

Birds

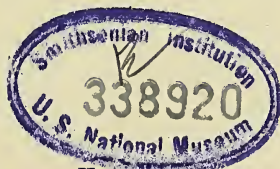
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THE AVICULTURAL MAGAZINE

BEING THE JOURNAL OF THE
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THE STUDY OF BRITISH AND
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AND IN CAPTIVITY

EDITED BY
PHYLLIS BARCLAY-SMITH, F.Z.S.

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- GODDARD, H. E. ; Lerwick, Bannerdown, Bathurst, Somerset. (Feb., 1899.)
- GODDARD, Mrs. ; The Cottage, Buckland, Faringdon, Berks. (Feb., 1923.)
- GOLDER, H. G., F.Z.S. ; Hon. Secretary and Treasurer Norwich Alliance All England C.B.d., 37 Crown Road, Norwich. (June, 1931.)
- GOODALL, A. W. ; 182 Birchfield Road, Widnes, Lancs. (March, 1933.)
- GOODHEART, L. McCORMICK ; Address unknown.
- * GOSSE, Mrs. JAMES ; 9 Park Terrace, Park Side, South Australia. (July, 1923.)
- GOWLAND, Mrs. C. H. ; Tadorna, Pensby Road, Barnston, Wirral, Cheshire. (March, 1938.)
- GRANT, FRANK ; Parklands, Stoughton Lane, Evington, Leicester. (Feb., 1935.)
- GROVES, Hon. Mrs. MCGAREL ; Battramsley House, Lymington, Hants. (March, 1917.)
- GUBBAY, Mrs. MAURICE ; Foxwarren Park, Cobham, Surrey. (Feb., 1928.)
- GUILD, EASTHAM ; P.O. Box 56, Papeete, Tahiti. (May, 1936.)
- GULBENKIAN, C. S. ; 51 Avenue d'Jéna, Paris xvi^e Paris. (Dec., 1908.)
- GURNEY, Miss DIANA ; North Runcion Hall, King's Lynn. (July, 1927.)
- HACHISUKA, THE MARQUESS ; Mita Shiba, Tokyo, Japan. (July, 1932.)
- HADDEN, NORMAN G. ; Underway, West Porlock, Somerset. (Jan., 1939.)
- HAINES, Dr. J. E. ; Elmdon, London Road, Guildford. (April, 1935.)
- HALVERSON, A. W. ; 5705 West Erie Street, Chicago, Ill., U.S.A. (April, 1937.)
- HAMPE, ALEX. ; c/o Mrs. Hillmann, Luisenallee, 8, Koenigsberg 1, Preussen, Germany. (Jan., 1927.)
- HAPPE, PAUL ; 44 Avenue Eng Plasky, Bruxelles, Belgium. (Aug., 1935.)
- HARMAN, Miss KNOBEL ; "Lindeth," Peaslake, Surrey. (Sept., 1928.)

- HAWKE, THE HON. MARY ; Mill Lands, Henfield, Sussex. (Rejoined.)
- HEBB, THOMAS ; Croft House, Old Aylestone, Leicester. (April, 1914.)
- HENDERSON, Miss OONA, F.Z.S. ; Hurst Close, Bracknell, Berks. (Sept., 1934.)
- HIGHAM, WALTER E., F.R.P.S., F.R.G.S., F.Z.S., M.B.O.U. ; The Oaks, Clayton-le-Dale, near Blackburn, Lancs. (Jan., 1934.)
- HILDICK-SMITH, Mrs. K. ; 3 St. Miniver Road, Bedford. (March, 1937.)
- HILL, Professor W. C. OSMAN, M.D. ; Medical College, Ceylon. (Dec., 1939.)
- HIRST, ALBERT ; 10 Talbot Avenue, Egerton, Huddersfield. (July, 1923.)
- HIRST, ARNOLD ; P.O. Box 262 DD, Sydney, N.S.W., Australia. (April, 1929.)
- HIRST, ROBERT S. ; Swincliffe House, Gomersal, near Leeds. (Rejoined.)
- HOLLAS, Mrs. K. E. ; Parsonage Farm, Highworth, Wilts. (Oct., 1922.)
- * HOLLOND, Miss GLADYS M. B. ; 5 Norfolk Crescent, Hyde Park, W. 2. (March, 1930.)
- HOLT, Miss ESTHER ; Axholme, Noctorum, Birkenhead, Cheshire. (Jan., 1934.)
- HONE, Capt. T. N. ; Boshny House, Ledbury, Herefordshire. (Nov., 1927.)
- HOPKINSON, EMILIUS, C.M.G., M.A., M.B.Oxon., D.S.O., F.Z.S. ; Wynstay, Balcombe, Sussex. (Oct., 1906.)
- HORNE, DOUGLAS PERCY ; Pinefield, Church Road, Addlestone, Surrey. (Sept., 1928.)
- HORNER, Miss D. ; Riccall, York. (Aug., 1931.)
- HOUSDEN, Major E. F., M.C., T.D. ; Hillside, Harrow-on-the-Hill, N. (Jan., 1934.)
- HOUSDEN, JAMES B. ; Brooklyn, 31 Cator Road, Sydenham, S.E. 26. (*Orig. Mem.*)
- HOUSDEN, Dr. LESLIE ; Caldecotts, Church Square, Basingstoke, Hants. (March, 1933.)
- HUGHESDON, V. C. ; Hughesdon and Davis (Solicitors), 16 Barrack Street, Sydney, N.S.W., Australia. (Oct., 1940.)
- HUMPHRIES, WALTER JOHN ; 32 Cedric Road, Crumpsall, Manchester, 8. (Feb., 1931.)
- HURLBURT, Dr. W. E., M.B., Vineland, Ontario, Canada. (June, 1939.)
- HUTCHINSON, Miss ALICE ; address unknown. (Aug., 1907.)
- HUTH, Mrs. MURIEL ; 243 Goldhurst Terrace, N.W. 6. (Feb., 1935.)
- ILES, GERALD ; Zoological Gardens, Belle Vue, Manchester, 12. (Jan., 1940.)
- IMPARATI, Dr. Prof. EDOARDO ; Ravenna, Italy. (Jan., 1932.)
- INDGE, H. J. ; Trimstone, Thorpe, Nr. Chertsey, Surrey. (June, 1940.)
- ISENBERG, A. H. ; Box 88, 647 Runnymede Street East, Palo Alto, California. U.S.A. (Aug., 1926.)
- JARDIN ZOOLOGIQUE DE QUÉBEC (J. A. BRASSARD D) ; Charlesbourg, Canada, (Nov. 1940.)
- JARDIN ZOOLOGICO DE BUENOS AIRES ; Buenos Aires, Argentine. (Feb., 1940.)
- JARVIS, Miss I. F. ; The Old Manor, Salisbury. (Aug., 1930.)
- JERVIS, Hon. Mrs. ; Pitminster Lodge, Taunton, Somerset. (Feb., 1936.)
- JOHNSTON, ROBERT PERCY ; West House, Wigton, Cumberland. (March, 1925.)
- JONES, C. BUCKINGHAM ; Dibrugarh, Assam. (Feb., 1938.)

- JONES, F. T. ; Lower Peover, Cheshire. (Oct., 1933.)
 JONES, S. B. ; 265 Northway, Maghull, Nr. Liverpool. (Sept., 1934.)
 JONES, T. J. ALEX ; Brynley, 5 Fields Park Road, Newport, Mon. (Oct., 1940.)
 JONES, W. A. ; 54 Stockwell Park Road, S.W. 9. (Feb., 1933.)
 JORGENSEN, Mrs. ; Sefton, Bickley, Kent. (July, 1939.)
- KEATOR, BEVERLEY, R.F.D. ; 2 Westport, Conn., U.S.A. (June, 1924.)
 KEMP, ROBERT ; 5 Rose Hill, Lostwithiel, Cornwall. (March, 1926.)
 KERR, J. ERNEST ; Harviestoun, Dollar, Scotland. (March, 1927.)
 KEWLEY, Mrs. M. A. ; Old Court House, Whitchurch, Aylesbury, Bucks. (Sept., 1910.)
 KING, ALFRED ; "Mirfield," 8 Inglewhite Crescent, Wigan. (Dec., 1940.)
 KNOBEL, Miss E. MAUD, F.Z.S. ; Lindeth Lodge, Peaslake, Surrey. (Aug., 1916.) (*Hon. Mem. Hon. Secretary and Treasurer.*)
 KRUG, EDWARD A. ; 300 West Adams Street, Chicago, Ill., U.S.A. (March, 1940.)
 KUNTZ, P. ; 289 Edmonton Street, Winnipeg, Manitoba, Canada. (May, 1930.)
- LAIDLAY, J. C. ; Lindores, Fife, Scotland. (April, 1929.)
 LAKE, GEORGE D. ; Audrey, Burghfield Common, Mortimer, Berks. (Sept., 1937.)
 LAMBERT, Miss LESLEY DOUGLAS ; Beeston Hill, Leeds. (Jan., 1937.)
 LAMBERT, J. ; Gilling Castle. (March, 1936.)
 LAMBERT, PAUL ; Gilling East, York. (Sept., 1929.)
 LANGHAM, SIR CHARLES, Bart. ; Tempo Manor, Co. Fermanagh, Ireland. (July, 1932.)
 LAW, DR. SATYA CHURN, F.Z.S., M.B.O.U., M.A., B.L., Ph.D. ; 50 Kailas Bose Street, Calcutta. (1919.)
 LAWRENCE, W. H. ; 6559 Yew Street, Vancouver, B.C., Canada. (Dec., 1939.)
 LAX, J. M. S. ; Southfield, Crook, Co. Durham. (Jan., 1930.)
 LEACH, C. F. ; Woodview, Park Road, Ashted, Surrey. (June, 1914.)
 LEWIS, J. SPEDAN, F.Z.S. ; Leckford Abbess, Stockbridge, Hants. (Sept., 1924.)
 LIBRARY INTERNATIONAL INSTITUT D'AGRICULTURE ; Villa Umberto 1, Rome, 10.
- LINDSAY, Mrs. EDWIN A. ; 146 Harley Street, W. 1. (July, 1935.)
 LODGE, GEORGE E., F.Z.S., Hawkhouse, Park Road, Camberley, Surrey. (May, 1923.)
 LOUWMAN, P. W. ; 4 Teylingerhorstlaan, Wassenaar, Holland. (Aug., 1936.)
 *LOW, Dr. G. CARMICHAEL ; 7 Kent House, Kensington Court, W. 8. (May, 1939.)
 LOWE, Rev. J. R. ; The Vicarage, Coln St. Aldwyn, Fairford, Glos. (June, 1927.)
 LUPTON, Miss E. M. ; Beechwood, Elmete Lane, Roundhay, Leeds. (Aug., 1933.)
 LYON, Capt. the Hon. MICHAEL ; Glamis Castle, Glamis, Forfarshire. (May, 1927.)

- McCANCE, DAVID ; Strand Town, Belfast. (July, 1932.)
- McDOWALL, KENNETH OF LOGAN ; Port Logan, Wigtownshire. (Sept., 1938.)
- McLINTOCK, Miss M. H. ; The Grove, Catton Grove Road, Norwich. (July, 1927.)
- McMILLAN, Dr. A. ; New Romney, Kent. (March, 1930.)
- MACKLIN, C. H., M.R.C.S., L.R.C.P., F.Z.S. ; 23 Church Street, Amptill, Beds. (May, 1923.)
- MAIRAUX, E. (Ingénieur Agronome I.A.G.) ; 41 Rue de la Ruche, Bruxelles, Belgium. (July, 1929.)
- MALISOUX, IVAN ; Beez, Namur, Belgium. (Feb., 1936.)
- MARSH, E. G. ; Stoke Bishop, Drake's Avenue, Exmouth. (Sept., 1935.)
- MARSHALL, L. F. ; 65 Fitzroy Avenue, Harborne, Birmingham 17. (Sept. 1937.)
- MARTEN, L. H., O.B.E., F.Z.S. ; Tilton, near Battle, Sussex. (June, 1930.)
- MARTIN, A. ; 27 Yoxall Road, Shirley, Nr. Birmingham. (Oct., 1930.)
- MARTIN, H. C. ; Las Cănas, 44b Coper's Cope Road, Beckenham, Kent. (Jan., 1897.)
- MASON, Miss EVA INGLIS ; Peppercorn Cottage, Burton, Christchurch, Hants. (Aug., 1934.)
- MATTHEWS, Mrs. W. M. ; Sarsdenfield, Camberley, Surrey. (May, 1935.)
- MAXWELL, C. T. ; 1 Shardcroft Avenue, Herne Hill, S.E. 24. (Dec., 1903.)
- MAXWELL, P. H. ; Ebberley Hill, St. Giles, near Torrington, N. Devon. (Oct., 1929.)
- *MAXWELL-JACKSON, Miss M. ; Percy House, Scotton, Knaresborough, Yorks. (Jan., 1913.)
- MAYER, F. W. SHAW ; Wulfruna, 88 Concord Road, Homebush, Sydney, Australia. (Aug., 1922.)
- MEESER, F. C. S. ; P.O. Box 4993, Coronation Building, 23 Simonds Street, Johannesburg, South Africa. (July, 1937.)
- MERTENS, MARCEL (Ingénieur) ; Hotel du Commerce, Saint Laurent du Sape, Ordèche, France. (April, 1938.)
- MEYER, JOHN D. ; c/o Berol Lodge, Chappaqua, N.Y., U.S.A. (Sept., 1938.)
- MILLIGAN, H. ; Upper Manor Farm, Leckford, Stockbridge, Hants. (March, 1937.)
- MILLSUM, O. ; "Barnstaple," 57 Warwick Road, Cliftonville, Margate, (April, 1940.)
- MOODY, A. F. ; Lilford, Barnwell, Peterborough. (July, 1926.)
- MOORE, ROBERT T. ; R.R. No. 1, Box 28a, Pasadena, California, U.S.A. (July, 1928.)
- MORRISON, A. ; St. Mary's Ridgway Road, Farnham, Surrey. (Jan., 1932.)
- MORTIMER, M. J. ; Elmhurst School, Camberley, Surrey. (Sept., 1939.)
- MOTT, B. ; 11 Wheleys Road, Edgbaston, Birmingham. (Rejoined.)
- MOUNTAIN, Capt. WALTON ; Groombridge Place, Kent. (Feb., 1923.)
- MURPHY, JOHN (District Commissioner) ; Kabarnet, via Eldama Ravine, Kenya Colony. (Oct., 1932.)
- MUSEUM OF COMPARATIVE ZOOLOGY (rejoined) ; at Harvard College, Cambridge, Massachusetts, U.S.A.

- NEWMAN, T. H., F.Z.S., M.B.O.U.; Verulam, 46 Forty Avenue, Wembley Park, Middlesex. (May, 1900.) (*Hon. Mem.*)
- NEWMARCH, C. T., F.Z.S.; Gamage's Ltd., Holborn, W.C. (Aug., 1915.)
- NICOL, HAMISH, F.R.C.S., F.Z.S.; Hillside, Christchurch Road, Hampstead, N.W. 3. (Jan., 1926.)
- NIGHTINGALE, Capt. F. B., F.R.I.B.A.; 47 West Side, Wandsworth Common, S.W. 18. (Dec., 1933.)
- NORCROSS, HERBERT; Normanhurst, Mount Road, Middleton, Lanes. (March, 1930.)
- NORDHOFF, CHARLES B.; Papeete, Tahiti, French Oceania. (Aug., 1937.)
- NORRIS, KENNETH A.; Elmstone, Highfield Road, Purley, Surrey. (June, 1939.)
- OSTREHAN, CLEMENT; Kington Rectory, Worcester. (Jan., 1928.)
- PAM, Major ALBERT, F.Z.S.; Wormleybury, Broxbourne, Herts. (Jan., 1906.)
- PAPE, Mrs. A. M.; Forest Lodge, Binfield, Berks. (Oct., 1937.)
- PARTRIDGE, W. R., F.Z.S.; Larches, near Fladbury, Pershore, Worcester-shire. (April, 1934.)
- PEARSE, Mrs.; Channel View, Bembridge, Isle of Wight. (Rejoined.)
- PEAT, ROBERT; 11 Ironmonger Lane, London, E.C. 2. (June, 1940.)
- PHILLIPS, C. P.; Swans Nest, Dorchester, Oxford. (Nov., 1940.)
- PHIPPS, Mrs.; 14 Milner Crescent, Kensington, Johannesburg, South Africa. (Jan., 1935.)
- PICKERING, ROWLAND H. E. U.; Thunder Hall, Ware, Herts. (Feb., 1936.)
- PICKFORD, RANDOLPH JOHN; Etherley Lodge, near. Bishop Auckland. (Feb., 1903.)
- PITT, W. S.; Wildwood, Silverdale Avenue, Walton-on-Thames, Surrey. (March, 1934.)
- PLATH, KARL; 2847 Giddings Street, Chicago, U.S.A. (July, 1924.)
- POLTIMORE, Lady; Court Hall, North Molton. (Jan., 1926.)
- POPHAM, Mrs. LEYBOURNE; Hunstrete House, Pensford, near Bristol. (July, 1937.)
- PORTER, SYDNEY, F.Z.S.; The White Gates, Stenson Road, Derby. (April, 1920.)
- POTTER, BERNARD E., M.B., M.R.C.S., L.R.C.P., F.Z.S.; 17 Portland Place, W. (March, 1914.)
- POTTER, W. H.; Whetherill, Fitzillian Avenue, Harold Wood, Essex. (July, 1926.)
- POVOA, COUNT; 108 Rua do Sol, Ao Rato, Lisbon, Portugal. (May, 1935.)
- PRINCETON UNIVERSITY LIBRARY; U.S.A.
- PUDDLE, F. C., V.M.H.; Bodnant Gardens, Tal-y-Cafn, Denbighshire. (May, 1940.)
- PYCRAFT, W. P., A.L.S., F.Z.S., M.B.O.U., etc.; British Museum (Nat. Hist.), Cromwell Road, S.W. 7. (Nov., 1904.) (*Hon. Mem.*)
- PYE, Miss L.; High Street, Haslington, Crewe. (March, 1938.)
- QUINCEY, R. S. DE Q.; The Vern, Bodenham, Hereford. (April, 1913.)

- RAMPTON, A. ; South Lake, Woodley, Berks. (Dec., 1935.)
- RAVEN, WILLIAM HENRY ; 29 Cavendish Road, E. ; The Park, Nottingham. (Dec., 1939.)
- REEVE, Capt. J. S., F.Z.S. ; Leadenham House, Lincoln. (March, 1908.)
- REVENTLOW, AXEL ; Inspektar, Zoological Garden, Kobenhavn F., Denmark. (Jan., 1928.)
- RIPLEY, S. DILLON ; Litchfield, Connecticut, U.S.A. (Sept., 1937.)
- RISDON, D. H. S. ; "Remura," 130 Green Lane, Northwood, Middlesex. (Jan., 1934.)
- ROBERTS, Miss IDA ; "Oriana," Montpelier Road, Hobart, Tasmania. (Jan., 1923.)
- ROBINSON, Mrs. T. E. ; P.O. Box 2314, Bishop Trust Buildings, Honolulu, Hawaii, U.S.A. (June, 1935.)
- ROTHSCHILD, LIONEL DE ; New Court, St. Swithin's Lane, London, E.C. 4. (Nov., 1913.)
- ROWE, ROY L. ; 624 Dorchester Road, San Mateo, California, U.S.A. (Nov., 1937.)
- ROY, ANANTO KUMAR ; 59 Upper Chitpore Road, Calcutta, India. (March, 1934.)
- RUDDIN, FRANCIS H. ; R.I., Box 31, Fillmore, California, U.S.A. (May, 1902.)
- RUMSEY, LACY ; 23 Rua de Serpa Pinto, Villa Nova de Gaya, Oporto, Portugal. (April, 1919.)
- RYAN, Sir G. E. ; Address unknown. (June, 1931.)
- SCHMIDT, PAUL ; Senta, Yugoslavia. (March, 1934.)
- SCHUYL, D. G. ; Kralingscheweg 332, Rotterdam, Holland. (Jan., 1914.)
- SCOTT, A. H. ; Blissford Pool, Fordingbridge, Hants. (March, 1934.)
- SCOTT-HOPKINS, Capt. C. ; Low Hall, Kirby Moorside, Yorks. (July, 1928.)
- SEPPINGS, Lieut.-Col. J. W. H., F.Z.S. ; c/o Lloyd's Bank, Ltd., Cox & King's Branch (G.3), 6 Pall Mall, London, S.W. 1. (Sept., 1907.)
- SETH-SMITH, DAVID, F.Z.S., M.B.O.U. ; "Brabourne," Poyle Road, Guildford, Surrey. (Dec., 1894.) (*Hon. Mem.*)
- SHAKESPEARE, WALTER ; Sefton, St. George's Hill, Weybridge. (Aug., 1926.)
- SHAND, Dr. W. PATERSON ; 10 Wilson Street, Derby. (Dec., 1940.)
- SHEARING, A. P. ; The Aviaries, Foxwarren Park, Cobham, Surrey. (Dec., 1931.)
- SHERBROOK, WILLIAM ; The Old Vicarage, Tadworth, Surrey. (April, 1931.)
- SHERRIFF, A., F.Z.S. ; Edge Hill, 8 Ranulf Road, N.W. 2. (March, 1923.)
- SHERSTON, W. E. ; Otley Hall, Ipswich, Suffolk. (Aug., 1939.)
- SIBLEY, C. L. ; Sunnyfields Farm, Wallingford, Conn., U.S.A. (Jan., 1934.)
- SILVER, ALLEN, F.Z.S. ; 18 Baneswell Road, Newport, Mon.
- SIMPSON, ARCHIBALD ; Northwold, The Crescent, Bardsey, near Leeds. (Feb., 1901.)
- SIMPSON, H. W. ; 6 Barry Road, Stonebridge, Willesden, N.W. 10. (Nov., 1924.)
- SIMPSON, Mrs. M. K. M. ; 98 Pittencrieff Street, Dunfermline, Fife. (May, 1937.)
- SIMSON, Capt. RUPERT, O.B.E. ; The New Inn, Kidmore End, nr. Reading. (July, 1932.)

- SINCLAIR, O. E. ; 60 South Ridge Road, Durban, Natal, South Africa. (April, 1939.)
- SLADE, G. J. ; Shenley, 21 Wilton Crescent, Southampton. (Feb., 1915.)
- SMITH, W. PROCTOR, F.Z.S. ; Bexton House, Knutsford, Cheshire. (Nov., 1917.)
- SMITH, Mrs. WIKOFF ; Morris Avenue, Bryn Mawr, Penna, U.S.A. (Jan., 1935.)
- SOUTHOFF, GEORGE DE, C.M.Z.S. ; 9-11 Via S. Spirito, Florence, Italy. (1921.) (*Hon. Mem.*)
- SOUTHPORT CORPORATION, CURATOR OF ; Hesketh Park, Southport. (Jan., 1904.)
- SPENCER, HENRY ; Scalby, near Scarborough. (Sept., 1928.)
- SPINKS, M. M. ; Tetterstones, Doddington Ridge, Nr. Wellingborough. (Aug., 1940.)
- SPRAWSON, EVELYN, Professor, M.C., D.Sc., M.R.C.S., F.Z.S. ; Cranford, Welcomes Road, Kenley, Surrey. (June, 1923.)
- SPURWAY, N. B. ; Meadow Court, Stoughton Drive South, Leicester. (April, 1923.)
- SQUIRE, E. O. ; Basmead Manor, St. Neots, Hunts. (June, 1939.)
- STARK, J. ; Woods Cottage, Haddington, Scotland. (Jan., 1924.)
- STEINBECK, J. W. ; P.O. Box 832, Concord, California, U.S.A. (March, 1939.)
- STEPHENS, JOHN ; 184 Latymore Court, W. 6. (Sept., 1932.)
- STEYNE, ALAN N. ; American Embassy, 1 Grosvenor Square, W. 1. (Sept., 1932.)
- STIGAND, Mrs. PEARSALL ; Antica Casa Colonica, 19 Via Augusto Baldesi, San Gervasio, Florence, Italy. (Dec., 1932.)
- STOKES, Capt. H. S., F.Z.S., M.B.O.U., M.C. ; Longdon, Rugeley, Staffordshire. (Oct., 1922.)
- STROMBI, Miss DORA A. ; East Bank House, Brechin, Angus. (April, 1930.)
- SUGGITT, ROBERT ; Suggitt's Lane, Cleethorpes, Grimsby. (Dec., 1903.)
- SUTTON, PETER ; 6 Holland Park Avenue, London, W. 11 (Feb., 1939.)
- SWEETNAM, Rev. Preb. J. E., F.B.S.A. ; The Rectory, Enborne, Newbury, Berks. (Feb., 1931.)
- SYKES, JOHN ; Whitehouse Cottage, Inveresk, Musselburgh, Midlothian. (Jan., 1912.)
- SYSONBY, LORD ; Great Tangle Manor, Guildford, Surrey. (June, 1938.)
- TAKA-TSUKASA, PRINCE NOBUSUKE, F.Z.S. ; 1732 Sanchome, Kamimeguro, Meguro-ku, Japan. (Feb., 1914.)
- TEAGUE, P. W. ; Lybrook, Broadway, Worcestershire. (June, 1930.)
- TEBBITT, MICHAEL ; 8 Malpas Drive, Pinner, Middlesex. (July, 1937.)
- TENNANT, Hon. STEPHEN ; Wilsford Manor, Salisbury. (April, 1926.)
- THOMAS, F. E. ; "Edendale," Creswick Road, Springfield Park, Acton, W. 3. (Oct., 1931.)
- THOMASSET, BERNARD, C., F.Z.S. ; Seend, near Melksham, Wilts. (July, 1896.)
- TONG, RUDDY ; P.O. Box 2113, Honolulu, Hawaii. (March, 1935.)
- TRAVERS, Mrs. J. ; Windmill Cottage, Mayfield, Sussex. (Dec., 1903.)
- TUNESI, A. W. ; 88 Stonhouse Street, Clapham, S.W. 4. (Feb., 1939.)
- TURNER, A. GEOFFREY ; Hungerford Park, Berks. (July, 1934.)

- TURNER, H. B. ; Malverleys, near Newbury. (April, 1928.)
 TYSER, Mrs., F.Z.S. ; Dudbrook, near Brentwood, Essex. (Jan., 1934.)
- UNDY, EDWARD JOSEPH ; 3 Batley Road, Wakefield. (May, 1940.)
- VALENTINE, ERNEST ; 7 Highfield, Workington, Cumberland. (May, 1899.)
 VAN DER OIJE, Baron CHARLES SCHIMMELPENNINCK ; Oosterland Manor,
 Oosterland, Isle of Duiveland, Zealand, Holland. (Sept., 1939.)
 VANE, E. N. T. ; Ridgeway, Joel Park Estate, Joel Street, Pinner, Middlesex.
 (March, 1937.)
 VENNING, H. C. ; " Keffolds," Haslemere, Surrey. (Jan., 1927.)
 VIERHELLER, GEO. P. ; St. Louis Zoological Park, St. Louis, Mo., U.S.A.
 (March, 1928.)
 VOY, Miss HILDA ; Oak Hall School, Haslemere, Surrey. (Sept., 1936.)
 VROOM, Mrs. DOUGLAS E. ; 255 So. Beverly Glen, West Los Angeles, Calif.,
 U.S.A. (Rejoined.)
- WALKER, Miss H. K. O. ; Chesham, Bury, Lancs. (Feb., 1895.)
 WALKER, PHILIP ; 19 Rochester Way, Blackheath, S.E. 3. (Aug., 1939.)
 WALLER, H. ; Kittsbury, 64 St. Julians Farm Road, West Norwood, S.E. 27.
 WARRE, Captain GEORGE F. ; 47 Lonsdale Road, Barnes, S.W. 13. (Feb.,
 1936.)
 WARRE, Mrs. PHILIP ; Coppid Hall, Stifford, Essex. (June, 1935.)
 WAUD, Capt. L. REGINALD, F.Z.S., M.B.O.U. ; Bradley Court, Chieveley, near
 Newbury. (May, 1913.)
 WEBBER, LEONARD C. ; H.M.A.S. *Vendetta*, c/o G.P.O., London. (June, 1935.)
 * WEBER, ORLANDO F., Junr. ; 22 East 82nd Street, New York, U.S.A. (Jan.,
 1937.)
 WESTMACOTT, Captain G. R., D.S.O. ; Rodmell Farm, near Lewes, Sussex.
 (Feb., 1933.)
 WESTMACOTT, Lady ; Hotel Vendôme, Place Vendôme, Paris, 1^e. (Dec.,
 1928.)
 WESTON, CLIFFORD ; Hall Leys, Oadby, near Leicester. (Jan., 1938.)
 WHARTON-TIGAR, Mrs. N., F.Z.S. ; 10 Charlcott Crescent, N.W. 1. (July, 1932.)
 WHITBURN, Mrs. C. M. S. ; Ampport St. Mary's, Andover, Hants. (July,
 1934.)
 WHITELEY, F. G. L. ; Heath Lodge, Knutsford, Cheshire. (March, 1939.)
 WHITMORE, G. E. ; 168 High Street, West Bromwich, Birmingham. (July,
 1935.)
 WICKETT, FREDERICK ; Penarth, Ringlet, Cameron Highlands, Malaya.
 (March, 1939.)
 WILKINS, A. ; Rendcombe, Chesham, Bucks. (April, 1930.)
 WILLFORD, HENRY ; San Souci, Havenstreet, Ryde, Isle-of-Wight. (Nov.,
 1907.)
 WILLIAMS, SIDNEY, F.Z.S. ; 19 Beechdale, Winchmore Hill, N. 21. (Oct.,
 1905.)
 WILSON, ALEC M. ; Middlemoor, Presteigne, Radnorshire. (Oct., 1939.)

