. in Philippi, R.A., Abbild. Besch. Conch. vol. 2, pp. 1-231, pls. 1-47. (p. 193, pl. 4, fig. 2) Java

isocetes Barnard, 1959. Coralliophila

1959. Barnard, K.H., Contributions to the knowledge of South African marine Mollusca. Ann. S. African Mus. 45: 1-237, figs. 1-52. (pp. 191-192, fig. 39a) off Port Alfred, South Africa in 66 fathoms

japonica Dunker, 1882. Rapana

1882. Dunker, W., Index molluscorum maris Japonicus. pp. 1-301, pls. 1-16. (p. 43, pl. 13, figs. 24-25) sandy bottom, 30-200 meters (fide Kuroda & Habe, 1971)

jarli Knudsen, 1956. Coralliophila

1956. Knudsen, J., Marine prosobranchs of tropical West Africa (Stenoglossa). Atlantide Report no. 4, pp. 8-110, pls. 1-4. (pp. 27-28, pl. 3, fig. 16) Sierra Leone to Angola

jeffreysi Smith, E.A., 1879. Coralliophila

1879. Smith, E.A., On a collection of Mollusca from Japan. Proc. Zool. Soc. London 1879: 181-218, pls. 19-20. (p. 213, pl. 20, fig. 48)

jeffreysi var. hiradoensis Pilsbry, 1904. Coralliophila

1904. Pilsbry, H.A., New Japanese marine Mollusca. Proc. Acad. Nat. Sci. Phila. 56: 3-32, 33-37, pls. 1-6. (p. 16, pl. 3, fig. 27)

juliae Clench & Aguayo, 1939. Latiaxis

1939. Clench, W.J., & Aguayo, C., Memorias de La Sociedad Cubana de Historia Natural 13(3): 194-195, pl. 28, fig. 4. off Sandy Bay, Barbados, W.I., 75-100 fathoms

kawamurai Kira, 1954. Latiaxis

1954. Kira, T., Colored Illustrations of the shells of Japan. p. 51, pl. 25, fig. 20, (with name and figure only)

1954. L.C. 7th Edition p. 65, pl. 25, fig. 20.

1959. Kuroda, P., Venus, Vol. 20, No. 4, pp. 319-320, pl. 20, fig. 5. According to Kuroda, 1959, the species appeared with a description in the 7th Edition.

off Tosa, Shikoku Is., Japan

kieneri Hidalgo, 1905. Latiaxis

1904-05. Hidalgo, J.G., Catalogo Molluscos Testaceos de las Islas Philipinas, Jolo, Marianas. Revue Real Acad. Cienc. Exactas, Fis. Nat. Madrid. pp. 1-408. (p. 23)

kincaidi Dall, 1919. Coralliophila (Pseudomurex)

1919. Dall, W.H., Description of new species of Mollusca from the North Pacific Ocean in the collection of the U.S. Nat. Mus. Proc. U.S. Nat. Mus. 56: 293-371. (pp. 339-340)

Puget Sound, Washington

kinoshitai Fulton, 1930. Latiaxis

1930. Fulton, H., On new species of Latiaxis, Fasciolaria, Cassis, and Sunetta. Ann. Mag. Nat. Hist. (10)6: 685-686, pl. 18. (p. 685, pl. 18, figs. 1, 1a)

Kii, Japan

kiranus Kuroda, 1959. Latiaxis

1959. Kuroda, T., Descriptions of new species of marine shells from Japan. Venus 20(4): 317-335, pl. 20. (pp. 323-324)

off Tosa, Shikoku Is., Japan

kochiana Sowerby, 1900. Ocenebra

1900. Sowerby, G.B. III, Descriptions of new species of marine Mollusca collected by the late Otto Koch at the island of Cebu, P.I. Proc. Malac. Soc. London 4: 126-129, pl. 11. (p. 126, pl. 11, fig. 1)

kraemmeri Knudsen, 1956. Coralliophila

1956. Knudsen, J., Marine prosobranchs of tropical West Africa (Stenoglossa). Atlantide Report no. 4, pp. 8-110, pls. 1-4. (p. 28, pl. 2, fig. 13)

Nigeria

kuroharai Habe, 1970. Tarantellaxis

1970. Habe, T., Tarantellaxis n. gen. et sp. (Rapididae, Gastropoda) from Japan. Venus 29(3): 85-86, text figs. 1-2.

off Okinoshima, Cape Ashizuri, Shikoku, Japan in 150 meters

kylix Barnard, 1959. Latiaxis

1959. Barnard, K.H., Contributions to the knowledge of South African marine Mollusca. Ann. South African Mus. 45: 1-237, figs. 1-52. (pp. 188-189, fig. 37)

off Cape Natal (Durban), S. Africa in 54 fathoms

laceratum Deshayes, 1856. Murex

1856. Deshayes, G.P., Descriptions des especes nouvelles. Jour. de Conchyl. 5: 78-82, pl. 3. (pp. 79-81, pl. 3, figs. 3-4)
coast of Algeria

lactuca Dall, 1889. Coralliophila

1889. Dall, W.H., Report on the Mollusca. II. Gastropoda (Report on dredgings...by U.S. Coast Survey Steamer "Blake"). Bull. Mus. Comp. Zool. 18: 1-492, pls. 10-40. (p. 220, pl. 16, fig. 6)
Gulf of Mexico, off Cuba - 152-229 fathoms, off Fernandina, Fla. in 352 fathoms

lamarckii Deshayes, 1863. Leptoconchus

1863. Deshayes, G.P., Catalogue des mollusques de l'Ile de La Reunion (Bourbon). pp. 1-144, pls. 1-14. (pp. 127-128, pl. 12, figs. 1-3)

lamellata Habe, 1952. Emozamia

1952. Habe, T., Illustrated Catalogue of Japanese shells No. 20, fig. 14, p. 152, pl. 30.
Tosa Bay, Shikoku, Japan

lamellosus Cristofori & Jan., 1832. Fusus

1832. Cristofori, J. & Jan, G., Catalogus in IV sectiones divisus rerum naturalium in museo extantium Josephi de Cristofor et Georgyi Jan. pp. 1-16. (p. 10) not seen

lamellosus Philippi, 1836. Fusus

1836. Philippi, R.A., Enum. Moll. Sicil. vol. 1, pp. 1-267, pls. 1-12. (p. 204, pl. 11, fig. 30)
Panormi, Messina, Medit.

lankae Deraniyagala, 1968. Magilus

1968. Deraniyagala, P.E.P., A new gastropod of the genus Magilus Montfort from Ceylon. Proc. Ceylon Assoc. Advanc. Sci. 24: 53-54.
not seen

latioides Sowerby, 1894. Coralliophila

1894. Sowerby, G.B. III, Descriptions of twelve new species, chiefly from Mauritius. Proc. Malac. Soc. London 1: 41-44, pl. 4. (p. 42, pl. 4, fig. 6)
Mauritius

latipinnatus Azuma, 1961. Latiaxis (Latiaxis)

1961. Azuma, M., Descriptions of six new species of Japanese marine Gastropoda. Venus 21(3): 296-303. (pp. 301-302, text figs. 2-6)
off Tosa, Shikoku, Japan, 80-100 fms.

licinus Hedley & Petherd, 1906. Murex

1906. Hedley, C. & Petherd, F.W., Mollusca from 300 fathoms off Sydney. Records of the Australian Museum 6: 211-225, pls. 37-38. (p. 219, pl. 37, fig. 6) not seen

lintoni Verrill & Smith, S.I. in Verrill, 1882. Trophon

1882. Verrill, A.E., Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, No. 7, and of some additions to the fauna of Vineyard Sound. Amer. Jour. Sci. 24: 360-371. Figured in Trans. of Conn. Acad., 1884, Vol. 6, p. 176, pl. 29, fig. 1.

lischkeana Dunker, 1882. Rapana

1882. Dunker, W., Index molluscorum maris Japonica. pp. 1-301,
pls. 1-16. (p. 43, pl. 1, figs. 1-2; pl. 13, fig. 26-27)
Indo-west Pacific

macleani Shasky, 1970. Coralliophila

1970. Shasky, D.R., New gastropod taxa from Tropical western America.
The Veliger 13(2): 188-195, one pl. (pp. 189-190, fig. 4)
Saladita Bay, Guaymas, Mexico

madreporarum Sowerby, 1832. Purpura

1832. Sowerby, G.B., Genera of Recent and fossil shells. vol. 2,
pl. 237, fig. 12.

madreporinus Adams, H. & A. 1858. Coralliophila nomen nudum

1858. Adams, H. & A., The genera of Recent Mollusca. vol. 1,
pp. i-xi & 1-484. (p. 135)

maillardi Deshayes, 1863. Leptoconchus

1863. Deshayes, G.P., Catalogue des Mollusques de l'Ile de la Reunion
(Bourbon). pp. 1-144, pls. 1-14. (pp. 124-125, pl. 12, figs. 28-29)

mansfieldi McGinty, 1940. Muricidea

1940. McGinty, T.L., New land and marine Tertiary shells from southern
Florida. The Nautilus 53(3): 81-84, pl. 10. (83-84, pl. 10, fig. 5, 5a)
fossils

1949. McGinty in Pilsbry, H.A. & McGinty, T.L., New Marine Mollusks
of Florida and the Bahamas. Nautilus 63(1): 9-15, pl. 1, fig. 3 & 3a.
First described as a living species here and placed in Coralliophila.