WILSON, AND., F.Z.S. ; 233 Argyle Street, Glasgow, C. 2. (April, 1927.)
 WINTER, DWIGHT ; Center and Negley Avenue, Pittsburgh, Pa., U.S.A.
 (1922.)

WITTING, R. C. ; "The Gables," West Horsley, Surrey. (July, 1937.)

WOOD, Dr. CASEY, F.Z.S. ; McGill University Library, Montreal, Canada.
 (Sept., 1922.)

WOOD, J. A. (Quantity Surveyor) ; 68½ Pitt Street, Sydney, N.S.W.,
 Australia. (Oct., 1940.)

WOOD, Mrs. MURIEL ; 8 Lambolle Road, N.W. 3. (July, 1927.)

WOOLF, Dr. E. B. ; 6th Floor, Pasteur Chambers, Jeppe Street, Johannesburg,
 South Africa. (Oct., 1940.)

WORKMAN, WILLIAM HUGHES, F.Z.S., M.B.O.U. ; Lismore, Windsor Avenue,
 Belfast. (May, 1903.)

WORMALD, HUGH ; Heathfield, East Dereham, Norfolk. (Rejoined.)

YAMASHINA, THE MOST HON. THE MARQUIS ; 49 Nampaidai-Machi, Shibuya-
 Ku, Tokyo, Japan. (July, 1938.)

YEALLAND, JOHN ; 1 Cemetery Road, Binstead, Isle of Wight. (July, 1934.)

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Rules of the Avicultural Society

As amended, November, 1930

1.—The name of the Society shall be THE AVICULTURAL SOCIETY, and its object shall be the study of Foreign and British Birds in freedom and in captivity. Poultry, Pigeons, and Canaries shall be outside the scope of the Society. The year of the Society, with that of each volume of the Society's Magazine, which shall be known as the AVICULTURAL MAGAZINE, shall commence with the month of January and end on the 31st of December following.

2.—The Avicultural Society shall consist of Ordinary and Honorary Members, and the latter shall be restricted in number to six, and be elected by the Council.

3.—The Officers of the Society shall be elected, annually if necessary, by members of the Council in the manner hereinafter provided, and shall consist of a President, one or more Vice-Presidents, a Secretary, an Editor, a Treasurer, an Auditor, a Scrutineer, and a Council of eighteen members. The Secretary, Editor, and Treasurer shall be *ex officio* Members of the Council.

4.—New Members shall be proposed in writing, and the name and address of every person thus proposed, with the name of the Member proposing him, shall be published in the next issue of the Magazine. Unless the candidate shall, within two weeks after the publication of his name in the Magazine, be objected to by at least two Members, he shall be deemed to be duly elected. If five members shall lodge with the Secretary objections to any candidate he shall not be elected, but the signatures to the signed objections must be verified by the Scrutineer. If two or more Members shall object to any candidate, the name of such candidate shall be brought before the Council at their next meeting, and the Council shall have power to elect or to disqualify him from election.

5.—Each Member shall pay an annual subscription of £1, to be due and payable in advance on the 1st of January in each year. New Members shall pay, in addition, an entrance fee of 10s.; and, on payment of their entrance fee and subscription, they shall be entitled to receive all the numbers of the Society's Magazine for the current year.

6.—Members intending to resign their membership at the end of the current year of the Society are expected to give notice to the Secretary before the 1st of December, so that their names may not be included in the "List of Members", which shall be published annually in the January number of the Magazine.

7.—The Magazine of the Society shall be issued on or about the first day of every month, and forwarded, post free, *to all the Members who shall have paid their subscriptions for the year ; but no Magazine shall be sent or delivered to any Member until the annual subscription shall have reached the hands of the Business Secretary or the Publishers.* Members whose subscriptions shall not have been paid as above by the first day in November in any year shall cease to be Members of the Society, but may be re-admitted, at the discretion of the Council, on payment of the annual subscription.

8.—The Secretary, Editor, and Treasurer shall be elected for a term of five years, and, should a vacancy occur, it may be temporarily filled up by the Executive Committee (see Rule 10). At the expiration of the term of five years in every case it shall be competent for the Council to nominate the same officer, or another Member, for a further term of five years, unless a second candidate be proposed by not less than twenty-five Members of at least two years' standing, as set forth below.

In the November number of the Magazine preceding the retirement from office of the Secretary, Editor, or Treasurer, the Council shall publish the names of those members whom they have nominated to fill the vacancies thus created ; and these members shall be deemed duly elected unless another candidate or candidates be proposed by not less than fifteen Members of at least two years' standing. Such proposal, duly seconded and containing the written consent of the nominee to serve, if elected, in the capacity for which he is proposed, must reach the Secretary on or before the 15th of November.

The Council shall also publish yearly in the November number of the Magazine the names of those members nominated by them for the posts of Auditor and Scrutineer respectively.

9.—The Members of the Council shall retire by rotation, two at the end of each year of the Society (unless a vacancy or vacancies shall occur otherwise) and two other Members of the Society shall be recommended by the Council to take the place of those retiring. The names of the two Members recommended shall be printed in the November number of the AVICULTURAL MAGAZINE. Should the Council's selection be objected to by fifteen or more Members, these shall have power to put forward two other candidates, whose names, together with the signatures of no less than fifteen Members proposing them, must reach the Hon. Secretary *by the 15th of November.* The names of the four candidates will then be printed on a voting paper and sent to each Member with the December number of the Magazine, and the result of the voting published in the January issue. Should no alternative candidates be put forward, in the manner and by the date above specified, the two candidates recommended by the Council shall be deemed to have been duly elected. In the event of an equality of votes the President shall have a casting vote.

If any Member of the Council does not attend a meeting for two years in succession the Council shall have power to elect another member in his place.

10.—Immediately after the election of the Council that body shall proceed to elect three from its Members (*ex officio* Members, not being eligible). These three, together with the Secretary, Treasurer, and Editor, shall form a Committee known as the Executive Committee. Members of the Council shall be asked every year (whether there has been an election of that body or not) if they wish to stand for the Executive, and in any year when the number of candidates exceeds three there shall be an election of the Executive.

The duties of the Executive Committee shall be as follows :—

(i) To sanction all payments to be made on behalf of the Society.

(ii) In the event of the resignation of any of the officers during the Society's year, to fill temporarily the vacancy until the end of the year. In the case of the office being one which is held for more than one year (e.g. Secretary, Editor, or Treasurer) the appointment shall be confirmed by the Council at its next meeting.

(iii) To act for the Council in the decision of any other matter that may arise in connection with the business of the Society.

The decision of any matter by the Executive to be settled by a simple majority (five to form a quorum). In the event of a tie on any question, such question shall be forthwith submitted by letter to the Council for their decision.

The Executive shall not have power

(i) To add to or alter the Rules ;

(ii) To expel any Member ;

(iii) To re-elect the Secretary, Editor, or Treasurer for a second term of office.

It shall not be lawful for the Treasurer to pay any account unless such account be duly initialed by another Member of the Executive.

It shall be lawful for the Secretary or Editor to pledge the Society's credit for a sum not exceeding £50.

Should a Member wish any matter to be brought before the *Council* direct such matter should be sent to the Secretary with a letter stating that it is to be brought before the Council at their next meeting, otherwise communications will in the first place be brought before the Executive.

A decision of a majority of the Council, or a majority of the Executive endorsed by the Council, shall be final and conclusive in all matters.

11.—The Editor shall have an absolute discretion as to what matter shall be published in the Magazine (subject to the control of the Executive Committee). The Secretary and Editor shall respectively refer all matters of doubt and difficulty to the Executive Committee.

12.—The Council (but not a committee of the Council) shall have power to alter and add to the Rules, from time to time, in any manner they may think fit. Five to form a quorum at any meeting of the Council.

13.—The Council shall have power to expel any Member from the Society at any time without assigning any reason.

14.—Neither the office of Scrutineer nor that of Auditor shall be held for two consecutive years by the same person.

15.—The Scrutineer shall not reveal to any person how any Member shall have voted.

The Society's Medal

RULES

The Medal may be awarded at the discretion of the Committee to any Member who shall succeed in breeding, in the United Kingdom, any species of bird which shall not be known to have been previously bred in captivity in Great Britain or Ireland. Any Member wishing to obtain the Medal must send a detailed account for publication in the Magazine within about eight weeks from the date of hatching of the young, and furnish such evidence of the facts as the Executive Committee may require. The Medal will be awarded only in cases where the young shall live to be old enough to feed themselves, and to be wholly independent of their parents. No medal can be given for the breeding of hybrids, or of local races or sub-species of species that have already been bred.

The account of the breeding must be reasonably full so as to afford instruction to our Members, and must appear in the AVICULTURAL MAGAZINE before it is published or notified elsewhere. It should describe the plumage of the young, and *be of value as a permanent record of the nesting and general habits of the species.* These points will have great weight when the question of awarding the Medal is under consideration.

In every case the decision of the Committee shall be final.

The Medal will be forwarded to each Member as soon after it shall have been awarded as possible.

The Medal is struck in bronze (but the Committee reserve the right to issue it in *silver* in very special cases) and measures $2\frac{1}{2}$ inches in diameter. It bears on the obverse a representation of two birds with a nest containing eggs, and the words "The Avicultural Society—founded 1894". On the reverse is the following inscription: "Awarded to [*name of recipient*] for rearing the young of [*name of species*], a species not previously bred in captivity in the United Kingdom."

The Council may grant a special medal to any member who shall succeed in breeding any species of bird that has not previously been bred in captivity in Europe.



AVICULTURAL MAGAZINE



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THE AVICULTURAL SOCIETY

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FURTHER NOTICE**



Gennaesus moffitti HACHISUKA
BLACK KALII PHEASANT

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JAN.-FEB., 1941

THE BLACK KALIJ PHEASANT

(*Gennæus moffitti* Hachisuka)

By the MARQUESS HACHISUKA

Pheasants are frequently discovered in strange ways ; often a species is captured and kept alive for many years in a pen before it is publicly known to the scientific world ; on the other hand, some Pheasants are known to science only through their long tail-feathers, and it takes a number of years before the complete bird becomes known. It is very unusual for any bird to be discovered in such curious ways. The explanation is not very difficult, as in the jungle Pheasants are, as a rule, almost impossible to shoot, although they are common under cover. If you camp in a Malayan jungle you may hear a cock Argus crowing every morning and evening, but it is practically impossible to see them. Wild Pheasants kept in the aviaries come to us through the native snare, a primitive method of capturing Pheasants alive, but there is no modern method to replace it. We recall that the first Lineated Pheasant which came to our notice was kept in an aviary in Malacca although its native home is some 500 miles away. Baily's Peacock Pheasant was kept many years in Devonshire, but its original home is still unknown. I can give you a reverse example. The Mikado Pheasant was originally known to science through two central tail-feathers only, which a head-hunter of Arisan in Formosa carried as an ornament on his headdress. I believe the history of the discovery of Rheinard's Pheasant was much the same ; a Frenchman picked up its tail-feather in a jungle in Annam which became a treasure to the Paris Museum, but it has taken many years before

the museum received a complete bird. It is for this reason that aviculture has contributed much to the advancement of Pheasant study, and phasianists are doing good which the pure scientific worker cannot undertake. For instance, Captain Delacour has discovered the rare Imperial Pheasant and has done more good by breeding and distributing them to many Zoos in the world than by preserving them for the museum. I am now going to tell you an entirely new history of the discovery of a Pheasant whose home is still unknown. The illustration which is reproduced here is a Black Kalij Pheasant, and its discovery is an interesting story.

Mr. Leland Smith, a well-known game-bird breeder, of Fair Oaks, some fifteen miles out of Sacramento, California, received from Calcutta in 1934 a pair of unidentified Kalij Pheasants. The male is black throughout the body, with abundant steel-blue sheen on the dorsal part. The abdominal part of the body is not so glossy, and the breast feathers have very faint shaft markings of a paler shade. That is to say, the bird resembles *melanotus*, but has the under parts black, or is like *horsfieldi* without the white rump.

The female differs from *melanotus* in having a plain buff-coloured throat, the central pair of tail feathers more like *horsfieldi*, plain hair-brown without any markings. The pair bred successfully during the following year, 1935. The twenty-seven eggs laid are much darker than *leucomelanos* eggs, having more pinkish buff and pointed ends with abundant white "chippings", as against the very pale buffish tinted eggs, without the pinkish tinge of the latter. The incubation period was twenty-three days, like that of all the other Himalayan Kalij. Two pairs of offspring reached maturity. The illustration here reproduced is of an adult cock, hatched in 1935, now preserved in the California Academy of Sciences, and it is the type specimen from which I have named the species.

Both male and female offspring are identical with their parents which were imported from India. The original pair did not breed in 1936, but Mr. Smith was more successful in 1937. In May there were nine normally coloured chicks, and in October several young cocks assumed their adult plumage, which was exactly the same as that of their male parent.

The colour of the chick is particularly important, because mutant chicks of both the Golden and the Common Pheasants are chocolate brown with yellow portions.

The breeding experiment of this Kalij Pheasant not only proves that it breeds true to type, but that it is not a melanistic mutant, in spite of the cock having a uniformly dark plumage ; therefore, I proposed to name it *Gennæus moffitti* in honour of Mr. James Moffitt, of the California Academy of Science.

I was in California at the time of its discovery, but on my return to Japan some half a dozen birds have been discovered in my friend's aviary and some of which successfully reared their young. I hope that within a few years the Californian and Japanese birds will be exchanged, and before long we shall be able to supply a stock to many Zoos, although its native habitat may be still undiscovered.

* * *

BREEDING THE CHINESE AZURE-WINGED MAGPIE

(*Cyanopicyana swinhoi*)

By SYDNEY PORTER

This beautiful Magpie was an early love of mine. When a callow youth, one of the first bird books I possessed was Bree's *History of the Birds of Europe* (a most inaccurate book, by the way) and in it was an illustration of this bird. From that time, whether in an illustration or in the flesh, I have never ceased to admire it. Years later I saw some of the birds in Mr. Ezra's aviaries, and my desire to possess it increased a hundredfold. Dealers said they would procure some for me, friends said they would send me some from China, but somehow they never materialized, and one of the reasons I went to China some years ago was to try and get hold of some of these birds. However, I was again unlucky, for although the bird seemed common enough (there were lots of them in the public parks in Shanghai) none of the bird dealers seemed to have them, neither did they want to procure any. It was certainly most unusual to see birds of this species in captivity in the Far East. I wonder if there is some superstition concerning it, and for that reason it is never caught ?

Needless to say, I was extremely disappointed at not being able to get hold of any, and when I left China I felt that I should never possess them. Some months after I arrived back in England six

baby "Azure-wings" turned up, brought by the Chinese cook of a certain ship on which I was a passenger, and to whom I had shown a picture of the birds and asked him to try and get some for me. Judging by the looks of them, they must have just been hatched when they left China, for they were only just fledged when I received them, and the period from the time of hatching to being fully fledged is only a month ! They were very dirty and bedraggled, but otherwise lively and healthy. A few minutes after they had been placed in an aviary they commenced to bathe, and that has been their favourite occupation ever since. In a few days they looked their own immaculate selves, and have never ceased to delight the eye of any one who sees them.

For several years they lived in a large aviary with various other birds, mostly Starlings, Pies, etc. They were never aggressive and took little notice of the other birds but, if one of their number was attacked by any other bird the whole party soon routed the aggressor.

I have never owned birds quite so fearless and tame as these. As soon as one entered their aviary they were all over one. They seemed to imagine that humans were always in a verminous state, for every part of one's exposed anatomy and clothing was examined, one's hair was systematically searched ; also in and behind one's ears, one's lips and fingers were prised open, they searched one's pockets, the turn-ups of one's trousers ; they would even push up my trousers and search my legs. I have spent many an amusing hour with the birds making a thorough investigation of my person, always to their great disappointment except in the breeding season when they managed to secure beakfulls of hair, wool from my socks, or pull a silk tie to pieces for their nesting material !

About a year after I received them the birds showed signs of nesting, so nest boxes were put up, and although nests were built and eggs laid and hatched, none was ever reared because we had no spare aviary for each pair of birds. Also because the other birds in the aviary ate the live food and also, as often as not, I was abroad through health reasons and only got back when the breeding season was over. It was only with the advent of the war and not being able to leave the country that serious attention was given to the birds in the requirements for breeding.

In April of last year (1940) two pairs of birds were placed in

separate aviaries and they commenced nesting operations almost at once. They built in open boxes fastened to the side of the aviaries. These boxes had been in the large aviary, and the birds had nested in them before, though as mentioned previously they had never reared their young.

The nests were very much like those of a Blackbird, except that they were lined with cow hair, moss, and feathers. One pair made a "double-decker" nest anticipating the overcrowding which would result from eight young ones. As a matter of fact this was a very sensible idea, for when the nest did become overcrowded some of the youngsters would most certainly have fallen out had they not been transferred to the other nest. The question will be asked, why did they not build a larger nest. The answer being, I suppose, that they could not get over their natural instinct to build the usual type of nest.

One pair laid eight eggs and the other seven. As it appeared to be rather a task to obtain the necessary amount of live food in war time for the anticipated fifteen youngsters, we put an egg from each nest into a near-by Blackbird's nest, which had laid at the same time as the Pies, but we were reckoning without the Blackbird who, though the eggs were very similar, promptly ejected them, so we were glad we had put no more in.

We miscalculated the date of hatching, thinking that the eggs would take at least eighteen days to hatch, but they hatched on the fifteenth day, and two youngsters died before I realized they were in the nest and had supplied the parents with live food.

We managed to buy the last few pounds of mealworms in the country before the German invasion of Holland stopped the supplies. These, with the addition of cockroaches from a restaurant kitchen and wood lice, etc., sufficed for the first few days. After then we managed to get gentles and a few mice. The young ones were hatched absolutely bare of any down, and were bright pink in colour. After the first day they turned a dark leaden colour, and remained quite naked until the first pin feathers appeared in the wings on the seventh day.

The birds did not all hatch on the same day, but it took about three days for the nest of six to hatch. So rapidly did they grow that by the time the last was hatched the first was quite large.

When first hatched the young ones were about the size of a

newly hatched Blackbird, but by the seventh day they were as large as Sparrows, and by the end of the second week, when they were the size of a Starling and partially fledged, they commenced to leave the nest. At this stage they very closely resembled Kingfishers, and had I not known what they were I would have sworn that they were young Sacred Kingfishers.

When they left the nest they were unable to fly, but managed to scramble into the bushes where they remained perfectly motionless with the feathers tightly compressed and the beak pointing upwards.

So still did the birds remain, and so well did their colour assimilate into that of their surroundings, that it was next to impossible to see them. After about a week of this inaptitude they commenced to move about and show themselves on the barer branches.

The birds have a very distinct juvenile plumage. The general colour is light fawn, the throat, a ring round the neck, the vent, and lower parts pure white. The head, which has a blue-black cap in the adult, had the feathers tipped with fawn, which gave it a frosted appearance. Only the flight and tail feathers were pale blue as in the parents. The wing coverts were fawn tipped with a slightly lighter colour, these in the adult are azure blue. The white-tipped blue tail feathers did not begin to grow until the third week.

During the period the Pies had their young ones they were extremely aggressive. They had a very definite method of attack; if one kept one's eyes always upon the birds they behaved as though nothing was wrong, but as soon as they managed to get behind one they flung themselves in a lightning attack at one's head, repeating this with incredible rapidity giving one very nasty pecks on the crown of one's head or giving very painful tweaks to one's ears.

By the end of the third week the young were almost as large as their parents, and were flying about the aviary. It was then that the parents commenced nesting operations again, though they still continued to feed the young whilst sitting on the second clutch of eggs.

The one pair again made the "double-decker" nest, in fact they had laid before they had time to finish the second nest, the

first egg being laid on the bare boards. After that the nest was constructed as the bird continued to lay.

I used to let the cock of this pair out and he used to delight in flying round in ever widening circles, sometimes going round to the other aviaries and telling the inmates just what he thought about them ! When he had finished he would alight on my arm or shoulder and let me carry him into the aviary again. If he was not ready no amount of coaxing would get him in. If I offered him mealworms he would stuff his crop and beak full, and then go round the other aviaries and distribute them to the other Pies. This male was a most intelligent bird, and the only times I thought him lacking in his usual common sense were when he had too many tit-bits ; he would then go round and dig holes in the ground, put in his treasure, fill up the hole, and carefully put leaves over it ; but he never seemed to notice a hen Argus Pheasant in the same aviary always stealing behind to unearth his treasures as soon as he had left them. I never saw him go back for them, so I suppose he forgot all about them once he had buried them.

Soon after leaving the nest we found one of the young ones in the Argus Pheasant's food pot ; it had been very badly mauled and was dead. I rather suspect the hen Pheasant of doing this.

When the second nests of youngsters were well on the way with five and six in each respectively something seemed to go wrong. The birds of the first nests, now fully fledged, started to drink excessively, in fact they seemed to spend all their time by the water pot, in a day or two they grew weaker, and soon I was met each morning by my aviary attendant with handfulls of dead Pies. Nineteen in all succumbed. Three only survived and are now living. A post mortem revealed that the birds were suffering from inflammation of the bowels due to a heavy infection by tape-worms of the species *Hymenolepis*. The source of the infection by this tape-worm is usually insects which happen to be the secondary hosts of the worm. Thus it was obvious that the infection had been passed on by the "gentles", which had been feeding on the meat of some animal which had previously been infected.

As is often the case with aviary-bred birds, the young ones were never as friendly or confiding as their parents, and even after six months they spent most of their time in the bushes and were seldom seen.

The Azure-winged Magpie, of which there are three subspecies, has an extraordinary distribution, being found in certain parts of North-East China, Japan, and South-Eastern Siberia, also in restricted localities in Spain and Portugal. There is little doubt that the bird was introduced into its European habitat by the early voyagers to the Far East, who brought the birds back as pets.

I am quite sure that the bird could easily be established in this country, and it would be a useful and beautiful addition to our avifauna. It is too small to prey on other birds or their eggs ; its diet being mainly composed of insects and berries.

In colour this bird is mainly ash grey, slightly darker on the back, and fading to white on the throat. There is a large cap of shining blue-black. The flight feathers and wing coverts, also the long graduated tail, are pale azure blue. The two long central tail feathers are tipped with white, so also are the flight feathers. Strangely enough the young ones have all the tail feathers white-tipped except the central ones. The beak and legs all black. The plumage is extremely light and fluffy, which gives the bird a certain softness in appearance.

This Magpie is the smallest of the Crow-like birds as well as the most beautiful. It is about the size of a Thrush, but the long graduated tail makes it appear much larger.

The eggs are about the same size as a Blackbird's, but rather pear-shaped, of a pale greenish grey colour heavily marked with darker grey and brown towards one end.

* * *

BREEDING RECORDS TO DATE

By Dr. E. HOPKINSON, C.M.G., D.S.O.

Since *Records of Birds which have been Bred in Captivity* was published in 1926, I have accumulated a largish number of additional records and details. These I have collected here and they should fulfil a double purpose, (1) to provide material to anyone who will produce a new *Records* (which I shall never do) and (2) supply a certain amount of grist for the mill for the Editor of the Magazine, who must be hard put to it to keep things going and whom all who can must help with material. For convenience I begin with the

PARROTS

Lories

BLACK LORY (No. 329),¹ *Chalcopsitta ater* (*Scopoli*).

The only success is Brook in Scotland in 1909; Avic. Soc. Medal for a first. One young bird was reared and the species bred again in the following year. (See *Bird Notes*, 1909, 227, 268, 284; 1911, 243; and *Avic. Mag.*, 1910, 28.)

BLUE-DIADEMED LORY, *Eos histrio* (*Müller*, 1176).

No record of true breeding, but hybrids, *histrio* × *variegata*, were bred in California in 1931 by Miss Benchley, *teste* L'Oiseau, 1932, p. 706. Three of these young hybrids were reared, and Mrs. Bonestell tells me (*in lit*) that she has seen them.

VIOLET-NECKED LORY, *Eos variegata* (*Gm.*).

First bred by Soudée in France in 1926 (*L'Oiseau*, 1927, 15). Mrs. Bonestell had a more recent success as an egg laid by her pair of Violet-necks was hatched and the young one reared in 1939 by her pair of BLUE-STREAKED LORIES. An early partial success is recorded by Neunzig in Germany: "Frau Prowe . . . got as far as two-week old young" (*Die Gef. Welt.*, 1909, 10).

BLUE-STREAKED LORY, *Eos reticulata* (*S. Müller*).

Mrs. Bonestell bred it in California in 1939, a first (see *Aviculture*

¹ The figures in parenthesis after the English names are those used in *Records*.

(U.S.A.), 1940, 24). Mrs. B. told me (*in lit*, Dec. 3) that one young bird was reared, which was six months old at that date.

CHATTERING LORY (No. 330), *Domicella garrula* (Linn).

One young bird bred and reared by Lord Poltimore in 1913 (*B.N.*, 1913, 375 ; 1914, 17). More recently bred in the U.S.A. by Mrs. Bonestell (*Aviculture* (U.S.A.), 1940, 24). A hybrid with the male SWAINSON'S LORIKEET is also on record.

PURPLE-CAPPED LORY, *D. domicella* (Linn).

Has been bred in America, but the only evidence I have is *Aviculture* (U.S.A.), 1940, p. 24, where Mrs. Bonestell puts in for a Medal for the first breeding. The success is no doubt described somewhere else in the magazine, but as I now only see an occasional number the looking up of this reference must be for a successor.

BLACK-CAPPED LORY (No. 331), *D. lory* (Linn).

Bred by Mrs. Dalton-Burgess in 1921 in a large cage. One young one was reared to live at least a year, its age when I saw it. See *A.M.*, 1921, 116 ; *B.N.*, 1921, 185 ; *L'Oiseau*, 1921, 145.

FORSTEN'S LORIKEET (No. 332), *Trichoglossus forsteni*, Bp.

Michell was awarded the A.S. Medal in 1905 for having been the first to breed them in the United Kingdom, and he had a second success in 1906. See *A.M.*, 1906, 24, 49 ; 1907, 81 ; and Seth-Smith's *Parrakeets*, 2nd edition, p. 310. Neunzig says that a pair in a London outdoor aviary reared one young bird out of three hatched in 1900 ; is this date a misprint for 1906, Michell's, or was there an earlier success than his ? This Lorikeet had been bred at the Calcutta Zoo long before (1900 or earlier) *teste* Frank Finn, *Ibis*, 1901, 439.

Hybrids

FORSTEN'S × RED-COLLARED LORIKEET.

Bred by Whitley at Paignton, 1927, but like most of his successes never recorded. I saw the young bird in August and again in the following year and in 1932, by which time it had a number of brothers and sisters.

EDWARD'S LORIKEET, *T. haematodus* (Linn).

Bred by Miss Benchley in California in 1931, two young being reared, a first. Full account by the breeder in *L'Oiseau*, 1932, 705. and Mrs. Bonestell tells me she had seen the young birds. A female of the black-throated subspecies, *T. haematodus nigrigularis*, Gray (No. 334), has produced hybrids with the male RED-COLLARED LORIKEET (*q.v.*).

RED-COLLARED LORIKEET¹ (No. 336), *T. rubritorquis*, Vigors and Horsf.

First bred at the Zoo in 1910 (see *Report*), and since then elsewhere. Brook (*B.N.*, 1916, 207, 214) reports that they had been breeding with him for the last eight years and were still continuing to increase in numbers. They were also bred more than once by Waddell (*B.N.*, 1915, 290; 1916, 69, 190) and by Whitley, but never, of course, recorded by the latter. All these in the U.K.; among foreign records one can mention Ollivray in France about 1918 (*L'Oiseau*, 1920, 107) and Harvey who bred them in Adelaide, Australia, in 1937 (*Cayley, Australian Parrots*, p. 14); with him they bred every year and are probably still doing so.

*Hybrids*RED-COLLARED × BLACK-THROATED LORIKEET
(*T. h. nigrigularis*).