marfati Knudsen, 1956. Coralliophila

1956. Knudsen, J., Marine prosobranchs of tropical west Africa
(Stenoglossa). Atlantide Report no. 4: 8-110, pls. 1-4. (p. 29, pl. 2,
fig. 14)
Liberia

marumai Habe & Kosuge, 1970. Latiaxis (Lamellatiaxis)

1970. Habe T. & Kosuge, S., Description of a new subgenus and species
of Latiaxis from the South China Sea. Venus 28(4): 182-185, figs. 1-3.
South China Sea- brought into Taiwan by coral fishing boat

mawae Griffith & Pidgeon, 1834. Pyrula

1834. Griffith, E. & Pidgeon, E., Mollusca and Radiata in Cuvier.
Regne Animal (Animal Kingdom), vol. 12, pp. 1-601, pls. 1-15. (p. 599-
name only, pl. 25, figs. 3-4)

meyendorffi Calcare, 1845. Murex

1845. Calcare, P., Cenno Moll. Viv. e fossili di Sicilia. (p. 33,
pl. 4, fig. 22) not seen
Sicily

microcephalus Sowerby, 1872. Magilus

1872. Sowerby, G.B. II, in Reeve, L.A., Conchologia Iconica, pl. 2, sp. 3.

mira Cotton & Godfrey, 1932. Rapana

1932. Cotton, B.C. & Godfrey, F.K., South Australian Shells, pt. 5,
pp. 127-176, pls. 1-2. (p. 145, pl. 1, fig. 16)
St. Francis Is., South Australia to Ellensbrook, West. Australia

monodonta Quoy & Gaimard, 1832. Purpura

1832. Quoy, J.R.C. & Gaimard, J.P., Zoologie, Voyage de L'Astrolabe, vols. 2&3, pp. 1-686, Atlas, pls. 1-107. (vol. 2, pp. 561-562, pl. 37, figs. 9-11)

monterosatoi Locard, 1897. Pseudomurex

1897. Locard, A., Expéditions Scientifiques du Travailleur et du Talisman. Mollusques testaces. vol. 1, pp. 1-515, pls. 1-22. (p. 315, pl. 15, figs. 21-23)

Au nord de l'Espagne, 564 & 568 meters

morishimai Azuma, 1961. Coralliobia nomen nudum

1961. Azuma, M., A Catalogue of the shell-bearing Mollusca of Okinoshima, Kashiwajima and the adjacent area (Tosa Province) Shikoku, Japan. Supplement, p. 3.

morishimai Kuroda & Shikama, 1966. Coralliophila

1966. Kuroda, T. & Shikama, T., On some new Latiaxis and Coralliophila in Japan. Venus 25(1): 21-25, pls. 1-2. (p. 22, pl. 1, fig. 3)
Shionomisaki, Wakayama Pref. & Okinoshima

muricatus Hinds, 1844. Trophon

1844. Hinds, R.B., Voyage of H.M.S. Sulphur, Zoology; Mollusca. vol. 2, pp. 1-72, pls. 1-21. (vol. 2, p. 14, no. 36, pl. 1, figs. 16-17)
Panama, 19 fathoms

nakamigawai Kuroda, 1959. Latiaxis

1959. Kuroda, T., Descriptions of new species of marine shells from Japan. Venus 20(4): 317-335, pls. 20-21. (pp. 321-322, pl. 20, fig. 6)
Tosa, Shikoku Is., Japan

nakayasui Shikama, 1970. Latiaxis(Baberomurex) sic

1970. Shikama, T., On some noteworthy marine Gastropoda from south-western Japan (2), Sci. Rep. Yokohama Nat. Univ. Sec. 2, no. 16, pp. 19-27, pl. 1. (pp. 22-23, pl. 1, figs. 10-13)
Kashiwajima Is., S.W. Kochi Pref., Japan

neritoidea Sowerby, 1832. Purpura

1832. Sowerby, J., Genera of Recent and Fossil shells. vol. 2, (no pagination) pls. 1-267. (pl. 237, fig. 8)

neritoideus Lamarck, 1816. Fusus

1816. Lamarck, J.B.P.A., Tableaux Encyclopedique et methodique des trois regnes de la nature. pls. 391-488 & Liste des objets representes pp. 1-16. (pl. 435, figs. 2a,b)

niveus Adams, 1853. Murex

1853. Adams, A., Descriptions of several new species of Murex, Rissoina, Planaxis and Eulima from the Cumingian collection. Proc. Zool. Soc. London 19: 267-272. (p. 270)

nodosa Adams, 1854. Rapana (Latiaxis)

1854. Adams, A., Descriptions of new species of Semele, Rhizochilus, Plotia, Tiara in the Cumingian collection. Proc. Zool. Soc. London 21: 94-99, sp. 29.
Philippine Is.

nodulosa Adams, H. & A., 1863 Coralliophila

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumington collection. Proc. Zool. Soc. London 31: 428-435. (pp. 431-432)
Guadeloupe

nux Reeve, 1846. Murex

1846. Reeve, L.A., Conchologia Iconica vol. 3, Murex. (pl. 35, fig. 181)
Common in the Galapagos

oblongus "Sowerby" Adams, H. & A., 1858. Leptoconchus nomen nudum

1858. Adams, H. & A., The genera of Recent Mollusca. vol. 1, pp. i-xi & 1-484. (p. 138)

oldroydi Oldroyd, 1929. Coralliophila

1929. Oldroyd, I.S., Description of a new Coralliophila. Nautilus 42: 98, pl. 5, figs. 1-4.
Bird Rock, off Isthmus Cove, Catalina

orcuttiana Dall, 1919. Coralliophila (Pseudomurex)

1919. Dall, W.H., Descriptions of new species of Mollusks from the North Pacific Ocean in the collection of the U.S.N.M. Proc. U.S.N.M. 56(2295): 293-371. (p. 340)
Magdalena Bay (type locality) and in mainland Mexico from Guaymas to the Gulf of Tehuantepec.

osculans Adams, 1852. Purpura

1852. Adams, C.B., Catalogue of shells collected at Panama. pp. 1-324. (p. 79, sp. 74)

pagodus Adams, 1853. Murex

1853. Adams, A., Descriptions of several new species of Murex, Rissoina, Planaxis, and Eulima from the Cumington collection. Proc. Zool. Soc. London 19: 267-272. (p. 269, sp. 11)

pagodus A. Adams, forma multispinosus Shikama, 1966. Latiaxis (Baberomurex) sic

1966. Shikama, T., On some new Latiaxis and Coralliophila in Japan. Venus 25(1): 21-25, pls. 1-2. (pp. 24-25, pl. 2, figs. 13-15)
Nada, Wakayama, Japan

pagodus Sowerby, 1887. Latiaxis

1887. Sowerby, G.B. III, Thesaurus Conchyliorum vol. 5. (p. 3, pl. 1 figs. 2-3)

panormitana Allery (Monterosato), 1872. Pyrula

1872. Monterosato, T.A. di, Conchiglie Mediterranee, pp. 1-61.
Also cited - Pseudomurex assignment under the author's true last name - Monterosato, full name - Tommaso Allery II Marchese di Monterosato

papyracea Lamarck, 1816. Pyrula

1816. Lamarck, J.B.P.A., Tableau encyclopedique et methodique des trois regnes de la nature. pls. 391-488 & liste des objets representes pp. 1-16. (pl. 436, figs. 1a-c, p. 8)

parvus Smith, E.A., 1877. Rhizochilus (Coralliophila)

1877. Smith, E.A., On a collection made by H.M.S. Petrel. Mollusca, pp. 64-73, pls. 11-13. (p. 70, pl. 11, fig. 6)
Galapagos Is. (Charles Is.)

patruelis Smith, 1890. Murex (Ocenebra)

1890. Smith, E.A., Report on the marine Molluscan fauna of the island of St. Helena. Proc. Zool. Soc. London 1890: 247-317, pls. 22-24. (p. 259, pl. 23, fig. 6)

pauper Watson, 1883. Murex (Ocenebra)

1883. Watson, R.B., Mollusca of H.M.S. Challenger Expedition. J. Linn. Soc. London 16: 594-611. (pp. 604-605)

Amboyne, 15-20 fathoms

1886. Watson, R.B., Murex (Pseudomurex) pauper, Voyage of the Challenger. Gastropoda 15: 1-756, pls. 1-50. (pl. 10, fig. 8, pp. 159-160)

peregrina Powell, 1947. Tolema

1947. Powell, A.W.B., On Tolema peregrina n. sp. and the East Australian warm water current. Rec. Auckland Inst. & Mus. 3(3): 170-172, pl. 19. (pp. 170-171, pl. 19, fig. 3)
Hauraki Gulf, New Zealand

perfectus Fischer, 1882. Pseudomurex

1882. Fischer, P., Diagnoses d'espèces nouvelles des mollusques recueillis dans le cours des expéditions scientifiques de l'avisos le Travailleur. (1880-1881). Jour. de Conchyl. 30: 273-277. (274)
Atlantique, 400 meters

peronii Lamarck, 1818. Magilus

1818. Lamarck, J.B.P.A., Histoire Naturelle des Animaux sans Vertèbres, vol. 7, pp. 1-711. (p. 374)

persica Melvill, 1896. Coralliophila

1896. Melvill, J.C., Descriptions of thirty-four new species of marine mollusks from the Arabian Sea, Persian Gulf, and Gulf of Oman. Mem. & Proc. Manchester Lit. Philos. Soc. 41(7): 1-25, pl. 6. (p. 6, pl. 6, fig. 4)
Persian Gulf

pilsbryi Hirase, 1908. Latiaxis

1908. Hirase, Y., On Japanese marine mollusks. Conch. Mag. of Japan 1908: 69-74, pl. 41. (pp. 69-70, pl. 41, figs. 239-240)
Kashiwa-jima, Tosa, Japan

plicatus Wood, 1818. Murex

1828. Wood, W., Index Testaceorum. (p. 124, pl. 26, fig. 56)
East Indies

polypleurus Brazier, 1894. Murex (Pseudomurex)