Bred by Pauvels in Belgium in 1912, when one young bird was reared and the F.B.C. Medal awarded. Millsum gives an account of the happenings in *Bird Notes*, 1912, 258, 338; 1913, 275

¹ A much earlier record of the breeding of a Lorikeet which was probably the RED-COLLARED, is to be found in Latham's *General History of Birds*, vol. ii (1822), p. 123. Here under the name "Red-breasted Parrot", the author writes: "M. Levaillant informs us that a pair of these imported from Amboina bred in the menagerie of M. van Blettemberg, Governor of the Cape of Good Hope. The female made the nest, lining it with feathers from her breast and laid two white eggs; the young were hatched in 19 days; they were at first covered with greyish down and by degrees gained the green feathers and the blue on the head, and the parents continued to feed them for six months."

Levaillant was in South Africa from 1781 to 1784, so that the date of this success must have been about then, and could no doubt be fixed more exactly if the date of van Blettemberg's Governorship could be ascertained, as no doubt it could be. I think that the species meant by Latham is the RED-COLLARED, but it may have been *T. h. haematodus* (Linn) or *T. h. cyanogrammus* (Wagler); it was certainly a *Trichoglossus*.

(as the success was in Belgium and the F.B.C. Medal was for a "first in the U.K." why was the Medal awarded?).

RED-COLLARED $\times$ ORNATE LORIKEET.

(In *L'Oiseau*, 1923, p. 345, Paget reports that he has (at Biarritz) a young one of this cross 15 days old. Did it live?)

Crosses are also on record with males of FORSTEN'S and SWAINSON'S LORIKEETS.

SWAINSON'S LORIKEET (No. 335), *T. moluccanus* (Gm.).

"Blue Mountain Lories" (the old name) have often been bred, especially in early days. Neunzig (p. 783) says they "were first bred by Heublin in Coburg in 1873, and since then by many others—to the third generation by Petermann at Rostock." In *Le Bulletin*, 1877, 1481, their breeding in France by Hourdain in 1876 or 1877 is recorded, and De Brisay in his *Dans nos volières*, p. 31, mentions another French success, Lebehan in Poitou in 1880.

Seth-Smith, writing in *A.M.*, 1907, 209, on old records, says they "seem to have been bred successfully some 25 or 30 years ago from the letters . . . to the *Bazaar* published in the first series of *Notes on Cage-birds* (1882). One writer appears to have reared two broods in a season and writes (p. 87) : 'I have . . . the names of four amateurs who have bred this Parrot' . . . In the second series . . . another writer records the successful breeding of a pair in the Blackpool Aquarium . . . where they bred year after year for some four years previous to 1890."

Among more recent records are Miss Little in 1909 and later, E. R. Phillips (*B.N.*, 1917, 257), Amsler, Chiozza Money, and others. Miss Little in 1912 reported the breeding of a second generation; her successes are fully described in *Bird Notes*, vi, 312; vii, 24; 186, viii; 1910, 229; 1912, 229. The Editor of *B.N.*, commenting on her first success, remarks: "The first time for nearly thirty years."

Hybrids

SWAINSON'S LORIKEET $\times$ CHATTERING LORY.

Bred by Hartley in 1912, two young being reared, and the F.B.C. medal awarded (*B.N.*, 1912, 247, 258, 338; 1913, 327).

SWAINSON'S LORIKEET × RED-COLLARED LORIKEET.

Successfully bred at the Zoo in 1917—a first *teste* Seth-Smith, *A.M.*, 1917, 268.

MITCHELL'S LORIKEET, *T. mitchellii*, Gray.

First bred by Dr. Derscheid in Belgium in 1936 ; he gave a full account of the events in *A.M.*, 1938, 276. Two young left the nest in September, 1936, and they were both still alive in the following September, by which time the old pair had produced another single youngster. Dr. D. in his article gives other records :—

1897. Berlin Zoo : 2 eggs but no young reared.

1937. Lowman in Holland : 2 (perhaps 3) young reared.

In *A.M.*, 1938, 227, Dr. Osman Hill reports the successful rearing of *mitchellii* in Ceylon ; three young reared from two broods, and the parents nesting again at time of writing.

ORNATE LORIKEET (No. 337), *T. ornatus* (Linn).

The first breeding on record is that of Cornély in France in 1883 ; he bred them again in 1885, and accounts appeared in *Bulletin d'Acclimit.* 1884, p. 925, and 1886, p. 563. Neunzig says that the two young obtained by Cornély only lived three weeks, but I think that he overlooked the second year's success, which receives confirmation in De Brisay's *L'Aviculture*. The only other record I have is a very recent one, "two young reared by Mrs. Wood in California in 1932," *teste* *L'Oiseau*, 1933, 423. Mrs. Bonestell told me that since then many have been bred in that State between then and this year.

Hybrids

ORNATE × SCALY-BREASTED LORIKEET.

Neunzig (p. 782) says this cross has been bred and gives the reference : *Die Gef. Welt.*, 1902, 242.

There is also a doubtful record of the cross with the male RED-COLLARED LORIKEET (*q.v.*).

MUSKY LORIKEET (No. 339) *Glossopsitta concinna* (Shaw & N.).

Neunzig says (p. 779) that this species was bred by Nagel in 1903, and that is all I know about it.

PURPLE-CROWNED LORIKEET, *G. porphyrocephala* (Dietr.).

[Alan Lendon tells me (*in lit. Sept. 17, 1940*) that he knows that this species has been bred at least twice in South Australia recently.]

FAIR LORIKEET (No. 341) *Charmosynopsis pulchella* (Gray).

The first and so far the only breeder (I think) was Brook in Scotland in 1914; one young one reared (*A.M.*, 1915, 29).

STELLA'S LORIKEET (No. 340) *Charmosyna stellae*, Meyer.

Brook also the first (and so far only) breeder. F.B.C. Medal. Several young were reared, and the breeder says they seem to be free breeders (*Bird Notes*, 1910, 237, 303, 363; 1911, 242).

VARIED LORIKEET, *Psitteuteles versicolor* (Lear).

Were bred at the Keston Bird Farm in 1936; one young one reared, which was two months old at the time of report, a full account by Brooksbank in *A.M.*, 1936, 192, 340. The A.S. Medal was awarded (1937, 32).

SCALY-BREASTED LORIKEET (No. 338), *Eutelipsitta chlorolepidota* (Kuhl).

Decoux in *L'Oiseau*, 1925, 287, says they were bred in France by M. l'Abbé Leray, "many years ago with complete success." Seth-Smith (*A.M.*, 1907, 211) writes: "... an old instance of successful breeding ... is recorded ... in *Notes on Cage-birds* (second series, p. 170) above the initials "H. J."; the young "were reared in midwinter in an outdoor aviary, the two young leaving the nest on February 26 and March 4 respectively. The year is not given". Butler in the book on *Cage-birds* (vol. i, p. 136) gives this as 1883-84 which would make this first or about a tie with the Abbé's French record. They were also bred at the Berlin

Zoo in 1890, in a large glass cage *teste* Neunzig (*p.* 781), who adds that the young birds left the nest-box when two months old, were fed by the old birds for a long time afterwards, but eventually took to foraging for themselves. They have also been bred in South Australia (see *Cayley*, *p.* 20), and by John Black in New Zealand, in 1935 and 1939 respectively. The N.Z. success was reported in that Dominion's Avic. Society's Report for 1939. A hybrid with the male ORNATE LORIKEET is also on record.

Mrs. JOHNSTONE'S LORIKEET (No. 333), *Eu. johnstoniae* (Hartert).

Mrs. Johnstone, of Groombridge, the only successful breeder ; she reared one young bird in 1906, and received the A.S. Medal (*A.M.*, 1907, 44, 82).

TAHITI BLUE LORY, *Coriphilus peruvianus* (Müller).

Bred by Lord Tavistock, December, 1937 ; one young bird was reared. See full accounts by the breeder in *A.M.*, 1938, 32, and the *F.B. Club Magazine*, 1939, 273. A second brood of two was reared later, *teste Bird Fancy*, 1938, 273.¹

ULTRAMARINE LORY, *C. ultramarinus* (Kuhl).

Lord Tavistock is also the only breeder (so far) of this rare Marquesas bird ; one young bird was reared in 1939, which was first heard in the nest on 27th March, and which flew 20th May (*A.M.*, 1939, 292). The breeder contributed a full account to the *F.B.C. Magazine*, 1939, 118.

¹SOLITARY (or RUFFED) LORY, *Phigys solitarius* (Suckow). Tavistock had one hatched December, 1937, but it died in a day or two (*The Foreigner*, 1928, 42, and *Bird Fancy*, 1928, *p.* 273).

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A DOUBLE NEST OF THE “HORNERO” SOUTH AMERICAN OVEN-BIRD

(*Furnarius rufus*)

By H. C. MARTIN

Tidying up my desk the other day, I came across an envelope containing some photographs, taken out in Uruguay a good few years ago now, and portraying a cluster of three Horneros' nests, built year by year by the same pair in the same tree, and one of which is based upon another, hour-glass fashion, a choice of site which, though I have seen hundreds of these nests during many years residence out in that country, I never observed but this once, nor have friends long living in the “camp” ever noticed one similarly placed. One of the pictures shows the double nest quite nicely but with the side of the third one only just visible at the back of the trunk, while the other, though less clear, reveals the group of three nests rather better. I send them to our Editress in the hope that they may be found fit for reproduction as somewhat unusual and interesting.

I have always regretted that I did not at the time ask permission from the owners of the Estancia to cut the supporting branches away in one piece, after the nesting season—they would have made quite an interesting museum piece—but the difficulties of the task, namely the prickly nature and very great weight and hardness of “espinillo” timber, together with the risk of breakage of the massive nests, which may scale something like ten pounds each, not to mention the problem of transport, deterred even my, at that time youthful, enthusiasm.

The Horneros, I believe, invariably build themselves a new home every year, solid, lasting and laborious in construction though it be, but I fancy they sometimes use again the broken base of an old one. Their industry in packing together into so solid a structure countless pellets, or beakfuls, of mud reinforced with fibrous material, is really wonderful—and with such a small and slender beak for trowel.

They are familiar birds about the abodes of men and, besides the most usual site of a stout branch, generally with a smaller

off-shoot as a support, they choose all sorts of places for their nests—ridges or beams of sheds or houses, the framing of iron windmills and water-tanks and, very often, the tops of telegraph posts where the cross-pieces carrying the wires are fixed. I remember stretches of line where every post or two bore its Hornero's nest, and in fact the railway companies send a man from time to time with a long pole, whose job it is to break them down because they interfere with insulation.

This is a number of years ago, but I hope the birds are just as numerous to-day for, apart from this little trouble, they are wholly useful and desirable, destroyers of many *bichitos* (small creatures and insects in general) and most homely and diverting about an estancia or residence, with their vociferous and cheerful greetings to one another and the quaint actions accompanying them. I do not know of any other bird which at times walks, struts almost, in such a curious way, raising high one foot at a time with a short pause, rather, I was going to say, like a Hun soldier doing the goose step—but oh, how much more elegant !

I once found a nest built on the middle of the top bar of a long *tranquera*, or paddock gate, some 4 ft. 6 in. high, and fairly often in use for letting cattle, horses, or wheeled traffic through, but the birds did not seem to mind at all an occasional swing of a few yards backwards and forwards of their domicile. The nest was occupied by a brood of sturdy youngsters, though I only discovered this through the fact that, thinking it was an old, abandoned one, and wishing to study the clever construction of the partitioned inner chamber, I carefully with my penknife cut out a piece two inches or so square—which, needless to say, I replaced promptly and as neatly as I could. Happily no harm was done as, riding by a week later, I found the fledgelings hearty and nearly full grown, though the parents had not attempted to seal up the breach, as one might perhaps have expected. It would seem thus that the construction of these wonderful nests "to pattern", as in fact of the nest of every bird, is purely "instinctive" or unreasoned, but it is rather curious nevertheless that some of them have the entrance to the right and others to the left, almost as though choice were exercised, as can be verified from three good examples on view at South Kensington, two of which have it to the left, while my two-story nest in the picture has both openings to the right.

One can also detect in the Kensington Museum specimens the fibrous material which the birds blend into the mud pellets and also the slight layering of these denoting the builders' daily progress.

Nobody interferes much with the friendly, if somewhat wary, Oven-bird, not even, to any extent, the native small boy, who in my recollection used, at all events, to be very cruel to birds and other living things, with rarely any consciousness of wrong-doing towards them : quite a few catapults have I deprived him of. In fact I used to say that he learned to say *matar* (to kill) as soon as he could say *mama*, but then killing and blood were rather common sights in open country teeming with, and living by, cattle, sheep, and other livestock ; perhaps things are better now, through proper teaching in the State schools, and matter that comes my way seems to point to a fuller realization in South America of the value of native fauna and of the ever to be lamented loss that the destruction of any species implies.

The Hornero is looked upon in fact somewhat in the same light as the cheery, house-frequenting Robin with us, both recognized friend of man, not to be killed or molested, and he is the subject too of country half-beliefs, such as that he always builds facing the East and never works on Sunday, which, needless to state, are myths.

The Oven-bird is quite unsuited for life in a cage, though I recollect once seeing a whole boxfull of them in the old Alsina market in Buenos Aires : poor active livers in the open ; what for, and who would buy you ? They cannot have long survived imprisonment and a probable diet of *pulenta* and scraps of beef. But I *would* like to see a pair by themselves in any Zoo, public or private, in a spacious aviary, provided with a mud puddle, some fine hay and hair, and especially with a stout limb of a tree or a post, say 7 or 8 feet high, on top of which they would quite likely be tempted to build their massive nest and declaim their boisterous salutations to each other, to the undoubted entertainment of observers. But, common as the bird is in its own country—I have often seen them in the public parks and plazas of Buenos Aires city—I have only met with an odd one or two in European collections, quite unsuitably housed. With shelter sufficient they should prove hardy in our climate, like other birds from the Plate,



[H. C. Martin
NESTS OF "FIRE-WOOD GATHERER"]



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DOUBLE NEST OF SOUTH AMERICAN OVEN-BIRD

e.g. the Cardinals, grey and green, the White-capped Tanager, the Black-headed Siskin and other Finches ; all of these I have kept in perfect health throughout the year in London's outskirts. As for feeding they would doubtless do well with the diet usually supplied to the hardier insectivorous birds.

I might add that it may not be very apparent to everybody how this bird comes to be called *Hornero*—the oven-maker ; ovens with us are mostly rectangular iron boxes, but the old-fashioned Spanish country oven, or *horno*, is of course a big, round, domed structure of mud, or sun-dried brick coated with mud, common enough in the River Plate, Chile, etc., outside ranchos or *boliches* (small country inn cum store) and having a rounded opening in front for firing with brush-wood and withdrawing the ashes prior to putting in the bread or *galletas* (hard biscuit). The comparison of the nest with an *horno* is distinctly apt : I have a small photograph of one, but it is unfortunately not clear enough for reproduction.

With the photos of the mud nests I found some too of another “common object of the country”, the nest of the *leñatero*, or firewood gatherer, a little bird superficially and in colouring rather resembling a Tit-lark, but with a pointed tail and having the curious habit of building up by way of a safe nursery—generally in a thorn-tree, though sometimes too on an iron telegraph pole or the posts of a “corral” or the framework of a mill—an enormous mass of prickly twigs and small branches, so interlaced as to constitute a veritable fortress, very difficult to break and quite impenetrable, having only a narrow crooked entrance to the nest-chamber within ; how so small a bird can work this awkward material into such a big and solid, though formless, structure is certainly remarkable. His patience is tremendous, since he lets fall a very large proportion of the lengthy sticks he gathers, but never thinks to pick up the dropped piece again.

Looking up the bird in the local library I find that it is classified under the order *Dendrocolaptinæ* of which there are five families, including also *Furnarius*. Its common name Leñatero is of course Spanish (Leña = wood), but it seems it is known by an Indian one too, “Añumbi”, which, together with its pointed tail, has dignified it with the “Latin” name of *Anumbius acuticaudatus*. This order of birds, peculiar to South

America, presents some curious parallels with others entirely distinct : there is one I know closely resembling our tree-creeper, another like a nuthatch, another precisely like a wren, and so on.

Strange that these two small birds should need such strong and bulky homes while most others meet all their requirements for the rearing of a family with a nest proper, sometimes even with the merest frail platform.

* * *

TWO INTERESTING SEA-BIRDS

By JOHN YEALLAND

The Terns and the Guillemots are not, I think, often kept in captivity except, possibly, in Zoological Gardens, and so a note on one species of each may be of interest.

In the late summer of 1938, Dr. Derscheid received two Sooty Terns (*Sterna f. fuscata*) with a consignment of Waders from a Dutch dealer.

They were, it seemed, quite young ; they were not wild and they were not at all sooty, being of a pale bluish-grey above, white underneath, the long primaries dark grey, and the tail, I think, rather pale grey. There was some black on the head, but I do not remember the exact disposition of it, though I think that approximately the top and back of the head were black and the face white ; the beak was black, and the tiny webbed feet were of a dark reddish-brown.

I believe that the birds had been recently caught, but they were very sensible in an aviary, where we put them with some small Waders, and did not collide with the wire-netting, but moved to and fro with the characteristic elegant flight, taking advantage of every current of air, and making but few movements of the long wings. At first they ate very small strips of fish and meal-worms which they would take on the wing from the shallow water with an effortless grace quite delightful to watch ; but later, when we had not always got fish, we gave them strips of bullock's heart which they grew to like so much that, when they were given fish as before, they would look at it and turn away with

every sign of loathing and disgust, and would only eat it when they had become very hungry.

They rather liked the small fry which came with shrimps, but we did not often get shrimps, especially in winter ; they also ate a little of the Wader's food—chiefly ants' eggs, I think.

These two Terns quarrelled so seriously that we could not keep them together ; they did not attack the Waders, though they were rather unfriendly towards them, making shrill and bitter protests with open beak whenever a Wader came near to steal some of their food.

The feet were evidently too small and weak for much walking, and the Terns rarely took more than a few tottering steps, preferring to fly wherever they wanted to go. They were fond of bathing, but I never saw them swim. Early the following year one died, and in the course of the summer the other seemed to have a kind of slight moult, for here and there a few blackish body feathers appeared ; evidently, however, the moult was very incomplete.

At the end of 1939 this one died ; the first had lived in the collection for about five months, and the second for about fifteen months, which I thought rather disappointing. Perhaps they would have done better if we could have fed them on small sea-fish alone, for the sliced fish would no doubt be a deficient diet, and the meat and mealworms a far from perfect one.

In the late summer of 1939 two Common Guillemots (*Uria a. aalge*) arrived from Holland. One was of a dull black and white, and the feathers of the head, which resembled very fine fur or a piece of silk, were of a rusty black.

The other was also black and white, but there were some areas of dull white on the sides of the head, and, although this one showed no buff mottling, we thought that it was young and the other bird perhaps one of its parents.

The two birds were quite tame, and would take small fish from the fingers ; they would also take the fleshy part of mussels, but in offering anything small it was, we found, necessary to be careful of the very sharp beak.

These two Penguin-like birds, normally stood so that the inter-tarsal joint became, as it were, the heel or ball of the foot, and when they walked on the foot proper, they had the appearance of walking on tip-toe.

Like other piscivorous birds in the collection, they soon acquired a liking for bullock's heart, and when given a mixture of that and strips of fish, always left the fish until last.

We kept the two Guillemots only a few weeks, and they went to the collection of M. Dufour ; we were sorry to see the going of them but, though they would have looked well on the rocks round one of the Sea-ducks' ponds, we could not keep them for they would have destroyed the dwarf rhododendrons and rock plants growing there.

I have since read that Guillemots whose lives are saved when they are dying from being covered with waste oil, soon show great affection for their rescuers ; I quite believe this. I also think that they are very intelligent, and would be extremely interesting birds to keep.

* * *

COCK DIAMOND SPARROW × HEN BENGALESE

By JESSIE TYSER

In the midst of all the disturbance in their lives caused by the war my birds here nested as usual, and amongst others hatched were Splendids and Stanleys. However, perhaps the most interesting brood hatched was a cross between a cock Diamond Sparrow and a hen Bengalese ! These two birds are in a planted aviary in which I keep other pairs of Bengalese, Parrot Finches, Ruficaudas, Diamond Doves, and Chinese Painted Quail.

The Diamond Sparrow cock has his own hen (with whom he nested last year) ; and the Bengalese—which was bred here in 1939—had her own cock ; but I am afraid they ignored their lawful mates, the misalliance started and they nested early in August.

She laid three eggs, threw one out of the nest, and hatched two fine birds which are fully grown and very smart-looking little birds. I am unable to sex them, but think now there is one cock and one hen. One is distinctly more vivid in colouring than the other. They are both slightly larger than a Bengalese, but not so big as a Diamond

Sparrow. Instead of the white spots of a Diamond Sparrow these birds have stripes of white, and a lovely vivid red splash of colour on the top of body and the tail ; reddish beaks, white breasts, and the bird which I think is the hen has a tufted head !

I should be greatly interested to know if there is any likelihood of their being fertile, and if one can have any hopes of establishing this cross, and perhaps a new breed ?

Considering that since September we have had over two hundred large bombs and land mines dropped on our estate, not counting hundreds of incendiary bombs, I think it is remarkable how little alarmed the birds seem, and how few casualties there have been amongst them.

* * *

AUSTRALIA

COMMONWEALTH QUARANTINE ACT, 1908-1924

Regulation 27 of the Quarantine (Animals) Regulations is repealed and the following inserted in its stead :—

“ 27. Birds (other than Fowls, Ducks, Turkeys, Geese, and Guinea Fowls) shall not be landed unless the following documents have been produced to the Chief Quarantine Officer :—

- (a) a declaration by the owner or consignor made in the country from which the birds are exported, and, if that country is not within the United Kingdom and is not a British possession, made before a British Consul or British Official Resident, stating—
 - (i) that the birds were born or were captured in the country from which they are exported ;
 - (ii) that they are free from disease, and while in his possession have not been in contact with any birds (including poultry) suffering from disease ; and
 - (iii) in the case of Budgerigars (love birds) from Great Britain and New Zealand, that they were born in captivity ; and

(b) a Certificate by a Government veterinary surgeon at the port of shipment certifying—

(i) that on examination the birds have been found free from disease ;

(ii) that the disease known as fowl pest in any of its varieties is not known to exist in the country from which the birds are exported ; and

(iii) that he has no reason to doubt the truth of the declaration referred to in paragraph (a) of this regulation.”

NOTE.—Subject to the approval of the Director of Quarantine, no more than six (6) pairs of Budgerigars may be imported.

In the case where birds are transhipped at a port not in the country of origin, the certificates must obviously originate from the country of origin and not from the port of transhipment.

The above copy of the latest quarantine regulations was forwarded by Mr. S. Harvey, Hon. Secretary of the Avicultural Society of South Australia.

* * *

ON KEEPING OIL-POLLUTED DUCKS IN CAPTIVITY

By HUGH BIRCKHEAD, American Museum of Natural History,
New York

Last winter my friend, Mr. Dillon Ripley, and I had a certain measure of success in catching and keeping alive for some time a number of oil-crippled Sea Ducks, and, as I understand that oil from disabled vessels has recently taken a terrible toll of European sea-fowl, and as our methods may perhaps prove interesting to such members of the Avicultural Society as may have wondered about the feasibility of taking and keeping such helpless birds, I shall describe them in full.

The place which we chose for our Duck-catching is Monomoy Point, a long spit of sand jutting straight southward out to sea for some 12 miles from Chatham at the elbow of Cape Cod. This

point is uninhabited, except for the members of a coastguard crew and their families, and for this reason it is a favourite resort of Sea Ducks, particularly of Eiders.

Almost every winter at some time a raft of these Ducks, swimming off the point, comes in contact with floating patches of crude oil, pumped out of some freighter, their feathers become matted together, and they feel wet and chilled and crawl out on the beach, hoping to dry themselves. Often they are unable to dive for food or to fly to their feeding grounds and so slowly starve. Nevertheless, on an open beach it is usually impossible to approach them on foot close enough to catch them, and those weakened enough to be taken thus do not survive in captivity. We have found that if approached in an automobile, however, the birds will stay still, hoping that the car will pass, and even the sight of figures standing on the running-boards will not alarm them.

In Chatham there are garage men with cars who will take one out to the end of the point and back for a consideration. Surf fishermen patronize them in the summer and gunners in the fall, but during the winter they are idle. A certain amount of air is let out of the tyres of their cars to make them ride over the sand better, and they drive at a steady rate, about 20 miles an hour, along certain safe wheel-ruts left by previous cars. I believe the air-pressure in the tyres of these "beach-wagons" is 10 lb. It is dangerous to risk one's own car in the sand here.

The best time to go after Ducks in this region is late January and early February. The birds are there earlier, but they must be given time to get oiled up. On 16th February, 1940, we fell in with the main flock of oil-cripples for that season, and they were to be had for two or three weeks after that.

When out after Ducks we ride on the running-boards of the automobile, a long-handled round net in hand, and when just abreast of the Duck and between it and the water, we ask the driver to stop and spring off to the chase. In this way, on the evening of 16th February and the morning of 17th February last winter, we managed to catch over thirty Ducks out of a flock of nearly a thousand that had come ashore. Many of these were able-bodied birds that had decoyed to the rest. Our catch was mostly Eiders with a few white-winged Scoters, the American representative of the Velvet Scoter. We have also taken Long-tailed

Ducks in this way. We found that Eiders often "play possum", especially when come upon among the dunes out of sight of the beach, and are docile and even phlegmatic when caught, whereas Long-tailed Ducks and particularly Scoters, even when weak from starvation, make every effort to escape and are wild and violent when caught, snapping at all the other Ducks.

When taken, it is best to get the Ducks as quickly as possible to the pond or enclosure where they are to be kept and with as little handling as possible. We have tried to remove the oil and have found that the extra handling of the bird has nearly always resulted in its death. The vitality of the oil-soaked cripple is always more or less low and its primary want is food. Our Eiders were confined in a hen-house with pans of warm water containing food and were soon feeding greedily, but, though one or two of our Scoters fed a little, they were all dead within a week.

When put on a pond in winter the soaking that polluted Ducks give their plumage in their efforts to rid themselves of the oil often leads to chills, particularly if they have not learned to take food yet, and they die. It seems better to confine them in hen-houses, where their water supply can be limited to a few panfulls in which food has been mixed. They make for the water at once and so quickly learn to feed. If the weather is severe artificial heating should help the weaker ones to pull through.

Last winter was a severe one, with temperatures around 10° F. during the nights, and the spring was slow in coming. Into May there was ice on the pond where we planned to let the Ducks out. As the result of this hard weather we were not able to shift them from their winter quarters until the middle of this month and lost our last male Long-tailed Duck just before we were able to do so. As soon as the birds have learned to take food regularly and have been doing so long enough to build up their resistance to cold and wet again, they should be let out on to a pond, the weather permitting, where they can wash themselves clean. Our Eiders become filthy from their long and enforced confinement, but within a few days of their being liberated on the pond, were as clean as ever. And what was most remarkable, they seemed to have entirely nibbled away the clogging oil from their plumage without, apparently, feeling any ill effects from what they must have swallowed.

We fed them on dog biscuit at first, later adding pig's liver, but we feel that there should have been more meat or fish in the diet. Five Eiders survived until August, when they died in the moult, which they were very slow at getting into. We feel that their death was because of our inexperience in keeping Eiders rather than because of any weakness on their part. Also we have only been able to give them attention during week-ends most of the time, a regular farmer attending to their daily feeding, and this has rather hampered us.

Our experience at this goes no further back than last winter, and we cannot be said to be experts at keeping Ducks, nevertheless, we have met with a fair degree of success. I cannot help wondering what more expert aviculturists could do in the same line. In our short season's experiments we have found out a number of facts by which we mean to profit shortly this winter. The most important of these are : that the oil-crippled bird is fundamentally healthy, far more so than a shot-crippled one ; that it can easily be caught, if one knows how ; merely needs food and shelter and, given these, will slowly remove the oil from itself ; that the species commonly found in this condition are rare or lacking in the average small waterfowl collection ; that they cannot be taken by the decoys and lures found so effective in catching surface-feeding Ducks ; and that it is a kindness to catch them up and temporarily deprive them of their liberty as, once encumbered with a sizeable patch of oiled plumage, nothing but slow starvation is in store for them.

[In 1938 the International Committee for Bird Preservation appointed a Sub-Committee to deal specially with the destruction of sea birds by waste oil with a view to bringing about effective international agreement and action in this matter. The Sub-Committee, which consisted of Lord Justice von Seth (Sweden), chairman, B. Benzon (Denmark), Count Dzieduszycki (Poland), H. Drijver (Holland), Marquess Hachisuka (Japan), T. Gilbert Pearson (U.S.A.), and Miss Barclay-Smith (Great Britain), secretary, had already begun its preliminary work when the outbreak of war brought an end to its activities. War conditions have naturally increased the destruction of sea birds enormously and conditions are infinitely worse than they were before.—ED.]

REVIEW

THE TRUTH ABOUT THE CUCKOO. By EDGAR P. CHANCE. Price 12s. 6d. Published by *Country Life*, Ltd., 2-10 Tavistock Street, London, W.C. 2.