1894. Brazier, J., On a new Murex from South Australia. Proc. Linn. Soc. N.S. Wales, ser. 2, 8: 179-180.

porphyroleuca Crosse, 1870. Purpura

1870. Crosse, h., Diagnoses Molluscorum novorum. J. de Conchyl. 18: 302-303.

1871. figured in J. de Conchyl. 11: 13, fig. 7. (p. 322)
Tahiti

princeps Melvill, 1912. Latiaxis

1912. Melvill, J.C., Descriptions of thirty-three new species of Gastropoda from the Persian Gulf, Gulf of Oman, and north Arabian Sea. Proc. Malac. Soc. London 10(3): 240-254, pls. 11-12. (p. 248, pl. 12, fig. 15)
Persian Gulf, off the telegraph cable at 50 fms. and near Mussandam, 55 fms.

profundicola Haas, 1949. Coralliophila

1949. Haas, F., On some deepsea mollusks from Bermuda. Bulleti de la Institucio Catalana d'Hist. Nat. 37: 3-7. not seen
1700 fms. - Bermuda

pulchella Adams, 1854. Rapana (Rhizochilus)

1854. Adams, A., Descriptions of new species of Semele, Rhizochilus, Plotia, Tiara in the Cumingian Collection. Proc. Zool. Soc. London 21: 94-99, sp. 25.
Philippine Islands

purpurata Chenu, 1859. Latiaxis

1859. Chenu, J.C., Manuel de Conchyliologie, vol. 1, pp. 1-508, vol. 2, pp. 1-329. (1: 171, fig. 844)

pyriformis Kira, 1954. Coralliophila

1954. Kira, T., Colored illustrations of shells of Japan. (p. 64, pl. 25, fig. 12) no description

pyruliformis "Tiberi" Petit, 1863. Fusus

1863. Petit, S., Melanges Conchyliologiques. J. de Conchyl. 11: 328-337. (p. 330)

radula Adams, 1855. Rhizochilus (Coralliophila)

1855. Adams, A., Descriptions of thirty-nine new species of shells from the collection of H. Cuming. Proc. Zool. Soc. London 22: 130-138. (137, sp. 5)
China

rapa Gmelin, 1791. Bulla

1791. Gmelin, J.F., Caroli a Linne Systema Naturae per regna tria naturae. vol. 1, pt. 6, pp. 3021-3910. (p. 3426, no. 15)

retusa Adams, H. & A., 1863. Coralliophila

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumingian collection. Proc. Zool. Soc. London 31: 428-435. (pp. 432-433)

rhodostoma Adams, 1855. Rapana (Latiaxis)

1855. Adams, A., Descriptions of thirty-nine new species of shells from the collection of H. Cuming. Proc. Zool. Soc. London 22: 130-138, pl. 28. (p. 138, pl. 28, fig. 1)

richardi Fischer, 1882. Murex

1882. Fischer, P., Diagnoses d'especes nouvelles des mollusques recueillis dans le cours des expeditions scientifiques de l'avis de Travailleur (1880-81). J. de Conchyl. 30: 49-53. (49)

1897. Locard, A., Exp. Sci. Travailleur et Talisman. Pseudomurex richardi Fischer, 316, pl. 16, figs. 3-8
north of Spain, Gulf of Gascogne, 896 meters

ricinuloides Schepman, 1911. Latiaxis

1911. Schepman, M., Siboga Expeditie, Monograph 49, Prosobranchia, pt. 4, Rachiglossa. (p. 359, pl. 21, fig. 7)
Du-roa Strait, Kei Islands (Molucca Islands)

robillardii Lienard, 1870. Leptoconchus

1870. Lienard, E., Description d'espèces nouvelles provenant de l'île Maurice. J. de Conchyl. 18: 304-305. (p. 305)
illustrated in J. de Conchyl. 19: 73-74, pl. 1, fig. 5
Mauritius

rosaceus Smith, 1903. Latiaxis

1903. Smith, E.A., A list of species of mollusks from South Africa.
Proc. Malac. Soc. London 5: 354-402, pl. 15. (p. 376, pl. 15, fig. 16)

rostratus Adams, 1864. Leptoconchus

1864. Adams, A., On some new genera and species of Mollusca from the seas of China and Japan. Ann. Mag. Nat. Hist. (3)13: 307-310. (p. 310)
Kino-oshima (Nagasaki)

rubrococcinea Melvill & Standen, 1901. Coralliophila

1901. Melvill, J.C. & Standen, R., Mollusca of the Persian Gulf, Gulf of Oman, and the Arabian Sea. Proc. Malac. Soc. London 1901: 327-460, pls. 21-24. (p. 401, pl. 21, fig. 2)
Persian Gulf

rubrococcinea var. nivifera Melvill, 1928. Coralliophila

1928. Melvill, J.C., The marine mollusca of the Persian Gulf, Gulf of Oman, and North Arabian Sea, as evidenced mainly through the collections of Capt. F.W. Townsend. Proc. Malac. Soc. London 18:93-117. (p. 105)
Henjam Island, 17 fms.

runderatus "Monterosato" Coen, 1922. Fusomurex nomen nudum

1922. Coen, G., Del genero Pseudomurex (Monterosato, 1872). Atti. Soc. Italiana, Sci. Nat. Mus. Civico, Storia Nat. Milano, Vol. 61, pp. 68-71, pl. 2.

ruppelli Deshayes, 1863. Leptoconchus

1863. Deshayes, G.P., Catalogue des Mollusques de l'île de la Reunion, pp. 1-144, pls. 1-14. (pp. 126-127, pl. 13, figs. 4-5)

salebrosa Adams, H. & A., 1863. Coralliophila

1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cumingian Collection. Proc. Zool. Soc. London 31:428-435. (p.431)
Guadeloupe

sallei Jousseaume, 1883. Latiaxis

1883. Jousseaume, F., Descriptions d'espèces et genres nouveau de mollusques. Bull. Soc. Zool. France. 8:186-204, pl. 10. (pp. 186-187, pl. 10, fig. 3)
coast of Japan

santacruzensis Emerson & D'Attilio, 1970. Latiaxis (Gabelomurex)

1970. Emerson, W.K. & D'Attilio, A., Three new species of Muricacean gastropods from the eastern Pacific. The Veliger 12(3):270-274, pls. 39-40. (pp. 272-273, pl. 40, figs. 1-4)
Academy Bay, Santa Cruz Is., Galapagos, dredged in 150 meters

santangeli Maravigna, 1840. Pyrula

1840. Maravigna, C., Descriptions de plusieurs coquilles nouvelles. Rev. Zool. de la Soc. Cuvierienne, not seen

- scabridus "Monterosato" in Coen, 1922. Hirtomurex nomen nudum
1922. Coen, G., Del genere Pseudomurex (Monterosato, 1872). Atti.
Soc. Italiana, Sci. Nat. Mus. Civico, Storia Nat. Milano, vol. 16,
pp. 68-71, pl. 2.
- scala Adams, 1854. Rapana (Rhizochilus)
1854. Adams, A., Descriptions of new species of Semele, Rhizochilus,
Plotia, Tiara in the Cumingian Collection. Proc. Zool. Soc. London 21:
94-99. (p. 99, sp. 27)
Juan Fernandez Is.
- scalariformis Lamarck, 1822. Purpura
1822. Lamarck, J.B.P.A., Histoire Naturelle des Animaux sans
Vertebres. 7:1-711. (p. 241)
- scalariformis "Lamarck" Kiener, 1836. Purpura
1836. Kiener, L.C., Icon. Coq. Viv. Purpura. pp. 77, 78, pl. 19, fig. 57.
- scalariformis "Lamarck" Reeve, 1846. Purpura
1846. Reeve, L.A., Conch. Icon. vol. Purpura. pl. 13, sp. 75.
- schrenkii Lischke, 1871. Leptoconchus
1871. Lischke, C.E., Diagnosen neuer Meeres-conchylien von Japan.
Malak. Bl. 18:39-45. (p.40)
Japanische Meeres Conchylien, Suppl. vol. S. 45, p. 165, pl.4, figs. 9-10.
Nagasaki, Japan
- sculptilis Pease, 1865. Coralliobia
1865. Pease, W. H., Description of new genera and species of marine
shells from the islands of the central Pacific. Proc. Zool Soc. London
1865:512-517. (p. 513)
on coral from 90 fms.
- senticosæ Adams, H. & A., 1863. Coralliophila
1863. Adams, H. & A., Descriptions of new species of shells chiefly
from the Cumingian collection. Proc. Zool. Soc. London 31:428-435. (p.432)
Bombay
- sentix Bayer, 1971. Coralliophila
1971. Bayer, F.M., New and unusual mollusks collected by R/V John
Elliott Pillsbry and R/V Gerda in the tropical western Atlantic. Bull.
Mar. Sci. 21(1): 111-236, figs. 1-72. (pp. 189-190, fig. 40)
east coast of St. Vincent, Lesser Antilles (sta. 876)
- serratus Sowerby, 1872. Magilus
1872. Sowerby, G.B. II, in Reeve, L.A., Conch. Icon., 18, Magilus. pl. 3,
sp. 8.
- serratus Coen, 1929. Pseudomurex
1929. Coen, G., Sulla pretesa presenza nel Medit. del genere Hindsia H. &
A. Adams e di due rarissime forme tirrene di Pseudomurex. Atti. R. Ist.
Veneto. di Sc. Lett. ed Arti. 88: 1279-1290. pls. 20-22. (p. 1287)
not seen
- sibogæ Schepman, 1911. Latiaxis
1911. Schepman, M.M., Siboga-Expeditie, Monogr. 49, Prosobranchia, pt. 4
Rachiglossa, pp. 358-363. (p. 359, pl. 21, fig. 8)
Pulu Kaniungan, Ketjil Reef (sta. 89)