The name of Edgar Chance will always be associated with that strangest of all our native birds, the Cuckoo, for no one has done more than he to elucidate the many problems which a study of its habits present. His former book, *The Cuckoo's Secret*, published some years ago, recorded many of his observations, but since then he has had time to confirm or reject some of his earlier opinions.

While the Cuckoo's egg can always be identified as such, it varies considerably with different individual birds, but each female Cuckoo lays eggs closely resembling one another and differing from those of other Cuckoos. Hence those who study eggs as Mr. Chance has done, can say with certainty to which particular Cuckoo a given egg belongs, a fact that enabled him to recognize at once an egg as belonging to any particular one of the Cuckoos that he had under observation.

The first half of the book records the almost daily behaviour of Cuckoo A or her successors during several laying seasons. The birds chiefly victimized were Meadow Pipits which were particularly numerous on certain commons that the author was watching. The same female Cuckoo returned each year to her special territory and laid during the season anything up to twenty-five eggs in the nests of Meadow Pipits for the most part, and one wonders how any nest could escape the attention of this prolific Cuckoo. But Nature was not allowed to have her own way entirely on this common, for the layings were "controlled" by the observer. It must be understood that the Cuckoo has to lay her egg in a nest in which those of the fosterer are themselves newly laid, so that the young imposter is hatched at approximately the same time as the young of the rightful owners of the nest. Chance admits that he arranged that there should be nests with fresh eggs by removing incubated eggs and compelling the Pipits to lay again. So these experiments, interesting and valuable as they

have proved to be, do not entirely show what would occur in uncontrolled Nature. Cuckoo A laid, in her fifth season, no less than twenty-five eggs which is probably considerably more than she would naturally have laid, as there would have been fewer Pipits' nests available.

To Chance is due the credit of having discovered the method by which the Cuckoo's egg is deposited in the nest of the bird to be victimized. The belief that it was laid upon the ground and then carried to the nest in the bird's bill, was widespread until a few years ago, but owing to Chance's observations which have been fully confirmed by photographic records, it is now known to be laid directly into the nest, even such nests as those of the Wren and the Willow Warbler in which the opening is far too small to admit of the entrance of the body of the Cuckoo. The bird is able to project the egg from the oviduct into the opening of the nest, a process doubtless facilitated by the use of its zygodactyl claws.

The eggs of any one female Cuckoo being distinct from those of others has provided proof that the same bird returns year after year to a particular territory, and the author thinks that this may be true also of the male, as indeed one would suppose it to be, though proof is difficult to obtain. He goes so far as to suggest that the Cuckoo pairs like other birds, males and females remaining faithful to one another, a theory quite contrary to the generally accepted belief; but he admits that while there seems to be some evidence in this direction, there is little proof. But surely contrary evidence of this is strong when we read of one of the Cuckoos under observation: "At 5.45 she flew off to the forest, and emitted such a burst of 'bubbling' that in a short while no less than six Cuckoos were seen flying about together, she apparently being the centre of attraction."

Concluding chapters deal with other aspects of the life of this remarkable bird such as the less common types of fosterers employed and the way in which it adheres to one particular species as its victim; in fact there can be little in the habits of the Cuckoo during its brief stay in these islands that is not dealt with in this book which those interested in the subject should certainly read.

D. S-S.

NOTES

RARE PARROTS

In answer to our Editor's appeal in the December Magazine as to which is the rarest Parrot one has kept, I give here a list of the ones I have had. All are Amazons except a pair of Racket-tail I once possessed given me by Mr. Spedan Lewis: *Vinacea, Guatemalae, Amazonica, Aestiva, Ochroptera, Ochrocephala, Panamensis, Auripalliata, Oratrix, Xantholora, Dufresneana, Rhodocorytha, Lilacina, Bodeni, Festiva, Albifrons, Ventralis, Collaria, Agilis, Savini*.

Out of the above list I think I should place the Guatemala as the rarest. It was the only one I have ever seen. Next the *Xantholora* is an extremely rare thing. I believe Mr. Whitley had one if not two. Mine I sold to Mrs. Dalton-Burgess, who was a great collector of Parrots. I think she also had my *Rhodocorytha*, which was a rare one. I think that was the only one I had ever seen and a very beautiful bird it was.

Two rare Amazons I remember seeing in Mr. Whitley's collection which I greatly admired. One was the Diademata of which I believe he had two specimens, but one was an exceptionally beautiful bird. Another rarity of his was the lovely though gaudy little *Pretri*.

I trust other members will send up their rarest specimen, for I am afraid we shall never see these lovely things again.

E. MAUD KNOBEL.

WOODPECKER'S LONGEVITY

Aviculturists may remember the beautiful Yellow-tufted Woodpecker kept by the late H. D. Astley at Brinsop years ago. After the death of Mrs. Astley last September the remains of the collection were given away, but the Woodpecker which I saw at Brinsop Court in 1919 is still alive.

Miss Tiddenham, of the Glebe House, Brinsop, kindly informed me that Mr. Astley acquired it in the spring of 1914, so the bird must be 26 years old. As far as I remember it was the large Yellow-naped Himalayan Woodpecker (*Chrysophlegma flavinucha*) syn. generically *Picus* (Gould), *Dryotomus* (Hodgson), *Gecinus* (Blyth Cat.), *Chrysophlegma* (Gould, Blyth, Horsfield, Jerdon, Hume, Hargitt, and others).

ALLEN SILVER.

CAPTAIN JEAN DELACOUR

Friends of Captain Jean Delacour will be glad to know that he reached Lisbon in December last en route for the United States of America. Monsieur Delacour's address in America will be c/o Museum Comparative Zoology, Cambridge, Massachusetts.

ACKNOWLEDGMENT

The Editor acknowledges with many thanks the gift of the coloured plate of the Black Kalij Pheasant, which forms the frontispiece of this number, presented by the Marquess Hachisuka.

CORRECTION

In the December number Mr. Allen Silver's note was in error headed Hybrid, *Serinus flavidiventris*—this should have been Hybrid, *Serinus flavivertix*. The Editor tenders sincere apologies to Mr. Silver.

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AVICULTURAL MAGAZINE



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KOOKABURRA (*Dacelo gigas*)

[D. Seth-Smith

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MAR.-APRIL, 1941

THE KOOKABURRA (*Dacelo gigas*)

By D. SETH-SMITH

The Laughing Kingfisher, Laughing Jackass, Great Brown Kingfisher or Kookaburra, is one of the best known of Australian birds, familiar enough to both residents of and visitors to the south-eastern parts of the great Island Continent who have penetrated farther than the outskirts of the towns. Its familiar laughing call, uttered principally in the morning and evening, is one of the most cheering notes of the Bush. It is a large bird, and as one sees it flying through the forest, one waits for it to alight on the limb of a tree to be sure of seeing the tail thrown up while the rollicking, laughing call rings through the forest. It is common enough in the wooded parts, due to the fact that it enjoys strict protection, in fact it is a great favourite because it has the reputation of being a snake killer ; and any creature with such habits is well worth encouraging in a country where these are numerous and dangerous.

The Kingfishers may be roughly divided into two groups, those that feed upon fish and those whose diet consists principally of creatures other than fish. The former are difficult and the latter easy to maintain in captivity. Of the first group, our European Kingfisher may be given as an example, while of the second the Kookaburra is the best known. It is to be found far from water, a bird of the dense bush where it delights to perch upon an out-growing branch of a gum tree and carefully survey the ground around. It has keen sight and any movement at once attracts its

attention. It may be an insect, reptile, batrachian, or fledgling bird, all are fair game for the Kookaburra which, dropping like a stone from its perch, seizes the unfortunate creature in its great bill and carries it back to its perch. If an insect it may be swallowed immediately, but anything larger, such as a lizard or bird, is quickly despatched by a series of smart whacks against the perch until every bone in its body must be broken. Then, with an upward jerk of the head, the prey is swallowed in one gulp.

The Kookaburra is perhaps not so popular with those who live close to the bush and keep chickens, for a fluffy young chick is quite as attractive as a snake or lizard.

For a member of this brilliantly coloured group of birds the Kookaburra is particularly drab, its principal colour being brown relieved by blue on the wings and rump. Its territory comprises the southern parts of Queensland, New South Wales, Victoria, and South Australia, while it is represented in the northern part of Queensland and the Northern Territory by the more brilliant Leach's Kingfisher (*D. leichii*) which has much more blue on the wings and a blue tail in the male. A third form, generally regarded as a sub-species of *D. leichii*, is the Fawn-breasted Kingfisher (*D. cervina*), with a more westerly range.

The Kookaburra selects for its nesting site the hollow of a tree-trunk or digs out a hole in a termite's nest. No actual nest is formed, the three or four glossy white eggs being laid upon chips of wood on the floor of the cavity. It has bred in captivity on a few occasions. Dr. Hopkinson records success at the London Zoo in 1905, while the late R. Cosgrave, in this Magazine for 1912, describes the successful breeding of a pair at Lilford in 1911. His account is so interesting that I may be excused for quoting from it at some length. He writes : " About the 20th of last April the pair showed unmistakable signs of nesting, taking possession of a box which had been put for some Alpine Choughs. They removed all the nesting material that it contained ; when I gave more of different kinds it was at once removed, still they did not place anything in the box of their own choice or settle to nest in earnest. It occurred to me that the box was not large enough and that I was not giving proper nesting material, so I procured another box, 18 in. by 12 in., with a large hole in front to allow the bird to go in and out with ease. For nesting material I got some

decomposed wood and broke it up fine, and this was placed in the box to a depth of about 3 inches. The box I then nailed securely against the wall of the inside compartment, about 9 feet from the ground. They at once took to this and on 10th May one pearly white egg about the size of a bantam's was laid, two more were added on alternate days and the birds commenced to sit at once. Incubation lasted twenty-one days, both birds taking equal share of the work. On the 19th day, finding both birds off the nest longer than usual at feeding time, I determined to look and see if all was going well, but met with disappointment, two of the eggs had vanished, not the slightest trace of them could I find. My hopes were destroyed for the time being for I felt sure the remaining egg would share the same fate. However it was not so, the birds went on sitting and on the 21st day we could hear the young calling in the nest. When the birds were off to feed I took a hurried glance but enough to see that the young was perfectly naked. After ten days I had another look and found that it had grown well, it was standing or sitting upright and looked like a young Owl or a ball of white wool. In case of doing harm I did not look at it again until it was three weeks old ; this time it had developed well and had feathers all over its body. The wing feathers were well advanced, and when looked at on the last two occasions it made a very loud terrified noise which caused the parents to investigate and me to beat a hasty retreat.

“When four weeks old the youngster left the nest and immediately joined its parents in the outer flight, flying with ease on to the perches which were 7 feet high, and occasionally resting on the ground under a large box bush to shelter from the extreme heat. We never saw it go back to the nest ; it would, however, occasionally fly indoors but only for a few minutes at a time.

“It appeared to me astonishing the amount of food that was required during the day to keep the little one quiet. I gave as large a variety as possible, which consisted of all the caterpillars that I could get, mealworms, very small pieces of fresh fish, mice, rabbits, sparrows, sheep's heart, well cleaned gentles, and small frogs. At the age of four weeks it could eat small mice whole, and when a large mouse was given it was amusing to see how it would be knocked against the perch, after the manner of the parents

going through the process of killing. I have never once seen the female feed the baby. She sat on the perch calmly looking on, and sometimes she would have a good hearty laugh by way of approval of the way her mate carried out his domestic affairs.

“Although the baby could fly well when it emerged from the nest, its tail feathers had only grown about 1 inch. . . . The bill is all dark brown ; the eyes black ; feet flesh colour ; breast and all underparts creamy white thickly covered with very fine light brown horizontal bars ; mantle and wings like the parents with one exception, instead of blue on the wing-bars it is light grey.”

G. H. Gurney bred this species in 1933 rearing one young bird which hatched on 11th June, and left the nest on 18th July. He describes the young bird in the nest as “incredibly ugly, with black naked skin and its huge beak and staring eyes”.

* * *

FEEDING STUFFS

RATIONING

The Editor of the *Avicultural Magazine* wrote to the Ministry of Agricultural and Fisheries on 20th January, 1941, as follows :—

“There are in this country several valuable collections of water fowl and other birds, for the feeding of which corn, etc., is essential. The maintenance of these collections is very important from the scientific point of view, more particularly as the collections in Belgium and France have been destroyed.

“I should be obliged if you would let me know what steps can be taken to obtain consideration of allocation of feeding stuffs for these collections.”

MINISTRY OF AGRICULTURE AND FISHERIES

“Madam,

“I am directed to refer to your letter of 20th January, and to say that as a general rule no rationed feeding stuffs will be available for private collections of waterfowl and other ornamental birds, unless the rarity of the birds justifies an exception being made.

As a provisional measure in such cases sufficient food to maintain a nucleus of breeding stock may be allowed but in no case will the rations available amount to more than 20 per cent of pre-war requirements of the collection in question. Owners of private collections of waterfowl should address their applications for ration coupons to the Feeding Stuffs Officer of their County War Agricultural Executive Committee stating the numbers and kinds and value of the birds and the quantity of feeding stuffs consumed by them per month before the war and at present.

“ 10th February, 1941.”

SUBSTITUTE FOOD FOR BUDGERIGARS AND OTHER SEED-EATING BIRDS

By D. SETH-SMITH

While seed is the natural food of Budgerigars and other cage-birds, they often take readily to other foods such as oatmeal and breadcrumbs, and even if seed is available, it would be wise to accustom them to an alternative diet before the seed supply ceases entirely.

Pieces of stale, preferably wholemeal, bread should be placed in an oven until brown and then put through a mincer. This might be mixed with coarse oatmeal and, if available, oats and a little linseed added. One correspondent finds “Toasted Corn Flakes” highly appreciated by Budgerigars.

Flowering grass of the small kind known as *Poa* grass is to be found growing in waste places from March onwards throughout the summer and is an excellent food for cage-birds, and chickweed in seed, which is only too common in most gardens, is also excellent.

The change from a seed diet to any other must be made gradually, as any abrupt change might prove fatal; but if brought about slowly, it should be possible to accustom the birds to do without seed for the most part if not entirely, especially if various tit-bits from the table, which most tame birds delight in, are added.

It must be understood that these suggestions are in the nature of an experiment and no guarantee can be given that they will prove entirely successful; but they are well worth trying in view of the present conditions.

There seems no reason why certain seeds such as canary and millet should not be grown successfully in this country, though

millet may not ripen properly in a cool summer. If sufficient is available for sowing it should certainly be tried. It should be sown thinly, in the spring, care being taken to guard against the wild birds.

Seeds of plantain and several other wild plants as well as many kinds of grass, should be collected in the summer as they form a very valuable diet for cage-birds.

GROWING CANARY, MILLET, AND OTHER SEEDS

The Editor of *Cage-Birds* writes in that journal of 28th February :

“ It is quite a practical proposition to grow one’s own canary seed in the garden, or on a portion of an allotment.

This seed lends itself to easy cultivation in much the same way as our wild grasses, while the quality of a home-grown crop differs little from the imported article.

Its productiveness is highly satisfactory, as the manner of the canary plant’s growth is to send up its main seed head and then to follow this up with other heads throughout the season.

From early to mid-March is a good planting time, for this early sowing means that the crop will have the best part of the summer during which to ripen.

The drills for the seed should be drawn about 1 inch deep and 5 inches apart until roughly 4 feet of the plot has been covered, when a 9 inch space should be left. The drilling can then continue for another 4 feet, when again a 9 inch space is left.

The idea of the spaces is, of course, to provide areas for non-injurious walking among the crops for purposes of hoeing and gathering the seed heads as they ripen.

Once the seed is in the ground no time should be lost in erecting black cottons and other popular devices for bird-scaring. These contraptions should remain on the plot until the plants are well established.

Germination takes place quickly, and if a few mild days are experienced the young shoots will soon be seen peeping through the soil.

When the growths have reached the height of about 6 inches a light dressing of nitrate of soda or general fertilizer is then hoed

in along the rows, care being taken to ensure that it does not touch the plants.

Incidentally, this rather generous treatment is not really necessary on good, normally productive soil.

Canary seed planted in March will have ripened seed heads in July. When the heads are gathered they should be well dried and allowed to harden before threshing. But, of course, the plants can be offered to the birds in a semi-ripe or green state, when they will be much appreciated. Millet seed can be grown in almost precisely the same way as canary seed.

It does best in a loose, rich soil, and it germinates with greater rapidity in warm soil than cold. Plants can be raised by sowing seeds during February in boxes placed in frames or in a cold greenhouse, a seed being sown every inch and 2 inches apart. But in March sowing can take place in the ordinary way outdoors.

Millet may be fed with every satisfaction in an almost ripe state so that harvesting problems need not arise.

Parrots and Parrakeets are very fond of kibbled peanuts and sunflower seed, so sunflowers of the large variety should be grown wherever possible.

The yield of sunflower seed is increased by dwarfing the plants, and old mortar forms a splendid manure. The seeds should be planted 6 inches apart and 1 inch deep. When 12 inches high it is advisable to mould up the growths.

Great care should be taken to note the state of birds' droppings when new foods are offered. The aim should be to keep the digestive organs functioning as normally as possible.

Any signs of looseness or constipation must be corrected by slightly altering the diet. Fruit and vegetables will be found most useful as a corrective in either direction."

SITTING BACK

By W. H. POTTER

Yes, I am afraid we all at different times are in the habit of doing that, some longer than others ; we hardly thank those who do contribute to our Magazine for the different little tips they give. If one has been breeding birds for a considerable period there are bound to be experiences which, if spoken of or put in print, will be of immense help to others who have started our fascinating hobby. Many of us keep only the commoner kinds of foreigners ; this must include myself. Yet even amongst these there is still a lot to learn about their lives in captivity. My birds have been through bomb, shrapnel, and land-mine troubles, and I have found that the little Waxbills, which I have bought at different times, cannot stand bomb or land-mine blast. Yet all the Waxbills that I have bred stand up to it well. One land-mine that fell very near blew out all my heater lamps, broke doors open and locks, yet no glass was broken, or wire, or windowlite. I find all birds from a Linnet upwards in size take no notice of gunfire or anything else, but below this size one has to take care. Regarding food, some of you may have seen my article in *Cage Birds*, for those who have not it is as follows : In the seed for Waxbills and small foreign seed eaters I put, after mixing in separate container, oats, bone meal, nature food, with chicken biscuit meal. One spoonful of each. Then another week I change it to Mosquito, Egglisco, and bone meal. Then following week, condition food, nature food, and bone meal. Then another week just biscuit meal. Making these many changes seems to suit the birds well. All are in tip-top condition. Later on milk sop, with Osborne biscuit or sponge cake is given. When mealworms became scarce I started breeding. First of all a box $2\frac{1}{2}$ feet square and high was made, a layer of meal, pollards, and bran was put between layers of sacking and rolls of screwed up paper. Three hundred mealworms, and one hundred beetles were introduced. Between each layer cut up apple one time, cabbage leaves another, were introduced. Once a week fresh apple or greenstuff was renewed. Box was put into small Waxbill aviary to be close to one of Thomas's heater lamps. Now I have mealworms in all states of growth, the box seems alive with them. No, I have not taken the trouble to count them, it is

quite satisfactory to see so much food in the making. It gives me the opportunity of letting the Waxbills have the small ones now and again. My cock Combassou is a little "pig" for them, but he deserves some encouragement for blitz or no blitz he is continually singing, and he has not changed from full plumage yet, having been over a year in colour. Just one feather in flight shows a change. My cock Paradise Wydah last year came into colour on 31st July, 1940, and tail was not complete till 30th August, 1940. It has this time quills which were as long as its tail would be to break through. This I have not noticed before, he is now in his ninth year; perhaps age is the cause. The tail feathers broke at the end of these long quills, gradually splitting them upwards towards body of bird. When feathers had extended to full length of quills, they dropped; that is to say the quill cases left the bird. My cock Orange Bishop, whom I have had just as long, came into colour 16th May, 1940, completed colour 28th June, 1940: both Paradise Wydah, Orange Bishop, and Red-headed Weaver never dropped out of colour till first week of January this year. Now I want to issue a warning about Orange Bishops; these incorrigible rogues, as age mounts up, seem to get spiteful. During the breeding season of last year I could not make out why some of my birds that I picked up dead had a hole in back of head. This was happening more with the young birds on leaving their respective nests. First a pair of English Siskins, then a Chaffinch, then a Mealy Redpoll, then young Greenfinches. At first I thought it was Owls, then cats, but as I have double netting all round my aviaries this proved me wrong. To one whom birds are part of self it was making me feel sad, till one day I spotted the cause: busy hammering away at a young Chaffinch's head on the ground was that lovely devil the Orange Bishop, he knew he had been spotted at last, but was he going to be "caught up"—not he. So I had to wait for nightfall before he was. Next day he was put into a small cage, and introduced into aviary again for a fortnight, then let loose once more. It certainly seemed to sober him up as the other birds had worried him a great deal while in cage. No further trouble was experienced in this aviary for the rest of the season. It is only when bird is in full colour that he is spiteful. I had doubts when he was let loose again, but even birds suffer from inferiority complexes at times. Never for one moment is he ever able to stop from nest building, nearly every

bush or position is decorated with his work, and if you have the sauce to watch him he turns his back on you, throws over all the colour he can by puffing himself out, making that sibilant noise all the time, as much as to say, what do you think of me. I feel sure he knows he's creating a stir. Watching him in a far distant corner is master Redhead. He I have never seen make a nest, but as soon as the Orange Bishop leaves his work, like a meteor he's on it, tearing it to bits. Then the Bishop spots him, master Redhead hangs underneath nest, while the other gives him a piece of his mind. When the Redhead has had enough he retires, later to go through the whole performance again ; no feathers are lost over these arguments, and the Orange Bishop seems to like to crow after it each time. Even out of colour he still makes nests. My African Fire Finches had two nests last year, then the hen bird died in full plumage and good health apparently. If it had not been for the war the bird would have been sent for *post mortem*. This I have had happen before, after breeding with the hens. Yet if one has an aviary bred pair it does not happen ; perhaps the real cause is age of purchased birds, strain being too much in rearing two nests. I had often wondered how the parents found the place to put the food as the nests are very dark inside of some of their positions. One day an opportunity came my way of looking inside a nest, and this is what I saw. As the little mites opened their bills a white luminous spot was seen in their throats, also another spot either side of beak. This even to me showed up well so it must have been even better to the parents to locate their mouths. Just a little over six weeks after leaving nest they lost these spots. Ants' eggs, fresh daily, and small mealworms, also greenfly were given.

My Cuban Finches reared two nests in a privet bush ; their nest or nests seemed to have an entrance both ends of what seemed two small grass balls joined together, the same being used for second nest. Bomb blast killed the hen after second nest. When the young cocks come into colour, just under two months, and you have them caged up it is, I find, necessary to separate them, as they begin to fight. Unfortunately I lost one before it was noticed by me. Young Waxbills of all species when caged up seem to delight in denuding one another of feathers. Putting hens in one cage, cocks in another, and of different species seems to cure it

a great deal, also for a time stopping any tit-bits. Many other Waxbills had eggs or young when Jerry started his nonsense and upset their labours. So unfortunately, what with our many other duties, many of us have had to put avicultural activities in the background. When this trouble is over there should be many interesting stories to relate to our many friends in different parts of the world. We all are aware of their good wishes in many forms. And one and all know that Britons "carry on" whatever the cost.

Wishing all that read this a safe passage through to peaceful times.

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BREEDING RESULTS AT FOXWARREN PARK, 1940

By A. EZRA

LEADBEATER'S COCKATOO.—Three eggs laid and two young ones were hatched and reared. Both very strong and healthy birds.

MALABAR PARRAKEET.—These birds laid three eggs and hatched and reared two fine strong young ones. For the last eight years this pair of Parrakeets have successfully reared young ones and have always proved to be ideal parents.

BARRABAND PARRAKEET.—These birds have always been very disappointing. Each year they have hatched young but have killed them when about a week old. This year the eggs were transferred to a hen Queen Alexandra paired to a Green-winged King and three young were reared.

PENNANT'S PARRAKEET.—Four eggs laid, two young successfully reared. This is the first time these birds have reared young. Other years the eggs have been eaten as soon as laid.

QUEEN ALEXANDRA'S PARRAKEET.—1st pair laid three eggs and reared two young ones ; 2nd pair laid two eggs and reared one young one ; 3rd pair laid four eggs and reared one young one.

ALEXANDRINE PARRAKEET.—Only two young ones were reared this year, both of them green.

RING-NECKED PARRAKEET.—In all fourteen young ones were reared. Three Lutinos and eleven Green. Ten Lutinos were

hatched but unfortunately seven died between the ages of five days and twenty-eight days.

CRIMSON-WINGED PARRAKEET.—Four eggs were laid but all were infertile.

TURQUOISINE × ELEGANT PARRAKEET.—Two eggs laid and only one young one reared.

GUILDING'S AMAZON.—This pair has again disappointed us. They laid only one egg, but would not incubate it for more than a week.

Among the other birds breeding results were very poor, in some cases this was due to the shortage of mealworms and in others the birds being frightened by bombs and gunfire.

CRESTED BRONZE-WING PIGEON.—Three eggs hatched, only one reared.

BRONZE-WING PIGEON.—Two hatched and only one reared.

SNOW PIGEON.—Two eggs hatched but none reared.

BLACK-WING DOVE.—Four eggs hatched but none reared.

ASHY DOVE.—Two eggs hatched but none reared.

JACKSON'S THRUSH.—Three young ones hatched but none reared.

MADAGASCAR WEAVER.—Two young ones hatched and reared.

WHITE-HEADED ROBIN CHAT.—Two young hatched but none reared.

The following birds nested but did not hatch any young :—

Rothschild's Grackle, Orchard Finches, Silver-eared Mesias, Kookaburas, Shamas, Loochoo Jays, Purple-headed Glossy Starlings, Blacksmith Plovers, and Pekin Robins.

In the animal enclosure a good many Mandarins and Carolinas were reared, also some Madagascan Divers (*Thalassornis*), Emperor Geese, Snow Geese, and Bar-headed Geese. A good many White Peafowl and Black-shouldered Peafowl and Crested Guinea-fowl. It has been a very disappointing year for Cranes, and, although a good many birds nested and hatched their young, only one Demoiselle Crane was reared. Seven Stanley young ones were hatched, also two White-necked and four Sarus Cranes, none reared. The young White-necked died when nearly two months old. Any number of Chukor Partridges were reared, over fifty in my garden.

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[S. B. M. Lewis

OCCELLATED TURKEY COCK AND HEN (*Melegris ocellata*)

Copyright]

THE OCELLATED TURKEY

(Meleagris ocellata)

By J. SPEDAN LEWIS

Among my boyhood memories of visits to the Natural History Museum one of the most vivid is of seeing suddenly in a good light a fine specimen of the Ocellated Turkey. I had no idea that any such bird existed and I have felt ever since that this must be one of the supremely desirable species for any collection.

Accordingly, when Monsieur Delacour invited me in, I think it must have been, 1938 to join with him in arranging for an importation, I, accustomed as I am to conform readily to his initiative in any such matters, did so with special alacrity.

There have been, I think, very few importations. In a recent note Dr. Vevers wrote to me from the Zoological Gardens that "when I first came to the Gardens we had an odd bird on the north bank, but this, I think, is the only one we have ever had".

From a short article, that Mr. Seth-Smith contributed some years ago to the *Avicultural Magazine*, I gathered that he did not think this Turkey likely to do well in captivity. But I had heard that a cock—the bird, I imagine, that Dr. Vevers mentioned—lived in Regent's Park for eight years and died by accident, so to that extent there seemed to be some hope that the species might become established in Europe as has its near relative.

Our collector brought over, I believe, rather fewer than a dozen birds. My share was two cocks, of which one had a damaged wing, and three hens.

I think I remember that Monsieur Delacour told me that in certain districts the species is plentiful but very hard to capture and the young very hard to rear to the age at which they stand captivity well.

On these grounds we paid for our specimens a price pretty formidable for any bird, however beautiful and however likely to breed well, and specially formidable in the case of a species of which the progeny, if any, are not likely to sell freely.

The bird is so handsome that I was a little surprised to be told, after our own had arrived, that, if we were to succeed in rearing a good many, we should probably find that they were not much in demand. I was told that this would be so partly because some

people would think that a Turkey could not be very interesting and partly because the birds need a good deal of space but most of all because in winter they need a warmed house.

Even, however, if I had happened to be told this before I had decided to join in Monsieur Delacour's venture, I should, I think, have still felt inclined to make at least one attempt to throw light upon the possibility of establishing the species in the aviaries of Europe. Even if it is not much wanted for private collections, it is extremely suitable for public zoos.

I have considered quoting here the description in the catalogue of the British Museum but the colouring is so complex that I think it would be hardly a good use of the Magazine's space.

The bird is a rather small Turkey. As in the Green Peacock, both sexes are very much alike with no such difference as the "tail" makes in the Peacock. The head and neck are slim and elegant, not heavy and apoplectic as in a farmyard Turkey-cock. There is no hanging wattle on the top of the head.

The skin of the head and neck is bare and light blue. It is not glossy. Both sexes have on the head a number of small protuberances. They are reddish orange. The flight feathers are striped white and dark brown. The lower part of some of the other feathers, notably those of the tail, is a medium grey. Their ends and the whole of the remainder of the plumage is metallic. So much of the plumage is glossy and the total effect is so gorgeous that one is tempted to try to give an idea of the bird's general appearance by inviting one's readers to imagine a Humming-bird the size of a small Turkey.

That there is a certain amount of justification for that summary may be judged from the fact that the following words occur in the British Museum description : "grass-green . . . greenish copper . . . gradually increase in brilliance . . . colours attain their greatest magnificence . . . brilliant greenish-blue bands changing to purple . . . rich copper-red with green reflections . . . mostly golden green with shades of dark blue and narrow black margins . . . reddish copper shot with golden green and purple and shading into greenish gold."

All our five birds were young. I think I remember that Monsieur Delacour told me that the collector had reared them from eggs.

In the first winter we kept them in a warmed house on a concrete

floor with an open concrete run. At the beginning of the summer we moved the undamaged cock and two of the hens to one of our Pheasant-runs (these are 72 ft. by 18 ft. by 9 ft. high) and, after a time, we opened the door of an adjoining run and gave them the double space. Here they seem to be doing well all the year round. In winter they have a small shed about the size of a bathing-machine, warmed by an oil lamp. On mild days they are let out.

One hen died in the first winter and Monsieur Delacour lost, I believe, both his cocks. At all events he sent us one of his hens.

Our damaged cock proved useless and in the breeding-season the hen, who shared his run, killed him. It is painful to think of a bird's suffering all the distress of capture and the journey and then coming to such an end and we wished, of course, that we had given him separate quarters. But there had been no signs of trouble.

The surviving cock seems first-rate. On arrival he was plainly immature. Last spring must have been his first breeding-season. For about three months he was very fierce and during that time lost one of his spurs. I am told he kicked it off against a bucket. Obviously those, who go in with birds as fierce as this, should carry some means of defence against which the birds cannot hurt themselves. The knocking off of a spur is said to be apt to lead to fatal hæmorrhage. If so, we were lucky not to lose the only cock in Europe and to find ourselves with three forlorn widows.

The cock's aggressiveness supports a suspicion, that I have heard expressed in high quarters, that the accident, from which the Zoo's cock died, occurred when he was being repelled by someone whom he was attacking.

He displays much like his farmyard relative and chiefly in the morning. If we can get a photograph of that this year the Magazine shall have it.

Out of the breeding-season our cock is very quiet and friendly. So are the hens. So far as my own experience goes all game birds, however tame, are apt to start away at any but the very slowest movement. These four Turkeys strike me as rather specially nervous in that sense but not in any other.

Of the three hens one seems to be always close to the cock while the other two keep a little way off. We are not quite certain whether the hen, that is thus in close attendance, is always the same, but it is thought that she is probably the bird that reached

us later from Clères and that she is older than the other two. Though two hens are always quite definitely separate, they do not keep so far off as to suggest that they are frightened or on bad terms. When they are shut up in the house one hen sits by the cock and the others on another perch, but that amount of room seems enough to prevent any trouble. In fact they are quite good-tempered among themselves and they have the further merit of being apparently no trouble to moult.

Last year, between the 20th May and the 30th June the hens laid upwards of thirty eggs. So many of these were dropped from perches that the perches had to be lowered and boxes filled with straw placed under them.

I did not see any of the eggs but I am told that they resemble that of the ordinary Turkey but are "perhaps a little smaller". The hens seem to have laid indiscriminately anywhere. Incubation took twenty-six days.

Of all these eggs nineteen, that is to say slightly over half, were hatched. Many of the chicks seemed very promising. But it appears that on this ground Turkey-poults get black-head and at about six weeks old all but two of these died. The two seem good birds. One is luckily a cock. Next year we shall try keeping the chicks off the grass and, if this device succeeds there is, to judge from last year's results, a good hope of building up a flock.

It is, of course, very unfortunate that we have only one cock, but there seems to be a good chance that the hens are unrelated and it is, I believe, fairly certain that one at all events is a good deal older than the others.

The birds are very silent. The cock grunts or clucks a little and the hens have a very small cluck. They seem to be purely diurnal. They are always out of doors when allowed and, like most of our Pheasants, even of those that commonly spend much of the day in their sheds, they roost out if they can and always get as high as possible.

We feed them just like Tragopans. They show no taste at all for meat and seem to prefer fruit and cooked vegetables to grain.

It will be seen from this that our experience so far has been much more encouraging than that upon which Mr. Seth-Smith based the article to which I have referred.

BREEDING RECORDS TO DATE. II

By Dr. E. HOPKINSON, C.M.G., D.S.O.

*(Continued from p. 15)*PARROTS *(continued)**Cockatoos*

GANG-GANG COCKATOO (No. 342), *Callocorydon fimbriatus* (Grant); *galeatus* (Latham).

Bred by Mme Lecallier in France in 1921 and an account of the event appeared in *L'Oiseau*, 1921, 179, where the award of the French Medal for a first success was also announced. See also *Avic. Mag.*, 1921, 176; 1922, 7. The same lady also got more young every season from the same pair for the next three years *teste* Tavistock and Delacour (*A.M.*, 1926, 150). Lord Tavistock bred them (for the first time in the U.K.) in 1938; two young were reared and the breeder gave a full account in the Magazine (1938, 258).

GREAT WHITE COCKATOO (No. 343), *Kakatoë alba* (Müller).

A hybrid record only, GREAT WHITE × LEADBEATER'S COCKATOO.

Neunzig (*p.* 772) writes that according to Lord Buxton this cross was bred in England from parents flying at liberty. When and where I cannot discover: was it at Lilford?

GREATER SULPHUR-CRESTED COCKATOO (No. 344), *K. galerita* (Lath.).

Their breeding by Dulitz on the continent in 1883 is reported in *Bull.*, 1884, *p.* 438, and Neunzig (*p.* 769) says they were bred in Berlin in a specially-made strong aviary . . . two young reared in 1890, one in 1891, and two more in 1892. As regards England Seth-Smith in *A.M.*, 1922, 142, says that the Sulphur-crest has often been bred at liberty at Lilford, and in *B.N.*, 1916, 10; 1917, 59, 61, he records the breeding at semi-liberty of one young one in 1916 by Whitley (Devon) and two more in the following year.

One of these home-bred Whitley birds was exhibited at the February Crystal Palace Show, 1925 (*see A.M.*, 1925, 108).

The cross with the male ROSEATE COCKATOO is also on record.

LESSER SULPHUR-CRESTED COCKATOO (No. 345), *K. sulphurea* (Gm.).

Bred by Alden in 1924; two young hatched, one of which was reared; a first success (*A.M.*, 1924, 257; 1925, 83). The cross with the male ROSEATE COCKATOO is also on record.

LEADBEATER'S COCKATOO (No. 346), *K. leadbeateri* (Vigors).

The first breeder was Mrs. Johnstone (Groombridge) in 1901. A.S. Medal (*A.M.*, 1901, 191; 1902, 37). They were also bred and reared at the Zoo in 1906 and 1907 and again later; see the *Reports* and *B.N.*, 1921, 150, and *A.M.*, 1922, 123. Among others who have also succeeded in the U.K. are Mrs. Cox (one young bird reared in 1934; see the *Foreigner*, vol. ii, 1935), and Dunn in 1938 (two young reared, *A.M.*, 1938, 237). They have also been bred in Australia by F. B. Bellchambers, of Adelaide (three young reared in 1935) *teste* Cayley's *Australian Parrots*, p. 99.

The cross with the male GREAT WHITE COCKATOO (*q.v.*) is also on record.

BARE-EYED COCKATOO (No. 347), *Ducorpsius sanguineus* (Gld.); *gymnopsis* (Scl.).

Bred at the Zoo in 1907 *teste* the Report for that year, and Blaauw bred them in Holland in 1926, rearing one young bird; the breeder gave a full account with a photo in the *Ibis*, 1927, 425; he also reared another young one from the same pair in 1931.

They have also been bred in New Zealand, i.e. in 1937 at the Wellington Zoo, where I saw the young bird.

ROSEATE COCKATOO or "Galah" (No. 348), *Eolophus roseicapillus* (Gm.).

Have been bred a good many times, the first success probably

being attained at Lilford where *teste* Seth-Smith (*A.M.*, 1922, 142) three young were reared in 1922 by a pair flying loose. They were also bred in France in the same year, Delacour told me *in lit.* Other British successes are F. T. Jones, three young Galahs reared (*The Foreigner*, 1936, 61), Tavistock in 1932, and G. H. Blair in 1936 (*A.M.*, 1936, 320). In America Rudkin bred them in 1929 *teste* Prestwich (*A.M.*, 1930, 29), and *Aviculture (U.S.A.)*, Jan., 1932. In New Zealand Smith, of Auckland, told me he had been breeding them regularly for years when I saw his birds in 1938. See also the account in *A.M.*, 1938, 107.

Hybrids

ROSEATE × GREATER SULPHUR-CRESTED COCKATOO.

The rearing of one young bird of this cross at Lilford is reported by Cosgrave in *A.M.*, 1912, 269.

ROSEATE × LESSER SULPHUR-CRESTED COCKATOO.

Bred by Mrs. Lee in 1917: one young one reared (*B.N.*, 1917, 204, 232), and Whitley bred two in 1931, both of which were reared in spite of a bad injury to the beak of one; one of them was exhibited at the Crystal Palace Show, 1932. I saw both the young birds in May, 1932, when, of course, they were in juvenile plumage, striking-looking specimens distinctly showing their mixed parentage. They were both still alive in 1938 and from what I remember the two differed considerably in colour, etc., but a sort of fawn replaced the pink of the father.

COCKATIEL (No. 349), *Leptolophus hollandicus* (Kerr); *novæ-hollandiæ* (Gm.); *auricomis* (Sw.).

Commonly bred. A case of great fecundity is reported in *Bird Notes*, viii, 13.

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NEWS ABOUT SPARROWS

By A. H. SCOTT

Wordsworth, it seems, could not endure that waterfalls should be mentioned in his presence. That lesser men should express their measly sentiments on a subject so peculiarly his own was not to be tolerated. Though all arrogance is very disagreeable I must admit that in this little matter of Sparrows I regard the opinions of others with a certain disdain ; for who else has ever troubled to keep scores of these despised birds over a long period of years, or to study with affectionate solicitude the daily details of their domestic life ? Certainly none of those writers who have joined in a general conspiracy to libel a lowly creature of unusual innocence and virtue. The Jackdaw of Rheims was cursed by a bishop with bell, book, and candle, but in these days it is a still graver disaster to encounter the enmity of the *Encyclopædia Britannica*, the horrid innuendoes of *British Birds*, or the highly coloured invective of *l'Oiseau*. These authorities, followed by daily dishers-up of nature notes, novelists and scribblers of all kinds, have made the Sparrow an object of contempt.

The *Britannica*, with its usual pose of impartiality, suggests that the Sparrow may “ perhaps ” be considered a parasite on man. This disgusting word now suggests the horriddest sorts of insects, but we might accept the term if used in its old original meaning of a poor man about town who takes his meals at the table of a rich patron. After all there are, in days of peace, many young men who own nothing but a good dress suit, live in one room, and dine out every night : and if they are witty and agreeable their hostesses feel well paid. The French have an amusing slang term for such a person, and call him a *pique-assiette* or “ plate pricker ”. We might agree that the Sparrow is a plate-pricker, a poor citizen who, in return for his meals, brings in cheerfulness and entertainment. But whatever may be said of the town Sparrow, no such term can be applied to his country cousin. The farmer has no crumbs to spare and does not wish to be cheerful, but to have reasons for grumbling, and these the Sparrow supplies. He also eats a great number of insects, thus giving his host at once a moral and material return for the advantages obtained, namely

stolen corn and nice deep holes in the thatch for nesting and sleeping purposes.

It is obvious that there is a definite mutual advantage, and that the relationship is not one of parasitism, but of symbiosis. Symbiosis, I should perhaps say, is a sort of sexless matrimony, or permanent cohabitation between creatures of different species for mutual service. Nature is full of strange instances of these often very unfair arrangements.

The worst calumny on the Sparrow is found in *The Handbook of British Birds* which, in half a dozen words, utterly ruins his reputation. "The Sparrow. . . Sexual conduct requires investigation." A most objectionable and unfounded suggestion. If we must go about investigating sexual conduct why not begin with that big ugly foreigner who keeps his wife enclosed in a tree-hole for weeks at a time? He is the fellow on whom we ought to have an eye, for obviously his wife is in no position to do so. This is the favourite theme of the Sparrow hater: he is an indecent, promiscuous and ribald creature. "Ignoble vermine," cries *l'Oiseau*, "pullule partout." I will not translate these words: let them remain decently veiled in the slight obscurity of a foreign language. All Sparrows should be abolished from our towns in the interest of morality, says a character of H. G. Wells, and even Shakespeare, out of his vast armoury of epithets, chooses the ugliest for this harmless bird. Angelo, in "Measure for Measure", is so strict that "Sparrows must not build in his house-eaves because they are lecherous". This is grossly unfair. Other birds may have their lonely moor, sea cliff, or leafy arbour,

"Some melodious plot

of beechen green and shadows numberless."

but the poor Sparrow must perform his pure connubial rites on a roof-top in full view of every gossiping ornithologist.

The origin of all these prejudices is not easy to discover. Modern psychologists, when they wish to hunt out the cause of our antipathies, misfortunes, or diseases, usually hark back to the days of our infancy, and find in the lamentable errors of our parents and nurses the hidden source of all our troubles. They would probably assert that it is the childish rhyme about "Who killed Cock Robin" which has given us a deep but unconscious hatred of Sparrows, though anybody who has tried to breed Robins

knows that they kill each other with gusto, and that the hero of the story was doubtless murdered by his brother or his father. Very probably this incompetent bard was unable to think of any rhyme for arrow except Sparrow ; and as we find that Shakespeare (in the *Merchant of Venice*) uses the very same jingle, derived perhaps from childish memories, some force is lent to the suggestion, which is no more fantastic than many of the sorceries of the psycho-analysts. They might even go back a couple of thousand years to Lesbia and her Sparrow. The English poets have praised many birds : they have been charmed by the Robin, roused to ecstasy by the Skylark, and even paid compliments to the tender heart of the ridiculous Pelican ; but they have ignored the clever and amusing Sparrows. Yet the “Elegy on Lesbia’s Sparrow” had a far wider fame than any ode to Skylark or Nightingale, and was familiar to every schoolboy during the long centuries when education meant Latin and a birch-rod.

“ Loves and Graces mourn with me,
Mourn fair youths, where’re ye be,
Dead my Lesbia’s Sparrow is,
Sparrow that was all her bliss. . . .”

Catullus goes on to describe a very tame and attractive pet, and to lament that his Lesbia’s eyes are red with weeping over its death. One would suppose that the Sparrow, like other birds which have since been celebrated by the poets, would have worn for ever after a literary halo protecting him from persecution and calumny ; but Lesbia was beautiful, and in spite of her exquisite sensibility, very far indeed from being as good as she ought to have been. Inevitably people have been more interested in the lady than in her bird : thus, not only did she steal the poem, but the poor Sparrow died in the odour of impropriety, which may well have clung to him as he travelled down the ages in company with his beloved mistress.

Practical persons will declare that this is all nonsense, and demand that if I have really anything new to tell them about Sparrows I should hurry up about it. But let them consider a little. The Editor of our Journal pays me nothing for my hard work. If my labours were remunerated with adequate subsidies and emoluments I would trudge straight along the dull high road of my subject and deliver with punctuality and dispatch my meagre

little parcel of discoveries. But we contributors work, as the phrase goes, for love : and since we have as our employer, not the usual old curmudgeon with indiscriminating blue pencil, but a delightful young lady, who would hate to hurt a comma, the most miserly scribe ought indeed to be satisfied with this immaterial reward. But do we in fact receive any of this love ? By no means and far from it. We are objects of no interest at all, mere instruments of her trade. And since this is the case, since I receive neither love nor money, shall I not dawdle along at my own pace, wander off the road, or stand and stare at whatever interests or amuses me ? Theories and ideas are free and pleasant, whereas facts are tough, dry, and indigestible : we shall come to them in due course, without forgetting, however, that when we are only concerned with the accumulation of facts we are like savages collecting their beads and shells, but that when we speculate on their causes and relationships we become sages and philosophers.

Whatever its remote causes may be, the contempt for Sparrows is due first to their numbers round our houses, and secondly to their dingy appearance. "Sparrows," says a well-known writer on birds, "being vermin, breed like rats—and Russians," thus echoing the vituperation of *l'Oiseau*. This author, who is a soldier, uses a decisive and military style, but here he is wrong. In the first place, though we may wander in many byways when discussing ornithology, we must keep clear of politics. A birdy Communist should surely be free to read about his hobby without receiving a painful and gratuitous dig in the most sensitive region of his mind : nor was Tolstoi produced by a race of vermin. As for the great fertility of the Sparrow it is a myth. The record production for a hen Sparrow in my aviaries was nine young : Greenfinches have exceeded twenty, and a Thrush broke all records by laying over fifty eggs between mid-February and early October. The Thrush eggs were nearly all infertile, of course, but she reared a brood in October. As aviary records may differ from those set up in complete freedom I have some twenty boxes for wild Sparrows nailed up on stables, a garage, and sheds, and check when I can, the behaviour of my own birds by the action of the wild ones. I had noticed for many years that wild Sparrows' nests usually contain some addled eggs, and last year I examined fifteen of these boxes and noted down the contents when the young were partly

grown. The average number was just under $2\frac{1}{4}$, and all the nests but two contained one or more addled eggs. Fifteen nests are not enough for an exact conclusion, but we shall be on the safe side in believing that the average number of young reared does not exceed three. Does the Sparrow practice family limitation and expose his eggs to draughts, as the ancients used to expose their unwanted children upon a mountainside? Perhaps he does, though my observation rather inclines me to the idea that he fails to do his share of incubation properly, not from any Stopesian notions, but because he is so fond of his wife that he dallies with her when he should be sitting. After all, if they sit alternately all day and sleep all night, what chance has the Sparrow, who is not only a faithful but an uxorious husband, to enjoy his wife's society? I am familiar with only very few species of birds and wish that someone with extensive knowledge would tell us whether more addled eggs are usually found in the nests of birds which share incubation: on the principle of too many cooks spoiling the broth this may possibly be the case.

Sparrows are late nesters, and my Greenfinches are normally about a month earlier in starting. They also end sooner and I should say, rarely rear more than three broods, a maximum, only once exceeded by a keen breeder in my aviaries. Moreover they appear to be far more numerous than they really are because they follow man and, of course, are very scarce in the great open spaces or forests. Twice I have built myself a house in woods, cutting down trees to make a space for it, and each time no Sparrows were seen till a year had passed by, though there were many other birds. They also seem to have many young ones because their families stay with the community during their first summer, whereas other birds mostly scatter very quickly. Each spring I put coloured rings on various young birds, and see very few of them after they have left their nests: only the Sparrows remain. Sometimes I have fed young Blackbirds or Thrushes in their nests, sharing the work with the parents, and have put them in a cage for safety until old enough to fly strongly. The parents seemed to appreciate the good intention and themselves came to be fed with the young ones after they were liberated. These all stayed near the house for several weeks, but disappeared as soon as the feeding ceased.

The fact that Sparrows live in such close communities is itself

a proof of good character, for there can be no stable society without the rule of law backed by public opinion. Men are so dependent on this restraining influence that many atrocities have been committed by whites in the wilds of Africa, and those who remain virtuous are said to put on their dress clothes every night in the jungle, thus setting up a sort of idol or image representing civilized public opinion. I am sure, if the suggestion is not irreverent, that if our first parents had not been alone, if a dozen other couples had been placed in their isolated Eden, a tabu on the fatal tree would have been more effective than divine ordinance. The fact that Sparrows are dingy little birds is really another indication that their character is exceptionally good. It is generally admitted that the wonderful colours of the various Pheasants and other gaudy birds are due to sexual selection, which is only another way of saying that the females have invariably married for looks, while the dull birds have chosen their mates for some other reason; obviously, in the case of the Sparrows, intelligence and fidelity. Exceptional beauty has hardly ever been associated with high moral character. Juvenal, in his *Satire on the Vanity of Human Wishes*, urges young women not to pray in the temples of the Gods for beautiful children: for, says he, the parents of a very handsome boy are always anxious and miserable, and he is sure to turn out a dissolute rascal. The character of the Pheasant tribe is so notorious that no one would ever trouble to investigate their objectionable habits, while the modest little Partridge is an example of every domestic virtue. The angelic voice of the sombre Nightingales, since first they sang, may well have converted sinners and restrained murderers prowling through the night, while the raucous cries of the swaggering Peacock sounds like the lamentations of the damned. Evidently, when we see a Quaker dress we may expect a Quaker virtue, and the following incidents are a sufficient proof that if the Sparrow errs it is only in the manner of our grandparents, by a rigid intolerance, and a nasty inclination to persecute the weak sister rather than the weak brother.

Up to 1935 I had always kept in any aviary an equal number of cocks and hens, but that summer I had an extra hen which I wished to use, and placed her with three couples in a planted aviary which was 10 yards in length, 7 in width, and about 15 feet high. I never saw any of the cocks take any notice of her, though

I generally sat in this aviary for an hour or two each day. Nevertheless she built and laid, and carried out alone the incubation ; having indeed little temptation to leave her nest, since, when she was obliged to do so, the other hens immediately attacked her. After a few weeks she was more than half-plucked and presented a pitiable appearance, the more so that she lived in a state of constant fear, and yet bravely ministered so far as she could to the wants of her two stunted little ones. Stunted they were, and weakly, for their mother was never allowed to approach the meal-worms, or maggots, but fed them on seed, bread, and such very few insects as she could catch in the aviary. It was a painful spectacle which would have moved Dickens to his deepest abyss of pathos, and at last I was disgusted. "Odious little birds," I thought, "just wait until next year." Long ago, in far off Edwardian days, I had the happy fortune to have a talk with George Meredith at Box Hill : or rather, since I was diffident, and the old man was then at the very height of his vogue and fame, I sat silent, while, propped on pillows in his reclining chair, Meredith declaimed in his brilliant high-comedy style on life in general and marriage in particular. One of his remarks recurred to me. "I don't regard marriage as a sacrament : I consider it a convenient arrangement. If for any reason the balance of the sexes were seriously upset we should recognize the fact and promptly change our views." I had doubted this opinion, and was now interested to see how these puritanical birds would behave under such new circumstances. The following season I placed in the same aviary three cocks and six hens. Whether they held a "Rook's caucus" to discuss the position I don't know, but the action taken appeared to be based on unanimous decision. The cocks paired, each with one hen, and behaved to outward appearance as if the three extra hens did not exist. Although I watched daily I never saw any irregular mating, and the fact that the odd hens hatched out young ones was the only proof of such mating having occurred. There was no quarrelling, and all the hens were quite friendly. There was perhaps an official statement that in future all young birds born out of wedlock should be considered to be cases of parthenogenesis, which, according to the most ancient traditions, is a very honourable origin indeed. In any case the flag of monogamy was nailed to the mast. This strict devotion to decorum is naturally based on

strong and exclusive attachments, and Sparrows baulked of their chosen mate will by no means promptly console themselves with another. I had at one time two cocks which I specially wished to mate to two particular hens, and therefore kept each pair separately throughout the winter. In April I released all four birds together in a large aviary, but at the end of a week or two was annoyed to find that they had exchanged partners, and would obviously defeat my intentions if allowed. I therefore separated them again, each pair having a large aviary with the company of a pair of Greenfinches. They were obviously upset and restless, and as the weeks went by I saw that they would prefer celibacy to an undesired mate : by the middle of June it appeared useless to persevere, so I caught one of the cocks and let him go in the other aviary. Without even alighting on the way he flew straight to the hen, and mated her instantly.

It may be objected that cock Sparrows in the spring go courting a number of hens, two or three being seen at a time trailing their wings and cocking an amorous tail in front of one hen after another ; but this does not disprove my contention that their unions are based on very strong attachments. Sparrows with all their posturing and torso displays, express in most cases, not passion, but only a nonchalant conventional submission to the eternal feminine ; and when Cupid has truly launched his dart very little time is wasted over these preliminary compliments.

(To be continued)

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BREEDING AUSTRALIAN FINCHES

By FRANCES E. MATTHEWS

In these eventful days we have special cause to be thankful to those our "kith and kin" who, though they live "right under", do not forget the claims of kinship, and stand so bravely beside us in this war. All aviculturists owe a debt to Australia for possession of those lovely Parrots and Parrakeets peculiar to that country. In our Magazine—now almost venerable—we have colour prints of these with an article describing each illustration. There are also informative articles upon the breeding of same in days of yore! May I make a suggestion here?—that very interesting contributions might be sent to the Editor containing information gained recently by those who have successfully bred Australian Parrots and Parrakeets. It is the personal effort and the methods used by the owner of perhaps one or two pairs of these birds which are very interesting to many of the smaller breeders amongst the members of the Avicultural Society. Unfortunately I cannot supply such particulars, but enjoy reading them.

I have to thank Australia for some beautiful colourful Finches. Some time back I owned Diamond Sparrows, Painted, Zebra, and Double-bar Finches. Also Pictorella, Blue Faced, Star, and Long-tailed Finches. Just now I concentrate upon the Painted Finches and the Gouldians as they seem still to be in request.

Last year (1940) two pairs of Painted shared an aviary and went to nest. The second pair, though they hatched six birds did not carry on well when the first pair was removed indoors owing to a chill caught by the cock on a cold night. They do not seem to like the routine to be disturbed! The young birds of the first nest flew well and are now adults.

Two pairs of Red-headed Gouldians and one pair of Black-heads went to nest last August. They had nice numbers of eggs—all fertile. No. 1 pair Red-headed hatched out eight birds, and No. 2 pair hatched out five. The Black-headed pair had six fertile eggs, but I failed to observe that she was being disturbed by the cock of the second pair. I removed the Black-heads elsewhere, but they did not settle down.

Owing to cold nights and other conditions I have all my birds

indoors. The thirteen young Gouldians fly about in a cool room all day and begin to show colour.

We have to ration seed rigorously, but we hope to carry on. Some self-sown plants of millet which were dried have been much appreciated by the youngsters. Good grit, charcoal, and cuttle-fish are always available for them with the seeding grass.

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AFRICAN PARROTS

By O. P. STIGAND

(Translated and reprinted from *Rivista Italiana di Ornitologia*, Ser. 2, Anno V, 1935-6.)

The African continent and its islands are rich in Parrots, many species of which are known in Europe and deserve to be noted as objects of interest and pleasure for the aviculturist.

I will commence with the true genus *Psittacus*. Of this genus the best known is the Grey Parrot, commonly called Jaco. It is said that this bird was known also to the Romans, and it is certain that if they were acquainted with this species they must have had a great fondness for it, as it is known that the old Romans had a cult for Parrots. More than one writer of those times mentions them and speaks of the large and magnificent aviaries in which they were kept. In all ages writers in almost every country have mentioned this bird. The German naturalists especially have in the past studied it, describing its intelligence and giving it a rich variety of names. The Grey Parrot, for example, is known by many names ; the most common are :—

Psittacus erithacus, L. Sep. Beht Shw. Khl. Wgl. Finsch and many others.

Psittacus cinereus s. subcæruleus Ald. Willoughby, Ray, etc.

Psittacus cinereus cum cauda rubra Frsh. Klin.

Psittacus guineensis cinereus Brss.

Grand Papegaut or *papagay*. Bel.

Perroquet de Fresne. Alh.

Perroquet cendré Buff. Levaill.

Jaco. Buff. By English naturalists.

Ash-coloured Parrot or *Grey Parrot*.

The Grey Parrot is of the size of a Turtle Dove, though there are specimens somewhat larger or smaller. It is a beautiful ash grey, the breast and belly being almost white, while the short tail is bright red. The beak is large and strong and ebony black. The feet are dark and the claws black.

Dr. Greene observed that in the young birds the colour of the feathers and the feet is darker than in the adult specimens and says also that the eye of the young bird is pale grey, becoming yellowish with the passing of time, but I have not been able to verify these interesting data. The area of the white skin on the face of the female is more circular in shape.

Some naturalists have observed that Grey Parrots have a greater or lesser number of red feathers. There are also albino examples of this species. One of these was purchased by Lord Tavistock as an addition to his fine collection of *Psittaciformes*, which to-day is one of the best possessed by a private individual. This curious specimen was quite white, with the exception of the tail which was of the usual red. It is now stuffed and preserved in an English museum. There are other grey specimens which have white instead of red tails. I am of opinion that these cases are too rare for the creation of a new species, they are commonly regarded as freaks of nature and certainly are curious anomalies of the species *Psittacus erithacus*.