sloati Hertlein, 1957. Ocenebra

1957. Hertlein, L.G., Descriptions of new species of marine mollusks from West Mexico. Bull. S. Cal. Acad. Sci. 56(3): 107-112, pl. 21.
(pp. 108-109, pl. 21, figs. 8-9)

sloati var. hambachi Hertlein, 1957. Ocenebra

1957. Hertlein, L.G., Descriptions of new species of marine mollusks from West Mexico. Bull. S. Cal. Acad. Sci. 56(3): 107-112, pl. 21.
(p. 109, pl. 21, figs. 10-11)

smithi Yen, 1942. Coralliobia

1942. Yen, T.C., A review of the Chinese gastropods in the British Museum. Proc. Mal. Soc. of London, vol. 24, pt. 6, pp. 170-289, pls. 11-28. (p. 226, pl. 21, fig. 143)
Macclesfield Bank, China Sea, 30-50 fms.

sofiæ Aradas & Benoit, 1870. Murex

1870. Aradas, A. & Benoit, L., Conchigliologia vivente marina della Sicilia. pp. 1-321, pls. 1-5. (p. 270-271, pl. 5, fig. 7)
Seas of Palermo

solidusculus "Pease ms." Sowerby, 1872. Magilus

1872. Sowerby, G.B. II, Genus Magilus in Reeve, L.A., Conch. Icon., pl. 4, sp. 12.

solutistoma Kuroda & Shikama, 1966. Coralliophila

1966. Kuroda, T. & Shikama, T., On some new Latiaxis and Coralliophila in Japan. Venus 25(1): 21-25, pls. 1-2. (p. 21, pl. 1, fig. 1,2)
Okinoshima, Japan

spinaerosæ Shikama, 1970. Latiaxis (Baberomurex) sic

1970. Shikama, T., On some noteworthy marine Gastropoda from southwestern Japan (II). Sci. Rep. Yokohama Nat. Univ. Sec. II, No. 16, pp. 19-27, pl. 1. (p. 22, pl. 1, figs. 18-21)
Kashiwajima Is. (coral fishermen), southwestern Kochi Pref., Japan

spinosa Dall, 1925. Coralliophila

1925. Dall, W.H., Illustrations of unfigured types of shells in the collection of the U.S. Nat. Mus. Proc. U.S. Nat. Mus. 66(2554): 1-40, pls. 1-36. (p. 14, pl. 36, figs. 5,8)
off Honshu Is., Japan

spinusus Hirase, 1908. Latiaxis

1908. Hirase, Y., On Japanese Marine Mollusks. The Conchological Mag. 2: 71, pl. 42, figs. 253-254. (full pagination 69-74)
Kashiwa-jima, Tosa, Japan

squamosissima Smith, 1876. Rhizochilus (Coralliophila)

1876. Smith, E.A., Diagnosis of new species of Mollusca and Echinodermata from the Island of Rodriguez. Ann. Mag. Nat. Hist. Ser. 4, vol. 17: 404.
Illustrated in Phil. Trans. Roy. Soc. 168: 483-484, pl. 51, fig. 8.

squamosus Bivona-Bernardi, 1838. Fusus

1838. Bivona-Bernardi, A., Generi e specie di Molluschi. p. 14.
not seen

- squamulata Philippi, 1836. Pyrula
1836. Philippi, R.A., Enum. Moll. Sicil. vol. 1, pp. 1-267, pls. 1-12. (p. 207, pl. 9, fig. 21)
Panormi
- squamulosa Reeve, 1846. Purpura
1846. Reeve, L.A., Conchologia Iconica, vol. Purpura. pl. 12, sp. 68.
- squamulosus Philippi, 1836. Fusus (Loralliophila)
1836. Philippi, R.A., Enum. Moll. Sicil. vol. 1, pp. 1-267, pls. 1-12. (p. 204, pl. 11, fig. 31)
Panormi
- stearnsiana Dall, 1919. Loralliophila
1919. Dall, W.H., Descriptions of new species of mollusks from the north Pacific Ocean in the collection of the U.S.N.M. Proc. U.S.N.M. 56(2295): 293-371. (p. 339)
Lower California
- stearnsii Pilsbry, 1895. Loralliophila
1895. Pilsbry, H.A., Catalogue of the marine mollusks of Japan. pp. 1-196, pls. 1-11. (p. 45, pl. 2, fig. 12)
Attached to a sea anemone on rocks from intertidal to 20 meters deep (Kuroda & Habe, 1971)
- stenospinus "Kuroda ms." Azuma, 1960. Latiaxis (Babelomurex) nomen nudum
1960. Azuma, M., A catalogue of the shell-bearing mollusks of Okinoshima, Kashiwajima and the adjacent area (Tosa Prov.), Shikoku, Japan. pp. 1-102, pls. 1-4. (p. 38)
- striatus Rüppell, 1835. Leptoconchus
1835. Rüppell, E., Trans. Zool. Soc. 1: 259, pl. 35, figs. 9-10.
- subglobosus Wood, 1828. Murex
1828. Wood, W., Index Testaceologicus. Supplement, p. 15, pl. 5, fig. 23.
- sugimotonis Kuroda, 1931. Coralliobia
1931. Kuroda, T., New Japanese shells(3). Venus 2(6): 314-318, pl. 1. (pp. 316-317)
Okinoshima, Tosa, Japan. Commensal on a colonial actinian, Corticifera sp. (Zoanthidae)
- suturalis Adams, 1854. Rapana (Rhizochilus)
1854. Adams, A., Descriptions of new species of Semele, Rhizochilus, Plotia, Tiara, in the Gumingian collection. Proc. Zool. Soc. London 21: 94-99, (sp. 26)
Bulusan, Albay, Luzon
- tabulatus Schepman, 1911. Latiaxis
1911. Schepman, M.M., Siboga-Expeditie, Monogr. 49, Prosobranchia, pt. 4, Rachiglossa. pp. 358-363. (p. 360, pl. 21, fig. 9)
Sulu Archipelago, Philippine Is.
- tectumsinense Deshayes, 1856. Murex
1856. Deshayes, G.P., Descriptions d'espèces nouvelles. J. de Conchyl. 5: 78-82, pl. 3. (pp. 78-79, pl. 3, figs. 1-2)
Algeria

- teramachii Kuroda, 1953. Rhizochilus
1953. Kuroda, T., New genera and species of Japanese Rapidae. Venus 17(3): 117-130. (pp. 118, 125-126, text figs. 1-2)
permanently attached to host coral Antipathes japonica, adjacent to Shikoku, off Tosa, Japan
- teramachii Kuroda, 1959. Latiaxis
1959. Kuroda, T., Descriptions of new species of marine shells from Japan. Venus 20(4): 317-333, pl. 20. (pp. 322-323, pl. 20, fig. 7)
off Tosa, Shikoku Is., Japan
- textilis Gray, 1867. Latiaxis nomen nudum
1867. Gray, J.E., On the species of the genera Latiaxis, Faunax, and Melanatria. Annals and Mag. Nat. Hist. (3) 20: 78-79. (78)
- tortilis Adams, H. & A., 1863. Latiaxis
1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cummingian Collection. Proc. Zool. Soc. London 1863: 428-435. (p. 431)
China
- tortuosa Azuma, 1960. Latiaxis (Latiaxis)
1960. Azuma, M., A Catalogue of the Shell Bearing Mollusks of Okinoshima... (Tosa Prov.), Shikoku, Japan. pp. 1-102, pls. 1-4.
(p. 38) no description.
1961. Azuma, M., Descriptions of five new species of Japanese marine Gastropoda. Venus 21(2): 190-196. (pp. 192-193, fig. 2)
off Tosa, Shikoku Is., Japan, 100 fms.
- tosanus Hirase, 1908. Latiaxis
1908. Hirase, Y., On Japanese marine mollusks. Conch. Mag. of Japan. 2: 69-74, pl. 42. (pp. 71-72, pl. 42, figs. 255-256)
- trichotropoides "Montrouzier ms." Souverbie, 1861. Purpura
1861. Souverbie, M., Descriptions d'especes nouvelles de l'archipel Caledonien. J. de Conchyl. 9: 271-284. (p. 284)
New Caledonia
- turrita Sowerby, 1888. Coralliophila
1888. Sowerby, G.B. III, Descriptions of 16 new species of shells. Proc. Zool. Soc. London. 1888: 207-213, pl. 11. (p. 209, pl. 11, fig. 11)
Mauritius
- undosa Adams, H. & A., 1863. Coralliophila
1863. Adams, H. & A., Descriptions of new species of shells chiefly from the Cummingian Collection. Proc. Zool. Soc. London 1863: 428-435. (p. 432)
Sandwich Islands (Hawaiian Islands)
- varicosa Kuroda, 1953. Coralliophila (Genkaimurex)
1953. Kuroda, T., New genera and species of Japanese Rapidae. Venus 17(3): 117-130. (pp. 120-123, 127-128) not Coralliophilidae; see generic catalogue under Genkaimurex.
Genkai Sea, off Fukuoka, Kyushu, 25 fms.
- violacea Kiener, 1836. Purpura
1836. Kiener, L.C., Icon. Coq. Viv., Purpura. (pp. 77-78, pl. 19, fig. 57)
Nicobar, New Holland

- wilsoni Pritchard & Gatliff, 1898. Coralliophila
1898. Pritchard, G.B. & Gatliff, J.H., On new species of Victorian Mollusca. Proc. Roy. Soc. Vict., Art. 15: 140-141.
dredged, Port Phillip Heads, Victoria, Australia
- winckworthi Fulton, 1930. Latiaxis
1930. Fulton, H.C., Descriptions of two new species of Latiaxis. Ann. Mag. Nat. Hist. (10)5: 250-251. (p. 250, figs. 1-1a)
Kii, Japan
- wormaldi Powell, 1971. Latiaxis
1971. Powell, A.W.B., New Zealand molluscan systematics with descriptions of new species. pt. 7, Rec. Auckland Inst. Mus. 8: 209-228, pls. 1-4. (p. 220, figs. 15-16)
off Poor Knights Islands, 329 meters
- zuluensis Barnard, 1959. Coralliophila
1959. Barnard, K.H., Contributions to the knowledge of South African marine Mollusca. Ann S. African Mus. 45. (pp. 192-193, fig. 39b)
off O'Neil Peak, Zululand in 90 fms.

A SELECTED BIBLIOGRAPHY

- Baker, F.C., 1892, Notes on a collection of shells from Mauritius; with a consideration of the genus Magilus Montfort, 1810. Revision of the genus Magilus Montfort. Proc. of the Rochester Academy of Science, 2, (19-40).
- Crosse, H., 1884, Catalogue des especes du genre Rapa Klein. Journal de Conchyliologie, pp 11-15.
- D'Attilio, A., 1972, Remarks on Coralliophilidae (Gastropoda, Muricacea). The FESTIVUS, San Diego Shell Club, Vol. 3, No 8, pp 2-5, figs 1-16.
- Deshayes, P.G., 1863, Catalogue des Mollusques nouveau de l'Île de Reunion. 144 pp, 14 pls.
- Fischer P., 1884, Observations sur le genre Pyrula Lamarck. Journal de Conchyliologie. pp 1-11.
- Gohart, H.A.F. & Soliman, G.N., 1963, On the biology of three Coralliophilids boring in living mollusks. Pub. Mar. Biol. Sta. Al-ghardaqua 12: 99-126, 26 figs, 1 pl.
- Martens, E., von, 1880, Mollusken. du: K. Mobius; Beiträge zur meersfauna der in sel Mauritius und der Seychellen, pp. 179-343.
- Robertson, R., 1970, Review of the predators and parasites of stony corals, with special reference to symbiotic prosobranch gastropods. Pacific Science, Vol. 24, No 1. Jan. 1970, pp 43-54.

Tomlin, J. Le B., 1935, Catalogue of Recent Latiaxis. Jour. of Conch; 20, (6), 180-183.

Ward, J., 1965, The digestive tract and its relation to feeding habits in the stenoglossan prosobranch Coralliophila abbreviata (Lamarck, 1816) Canadian Journal of Zoology 43; pp 447-464.

GENERIC REFERENCES

Adams, H. & A., 1853. Genera of Recent Mollusca. Vol. 1, pp. 135, 138.

Bruguiere, J. G., 1792. Encyclopedie Methodique. Pt. 2, p. 533.

Coen, Giorgio, 1922. Del genere Pseudomurex (Monterosato, 1872). Atti. Soc. Ital. Sci. Nat. Mus. Civico. Storia Nat. Milano. Vol. 16, pp. 68-71.

Gregorio, A. de, 1885. Bull. Soc. Malac. Ital. Vol. 11, p. 28.

Habe, T. 1970. "Venus", Japanese Journ. of Malac. Vol. 29 (3), pp. 85-86.

Habe, T. and Kosuge, S., 1970. "Venus", Japanese Journ. of Malac. Vol. 28 (4) p. 182

Herrmannsen, A. N., 1846-1849. Indicis Generum Malacozoorum Primordia. Vol. 1, p. 135

Iredale, T., 1912. Proc. Malac. Soc. London. Vol. 10, p. 221.

————— 1929. Rec. Australian Mus. Vol. 17, pp. 185-186.

Kuroda, T., 1953. New Genera and Species of Japanese Rapidae. "Venus", Japanese Journ. of Malac. Vol. 17 (3) p. 119-121.

Monterosato, T. A., 1872. Notizie Intorno Alle Conchiglie Mediterranee. Palermo. pp. 15, 33.

Montfort, Denys de, 1810. Conchyliologie Systematique. Vol. II, p. 42.

Pallary, Paul, 1900. Coquilles Marines du Littoral du Department D'Oran. Journ. de Conchy. Vol. 48, pp. 285-286.

Roeding, J. F., 1798. Museum Boltenianum. p. 184.

Ruppell, E., 1834. Proc. Zool. Soc. London. Vol. 2, p. 105.

Sowerby, G. B. III, 1919. Proc. Malac. Soc. London - Moll. Vol. 13, p. 77.

Steenstrup, J. J. S., 1850. Overs. K. Danske Vidensk. Selsk. Forh. pp. 75-77.

Swainson, W., 1840. A Treatise on Malacology; or the Natural Classification of Shells and Shellfish. London. pp. 306-307.

Woolacott, L., 1954. Proc. Roy. Soc. New South Wales. 1952-1953. p. 38.

ACKNOWLEDGEMENTS

I am grateful to Dr. William K. Emerson of the American Museum of Natural History, New York under whose tutelage I first began the serious studies of the Muricacea. Mrs. Evelyn Allwell of Baltimore, Md. first provided me with the incentive to begin this work by placing at my disposal her preliminary notes for a catalogue of Coralliophilidae. Mrs. Carole Hertz did all the final typing and with Mr. Jules Hertz the careful reading of the manuscript, a difficult undertaking at all times. The members of the San Diego Shell Club have been most generous to devote a large issue of their publication, The FESTIVUS, entirely to this catalogue.

QL
401
F418
Moll.

DIVISION OF

THE

FESTIVUS



SAN DIEGO SHELL CLUB

FOUNDED 1961 • INCORPORATED 1968

MEETS THIRD THURSDAY

CASA DEL PRADO BALBOA PARK

ROOM 104 7:30 P.M.

President:.....June King
Vice President:.....Philip Faulconer
Recording Secretary:.....Walter Robertson
Corresponding Secretary:..Sandy Seckington
Treasurer:.....Bob Schoening
Editor:.....Carole M. Hertz

ANNUAL DUES: Payable to San Diego Shell Club, Inc.
Single membership \$3.00; Family membership \$4.00; Overseas
surface \$3.50; Student membership \$2.00.

CLUB ADDRESS: Address all correspondence to San Diego Shell Club, Inc.,
c/o 3883 Mt. Blackburn Ave., San Diego, Ca. 92111.

Vol. X

November 1978

No. 11

PROGRAM: "Collecting in Panama" is the topic of Carol Skoglund's
talk. She will accompany her presentation with slides.

Bonus shell drawing will be held at this meeting. The
shell, Cypraea tessellata, personally collected by Hans
Bertsch will be the prize. You must be present to win.

Date: November 16

Time: 7:30 P.M.

Room 104

MAKE YOUR RESERVATIONS NOW. The Christmas Party will be on
Dec. 9 in the La Sala Room of the Cafe Del Rey Moro. Details on P. 98.

The FESTIVUS does not print a December issue.

FROM THE MINUTES OF THE OCTOBER 19 MEETING

By SANDIE SECKINGTON

Following the introduction of new members and guests, the membership
was treated to an enjoyable and most informative presentation of "Underwater
Hawaii" by Dr. Hans Bertsch, Curator of Marine Invertebrates at the Natural
History Museum. His talk was accompanied by a wonderful array of slides
which depicted the sponges, corals, and mollusks of Hawaii.

Prior to the meeting, and during the refreshment break, members had the

opportunity to bid silently on a selection of corals offered by the Club in conjunction with the Natural History Museum. Proceeds will be shared by the two. There will be more such auctions at upcoming meetings with more corals and shells awaiting new homes.

The minutes of the August meeting as reported in the September FESTIVUS were approved. The President announced to the membership that dues will be increased for 1979. \$4.00 for a single membership, \$5.00 for a family and \$3.00 for a fulltime student are the new fees.