Lord Tavistock says that anyone who had the good fortune to procure a pair of young birds of this species, could induce them to breed here without great difficulty. Their popularity would make the fortune of the breeder who succeeded in rearing them. But as it is not easy to find a pair of young birds in perfect condition, it is rather difficult to prove the thesis of the illustrious English aviculturist.

I have at the moment in my modest collection of Parrots a specimen of this species which belongs to some Americans who have given it into my care during their absence. I accepted the guardianship of this Grey Parrot with enthusiasm, as I wished to study the characteristics of this bird which I had often seen, though only fleetingly, without having been able to make a detailed study of any specimen. The intelligence of this particular bird confirms what many have written about Grey Parrots in general, for it is extremely intelligent, pronouncing clearly various English phrases

and calling the one who feeds him “ cookie ”. It learned to open the door of its cage, so that we had to close it with a piece of wire, which the bird tried to undo and when it failed exclaimed “ Oh ! my goodness,” with an expression of comical despair. It whistles and frolics, turns somersaults, and puts the intelligence of my birds to shame. But it fears hands ; it is afraid of being touched, which proves that it has experienced maltreatment that it cannot forget ! As it does not belong to me, I do not care to risk curing it of this fear. I am afraid that in its fright it may fall (it has its wings clipped), as if it did it would fall heavily on its breast and perhaps hurt itself badly. I cannot say, therefore, how far this bird is teachable, but I do not doubt that the experiment would be easy in view of its intelligence. I can understand blunting the wings of a bird, so that it cannot fly far and lose itself, but I cannot conceive of anybody mutilating a bird in this exaggerated fashion ! At the various exhibitions held throughout the United Kingdom, where foreign birds of all kinds are exhibited annually in order to increase the interest of the public in aviculture, it is not allowed to exhibit birds so mutilated, not so much, I think, on account of the cruelty involved, but because with their wings cut, the birds lose their beauty of line and visitors cannot therefore form a true idea of the harmony of their outlines, etc.

The attachment of the Grey Parrot to its owner has been described, not only by many naturalists who have studied this species, but by various bird lovers who have kept specimens of it. It is a good friend of children, and is in general a cheery companion who adds to the gaiety of the domestic hearth. There are Grey Parrots known also for their friendship towards dogs or cats, with whom they often play with surprising familiarity.

Psittacus erithacus princeps which comes from the Gulf of Guinea, Prince’s Island, and Fernando Po is by some naturalists considered to be a subspecies of this bird.

In reference to *Psittacus erithacus princeps*, J. G. Keulemans, who visited all the habitats of the Grey Parrot, says that Prince’s Island is the paradise of this bird, which is found there in great numbers. He noted to his surprise that in the neighbouring island of St. Thomas only very few Grey Parrots were to be found, perhaps on account of the greater number of Kites (*Milvus parasiticus*) inveterate enemies of the Grey Parrot. He observed that whenever

one of these birds flew from the island of St. Thomas to Prince's Island, all the Grey Parrots gave furious chase to kill it or drive it away. During the day these Parrots fly in groups watchful and suspicious. Keulemans says that they are more wary than the natives and more nimble than the monkeys. He also states that towards sunset each evening they fly to a dense forest which surrounds and in part covers the mountain called "Pico de Papagaio". This forest is so thick that it is difficult to see the birds in harbours.

The eggs of the Grey Parrot are very similar to those of the Woodpigeon (*Columbus palumbus*). The young leave the nest when they are about four weeks old and develop rapidly. With us they eat sunflower seeds and the grain given to Parrots in general. They love fruit and some specimens are quite fond of all the foods eaten by man, but I do not know how many are good for them, as it is said that rich greasy food not only ruins their health, but robs their plumage of its sheen. In their native haunts they eat with great relish fruits such as *Laurus persea*, *Musa paradisea*, etc. An enemy of the Grey Parrot is the diurnal bird of prey *Gypohierax angolensis*. Dohrn, who ate the flesh of the Grey Parrot, says it makes a most excellent roast, which is not surprising, seeing that the Romans, great gourmets, were enthusiasts in regard to the flesh of Parrots, with which according to historians they also made a tasty broth. Natives are very fond of these birds, often clipping their wings and allowing them to run at liberty round about their huts; they snare them or take them from the nest. Naturally when they find out that Europeans like these birds, they hunt them mercilessly in order to capture and sell them. This is one of the reasons why African Parrots are diminishing. Formerly scarcely a ship arrived at a European port without at least one specimen. But to-day the Grey Parrot, so common a few years ago, is a much rarer sight. They have been hunted so mercilessly by the natives for the market, that the few remaining birds flee from man and hide themselves in the thickest part of the forests. Schweinfurth says that some native tribes hunt them not only for sale, but also for the sake of their tasty flesh.

THE TIMNEA PARROT

Psittacus timneh Br.

Psittacus erithacus timneh Fraser. Very similar to the above-mentioned bird, but a little darker and smaller. Tail almost maroon red, the beak is lighter at the base with a black tip. It comes from Liberia and Sierra Leone; it is more rarely imported. Specimens of this species were already to be found in the Zoological Gardens, London, in 1861. In the past there have been arguments about this bird among prominent naturalists, some denying that it is a different species, but to-day we are certain of this, although it is very similar to the common Grey Parrot.

Another genus of African Parrot is the genus *Poicephalus*, of which there are various species; the best known are the Senegal Parrot *Poicephalus senegalus* of which I have a couple, and a male of this species which has now paired with an Indian Ringed Parrot (*Psittacula torquata*). The males are very beautiful birds. They have a dark grey head, which explains why the Germans call them Mohrenkopf Papagei. The beak of the Senegal Parrot is black, as is its tail, the back and part of the neck are beautiful dark green, breast yellow and orange, feet dark with black claws, and it has golden yellow feathers under its tail. It has various names, the commonest being :—

Psittacus senegalus Linn. Lthm. Khl., *Psittacus versteri* Gff., *Psittacula senegalensis* Brn., *Poicephalus senegalensis* Swn., *Pionias senegalus* Fnsch.

This species has been known for many years and there is scarcely a zoological garden which does not contain it or has not kept at least a few specimens. As far back as 1445 this Parrot was mentioned by Aloysius Cada Mosto and it was described by Brisson in 1760.

It is little larger than a Blackbird, but does not resemble that bird in shape, being somewhat squat, with a short tail and very long wings. These birds fly swiftly. My Senegal Parrot which paired with the Ringed Parrakeet is tame, sits on my shoulder, and is very intelligent, and I sometimes free it in the garden. The pair on the other hand are not tame and the male has to be kept caged; once he managed to escape and it was not easy to catch him, but as he had a mate he did not go far and it was possible

finally to catch him in the evening. Up to the present these birds have not bred, although nests have been placed in the aviary. Nevertheless I still hope. These birds have very beautiful eyes ringed with yellow; the female is less brilliant, but still quite pretty. The whistle of the Senegal Parrot is peculiar and pleasing.

THE RED-BELLIED PARROT

Poicephalus rufiventris (Rupp.) also named *Pionias rufiventris* Fnsch., Hrtl. A native of East Africa. Head, neck, back, and wings are dark, while the wings are dark maroon shading to grey. In some places the colour of the feathers takes on a green shade merging into blue. The undertail feathers are pale green shading to a yellowish tint, the breast, belly, and underwing portions are a beautiful orange colour. The beak is black. This bird is not large, being scarcely 20 cm. in length. The eye is reddish, the beak dark. Some people call this species of Parrot Abyssinian; Tavistock also calls it the Abyssinian Parrot.

MEYER'S PARROT

Poicephalus meyeri (Cretzsch.).

Pionus meyeri Wgl. Lfbr. etc.

Psittacus flavoscapulatus Ehrnb.

Pæocephalus xanthopterus Hgl. Br.

This bird comes from various regions of Equatorial Africa. It is the same size as *Poicephalus rufiventris*. Back and breast are pale bluish green. The rest of the body is grey shading to maroon with green tints here and there. Yellow feathers are often found on head and cheeks. The beak is black and the eyes have a reddish ring. Some specimens arrived at the Zoological Gardens in London in 1855. This species also figured in the collection of Chr. Hagenbeck. Lord Tavistock had a couple and said that the male was not domesticated and was therefore caged and pecked violently at all who approached, but the female was sociable and affectionate.

YELLOW-FRONTED PARROT

Poicephalus flavifrons (Rupp.).

Pionus flavifrons Rpp.

Pæocephalus spotius Hgl.

Pionias flavifrons Fnsch. Hgl.

This bird is green. The feathers of the back and tail have dark bases and this gives a spotted effect. There are some yellow feathers on the forehead and under the eyes. Some specimens have some yellow on the back as well. The upper portion of the beak is darker. Mr. Whitley in England recently kept a pair. This species is a little larger and the feet are reddish maroon. As early as 1845 some specimens were brought to Europe by Major Harris. I do not think this species had yet appeared in the rich Zoological Gardens in London, which proves its rarity. It also comes from Abyssinia.

RUPPELL'S PARROT

Poicephalus rüppellii (Gray).

Psittacus rüppellii Schlg.

Pionias rüppellii Fnsch.

This bird comes from the south-west portion of Africa. It is dark grey. On head and neck there are silvery tones and on the back the feathers shade here and there into blue. It has some yellow feathers on the shoulders, under the wings, and on the legs. The beak is black. It is smaller still than *Pæocephalus rufiventris*. It is strange that in this species the female is more brightly coloured than the male. In character it is very similar to *Poicephalus meyeri*.

THE BROWN-NECKED PARROT

Poicephalus robustus (Gm.)

Poicephalus pachyrhynchus Hrtl.

Pæocephalus magnirostris Snc. etc.

Pionias fuscicollis Fnsch.

A native of South Africa. Breast and body are a brilliant green shading at times to sky-blue. Back and wing are darker. There are some dark purple feathers on neck, head, and cheeks. Mr. Astley had a bird of this species which sat on his shoulder and was deeply attached to him. It imitated various sounds, but did not pronounce any word distinctly. In 1869 there were two specimens in the Zoological Gardens in London. During the last few years there have been arguments among naturalists with respect to this bird, but now it is definitely recognized as a species apart, subdivided into various subspecies.

JARDINE'S PARROT

Poicephalus gulielmi Jrd. also called *Pionias gulielmi* Schl.

A native of West Africa. This species is green all over, with many feathers almost black. It has patches of red on the forehead, dark grey beak and rings of red feathers on the shoulders and round the legs. The green of the breast is paler. Some of the undertail feathers are of a yellowish shade. There are data proving that this bird has nested in Europe. The feet are dark grey. This *Poicephalus* is a little larger and in shape reminds one of the Amazon Parrot of South America.

AUBREY'S PARROT

Poicephalus aubryanus or *Poicephalus gulielmi aubryanus* Souance.

This bird comes from the Congo and Angola. It is smaller than the Grey Parrot and a little larger than the Senegal Parrot. It is very similar to *Poicephalus gulielmi*. As soon as one sees it, it is obvious that it belongs to the same family. Certainly anyone not knowing it well, would not easily notice any difference. *Aubry* is less dark and has a lighter beak than *Poicephalus gulielmi*. There may be others of this species, but these eight are the best known. Nevertheless the study of these species is still in its elementary stage. It is to be noted that in many of these African species dark, often almost black, feathers predominate. There should be very interesting data for ornithologists among these birds.

THE ROSE-RINGED PARRAKEET

Genus *Psittacula* or *Paleornis*—

Psittacula krameri (Sep.).

Psittacus docilis Vll.

Sincialo Bff.

Perruche sincialo Levaill. etc.

This species was famous even in the days of antiquity and Pliny mentions it. It comes from the north of the Equator, from Abyssinia, and Senegambia. It is very similar to the Indian Ring-necked Parrakeet, *Psittacula manillensis*, so that some naturalists think that it was originally imported from India. Greene wrote that these birds were too similar to be classed as two species. *Psittacula krameri* has beautiful bright green plumage, very light

on head and breast, the tail is long with some bluish green feathers, it has a pink collar joined under the chin to a semi-circular ring of almost black feathers. In the sun its green feathers take on a magnificent golden yellow tinge. The beak of the African species is less red. I have a pair of *Psittacula krameri* and have noticed that in the male the lower part of the beak is black and the upper part coral red ; the female, on the other hand, has a reddish black beak. Like the female of the Indian species she has no collar, but is green all over. My Indian pair tried to breed, but the African birds have not even tried, but perhaps they are old birds ? My little Ringed Parrakeet I mentioned as having paired with the Senegal Parrot is very lively and tame. This species is quite well known in Europe to-day and there is no zoological garden without a few specimens. In England it has been possible for years to obtain yellow specimens of the Indian Ringed Parrakeet and of its larger relative *P. nipalensis*, some entirely blue with a white collar, of a truly remarkable beauty ! Breeders of these varieties must use the same means as are used for obtaining the various colours in the Budgerigar (*Melopsittacus undulatus*). Anyone interested in a good reproduction of the Blue Alexandrine Parrakeet can see one in the AVICULTURAL MAGAZINE of November, 1926, vol. iv, No. 11. Mr. Ezra, of Foxwarren Park, Cobham, we were informed in *Foreigner*, January, 1935, has succeeded in getting another blue and two lutinos.

(To be continued)

* * *

REVIEW

WILD PLANTS AND SEEDS FOR BIRDS. An illustrated Dictionary of the best foods for use in Cage and Aviary. By RICHARD MORSE, F.L.S., F.R.H.S. Price 1s. 6d. net. Published by *Cage Birds*, Dorset House, Stamford Street, London, S.E. 1.

It is important at all times, but especially so in war-time, when imported bird seed is scarce or unobtainable, that those who keep birds should know the different native plants that produce seeds suitable for feeding ; and there is little doubt that seed-eating captive birds would keep in better health generally than they do if their diet were varied with the seeds that nature supplies so abundantly in our countryside. Those of us who are gardeners are always fighting the weeds, many of which are valuable producers of food for cage and aviary birds, so the aviculturist need not go far to find a good deal of his bird food. Take, for instance, one of the commonest weeds of the garden which even grows freely on the paths if allowed to, the small annual grass, *Poa annua*. How gardeners detest it, but what joy a handful of it gives to a cage full of ornamental Finches.

Not many of us know enough about our wild plants to be able to judge as to which are useful and which not, but we can all become wise on this matter by reading a very excellent little book with the above title by Richard Morse, F.L.S., F.R.H.S., in which the author gives a very generous list of the plants useful as bird food. The English names of the plants are given alphabetically and their properties as food producers fully described. It is of the utmost value to aviculturists in these difficult times and I strongly advise all who keep seed-eating birds to obtain a copy.

D. S-S.

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NOTES

DR. J. M. DERSCHIED

News has been received that Dr. J. M. Derscheid and his family are alive and well in Belgium. Part of his collection of birds has been saved, but many fine things, notably most of the rare sea Ducks, have died or been destroyed. The Lories and Lorikeets are all dead because of lack of the right diet during the German occupation.

HAND-REARING FOREIGN BIRDS

I expect very few aviculturists would embark upon the somewhat arduous task of hand-rearing foreign birds (though they might resort to it to save the life of a rare specimen). They would know also such birds do not breed.

About six years ago I hand-reared a featherless Zebra Finch and also a nest of Budgerigars when the hen failed in her duties. In the case of the Zebra Finch I was exasperated with the parents who went to nest three times and each time forsook their babies. When for the last time I found all dead except one mite just breathing, I told them "it should live in spite of them!" He grew into a nicely tailored Zebra Cock and has been my faithful friend for six years. He lives in a divided cage with a Budgerigar (one out of the nest hand-reared). These birds are always together and great friends. The Budgerigar talks to the Finch and copies all his noises—he is also a bit of a ventriloquist. These birds are not closely cooped up. They fly about daily, are normal and healthy.

Having derived much pleasure from these tame birds, I often wonder if others (who are free enough to do so) might make the effort to rear birds in a similar way. They would raise money for the Red Cross or, if given to sick people, would delight them. There are many enduring a long convalescence due to the war who cannot read much. For them to have such birds would provide them with interest and pleasure.

F. E. MATTHEWS.

THE WHOOPING CRANE OF AMERICA

In the February, 1940, issue of the Magazine, Mr. David Seth-Smith, in writing of the "Early Years of the Avicultural Society", mentioned a statement by the late John C. Phillips that the Whooping Crane of America was supposedly extinct. Within the last two or three years a small band of these magnificent Cranes has been reported by the Indians who live there as being seen in the great Everglades swamp of Florida and I talked with a white man down there who told me of seeing them and described them so closely there can be no doubt of the species. Unfortunately our Fish and Wild Life Service entirely prohibits the taking of any of these birds, or the keeping and preservation of them in captivity, so that very probably this small remaining band in Florida will go into the pots of the Indians and renegade whites who make the great swamps their home. If only a pair or two could be obtained and put into the hands of an experienced aviculturist how much greater chance they would have of being perpetuated. There is one very old (although strong and healthy) male in a private collection in America, but I know of no other specimen of this species in captivity.

C. L. SIBLEY.

BREEDING OF LONG-TAILED GRASSFINCHES

Mr. B. C. Thomasset writes :—

You may be interested to hear that a brood of four Long-tailed Grassfinches left the nest in the open flight of one of my aviaries on 17th November, 1940. They have all survived and are now in full plumage with yellow beaks.

CHICAGO ZOOLOGICAL PARK

Our breeding records so far as numbers are concerned was not as good in 1940 as in 1939. The Crimson-wings, Alexandra's, Bourke's, and King's all deserted their first nests. However, the Queen Alexandra's raised three in their second brood (we now have a lovely flock of twelve of these dainty birds), the Bourke's raised three, King's raised six in two broods, Cockatiel raised three, Turquoisines raised two, Swainson's Lorikeets raised five (from three pairs), and Budgerigars raised fifteen in whites, yellows, and blues.

Our greatest achievement was the raising of a fine pair of Turquoisines. Our original pair came from Australia in 1934, but were not tried for breeding until 1938 when one young one came from the nest but disappeared the same day. The next season, 1939, seven eggs were laid—none of which hatched, and during the winter the female died. We procured a new female from California in the spring of 1940 and we were delighted when we saw that the pair were occupying the nest-box. Nesting seemed well under way when we missed the male for two days. On looking in the nest-box we saw him dead in a corner and the female with two newly hatched young. We were in a quandary. Of course we removed the dead bird but what to do with the young? Should we take a friendly male Bourke's and put with her to help raise the young or take them away and add to the nest of a newly hatched brood of Bourke's, or let her alone? We finally decided to let her worry about her babies and if she did it did not affect them except that they emerged from the nest fully feathered and strong. Evidently it was the best thing to do, for the pair are splendid birds. It was not long before the colour marking easily distinguished the male from the female.

KARL PLATH.

* * *

IMPORTANT NOTICE

ILLNESS OF THE HONORARY SECRETARY

The Council regrets to have to report the illness of Miss Knobel, Secretary and Treasurer of the Society, which renders her unable to continue her work for the present.

Mr. D. Seth-Smith has consented to act in this capacity for the time being, and all communications concerning subscriptions, change of address, candidates for membership, etc., should be addressed to him at "Brabourne", Poyle Road, Guildford, Surrey.

* * *

CANDIDATES FOR ELECTION

V. D. HAGGARD, Zoological Gardens, Adelaide, South Australia. Proposed by E. Maud Knobel.

ARTHUR HEIRON GARDENER, 21 Kingsland Road, Southfield, near Sydney, N.S.W. Proposed by V. C. Hughesdon.

JOHN W. LIVERMORE, 130 East End Avenue, New York City, U.S.A. Proposed by S. Dillon Ripley.

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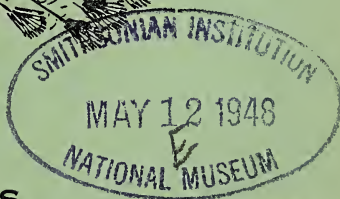
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AVICULTURAL MAGAZINE



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Ixulus flavicollis.

AVICULTURAL MAGAZINE

THE JOURNAL OF THE
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MAY-JUNE, 1941

THE YELLOW-COLLARED IXULUS

(*Ixulus flavicollis*)

By ALFRED EZRA

This most attractive bird is found in the Himalayas from Suttle to Bhutan from 4,000 to 8,000 feet, and keeps to the greenest and most humid forests, though it frequents the more open parts of these. According to Oates it “breeds from May to July, constructing a deep cup-like nest of moss and fibres which is suspended from one or two twigs of a branch. The eggs, usually three in number, are whitish, marked with brown of various shades, and measure .78 in. by .56 in.”.

Describing one nest, Mr. Gammie says: “It was one of the most artfully concealed that I have ever seen. It was a rather deep cup, composed of moss and fine root-fibres and thickly lined with the latter, and was suspended at a height of about 6 feet amongst the natural moss hanging from a horizontal branch of a small tree, in which it was entirely enveloped. A more beautiful or more completely invisible nest it is impossible to conceive. It contained three fresh eggs.” I have kept this beautiful bird in cages as well as in aviaries and they do wonderfully well, but to see them at their best they should be kept in aviaries. Their movements are very pretty and they always look so happy. I have fed them on any good insectile mixture with a good deal of fruit, which they love. The *Ixulus* is very much like the *Yuhina*, but it has a shorter and thicker beak and its crest is a heavy one. They are very good livers and I have had mine in aviaries for quite a long time. I consider them some of the most attractive birds to be kept in an aviary.

OBSERVATIONS ON THE SOLITARY LORY IN CAPTIVITY

(*Phigys solitarius*)

By ROBERT A. PATTEN, B.V.Sc., Superintendent and Curator,
Taronga Zoological Park, Sydney, Australia

Could any bird lover be other than thrilled on viewing this charming Lory? What a galaxy of colour it presents with its brilliant plumage of rich crimson, purple, blue, green, and touches of orange! Of all the birds found in the islands of the Pacific surely the Solitary Lorikeet from Fiji must be considered one of the most beautiful creatures of nature.

Through the kindness of Mr. F. C. Exon, Fiji Radio Service, we came into possession of a number of these birds in 1938. Considerable care and attention to detail was necessary to acclimatize and rear them in Sydney during the first twelve months after arrival. However, we were fortunate in so far as we suffered no losses. Eventually the birds were transferred to a roomy aviary allowing plenty of direct sunlight in the flight, and the retreat adjoining was well sheltered against the prevailing winds.

The Solitary Lorikeet is found in most of the Islands of Fiji and is known there under the name of "Kula". Its natural food consists principally of nectar and fruit, particularly soft sweet berries. It nests during the month of September in hollow trees, the number of eggs usually being three or four, oval and white in colour.

The birds forwarded to us soon settled down and became charming exhibits due not only to their brilliant plumage but also to their friendly habit of climbing on the front panel of netting of the aviary within a few feet of the admiring public, who were thus able to view the birds at close quarters.

Late in the 1939 season, we erected a number of breeding aviaries each having a flight of 25 ft. by 5 ft. by 7 ft. high, and a pair of Lories was transferred to one of them. I endeavoured to procure some of the giant bamboo from New Guinea for nesting purposes but unfortunately without avail, so a hollow log 1 ft. 6 in. long was hung in the flight.

Early in October it was noticed that the birds were taking an

interest in the nesting log as they frequently were going in and out of the nest. However it was not until 16th October that one egg was seen.

On 13th November the birds appeared most disturbed and an inspection of the nest revealed that the egg was broken with the young dead inside the shell.

Unfortunately, during the incubation period a number of picnickers carried out their organized sports near by and I suspect that this was responsible for upsetting the birds, as from that time onwards the hen and cock would often be in the log together and on other occasions the nest would be deserted while both birds were flying up and down the length of the flight. So nervous did they become that whenever the keeper entered the aviary, if one bird happened to be in the log, it would immediately leave it.

Naturally we were disappointed but realized that additional time was necessary for the birds to accustom themselves to the new surroundings.

As the 1940 season approached we were anxious that everything possible should be done to induce these Lories to multiply. The food supplied consisted of the following : a mixture of Mellin's Food, sweet condensed milk, a few drops of fresh tomato juice, Marmite (a vegetable extract), and water ; fruit (apple, banana, pear, pawpaw) ; greens (lettuce and freshly cut lucerne).

On 14th August, 1940, a nesting log 1 ft. 6 in. long with an inside diameter of 6 in. was hung in the flight but placed under cover from the rain. On the morning of 2nd September, an egg was found broken in the pond ; this was a rather depressing start.

However, on 23rd September, one egg was laid in the log. After our previous experience we did not think it advisable to intrude by making another inspection until 2nd October when we were delighted to find two eggs were present. On 21st October one young bird emerged from the shell ; unfortunately the other egg was not fertile.

On 28th October the young bird resembled a ball of white fluff and on 5th November it was covered with grey coloured down. Four days later it was noticed that growth was remarkably rapid. The nest, however, was becoming extremely dirty and foul due no doubt to the type of food consumed by the parents.

On 12th November it was possible to detect the development

of the pin feathers coloured red and green, and on 18th November more colour was evident, but the dirty condition of the nest was now causing us some anxiety. Fearing, however, that our intrusion might have unfortunate results, we decided to leave well alone and hope for the best.

On 23rd November the feathers were more vivid in colour ; the head being covered with dull green feathers. On 2nd December the breast and sides were the last portions to be clothed.

The bird appeared to be ready to depart from the nest on 9th December, but it was not until the 21st that it actually left the nesting log and flew into the flight. This was a most remarkable thing as the length of time from hatching was almost nine weeks.

Both parents assisted in rearing this young bird, but it was very noticeable that some days only the nectar was partaken of, the fruit remaining untouched.

In reviewing the breeding of this Lory it was a constant source of worry and anxiety to find the nesting log in such a filthy and insanitary condition ; at times the young bird was actually standing in a liquid slime of excreta which would later become firm again. The astonishing thing, however, was that throughout the long period in the nest the young bird remained quite clean and eventually left it in excellent condition.

The young bird differed from the adults in that the mandibles were a slate colour (adults yellow with orange at the tip), the feet grey or putty in colour (adults salmon), the red band on the upper mantle narrower and duller, and the eye of the young bird practically black throughout whereas in the adults the iris is yellow and the cornea brown.

So quiet did these birds become later in the season that it was not an uncommon sight to behold them drinking the nectar as it was being poured from the keeper's jug into their food basin.

As an exhibit, the Solitary Lorikeet is a most charming and attractive bird. It is active, friendly, and very fond of light rain showers ; during these changes in the weather it is generally to be seen displaying on the wet netting or hanging to any small twigs protruding through the enclosure.

Mr. D. Seth-Smith writes :—

The Editor has allowed me to see Mr. Patten's article in proof and I should like to take the opportunity of congratulating him on behalf of aviculturists in England upon his great success with what is generally regarded as a difficult species, though the climate of Sydney is far more favourable to its welfare than that of London. This very beautiful species was first brought to England by Dr. Manson Bahr who succeeded in landing ten examples in the late autumn of 1911. Most of them were temporarily deposited in the London Zoological Gardens where one had an opportunity of studying and admiring them. It is certainly one of the most beautiful of the brilliant group to which it belongs and on account of the unique ruff of pointed green and crimson feathers on the nape we named it the "Ruffed" Lorikeet, a name which seemed more appropriate than that of "Solitary" Lory given by Latham, since the species is, by all accounts, anything but solitary. Dr. Bahr contributed an interesting account of his experiences with these birds to our Magazine for December, 1911. Very few have been imported since though there is, or was very recently, a living specimen in the London Zoo.

* * *

SOME NOTES ON BIRDS SEEN IN THE GOLD COAST

By D. H. S. RISDON

Being stationed here probably "for the duration", I thought some notes about the local birds would be of interest to readers.

Before starting I ought to mention that I have only been out here three months, added to which I am working all day and every day with about two hours each evening before dark for recreation, so many of my observations are necessarily sketchy.

First of all a brief description of the surrounding country and climate might be useful.

Just here on the coast the country is pretty open, consisting of coarse grass about knee high, interspersed with large patches of scrub vegetation about five or six feet high. Except for native-made paths here and there, this is practically impenetrable,

although one can see right across it when standing at the edge. There are plenty of palm trees dotted about, and the general effect is rather park-like. Farther inland the palms become more frequent, one begins to come across tall cottonwood trees, and the vegetation generally tends to become higher and more forest-like.

The climate is divided roughly into the rainy season from March to June, the "small rains" from July to October, and the hot dry season from November to February. The temperature seldom exceeds 85° F. in the shade at any time of year, nor does it ever drop below 70° F. even at night. When I arrived in August, the shade temperature was about 75° F. at midday. Actually it feels much hotter owing to the high degree of humidity in the air.

The first bird that I recognized was the Rufous-necked Weaver and his cousin the Atlas. They nest in colonies in the trees bordering the native villages, and one's attention is at once drawn by the well-known fizzling, buzzing song. Looking up one sees the nests hanging in clusters, sometimes only separated from each other by about a foot, while the birds themselves seem to be perpetually quarrelling as they hang upside down from the nests with half-open wings.