The slate of officers recommended by the Executive Board were presented to the members. They are as follows: President: Hugh Bradner; Vice-President: Sandie Seckington; Treasurer: Wally Robertson; Recording Secretary: Jackie Berzins. Carole Hertz is recommended as FESTIVUS Editor. Elections will be held at the November General Membership meeting.

Announcement of the Christmas party was made, the date being December 9, 1978 at the Cafe Del Rey Moro. The Madison High Honor Ensemble will again entertain us. Those present at the October meeting voted to have chicken cordon bleu as the entree. (Details of party below. Ed.)

There will be a bonus shell drawing at the November meeting. The member must be present to win.

THE CLUB CHRISTMAS PARTY

The Club's annual Christmas party will be held on Saturday, December 9 in the La Sala Room of the Cafe Del Rey Moro. Festivities begin at 6:00 P. M. with a no host cocktail hour. Dinner will be at 7:15 P.M.

Menu: Tossed salad, Hot rolls and butter
Chicken Cordon Bleu
Au gratin potatoes and green vegetable
Chocolate mousse Choice of coffee or tea
Complimentary dinner wine will be provided.

Dinner with gratuity and tax is \$7.75. Reservations must be in by December 4. Make check payable to San Diego Shell Club, Inc. and give to the treasurer at the November meeting or mail to the Club address.

Following dinner a Christmas choral program will be presented by the Madison High Honor Ensemble.

Bring your gift wrapped shell to place under the tree for the gift exchange. Place data and name inside the package only. On the outside only general locale i.e. Indo-Pacific, Gulf. Numbers are drawn and those participating choose a shell gift from under the tree.

Come to the party--the nicest people will be there. Guests welcome.

LIBRARY DONATIONS

From: Dr. Hans Bertsch, Curator of Marine Invertebrates, San Diego Natural History Museum, a number of duplicate Reprints which are new to our library. A list will be available after they have been catalogued for circulation.

From: June King, our President, Seacharts #18765 - Approaches to San Diego Bay and #18740 - San Diego to Santa Rosa Island.

From: Anthony D'Attilio, Reprints of articles authored by Mr. D'Attilio which will be bound together in one volume.

UNUSUAL FIND

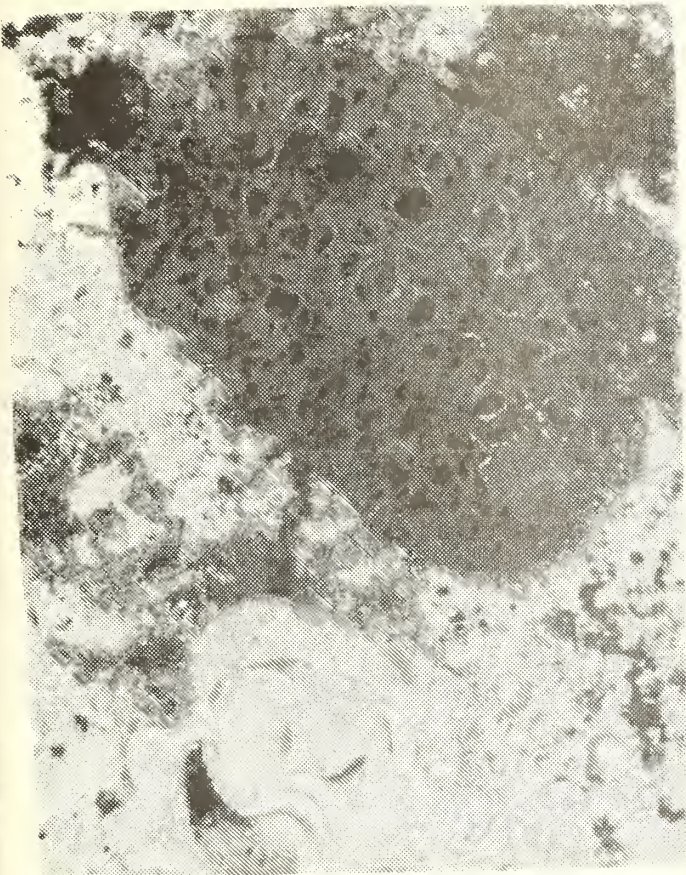
By JULES HERTZ

On May 30, 1978, an unusual nudibranch specimen from the family Dorididae was found by this writer at Shell Beach (Whale Pt.), La Jolla, California.

It was found on a 0.1 tide (10:37 A.M.) attached to feather-boa kelp in a mid-tide zone tide pool. It was floating over rocks which were covered with bryozoans having the same basic color (dull brown) as the animal.

On July 22, 1978, a second specimen was found in the same locality on a -1.2 tide (5:56 A.M.). Both animals were given to David Mulliner for identification. They have been tentatively identified as belonging to the genus Halgerda.

Pictured here is the latter specimen after having laid eggs in the Mulliner's aquarium. It is believed that these specimens are of an unnamed species, several others having been found in the San Diego area in recent years. Dr. Hans Bertsch will be describing this species in the near future.



← Halgerda sp.
Photo by David Mulliner

NEW MEMBERS

Allen, Doris & Bruce
3215 LaCosta Dr.
Carlsbad, Ca. 92008
1-436-7022

Everson, Gene
1660 S.W. 27th Ave.
Fort Lauderdale, Fla. 33312

Fleming, Elberta W.
10311 Caminito Surabaya
San Diego, Ca. 92131
271-6710

Goldberg, Richard
49-77 Fresh Meadows La.
Flushing, N.Y. 11365

Sage, John & Patricia
1635 Lanoitan Ave.
National City, Ca. 92050
447-3264

Steward, Orville & Ellen
P.O. Box 336
Briarcliff Manor, N.Y.
10510

CHANGE OF ADDRESS

Pelton, Donald
3634 Kettner Blvd.
San Diego, Ca. 92101

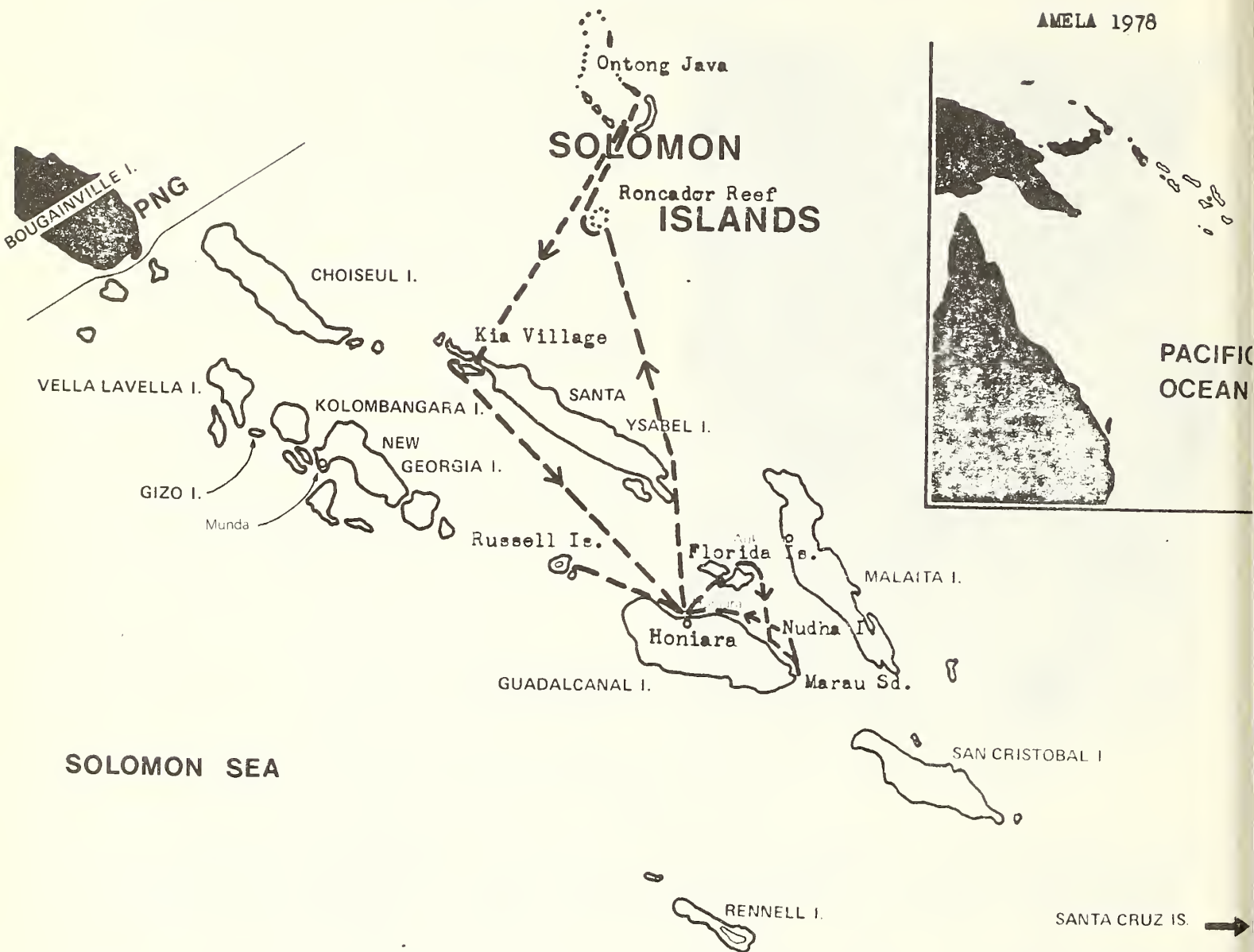
Schmeltz, Roger & Elaine
71 Alpine Village Dr.
Alpine, Ca. 92001
445-5561

A DUES RAISE FOR 1979

Because of rising costs, the San Diego Shell Club has been forced to raise its dues for the first time since 1971. Dues for 1979 are as follows:
Single membership \$4.00; Family membership \$5.00; Overseas surface \$4.50;
Fulltime student membership \$3.00.