Knowing the ferocious temperament of the Rufous-necked Weaver in an aviary, it is rather amazing how they ever manage to hatch and rear young in such close proximity to one another. Each bird seems to fly from nest to nest only to be driven off by another one as soon as it alights.

They were evidently breeding in September, as a native showed me a live nestling at that time.

I rather think these birds are monogamous, as there are always quite as many cocks as hens at the nests and, when seen out in the bush, they are generally in pairs.

Although preferring the precincts of human habitations when nesting and carrying on their affairs quite unconcernedly with all the bustle of native village life just beneath them, they are very shy and difficult to approach out in the bush, where they go presumably to feed.

The next bird to come to my notice was the Yellow Backed Whydah. The cocks were in colour in August when I arrived, and still appear to be now in November. He is very noticeable

as he sits on top of some low bush, fluffing up his head feathers till they look like a ruff. Suddenly, his racket-shaped tail spread to its fullest extent, he launches off on a display flight. Up, up he goes in a series of undulations, perhaps twenty or thirty feet in the air. Then down he comes to perch near his lady love (or loves). I am not sure whether this species is polygamous or not. Sometimes one sees one, sometimes several birds out of colour accompanying a cock. Possibly in the latter case the extra ones are youngsters. It is impossible to get near enough to see. I have as yet seen no evidence of their breeding.

Orange Weavers are common. The cocks were in colour in August, but are now, in November, becoming less and less noticeable, so I think they must be going into eclipse. They have the wonderful fiery red that one only sees on freshly imported cocks in colour, and show up a long way off, looking literally like balls of fire as they bob from bush to bush, each cock followed by a stream of about ten birds out of colour. Here again it is impossible to differentiate between hens and immature birds. As I have seen no nests, and the birds appear to be going into eclipse, one might assume that this is the tail end of the breeding season, hence the large number of supposed hens to each cock.

Pintailed Whydahs are, if anything, commoner than Orange Weavers. Like the latter, they were in colour in August, but in November appear to be going out. They have the same habits, each cock being followed by a small flock of "eclipse" birds. If this species is parasitic, as it is supposed to be, it is most likely to choose, at any rate in this district, Orange-cheeked Waxbills, Bronzewing Mannikins, or Firefinches, as its foster parents, as these are the only small seed-eaters I have seen locally.

The Orange-cheeked Waxbills frequent the bush in small parties numbering up to a dozen. All you hear at first is their familiar cry and then they hop up the long grass stems to have a look at you, their tails wagging from side to side. Strangely enough, I have never seen a Red-eared Waxbill here. I say strangely, because one always associates Red-ears with Orange-cheeks in one's mind at home.

Bronzewing Mannikins have the same habits as the Orange-cheeks, but in this case I have sometimes seen flocks of over a hundred birds. They get up from the long grass just in front of

you, only to settle about fifty yards farther on and repeat the performance when you come up with them.

These birds were nesting in August and are still doing so, often choosing to build in holes under the eaves of houses. I have to-day been watching a pair building just outside the window. They bring in enormous lengths of dried grass or similar material, which takes their fancy, and every now and then they stop for a rest on the telephone wire and the cock entertains his mate with his quaint little song and dance. Once they were joined on the wire by a family party of mother, father, and about six mouse-brown youngsters, but these were soon requested to leave.

Firefinches of a sort are fairly numerous. They are not the common form, being more of a plum-red than brick-red as in the common bird. They are also a shade larger and the hen appears almost as coloured as the cock, perhaps not quite so bright. They are seen nearly always in pairs, sometimes in very small parties. They frequent gardens as well as the bush, a thing which I have never seen the Orange-cheeked Waxbills do.

Although all the foregoing birds keep in parties consisting of their own species during the day, they appear to amalgamate in the evenings for roosting purposes. I have seen enormous flocks at sunset, consisting of Orange Weavers, Pintailed Whydahs, Orange-cheeked Waxbills, and Bronzewing Mannikins, and a lovely sight they made, rising in front of one and flying back over one's head, the long tails of the cock Whydahs silhouetted against the evening sky.

All the above seed-eating birds appear to feed largely on the seeds of the different grasses which abound. There is never a shortage of this food, as when one type of grass finishes there is always another kind coming on to seed, and by the time that is over, the first lot is seeding again. Plant life is like that in this climate. There appears to be no rest period. The old leaves on the trees are merely pushed off by the new ones growing.

I have a suspicion that this applies to the breeding of the birds themselves, as some seem to be breeding now and some don't. After all, there is no appreciable change in temperature or length of daylight all the year round. Insect life is abundant, and the food supply is constant, so there is nothing to stimulate them into breeding condition at any particular time.

Of course there must be a moulting period, but apart from this I see no reason why they should not breed at any time of year. The natives tell me that most of the birds start to breed at the beginning of the rainy season, but they are very unreliable sources of information as far as natural history is concerned.

A lovely little Sunbird, I think, the Scarlet-chested, is quite common wherever the red hibiscus flowers. It moves so quickly one never catches more than a glimpse of it as it flits from blossom to blossom, clinging to the edges and plunging its beak into the scarlet depths of each one.

A sight I shall never forget is that of a large hibiscus bush covered with the gorgeous red flowers and this tiny jewel of a bird vying with the brilliant butterflies for the nectar.

The only nest that I have so far found out here was, I think, that of a Sunbird. It was purse-shaped with the entrance near the top, and suspended from an evergreen branch, so that the leaves at the end sheltered it. The material seemed to consist of spiders' webs into which had been woven bits of bark and leaves, the whole structure being remarkably strong. It contained two tiny eggs, white with brown dots at the large end.

Grey Parrots must be common a little way inland, as the natives always have plenty for sale. You can buy one here for as many shillings as you would pay pounds in England. When you see a number together it is quite easy to pick out the cocks and hens and, needless to say, I soon bought a pair.

Contrary to what I used to imagine, all these birds are wild caught and not hand-reared. Consequently they are very nervous at first, and at your approach make that awful growling noise which tame ones make at home only when they are *really* frightened.

My pair have soon become tame enough to sit on my hand, but they are still very nervous, and sit like a couple of graven images when one goes near them.

They are as affectionate with each other as a pair of Budgerigars, and spend most of their time preening each other's neck feathers or feeding one another. The hen goes through the usual display of dropping her wings, making a straining noise, and finally regurgitating. The cock never does this. He simply regurgitates when pressed to by the hen. He is altogether the less demonstrative party. They are devoted to each other and, if separated, are

restless until they get together again. Their funny little gurgle of greeting as they wring beaks on reunion is quite pathetic.

I have always looked on the African Grey as a nice quiet Parrot which never shrieks, but these half wild ones have a voice like that of a Cockatoo, which they use pretty often. I think it is a sort of warning cry as much as anything, such as they would use in a wild state when they spotted danger. When they get tame they forget it.

They are much more alert and quick in their movements than the ones at home, which look more reptilian than avian, with their slow methodical actions. This I think is largely due to long caging as I must say that the ones at Keston in aviaries large enough to allow them to fly are as active as the ones out here.

The only food obtainable for them here is white maize, pea nuts (which they will not touch), palm nuts, and sugar cane on which they seem to thrive. They adore palm nuts which are evidently one of their principal foods in a wild state.

Palm nuts are a bright fruit about the size of a cherry with a large kernel, so large in fact that the actual fruit consists of little more than a thick rind, which is the part the Parrots love. The kernel is too hard for them to crack.

One of the greatest thrills I have had out here was my first sight of wild Grey Parrots. A friend and I had motored inland one evening, and had stopped the car to do a spot of butterfly catching, when I heard squawks and whistlings high overhead and there, flying abreast, were unmistakably four Grey Parrots. They had rather a rapid wing beat and their short bodies and tails made their wing span appear comparatively wide. They whistled and squawked to one another as they flew and were soon lost to view over the tree tops, heading towards the sunset.

A native happened to be passing and, noticing my interest, asked me if I would like to buy a Parrot, so I went along to his hut, and there in a yard outside were about two dozen of them climbing about on branches fixed to the wall. It was from these that I selected the cock bird which I have at present.

I have written rather at length on Grey Parrots, but so little seems to be known of the wild life of these well-known birds that I have always wanted an opportunity of seeing them in their native home. Now that that opportunity has come so unexpectedly I intend to make the most of it.

THE END OF CLÈRES

By JEAN DELACOUR

Clères, as a bird park, is no more. In the November number of this Magazine, 1939, I expressed the hope that my Normandy home might be spared the fate of the one I had in Picardy, which was completely destroyed by the Germans in the last War. That hope proved vain. All precautions and sacrifices designed to maintain Clères at any cost proved useless in the face of bombings and invasion. Now it is no more than a much-damaged château in an empty and neglected park, itself disfigured with the pock-marks of bomb craters.

When last I saw it, on 7th June, 1940, some thirty bombs, dropped a fortnight before, already had marred its appearance in many places and several hundred birds and mammals had been killed. I was then ordered away with my army unit and I have not seen Clères since. But I know that on the day I left, as well as on those immediately after, the park suffered greatly from further bombings as well as machine-gunning from the air. Four people, as well as many more birds and animals, were killed.

Then came the German troops. There followed looting and the loss of still more birds and animals. Some of these escaped through doors left open, while others mixed with different species and were killed in the ensuing fighting. However, the Germans permitted three of my men, who had remained near by, to return and care for what was left of the collection. But naturally in the interim all the more delicate species, including the Birds of Paradise, the Humming Birds, Sunbirds, and those of insectivorous habit, had died of starvation.

Mr. F. Fooks, who for twenty years had taken care of my collection and managed my estate with the utmost zeal and devotion, fortunately managed to escape to the free zone of France and, later, to England. He had wanted to stay on at any price and against my advice. But on 8th June, having moved some of the rarer birds to a place of supposed safety farther west, he found he could not recross the Seine and so was cut off from Clères.

As it turned out this proved most fortunate, for had he, an Englishman, fallen into the hands of the advancing Germans he

would have been imprisoned or possibly have met with an even worse fate. Some days later we met by luck at the home of an old friend and bird lover, M. A. Decoux, near Limoges in Central France, whose fine collection of Parrakeets, Doves, and small birds, I am glad to say, is still intact and so far unmolested.

Here Mr. Fooks and I parted. As I watched him, his French wife, and his children depart in a car driven by one of my sergeants, I realized that the last connecting link between me and what had been my life for many years had been severed. The Fooks family eventually arrived safely in England after a perilous journey, while I went to Agen, in South-western France. Here I was demobilized on 20th July. My small part in the defence of France was finished.

In August my friends, Dr. A. Urbain, Director of the Paris Zoo, and M. Fr. Edmond-Blanc, visited Clères on my behalf. They reported that possibly a thousand birds, or less than a third of the original collection, remained. These survivors were badly fed and constantly disturbed by the German soldiery, and on the advice of my friends I consented to have the rarest removed to Paris. Fortunately permission for the transfer was given. Later it might have been refused for, as I understand, soon it was made impossible to feed the remaining birds and it became necessary for them to be disposed of to the firm of Louis Ruhe, of Hanover. Naturally I was sorry to hear of this, but at least it was better than to have them die of starvation.

After spending four months following my demobilization in an idleness which was painful, despite the companionship of my mother, I was lucky enough to be allowed to go to New York, where the hearty welcome of my American friends gave me a new taste for life. I was soon offered the position of Consultant to the New York Zoological Society. Needless to say I accepted and the great interest I am taking in the work, as well as in some other of a scientific nature at the American Museum, no doubt will gradually lessen my bitterness over everything I have lost in Europe.

The future is in the lap of the gods. It seems impossible to make any plans at the moment but it would appear that conditions in France never again will be such as to enable me to resume my usual occupations there or to restore Clères to its former state.

With the passing of Clères went the last great private collection



CHATEAU DE CLÈRES



A BLUE EARED PHEASANT AT CLÈRES

in Continental Europe. The few remaining in England, I hope, may survive. But I fear that future conditions there, too, will make it impossible to maintain them on the same scale as in the past. This is a pity for in the large parks where such collections were maintained it was possible to keep many birds and mammals of certain species to far better advantage than is practicable in public zoos.

Most of our members have heard of Clères and quite a number have visited it. It is not for me to say how fine it was. I shall only mention that it was situated in a pretty, narrow valley surrounded by picturesque hills. The historical château, of late Gothic period, and the ruin of an eleventh-century castle, of great architectural value, stood in the middle of a park of several hundred acres. In the park there were also many paddocks and other large enclosures, innumerable pens, and pheasantries, tropical houses, and galleries for the more delicate species, a lake and a river of clear running water.

The great house at one time contained many works of art, period furniture, and family heirlooms, as well as one of the finest ornithological libraries in the world. All these, unfortunately, were destroyed by fire in February, 1939, but the château itself was saved.

To-day practically nothing remains of what I spent the best years of my life in creating. Actually, at Clères only a short time ago I possessed everything to which as a child I had looked forward when I dreamed of one day being a naturalist with a great collection of birds and mammals, as well as of their skins, and with a comprehensive library devoted to my favourite subjects. It was a dream come true and then, at fifty, I suddenly find it vanished in thin air like a pin-pricked bubble.

It is very much to be doubted that the world will ever again see another collection the like of that at Clères. This is particularly true of the Waterfowl and Pheasants. And it is especially regrettable in that many extremely rare species, after long and patient effort, had been so acclimatized and otherwise conditioned that they bred regularly and successfully.

Aside from such memories as the writing of papers may revive, or which may result from other causes from time to time, for me the past is dead. Perhaps my bitter experience may serve as an

object lesson to those who hold material possessions in too great esteem and to remind others that nothing in this life should be regarded as permanent.

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AWARD OF MEDALS

The Council proposes to award medals for the following first breeding records in the United Kingdom :—

1. WHITE-HEADED ROBIN CHAT, *Cossypha albicapilla*. Alfred Ezra, Foxwarren Park, Cobham, Surrey, 1939. Described *Avi. Mag.*, September, 1939, page 304.

2. BLACK-WINGED PLOVER, *Stephanibyx melaopterus*. Alfred Ezra, Foxwarren Park, Cobham, Surrey, 1939. Described *Avi. Mag.*, October, 1939, page 334.

3. BANDED FRUIT PIGEON, *Carpophaga zoeæ*. Alfred Ezra, Foxwarren Park, Cobham, Surrey, 1939. Described *Avi. Mag.*, November, 1939, page 366.

4. ULTRAMARINE LORY, *Coriphilus ultramarinus*. Marquess of Tavistock, Barrington House, Lindfield, Sussex, 1939. Described *Avi. Mag.*, September, 1939, page 292.

5. BLUE-FRONTED AMAZON PARROT, *Amazona aestiva*. Edward Boosey, Brambletye, Keston, Kent, 1939. Described *Avi. Mag.*, December, 1939, page 393.

6. BLACK-CRESTED FINCH, *Lophospingus pusillus*. Dr. Maurice Amsler, Delmonden Manor, Hawkhurst, Kent, 1939. Described *Avi. Mag.*, October, 1939, page 331.

7. JAMESON'S RUDDY WAXBILL, *Lagonosticta jamesoni* Shelley. Miss E. M. Lupton, Beechwood, Elmete Lane, Roundhay, Leeds, 1939. Described *Avi. Mag.*, February, 1940, page 52.

8. RING OUZEL, *Turdus torquata*. V. A. V. Carr, Ormond Lodge, Newbold-on-Stour, Stratford-on-Avon, 1938 and 1940. Described *Avi. Mag.*, July, 1940, page 166.

The following successes are worthy of special commendation, though the breeders are not entitled to the Medal for the reasons stated :—

CAPE TEAL, Colin McLean. Not a member of the Society.

BARROW'S GOLDEN-EYE, H. Wormald. Young reared by Bantam.

BEARDED TIT, H. Wormald. Previously bred by Carr at Tring in 1913 or 1914.

CLACKING GOOSE, J. C. Laidley. Young reared by Bantam.

AUSTRALIAN SHELD DUCK, J. Delacour. In France.

GOLDEN-BREASTED BUNTING, N. G. Allison. Young partially reared by hand.

Several notable successes have been achieved at Leckford, as reported by Miss Chawner and Terry Jones, but the young birds, chiefly Pheasants and Waterfowl, have been reared under Bantams.

If any previous breeding of any of the above species should be known to any member or reader, they are requested to be good enough to communicate with the Acting Secretary, Mr. D. Seth-Smith.

In view of the urgent need for metal for war purposes, it is proposed to provide certificates in lieu of medals for the time being.

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BREEDING RECORDS TO DATE

By Dr. E. HOPKINSON, C.M.G., D.S.O.

(*Continued from p. 49*)

PARROTS, Part III

Lovebirds

Although not following the strict order of precedence as given in the books, I find it convenient to take the LOVEBIRDS here, partly because there is a great deal of new matter in their records, and partly because these will show how much is to be done in the way of summarizing and generally arranging the mass of records. This must be done by another, and I hope that when the present trouble is over some one willing and competent will be forthcoming.

In *A.M. 1928, 199*, a list of Lovebirds known to have been bred up to 1928 was given; more have been bred since, and those I know are given here, but I feel sure that other crosses have been bred, and all sorts of combinations of more than double parentage, which need clarification and record.

MADAGASCAR LOVEBIRD (No. 393), *Agapornis cana*. (Gm).

"Have been frequently bred," says Neunzig (*p.* 717). Russ appears to have been the first breeder and the event was recorded in *Bull.* 1880, 680, and Butler (*AGB.* ii, 214) says they were also bred by Wiener and others about that time. Among British records are Oates in 1900—four young reared (*A.M.* 1901, 41) and Lovell-Keays, 1914—two reared (*B.N.* 1915, 142). Since about that date they have been imported much less commonly than in the years when they literally came in in thousands, and I know no recent success.

Hybrids

MADAGASCAR LOVEBIRD × BUDGERIGAR.

Neunzig says this cross was bred in 1890, and gives the reference *Die Gef. Welt.* 1890, 223.

ABYSSINIAN LOVEBIRD (No. 394), *A. taranta* (Stanley).

Neunzig (*p.* 715) writes, "In 1906 some were imported by an Italian dealer and came into the possession of an Austrian aviculturist. They bred . . ., two young were hatched, which were fully coloured at ten months old ; in another brood three young were hatched."

In 1925 and 1926 quite a number were imported, and there were more breeding successes. The two first British records were W. Lewis, who reared one young bird that year and gained the A. S. Medal (*A.M.* 1925, 292 ; 1926, 71, 116), and Groves who also reared a single bird in the same year. According to Prestwich writing in *A.M.* 1928, 295, Groves's was really the first British success, as Lewis's occurred a few weeks later. The really first success since the original Austrian one appears to have been obtained in Germany in 1925, earlier than either of the two British breedings (see *A.M.* 1926, 146, and *Die Gef. Welt.* 1926, 1927). In *L'Oiseau*, 1922, 261, Decoux gives the name of the first Austrian breeder as Rambausek.

Shore Bailly bred them in 1926, and in that and following years they were bred by a few other aviculturists, both here and abroad, but never to the extent and frequency which has attended efforts with other Lovebirds.

PEACH-FACED LOVEBIRD (No. 395), *A. roseicollis* (V).

Russ says they were first bred by Brehm and later at the old Berlin Aquarium (see *Russ*, vol. i, and *Bull.* 1873, p. 94). According to Neunzig (p. 773), Russ used Budgerigars to hatch out the young and generally met with success, finding them easy to breed. Early British records are Cooksedge, 1899, "eight young bred" (*A.M.* v. 190); the Zoo, 1909, and Lovell-Keays, 1914, "five reared," (*B.N.* 1915, 142). Later they were bred by many, sometimes almost as freely as Budgerigars; with Whitley they simply teem; his first success was in 1928 (but never reported), and by about 1932 I saw his flocks of true-bred birds and almost larger ones of various hybrids. He also obtained a few colour-sports among the true-bred birds; one which I saw about 1933 had almost the whole head and chest pink. Seth-Smith in *A.M.* 1934, 30, mentions a most prolific pair which Whitley had—they had reared 24 young in fourteen months.

In America they were first bred at the New York Zoo about 1926 or 1927, and are now freely bred everywhere where they are kept.

Hybrids

PEACH-FACED × MASKED LOVEBIRD.

First bred by Whitley in 1928, but not recorded; since then he has bred this cross easily and often.

Hybrids with males of the NYASA, BLACK-CHEEKED and FISCHER'S LOVEBIRDS are also on record.

BLACK-CHEEKED LOVEBIRD (No. 396), *A. nigrigenis*, *W. Scf.*

Neunzig (p. 713) says this species reached Europe for the first time in 1907, and that they have often been bred in cages, bird-rooms, and outdoor aviaries. In the U.K. Phillips was the first breeder in 1908, when he reared several young (*A.M.* 1908, 318). In the next few years they were bred by many and then they ceased to be imported. Mathias, writing in *B.N.* 1910, 47, 137, 161, 247, says that their productiveness with him was little short of amazing, that they were quite hardy and bred in the winter, two young

ones once flying on 31st January. Other British records of that time were Temple, 1909, and Lovell-Keays, 1914 (*A.M.* 1910, 103; *B.N.* 1915, 142). They were also bred in America and elsewhere, and then the home-bred stock appears to have died out and no more Black-cheeks were seen till Chapman imported a lot in 1926; this was followed by other importations up to the Parrot ban in 1933; records of breeding again appeared, among which Whitley's results were the most striking, though never recorded by him.

Hybrids

BLACK-CHEEKED $\times$ PEACH-FACED LOVEBIRD.

Two pairs of this cross were exhibited at the C. P. Show, February, 1925; on these Seth-Smith writes in *A.M.* 1925, 1907, "Second and third prizes were awarded to Mr. Sumner Mariner for pairs of Black-cheeked and Peach-faced Lovebird hybrids, resembling small Peach-faces with dirty faces." These must have been the first of this cross to be bred in the U.K., and I think that Mariner was the breeder as well as the exhibitor, but am not certain of this. I saw two such hybrids (? Mariner's) at the Zoo in the summer of 1925, and since then Whitley has bred a number; the cross has also been bred in France (*A.M.* 1929, 79), and other countries.

BLACK-CHEEKED $\times$ MASKED LOVEBIRD.

First breeder H. Moore of Tadworth in 1928, who was awarded the French Medal for a first in Europe (see *A.M.* 1929, 21); this in *A.M.* 1933, 48, was by a slip credited to "Lowe", and for the correction I am indebted to Mr. Tadworth's advertisement in *Cage Birds*, 7th July, 1933, and to a letter from him giving particulars. The cross has often been bred since, and the hybrids are often fertile, for Whitley in 1930 and later obtained further crosses, viz. BLACK-CHEEKED $\times$ NYASA BLACK-CHEEK hybrid (five young reared in 1930 and others in following years), and BLACK-CHEEK $\times$ MASKED hybrid $\times$ pure-bred MASKED, this further hybrid looking exactly like a large-sized MASKED. Further hybrids still were bred promiscuously at Paignton, but exact results I never obtained; masses of hybrids all much alike was the general impression I got.

BLACK-CHEEKED $\times$ NYASA LOVEBIRD.

Bred by Bennett in Australia in 1927 (*A.M.* 1928, 301) ; this was probably the first success, but since then the cross has been commonly bred, notably by Whitley, who has also obtained further crosses, as the hybrids are fertile, which he thinks is the case with most (if not all) Lovebird crosses. He finds the young hybrids keep closely to type, but occasionally he gets a "sport"—for instance in 1933 he bred a bird, which I saw, and which when adult showed no black on the head, the whole of which was a yellowish brown, instead of the normal black. Further crosses on record are the above hybrid $\times$ pure-bred BLACK-CHEEK (i.e. $3/4$ BLACK-CHEEK) bred by Bennett in Australia, and the same cross *vice versa* (i.e. $3/4$ NYASA) also from the same breeder. In the first case one was reared which was very like a pure BLACK-CHEEK, and in the second one young one only also reared. Whitley has also bred both these crosses freely, and I expect others, but with his usual non-publication of the facts. What a pity ! The cross with the male NYASA LOVEBIRD is also on record.

(BLACK-CHEEKED LOVEBIRD $\times$ BUDGERIGAR.) In *B.N.* 1911, 211, the editor wrote : " Mrs. Higginbotham has four young of this cross hatched out and doing well." See also the October *inset*. Nothing further appeared about this, and on inquiry Mr. Page replied that he had never heard any more about the matter. This record must therefore be disregarded.

MASKED LOVEBIRD, *A personata*, *Rchw.*

First arrival in Europe, 1925, and first bred by Tavistock in 1927 ; two young were reared and two more were reared the next year (*A.M.* 1928, 18 ; *L'Oiseau*, 1928, 59) ; since then they have been freely bred elsewhere.

About 1928 the Zoo purchased and imported blue male, which though rather a cripple, mated with a normally coloured hen and produced a brood of green young ; the next year he was mated with one of his daughters (green) and more young resulted, all green. In 1931 he was mated with the same (or one of his other daughters), and several pairs from others of his green, but blue-bred offspring also bred ; from him and them three blue young and many blue-bred young resulted ; see Seth-Smith, *A.M.* 1931, 235, and later. I do not think that the first Zoo-bred blue birds did much in the way of breeding, but more blues were bred in 1933 from the blue-breds, and though most of the blues were thrown

out of the nest by their parents and had to be hand-reared, so that they were for a long time feeble and badly feathered, many of them lived and bred as well as their green blue-bred brothers and sisters, so that the Zoo next year had a stock of strong blue-breds and a certain number of blues. A good many of the blue-breds were sent to likely breeders ; Whitley had some and he by 1938 was breeding them well. By 1939 Rudkin in California had 16 blue Masked Lovebirds and by the next year he had what he felt sure was an established strain (*teste* Rudkin & Bonestell in letters to me and articles in *Aviculture*, which want looking up).

What happened later to this blue Masked Lovebird strain established both in England and America, is for another hand to describe. Whitley's collection, I know, was much diminished with the war, and what happened to these blues I do not know.

Hybrids

MASKED $\times$ NYASA LOVEBIRD.

First bred by both Bearly and Lewis in 1928 or 1929, *teste* Prestwich, *A.M.* 1929, 78 ; since then this and further crosses have been obtained by others.

MASKED $\times$ FISCHER'S LOVEBIRD.

First bred, *teste* Prestwich as above, by Bearly in 1928, but two were bred by Blanchard in France in August of that year, and it is uncertain which of these two events was actually the first. Since then the cross has often been bred.

Crosses with males of the BLACK-CHEEKED, NYASA, and FISCHER'S LOVEBIRDS are also being bred.

FISCHER'S LOVEBIRD, *A. fischeri*, *Rchw.*

The first arrival in Europe was a single bird which passed through the Zoo on its way to America in 1925 ; by 1928 they were being freely imported. The first recorded breeding success was Tavistock's in 1927 (*A.M.* 1928, 55, and *L'Oiseau*, 1928, 59, 61, French Medal), but Whitley had reared this species at least two months earlier, but as usual published no record ; I saw the young myself and am sure of the date. They continued to breed with him with the usual Paignton prolificness.

*Hybrids*FISCHER'S $\times$ PEACH-FACED LOVEBIRD.

M. Olivaux in *L'Oiseau*, 1929, 45, reported that he had reared five young of this cross at Rennes and inquired whether it was a "first". Whitley had reared some young the same year (he thinks earlier), but except for this the French record is the first, as it certainly is the *first recorded* success.

FISCHER'S $\times$ NYASA LOVEBIRD.

First breeder, Dooly (U.K.) in 1928 *teste* Prestwich (*A.M.* 1928, 78); since then freely elsewhere.

FISCHER'S $\times$ MASKED LOVEBIRD.

First breeder (*teste* Prestwich) Mrs. Miles of Chichester in 1928; since then freely by others, notably Whitley, who has bred them to many generations (at least six *teste* E. H. 1927), and finds they keep true to type.

The cross the reverse way has also often been obtained.

NYASA LOVEBIRD, *A. lilianae*, Shelley.

First breeder, Stokes : U.K., May, 1926 (see *A.M.* 1926, 169), and they were bred in France later in the same year by Mme Lecallier and M. Decoux, in each case showing themselves free breeders (*L'Oiseau*, 1926, 331). Since then they have been commonly bred. In West Australia I saw a lutino variety which had been bred in a Perth aviary, where Nyasa Lovebirds had been breeding for a couple of years; this was about 1932, and I heard the next year that a second lutino had been bred; later some more lutinos were imported into England, I believe from the same aviary.

*Hybrids*NYASA $\times$ PEACH-FACED LOVEBIRD.

First bred by Whitley about 1929 or 1930; the next year he bred a further cross, a true-bred NYASA male $\times$ a female of this cross, rearing several young. He continued to breed this and further crosses in numbers, which I saw, but which were too numerous and too complicated to remember.

NYASA $\times$ BLACK-CHEEKED LOVEBIRD.

First bred by Blanchard in France in 1928; four young reared

which resembled the mother more than the father (*L'Oiseau*, 1929, 108). Since then the cross has been obtained elsewhere by many, and with Whitley they have been bred to many generations, breeding true to type.