THE 1978 AMELA EXPEDITION TO THE SOLOMON ISLANDS,
AN INFORMAL REPORT

By PHILIP W. FAULCONER



"Conus gloriamaris is really not rare; I trap them as I would lobsters, but recently fishermen have been stealing my traps just to get the hundreds of feet of nylon line." Brian Bailey, professional diver and salvor of sunken ships, was showing us a glistening five-inch cone he had just taken from a trap near Yandina Plantation in the Russell Island Group, toward the end of our three weeks of diving and collecting in the Solomons, in July of this year.

Over a year ago, Billee Dilworth and Twila Bratcher had started organizing the American Melanesian Expedition, in which twelve members of the San Diego Shell Club would travel on the 100 ton, 79 foot motor vessel CORALITA, visiting jungle-covered volcanic "high islands" and p. m.-crowned coral "low islands". The CORALITA's captain, Wally Muller of Yeppoon, Queensland, has

conducted such voyages for the last twenty years, ranging from the Great Barrier Reef up to New Guinea and down to New Caledonia. All of our group had previously sought shells in remote parts of the world, and easily fell into the routine of life on board, exploring and collecting, then cleaning and identifying our acquisitions.

We flew from Los Angeles to Fiji, thence over the New Hebrides to Honiara, capital of the newly independent Solomons, where the CORALITA awaited us in front of the Mendana Hotel. Our bulky sacks of heavy equipment for diving and collecting, far overweight by former airline standards, were accepted under the new rules by which baggage is measured rather than weighed. In Nadi, Fiji, we were greatly assisted by the passenger agent who remembered Billee and Twila from the previous Fiji trip, and quickly transferred our baggage from Pan American to the smaller Air Pacific plane for the final thousand mile leg of our outward journey.

For the next three weeks we lived on board, traveling mostly at night and using the daylight hours to snorkel and dive, often diving again at night in the warm, clear tropical water. We slept in comfortable state-rooms, enjoyed hot fresh-water showers, and feasted each day on the inspired creations of Denise Muller, who continually produced wonders from her tiny galley.

The captain also won our admiration by skillful navigation from one coral-studded island group to the next, always raising or dropping the anchor by daylight, then conning his boat visually through the tricky reefs. Some nights we travelled as many as fifteen hours, a distance over a hundred miles, as between southern Santa Isabel Island and Roncador Reef, arriving with pinpoint precision just as the firstlight illuminated the shipwreck which sits high on the otherwise invisible coral reef.

The Solomon Islands consist of ten large islands and hundreds of smaller ones, scattered along a double line northwest to southeast, over some 250,000 square miles of the southeastern Pacific Ocean. The population of about 200,000 is largely concentrated on the big island of Malaita (50,000), and Guadalcanal, where over ten thousand islanders have flocked to the new capital, Honiara. Most of the other people are scattered in tiny family groups or little villages, often far from any roads or docks, thus virtually unaware of the outer world.

Predominantly Melanesian and Polynesian, the people are further classifiable by life-style, often being referred to as either "bush people", living in the jungle highlands by hunting and slash-and-burn agriculture, or as "coastal people", living from fishing and cocoanut culture along the coastal fringes of the volcanic "high islands" and on the coral "low islands".

One of the objectives of the AMELA Expedition was to meet local people, to learn a little about their way of life, and to buy shells. We did visit the Polynesian village of Leuanua on remote Ontong Java atoll, out in the open Pacific, and the Melanesian Kia Village, on a jungle slope where river-like Austria Sound cuts through northwest Santa Isabel Island. It was a privilege to observe even so briefly a way of life based on fishing and subsistence agriculture, little touched by outside influences. The former warlike reputation of the Melanesian people may have been partly based on their understandable retaliation for the raiding and pillaging of their villages by nineteenth century slave traders.

In that part of the world, June and July are winter months, part of the "dry season", but we were to learn that this only meant that we would have somewhat less rain than during a comparable period in the "wet season". Where an average of eighty inches of rain each year keeps the rivers full and the jungle green, we should not have been surprised by frequent grey skies and occasional stormy periods.

The ocean water was a pleasant eighty degrees or more, and we needed no wetsuits. We did, however, wear slacks and long-sleeved shirts when diving to guard against coral scratches and jellyfish stings, and this cover also kept us warm when the water temperature declined at depths to a hundred feet and during late night dives.

Visibility in the open ocean was generally around a hundred feet, except in the vicinity of rivers, where silt and the mixture of salt and fresh water clouded our vision, and in the turbulent passages between islands, as near Kia Village and among the Florida Islands. There visibility was reduced to arm's length, and the swirling currents made drift-dives the order of the day. Brian Bailey had told us that we would find, in these passes, a shell under every rock or coral bump. He forgot to tell us how many yards of bare sand might lie between rocks.

Shell collecting began at once on our arrival in Honiara. In fact, the Bradners, having flown ahead of the main party, could already show us interesting specimens found directly in front of the hotel. Then, while the CORALITA took on fuel in Honiara Harbor our first night on board, several of our group took the opportunity to make a night dive under the adjacent pier. By the light of the waterproof electric lamps they turned up a magnificent Conus aulicus, a large and very active Harpa, and various nice Cypraea.

In contrast to the earlier Fiji expedition, where many fine shells were collected while simply walking on reefs or by shallow snorkeling, in the Solomons most of our collecting entailed long hours of snorkeling, or SCUBA diving. In general the reefs and shores we visited seemed sparsely inhabited by marine life, some even appeared quite barren. Even night diving, which usually finds the denizens of the deep "out for an evening stroll", was not always fruitful on this trip, although it was clear that the more prolific and varied coral areas also harbor the greatest variety of fauna.

Of course there were some exceptionally good collecting days. For example, read Twila Bratcher's description of the moonlight dive at Lunga Point, in the September 1978 FESTIVUS. Another notable location was little Nudha Island off the southeast coast of Guadalcanal. Apparently there had been no visitors for years, hence the shells lay in windrows along the high tide lines, and shells were numerous in the lagoons and in deeper water. Roncador Reef was another rich source of many and varied specimens, and we regretted the need to move on after less than twenty-four hours.

On some lucky occasions shells seemed practically to jump into my collecting bag as at Ngalignagho Island near southeast Santa Isabel Island where we made one of our first stops after leaving Honiara. On my first dive at this station, as I drifted down to the sloping bottom at about thirty feet of depth, there lay on the white coral sand in front of me the most beautiful shell I was to find in the entire three weeks...a superb volute, a V. rutila (110 mm). It had recently died and the fish had completely cleaned it out, leaving the rich red and orange gleaming attractively. This was one of the few volutes found by anyone on this expedition. Another fortuitous find occurred on a night dive elsewhere. As we swam down to the planned starting depth around seventy feet, the first thing my light revealed was a perfect little Lambis scorpius (130 mm). But there were other occasions when no amount of searching revealed any collectable specimens.

In all, at twenty-four collecting stations, Heidrun and I found more than 175 species of shells distributed among twenty-six families, plus another twenty specimens we have not been able to identify. I would guess that a combined checklist from all twelve participants will exceed three hundred species. While collecting shells, we also watched for nudibranchs and Dave Mulliner collected and photographed about thirty species, including four not yet named. Descriptions of these animals are being worked on now.

MINUTE SHELLS

By JULES HERTZ

The shells shown below are from the Hertz collection. The one on the left was dredged by David and Margaret Mulliner in 100 ft. of water, north of Punta La Gringa in Bahia de los Angeles, Baja California, Mexico on May 19, 1976. The specimen was identified by the author as belonging to the family Coralliophilidae but the shape and sculpture appeared to be different than any of the species pictured in Keen. This specimen was identified by Anthony D'Attilio as Coralliophila orcuttiana Dall, 1919. As noted in Keen, many of the Coralliophilid species are variable in form. The main identifying feature of C. orcuttiana is the long anterior canal. The specimen dredged by the Mulliners has more rounded whorls and ribs than the specimen pictured in Keen. I had thought that these differences might be a result of the specimen pictured by Keen being an adult (20 mm. long) and the dredged specimen a juvenile (8 mm. long).

The shell on the right is also a specimen of C. orcuttiana. This one was trawled by a shrimp boat, off Rio Balsas, Acapulco, Mexico, at 40 fathoms in March 1969. It is approximately 18 mm. long and looks very similar to the specimen pictured in Keen. The maturity theory for the form differences seemed reasonable until I located a picture of a 22 mm. specimen (M. Smith, 1939) which looked just like the juvenile specimen dredged by the Mulliners. The specimen pictured by Smith was found in Magdalena Bay, W. Mexico by C.R. Orcutt and was used by Dall for naming of the species. It is U.S. Nat. Mus. Cat. No. 217869. It is possible that there are two distinct forms of this species and/or the form may be a result of differences in the habitats such as sandy versus rocky bottoms.



C. orcuttiana Dall, 1919
Length: 8 mm.
Photo by David Mulliner



C. orcuttiana Dall, 1919
Length: 18 mm.
Photo by Barbara Myers

- Dall, W.H., 1919. Descriptions of new species of Mollusks from the North Pacific Ocean in the collection of the U.S.N.M. Proc. U.S.N.M. 56(2295): 293-371. (p. 340)
- Keen, A. Myra, 1971. Sea shells of tropical West America, Stanford Univ. Press. 1064 pp., over 4000 illus.
- Smith, Maxwell, 1939. An illustrated catalog of the Recent species of the rock shells, Tropical Photographic Laboratory, Lantana, Florida. Pp. xiii + 127, 912 figs.

A SELECTED INDEX TO VOLUME X (1978)

Listings are by both title and author. The No. refers to the month, the number after the colon to the page.

- At Tourmaline Canyon Surfing Beach---September 1978. Hertz, C.M., No.9:64
- Catalogue of Coralliophilidae. D'Attilio, A., No.10:69-96
- Collecting in Playa De Santiago. Hertz, C.M., No.9:66
- Correction to "Minute Invader", (by B.W. Myers, No.4:34-35) No.5:41
- Correspondence on the Antarctic Issue. Hertz, J., No.1:5 (88) (Collecting in Antarctica. Vol. VIII, No.7:42-54
- Cowrie Hunting on Maui. Bradner, H. & Dilworth, B., No.4:32
- Diving Experiences in Puerto Rico. Myers, J.D., No.8:62-63
- Don't You Believe It. Bratcher, T., (night diving on Guadalcanal) No.9:67
- George E. Radwin Memorial Issue., D'Attilio, A., Hertz, C., Shasky, D., No.2:11-
- Minute Invader. Myers, B.W., (bivalve boring into Ocenebra foveolata) No.4:34-35
- Minute Shells, Hertz, J. (see Hertz, J. under author listing for species covered in this monthly column) No.1:91; 3:27, 4:33, 5:40, 6:44, 7:55, 8:61, 9:65, 11:103-104
- New or Poorly Known Coralliophilidae and Muricidae, Part III. D'Attilio, A., No.1:6-7 (89-90)
- Notes on Genkaimurex fimbriatulus (A. Adams, 1862). D'Attilio, A., No.5:37-39
- Notes on the Siphonal Canal in Muricidae. D'Attilio, A., No.6:47-48
- Palau. King, M.F., No.3:28-30
- Range Extension for Iegula pulligo--Rediscovered. Hertz, C.M., No.7:51-54
- Remote Islands of Tahiti--Tahaa 1977. Bradner, M., No.1:2-5 (85-88)
- Smiths Volute. Clover, P.W., No 5:41
- Some Notes on the Family Conidae. Martin, C.L., No.6:45-46
- The 1978 Amela Expedition to the Solomon Islands, an Informal Report. Faulconer, P.W., No.11:100-102
- Unusual Find. Hertz, J., (Halgerda sp.) No.11: 99

Bratcher, Twila

Don't You Believe It. (night diving on Guadalcanal) No.9:67

Clover, Phillip W.,
Smiths Volute. No. 5:41

Bradner, Hugh & Dilworth, Billee
Cowrie Hunting on Maui. No. 4:32

Bradner, Marge
Remote Islands of Tahiti--Tahaa 1977. No. 1:85-88

D'Attilio, Anthony
Catalogue of Coralliophilidae. No. 10:69-96
New or Poorly Known Coralliophilidae and Muricidae, Part III. No. 1:1-9 (84-92)
Notes on Genkaimurex fimbriatulus (A. Adams, 1862). No. 5:37-39
Notes on the Siphonal Canal in Muricidae. No. 6:47-48

D'Attilio, Anthony, Hertz, Carole M., Shasky, Donald,
George E. Radwin Memorial Issue. (a catalogue of his work) No. 2:11-24

Faulconer, Philip W.
The 1978 AMELA Expedition to the Solomon Islands, An Informal Report. No. 11:
100-102

Hertz, Carole M.
At Tourmaline Surfing Beach--September 1978. No. 9:64
Collecting in Playa De Santiago. No. 9:66
Range Extension For Tegula pulligo--Rediscovered. No. 7:51-54

Hertz, Jules
Minute Shells

Dentalium hancocki, Caecum elongatum No. 1:91
Aesopus sanctus, Turbonilla histias No. 3:27
Triphora peninsularis, Triphora sp. No. 4:33
Pyrocythara helena, Alaba jeanettae No. 5:40
Tenaturris merita, Rissoina ericana No. 6:44
Ancistromesus mexicanus, Alvinia monserratensis No. 7:55
Cerithiopsis tuberculoides, Turbonilla sp. No. 8:61
Acteocina magdalenensis, Turbonilla tridentata No. 1:65
Coralliophila orcuttiana No. 11:103-104
Correspondence on the Antarctic Issue (Collecting in Antarctica. Vol. VIII,
No. 7:42-54) No. 1:88
Unusual Find. (Halgerda sp) No. 11:99

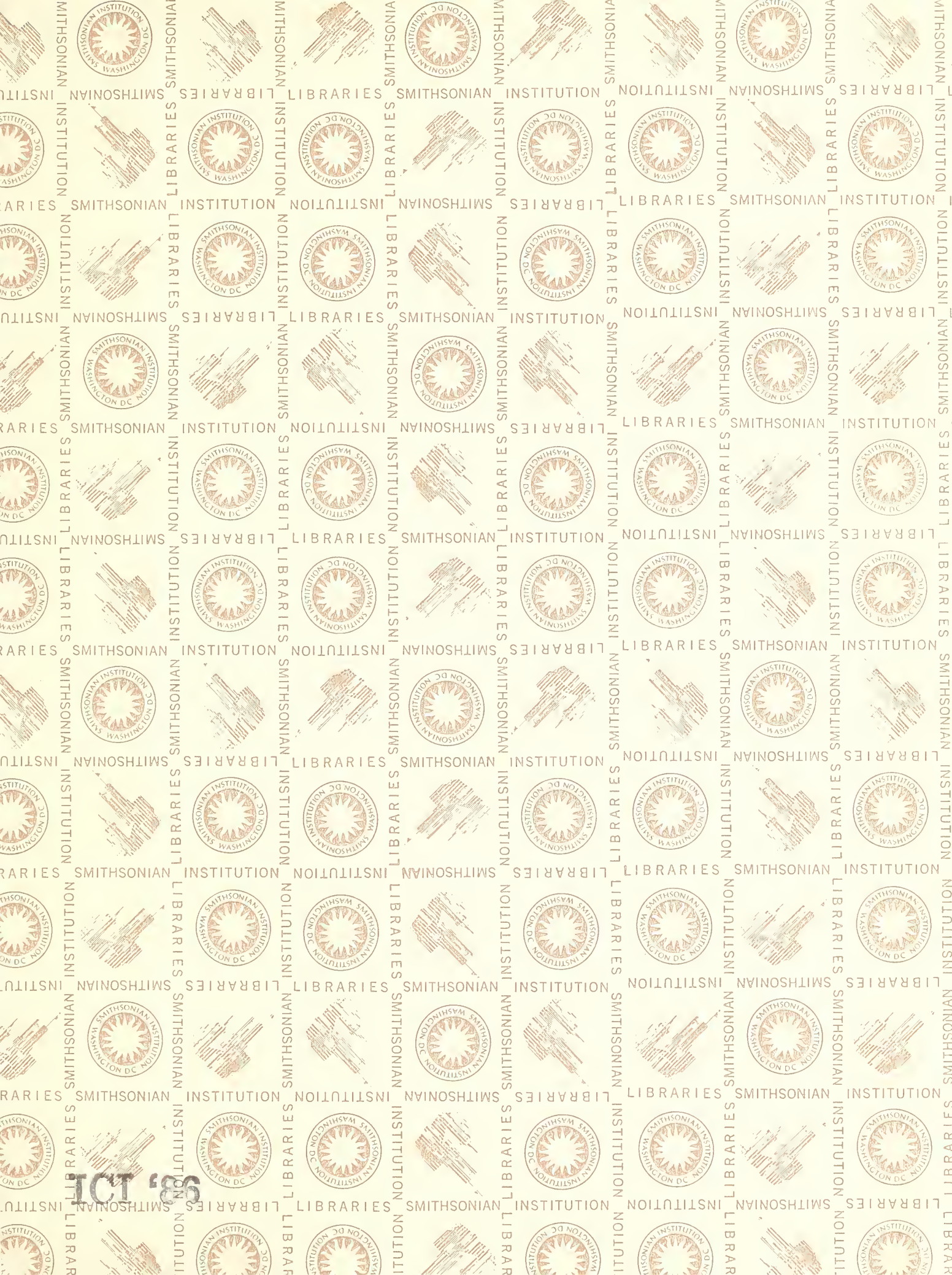
King, M. Frank
Palau. No. 3:28-30

Martin, Clifton L.
Some Notes on the Family Conidae. No. 6:45-46

Myers, Barbara W.
Minute Invader. (bivalve boring into Ocenebra foveolata) No. 4:34-35

Myers, John D.
Diving Experiences in Puerto Rico. No. 8:62-63





ICT 86

SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01066 5529