Crosses with *males* of the BLACK-CHEEKED, MASKED, and FISCHER'S LOVEBIRDS are also often bred.

RED-FACED LOVEBIRD, *A. pullaria* (L).

Up to 1926 it was always considered that this Lovebird had never been bred in captivity, and even now I myself cannot feel quite satisfied with the records. The first notice of breeding came to me in a letter from A. Hampe of Berlin, dated 8th December, 1933, in which he wrote :—

“ *A. pullaria* . . . has been bred with full success in Germany, but I have forgotten by whom . . . I think I read the record in *Vögel ferner Länder*, but I cannot find it.” (Note the writer's “ *I think* ”.)

This started a series of communications between us, and he was, I think, hoping to produce another *Records of Birds Bred*, with the assistance of a brother, Helmut Hampe, but the war came which lessened the chances of this, and shortly after his death occurred.

As all my recent information comes from the Hampes, I will give their letters and leave it for someone else to digest the contents and come to a real decision.

In a letter dated 26th February, 1936, Hampe says that it was a Dr. Frenzel of Freiburg who bred these Lovebirds in 1882 and described the event in *D. Gef. Welt.*, 27th July, 1882, where he says one young one flew which was “ inspected by two friends ; a most unexpected success.” He then goes on to quote from Neunzig (*p.* 715), saying that he describes the clutch, incubation period, juvenile plumage, etc., but does *not* mention any complete success ; he also says that from Russ's long account that he himself never had a success nor know of one, adding certainly Neunzig would have entered it in his account if he had known one”. His letter ends with a note that according to Helmut Hampe, this Lovebird was bred more recently in Germany by E. Spille with full success, “ two broods, each of two young flew.”

The next information I received on this subject was from

Helmut Hampe who sent me, *October, 1936*, a reprint from his article in *Vögel Ferner Länder* of 1934.

The following is a translation of what he says on the breeding (*p. 15 of the reprint*) :—

“The breeding of the RED-FACED LOVEBIRD (*Orangekopchen, A. pullaria*), has only been successfully achieved by E. Spille (*Vög f. Länder, 1929*). In 1900 a pair which had been in captivity some time reared two young, which the parents fed till 8 or 10 days after they left the nest, but then started to persecute them, so that they had to be separated. Six weeks later the old pair began to collect nest-stuff again, laid three eggs from which two young were hatched, which left the nest from the 30th to the 32nd day. With each brood there was one clear egg. The two millets, oats, groundsel, biscuit, and fresh ant-eggs formed the main food.”

The above seems straightforward enough, but on 1st September, 1939, I received a post-card from Berlin from a “H. Boss” (? Voss) merely saying that E. Spille was mistaken, his birds were PEACH-FACED LOVEBIRDS (*roseicollis*) NOT *pullaria*. I do not know who Boss is, but I feel sure he must have been a friend of the Hampes and that they had told him of my interest in the matter; I have heard no more about it. Of course errors in identification are easy and have before been the cause of erroneous records of breeding, and so there the matter stands. The Spille success on the face of it looks good, but if the birds were NOT *pullaria* but *roseicollis*, its value goes, also as Hampe in this article makes no mention of the earlier Frenzel record he wrote to me about, that also must go to the doubtful ones. The rest of the article dealt with other attempts at breeding, continuing “in 1868 Dr. Neubert got as far as small young which died young, and the same happened with Dr. Russ and a few others who got as far as eggs which were brooded for longer or shorter periods . . . In *D. Gef. Welt. 1890*, Russ says that Frau M. saw her hen put twigs under her rump-feathers for transport to nest”. The article concludes with his own experience; mating, collection of nest-stuff, but never an egg. The same thing happened with six I once brought home from W. Africa.

The carrying of twigs under the rump-feathers may perhaps go to support the belief that the birds were PEACH-FACED

LOVEBIRDS, for *they* certainly do this ; I have seen a tame hen of this species in S. Africa which did it regularly. Another point which strikes me about the Spille record is that the breeding took place in 1900 but was not recorded anywhere till 1929. This of course may mean much or little, however.

* * *

NEWS ABOUT SPARROWS

By A. H. SCOTT

(Continued from p. 57)

In the case of their young, as in many other ways, Sparrows show an intelligent devotion surpassing that of any other small bird of which I have any knowledge. I was much surprised to find that when danger appears, they frequently endeavour to carry off their fledgelings to a safer spot. Yet one might have guessed that this must be the case, for we have all noticed the numerous corpses of naked young Sparrows lying in odd places. We have been in the habit of saying that these young birds have fallen from a nest, though a moment's reflection should have sufficed to show us that no unfledged bird could fall from such a very deep structure reached through a small hole, usually near the top. If the facts have not been reported before I can only suppose that this transport takes place, as a rule, only when the coast is clear. The only other small bird which I have known to show any tendency to act in this way is the Thrush. On one occasion a Thrush, in an aviary, transported its eggs from a nest near the door, where it was disturbed, to an old nest situated in a quiet corner at the other end, a distance of some 17 feet. I have also known a Thrush, under the influence of fear, to attack and kill its young. This I did not see myself, but my gardener-birdman, who was reliable, saw the occurrence, though he asserted, mistakenly perhaps, that it was the cock which did the deed. I have strong reasons, short of actual proof, for believing that Thrushes in my aviaries have killed their young, after disturbances, on several

occasions. Small mammals, of course, frequently kill their new-born young and also frequently transport them considerable distances. Sitting by an inland creek, at the time when a record high tide was flooding the land, I once watched a gallant little "grass-mouse" carrying its new-born young, one by one, up a very steep bank, which severely taxed its short little legs. Fifty yards away was a Pheasant, sitting on eggs, and staring in apparent torpor, at the water which was then advancing to within a few inches of its nest. Obeying the summons of my luncheon bell (a lamentable error) I went away, and found on my return later that the Pheasant and her eggs were gone. But whether she took them is doubtful. She certainly looked stupidly indifferent while I was watching her : on the other hand trespassers were very rare, though rats abounded. The high tide had wetted her nest, but no more.

I found that Sparrows do transport their young as soon as I began to use rings, and as the facts were surprising, a careful account was written down at the time (June, 1934). This record was sent to *Cage Birds* not long afterwards, but may perhaps be reproduced here, as only notes written at the time of any occurrence are of value. I have since then made further experiments and hope to make others, but the breeding season brings so many preoccupations that I can never achieve half the things I have long wanted to do.

June, 1934.—"In one of my aviaries there was a Sparrow's nest in an ordinary Budgerigar box. I went to this nest when the young Sparrows were a week old, to put rings on them, but found that they were too young, and the rings did not seem likely to stay on. The next day I went to see whether the rings had remained in place, and was astonished to find only one young Sparrow instead of four.

"I had also visited the previous day another Sparrow's nest in another Budgerigar box, situated 24 feet away and also about 9 feet from the ground. To my surprise I found in this nest not two young Sparrows, but four, and half-way between the two nests, on the ground, a dead one.

"I have never heard of Sparrows, or any small birds, carrying away their young. Moreover, it appears almost impossible for a single bird to have carried the large burden that one of these young Sparrows would be, and to have thrust it through a small aperture.

“It seems as if both parents must have co-operated to carry them across. The whole affair is extremely mysterious, as one cannot imagine that another Sparrow would allow a strange bird to import young ones into her nest. But no one except myself and the gardener have access to the aviary, and no other explanation appears to cover the facts.”

A copy of a letter to a friend written at the time gives an account of the sequel to this incident.

“I wrote you before that one pair of my Sparrows appeared to have transported their young ones to another box. I found this almost impossible to believe, as I had not seen it with my own eyes, but I can now tell you this is undoubtedly what occurred, as the same thing happened over again, this time under my observation.

“The same pair had another brood, and at a week old I put on rings. I was sitting in my aviary reading a paper a few minutes afterwards when I heard a splash at my elbow. On looking round I saw an unfortunate young Sparrow in the pond, and the mother looking down at it from a branch above. The bird was a big youngster, and it was astonishing that the hen had managed to carry it right across the aviary. It had fallen only a few feet short of the box at which she was aiming. On the previous occasion she transported them into an occupied box, and the young ones were taken over by the Sparrow that lived there, which makes the incident doubly extraordinary. On the second occasion she was trying to take them to an empty box.” [This box was just above my head where I was sitting and my presence very probably made her hesitate and let her heavy burden fall.]

“I rescued the Sparrow, held it in my hand, and wondered what would happen next. The hen returned to her young ones, and very quickly appeared with another one, which she was holding by the wing. She flew less far this time, although it was a smaller youngster, and seemed to drop it almost deliberately. I did not leave my chair, as I wanted to see whether she would take it up from the ground and try again, but she returned to the next and fished out the third, which she dropped near the second one. I watched closely to see if she would lift them up from the ground, but she did not appear to do so. She kept going down to them, and stayed some time. The grass was rather long, and

I could not see exactly what was going on, but I believe she fed them.

“After a while I put them all back into the nest. She stayed on them for some time, and I thought all would be well, but at the end of half an hour she repeated the whole performance. I picked them up again, and returned them to the nest. She brooded on them for awhile and fed them, which is curious, and then carried them all out once more. She seemed to aim at the other box at the far end of the aviary and went in there while all three were on the ground, and carried food from the nest to this other box. So her intention was clear.

“I then tried picking up the young Sparrows and putting them in the box to which she wished to go. I think my right course would have been to have left them there, and sooner or later she would have found them. Unfortunately, as she did not go into the box again during the half hour I watched, I was afraid the young ones would get cold, and I put them back into her own nest once more. This time she started to feed them, and at the end of an hour was still doing so.

“I then thought things would be all right, and went off to my supper, as I had been struggling with this tiresome situation ever since midday and had had my lunch brought to me in the aviary in order not to miss what was occurring. I was greatly disappointed after supper to find the nest again empty and dusk coming on. After a very troublesome search I finally found the three Sparrows in the grass, and as a last expedient I decided to put them into nests of wild Sparrows, hoping that as it was getting dark they might be adopted without being seen. I placed one in one nest, and two in another.

“Next morning I found that the two (now dead, of course) must have been immediately thrust out, as their crops still contained the undigested bread and milk which I had put in to give them a good start. As far as I know the third one has been adopted by the wild mother.

“My usual experience with wild Sparrows is that they distinguish their own eggs and young quite well, and thrust strangers out of the nest.”

I noticed a significant detail. The Sparrow when carrying her young held them always at the same place—the top of the wing

near the junction with the body, which points to an inherited instinct. For the next year, 1935, I find the following note :—

“ I have five pairs of Sparrows. When I looked into the nest of the first two lots, both mothers carried off their young ones, just as happened last year, and I lost them. So evidently that event was not so exceptional as I thought it. I had barely peeped into the nest, so was not anticipating that they would do this, and was not on the watch. I found the young ones dead on the ground at the other end of the aviary, 24 feet away, beneath an empty nest-box.”

After these occurrences I avoided disturbing my Sparrows, for they are all albinos, or cinnamons, or carry the factors for these and other abnormal colours, and losses may be a serious misfortune. Moreover it was now sufficiently certain that captive Sparrows do act in this manner. It remained to be proved that wild birds have the same habits, of which I felt fairly sure, and only carried out one experiment to confirm my expectation. There were three wild Sparrows' nests in three boxes nailed to a shed at a height of about 12 feet, two containing a couple of newly hatched young ones, and the third three still naked but large.

One afternoon I disturbed all three by removing and replacing the young, and ruffling their nests. I then kept watch from a distance for half an hour, but nothing happened, and an hour or two later there was still nothing to observe. In the morning, however, I found the three large naked ones dead on the ground together at a distance of 9 feet from the nest, and on the wings at the “ armpit ” was the faint red mark made by the mother's beak. She had evidently waited until dusk to make her move in secrecy. The newly hatched ones remained in their nests, and it is curious that it is not the youngest they seem disposed to carry away. Twenty feet or so beyond the point at which these young birds were dropped was an empty box nailed to a garage, and it is just possible that she intended to reach it. I hope some time to repeat this experiment, with several empty boxes placed only a short distance from the nests to be disturbed.

The Sparrow, owing to its exceptional intelligence, seems to be evolving from the lowest stage (desertion) perhaps from a middle stage of killing, to a higher stage of active preservation. The

hysterical killing of young creatures in danger must be allied to the instinct of saving ; but as there are doubtless learned medical books on this subject, it may be left to the doctors.

The intelligence of the Sparrows has evidently been developed through its association with man, and the influence of man on the lower animals would make a subject for an interesting book, if indeed no such book exists. Animals that have all their wants supplied, but enjoy no companionship, deteriorate, till the wretched cow has no longer sufficient brains to get out of the way of a car, even when it is pushed by the bumpers. The dog, which enjoys our companionship, has not only developed a high intelligence, but even a rudimentary soul and knowledge of right and wrong.

The rat from constant persecution, and progressive elimination of those which cannot detect a trap or smell poison, has become more cunning than the wisest serpent, but the Sparrow has special advantages. Petted by many in towns, but slaughtered in the country, he has learned to distinguish clearly between silver-haired old ladies or young children with paper bags and horrid little boys with catapults or unshaven men in gaiters. All this is a continual exercise of his intelligence, and as the centuries go by he may, in spite of his small size, surpass the sagacity of the Crow family, and acquire some degree of sympathy with man.

There is another Sparrow problem, which I have endeavoured to understand, and that is their curious habit of rushing suddenly into violent and noisy scimmages. The *Handbook* writer mentions this custom and wonders what it means, suggesting that it may have something to do with the selection of mates. This cannot be the case, if only because these wild affrays, far from being usual only in spring, are still in full swing in the autumn. When we observe a crowd of chattering and struggling Sparrows in a hedge we cannot follow the actions of the various individuals, but in one aviary where I spend much time the birds were of very various colours, and I could clearly observe their behaviour. Moreover, not merely often but *invariably* my entry was the signal for one of these violent demonstrations, as if fear or any sort of stimulus sufficed to produce in this excitable bird a kind of hysteria. I noticed that each day the same individuals were usually the targets of the same attacker, sometimes pairs of contestants, sometimes two or three to one. They might be the same or of opposite

sexes. The attack consisted of sundry peckings together with much pulling and tweaking of the wing or tail feathers. No damage, however, was done, though Sparrows under the influence of passion can kill and mutilate like savages. At first I thought their actions were dictated by dislikes, and any of my readers who happen to be monks, sea captains, or even school-masters, will have observed how in small closed communities even very worthy folk are apt to develop mutually hostile feelings for no particular reason. In a confined space men cannot for long contemplate with equanimity each other's homely features. These Sparrows, I thought, also get tired of seeing daily the same too familiar faces, and acquire a *bête-noire* or pet aversion. But this explanation did not seem to cover all the facts, the instantaneous action of every individual at the same moment, and the absence of any injuries.

One day last summer I came to a different conclusion. Leaning over a bridge I was watching some foreign ducks sailing quietly on the water below, while overhead a band of Swifts were whirling and screaming in the sky. Suddenly the ducks, and all at the same instant, began, as ducks will, to splash and quack, rushing madly around in every direction : and some of them at least appeared to make sham attacks upon others. This, I thought, was very like the hullabaloo of the Sparrows, and looking up at the Swifts I thought that they too in the excited din of their Dionysian revelries were moved by some similar impulse. It is natural no doubt for most gregarious creatures to seek by loud and ugly noises and violent motions, a more intense consciousness of life. A flock of *homo sapiens*, gyrating enthusiastically to the discords of Henry Hall, or leaping into the air to the nobler strains of the bag-pipes, is probably moved by a telepathic stimulus similar to that which urges the Sparrows to their peculiar frenzies.

The dances of certain savages, we are told, are an imitation of their daily occupations, one being "a representation of conjugal quarrels". This would seem to be a good description of the Sparrows' behaviour : it is a dizzy dance in the form of a sham quarrel.

I have, however, dawdled along far enough, and do not suppose that anybody wants to hear any more facts or fancies about these despised birds. The subject has perhaps been treated with a levity unbecoming to our serious journal ; but these are anxious days,



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D. Seth-Smith

HEAD OF OCELLATED TURKEY COCK DURING "DISPLAY"

The skin is blue with a ring of red round the eyes. The "warts" are bright orange.

To face p. 101.

and we must amuse ourselves when we can. I like that Chinese proverb, invented no doubt by a fellow-aviculturist long ago: "We cannot prevent the birds of sadness from flying over our heads, but we can prevent them from building their nests in our hair."

PS.—As I was about to post the proofs of this article my eye fell on an essay about birds, by Robert Lynd, in the current number of a journal which, for the rest, deals with topics far less agreeable. "Though a man," he writes, "may enjoy looking at any Willow-wren, this does not mean that he enjoys looking at every Tom, Dick, and Harry in the nations of the birds. 'How I hate the sparrows, the sparrows, the sparrows!' begins one of the poems of Dora Sigerson; and many people share her hatred." We all know that this world is a world of injustice: that Robins should be loved and Sparrows hated is just one more proof of the fact.

* * *

THE OCELLATED TURKEY

(*Meleagris ocellata*)

By DAVID SETH-SMITH

Lest it should be inferred from Mr. Spedan Lewis's article in the March-April number of the Magazine that the Zoological Society has never possessed more than one specimen of the Ocellated Turkey, may I be allowed to quote from a contribution I made to the Magazine for October, 1937. I wrote: "There is no doubt that the Ocellated Turkey is better adapted to a warmer climate than one such as that of the British Isles, but, in spite of this, examples kept in the London Zoological Gardens have done fairly well. I have known eight in all during the last twenty-eight years only one of which died within the year, most of the others living for three years or over and one for ten years when it met with an accident."

The nature of the accident referred to I cannot remember (it occurred some twenty years ago), but I do remember a fine cock

bird being seriously injured by a careless temporary keeper during the last war. The bird became very savage during the breeding season, as is usual with the species, and in order to ward off an attack, the man struck the bird with a pail, blinding it in one eye. In spite of this, however, it lived for several years.

Illustrating the article referred to (Fifth Series, Vol. II, p. 271) is a photograph of the cock bird in full display, which Mr. Lewis seems to have forgotten since he says : “ if we can get a photograph of that [the display] this year the Magazine shall have it.”

In this photograph may be seen the hanging wattle which Mr. Lewis does not appear to have noticed, for he says : “ there is no hanging wattle on the top of the head.” It is not “ on the top of the head ” but hangs from just above the bill as in the common Turkey and is only apparent during display, like the erectile fleshy knob on the forehead which the photograph also shows. These features are shown more clearly in the close-up photograph published with this.

I am sorry to learn that of the fine lot of young poults that Mr. Lewis was kind enough to show me last summer only two have survived. He has a far better chance of rearing this magnificent species than has the Zoological Society with its very limited space and disturbance by visitors. There is no doubt that this tropical species is very much more sensitive to climatic conditions than its relatives from more temperate climates, and I think Mr. Lewis has to thank an exceptionally warm and dry summer for his success, though this was only partial. Let us hope that he will be more successful this year, and may I suggest that the Turkey hen should herself be allowed to hatch and rear some of her chicks and thus qualify her owner for the Society's Medal.

Of those I have known in the London Zoo only one has been a hen.

AFRICAN PARROTS

By O. P. STIGAND

(Continued from p. 67.)

Genus *Coracopsis*.

THE GREATER VASA PARROT

Coracopsis vasa (Shaw).*Psittacus melanorhynchus* Fnsch.*Vasa obscura* Schl.*Grand vasa* Levaill.

The large Vasa is a very striking and interesting African bird. It comes from Madagascar, is larger than the Grey Parrot, and its plumage of a maroon shade is so dark that it appears almost black. The feathers of the back and tail have a silvery sheen. Beak dark, feet dark, claws black. Round the eye, also dark, there is a narrow circle of light skin.

A specimen of this bird lived for fifty-two years in the London Zoological Gardens. As it never laid an egg, there was some doubt as to the sex of this specimen, but a post-mortem examination revealed that it was a female. A magnificent specimen of this species was exhibited at the Crystal Palace in 1887 by Mr. Groom. This bird, which reminds one somewhat of our Crows, was never popular owing to its absence of colour, but all those who have kept individuals testify to its intelligence.

THE LESSER VASA PARROT

Coracopsis nigra (Linn.).*Vigorsia nigra* Swans.*Psittacus niger* Bp. Hartl.

The French call this species *Le petit Vase*, but it has other names too. It comes from Madagascar. It is similar in colour and shape to the above mentioned, but is smaller. Examples of this species have often been seen in the Zoological Gardens in London. The first was exhibited in 1857. Others were on view in 1872 and it is said that it bred in England. It is rarely seen to-day in the European markets.

THE SEYCHELLES VASA PARROT

Coracopsis barklyi Nwt.*Psittacus barklyi* Fnsch.

This is also called the Praslin Parrot. The natives of the Seychelles call it *le Cateau noir*. This Parrot, which comes from Praslin, Seychelles, is very similar to the two species already mentioned, but sometimes it displays some white feathers. It was named in honour of Sir Henry Barkly, one time Governor of Victoria and then of Mauritius. It is very tame, but so rare that it threatens to become extinct. Some examples were exhibited in the London Zoological Gardens in 1867 and others in 1874.

THE COMORO VASA PARROT

Coracopsis comorensis Ptrs.*Psittacus comorensis* Fnsch.

The Comoro Vasa comes from the Comoro Islands. It is a little larger than *Coracopsis barklyi* and very similar to all the above-named species. Dr. Bolan said that there was a specimen in the Zoological Gardens at Hamburg. This *Coracopsis* is growing rarer and I fear that it will very soon become extinct.

Coracopsis sibilans M. Edw. et Oust. is another species from the Gran Comoro and from the island of Anjuan. It is very similar to the larger Vasa, but is very much smaller and the plumage is darker and has no silver sheen. It is very rare and few specimens have been imported, which renders a study of this race rather difficult. It is probable that there are other species of *Coracopsis* yet unknown.

Genus *AGAPORNIS*

The Germans call these birds *Zwerg papagei* (Dwarf Parrots) and I think this definition of these little Parrots very appropriate. In Italy all the various species of these birds are commonly called "inseparabili"; they are sometimes confused with the Australian Budgerigar. In England they are called "Love-birds" on account of the affection displayed by them when pairing. One of the best-known species is that called

THE GREY-HEADED LOVEBIRD

Agapornis cana (Gmel.).*Poliopsittaca cana* Bp.*Psittacula madagascariensis* Fnsch. Schlg.*Psittacus madagascariensis* Brin, etc.

The French call it *Perruche à tête grise* Bff. The shape of these birds, which are all more or less of the size of a Sparrow, is that of a small American Amazon. These dwarf Parrots are, in my opinion, among the most attractive Psittaciformes, real living jewels. *Agapornis cana*, like all the rest of the *Agapornis*, makes its nest with small sticks or strips of bark in the hollow of a trunk of tree or box, and lines it with blades of grass, hay, straw, or similar material. *Agapornis cana* is no exception in this matter of nest-building; all other *Agapornis* build their nests in the same manner. Dr. Russ himself has imported *Agapornis cana* and has made a careful study of the species. It has a most beautiful dark green back, with paler neck and breast. There is a little maroon towards the tip of the short tail, the wings are long, and there is some black on the primaries. The beak is light. The male alone has a very pale grey head and breast. The bright eyes are encircled by white skin. The feet also are of a light grey colour.

Like the Budgerigar and many other Parrot species, they love to bathe in wet grass. The Grey-headed Lovebird comes from Madagascar and other African islands. It is often given the trinomial: *Agapornis cana cana*. Brisson was one of the first to describe it in 1760. Attempts to rear it were apparently first made in Germany.

THE RED-FACED LOVEBIRD

Agapornis pullaria (Linn.).*Agapornis xanthops*.*Psittacula pullaria* Lss. Wgl.*Psittacula rubricollis* Brg.*Perruche à tête rouge* Bff.

This bird comes from the west of Equatorial Africa. It has red cheeks and forehead and is one of the smallest species. The red only partly encircles the eye, which is ringed as usual with white

skin. The feathers of the lower back, underwing and upper tail-coverts are of a beautiful sky-blue. The beak is bright red and there is also some maroon-edged red on the tail which finishes in a light green shade. Mr. W. T. Catleigh has been keeping a specimen in a cage for more than two years and remarks on the intelligence of these beautiful birds.

FISCHER'S LOVEBIRD

Agapornis fischeri Reichw.

This bird was discovered about fifty years ago by Dr. Fischer and then described by Dr. Reichenow. It comes from the Victoria Nyanza region. It only appeared on the European market in 1926, but has since aroused much interest among aviculturists, especially in the United Kingdom. This species has bred freely in captivity. It is green with a coral-red beak and also a little red on the forehead. Round the neck and on the breast there are orange tints. Among the green feathers of the tail several blue ones are visible. There are also some black feathers among the primaries. The eye is encircled by white skin as in the case of many other *Agapornis*. The beak is paler than in the others. Some explorers have seen this bird near Lake Tanganyika. Dr. Emin Pascha, who was assassinated in the Congo in 1892, left some notes on this dwarf Parrot, which he found in the Ussongo region, where it was always seen in small groups ; he also mentioned it in the *J.f.O.* for 1891.

It is similar to *Agapornis lilianæ* in size, but its colouring is less brilliant and perhaps it is less prolific. In time, it is to be hoped that this pretty bird may become better known, as it is certain to find many admirers. The Avicultural Society of South Australia has presented a medal to Mr. H. G. Packer for the best brood obtained from this species.

THE NYASA LOVEBIRD

Agapornis lilianæ, Shelley.

This bird definitely comes from Nyasa, but is probably also to be found in other parts of Africa. At the present time I have a bird of this species which has mated with an *Agapornis personata*,

and has produced four hybrids which are very beautiful, although two of them have since died. The remaining two are extremely tame, fly about in the room in which I write, and play with the books, pens, etc. *Agapornis lilianæ* has a beautiful bright green belly, for the most part flame-coloured head and breast, while the beak is coral-red; there is some black on the primaries and a few maroon-coloured feathers among the green of the short tail. These birds are shy but very intelligent. My two hybrids are lighter than the male and darker than the female, but their colouring forms a harmonious ensemble, the head being a beautiful reddish maroon colour and the breast yellow merging into light green. In England a medal was presented in 1927 to Captain Stokes for the rearing of *Agapornis lilianæ* (Nyasa Lovebird). *Agapornis lilianæ* has been described by Shelley and others, but this name was first given to it by Keulemans in honour of Miss Lilian Lutley Sclater. My *Agapornis lilianæ* which mated with a male of *Agapornis personata*, nested in an aviary in the garden, where they lived with some pairs of Budgerigars. The hybrids were transferred to the house as soon as they were ready to leave the nest. I think the advice given by some aviculturists never to have more than one pair of *Agapornis* in the same aviary is sound, as they frequently injure and sometimes kill one another after violent battles. I myself have lost them in this way. An *Agapornis* was fatally wounded in the head by a female of the species, probably in jealous defence of the nest.

THE ROSY-FACED LOVEBIRD

Agapornis roseicollis (Vieillot).

Psittacula roseicollis Lss.

The Germans call this species *Zwerg Papagei mit rosenrotem Gesicht*. The French call it *Perruche à tête rose*, while in England it is known as the Rosy-faced or Peach-faced Lovebird. I find this last name (Peach-faced) very expressive. The forehead of this species is a rosy-pink to above the eye. The beak is pale rose; the white circle round the eye is absent. The back and wings are dark green, the breast a paler shade of the same colour. Many blue feathers are visible on the back, under wing-coverts and tail. It comes from the south-west of Africa.

THE BLACK-CHEEKED LOVEBIRD

Agapornis nigrigenis W. L. Sclater

This species also is very popular in England, where it has bred freely. As its name conveys, this *Agapornis* has black cheeks, red beak, pinkish yellow breast shading to pale yellow. The green of the back gives place to maroon colour. There is a circle of white skin round the eye and the upper mandible is lighter than in other *Agapornis*. It comes from Rhodesia. They have mated in England with *Agapornis lilanæ* producing some very pretty and interesting hybrids.

SWINDERN'S LOVEBIRD

Agapornis swinderniana (Kuhl).*Psittacula swinderniana*.*Psittacus swinderni* Fnsch.*Poecephalus swindernianus* Swns.*Agapornis picta* Hrtl.

In 1820 Kuhl in his work *Conspectus psittacorum* mentions this species and names it in honour of the famous Professor Swindern of the University of Gröningen. This Parrot was not heard of again until Mr. Schweizer rediscovered it in 1876 in the interior of Liberia, where he saw it on fruit-trees in groups of ten or twelve. Ten specimens were distributed among the various museums of Europe. Salvadori described them. They are green with lighter breast. There is a dark ring round the neck, on the back near the tail and in the tail-feathers themselves there is some dark sky-blue, and black feathers are visible among those of the wings. The eye is yellowish. The upper mandible is black, the lower one bluish-grey.

ZENKER'S LOVEBIRD

Agapornis zenkeri.

We do not know very much about this species either, but hope that ornithologists will soon give us more details about it. It comes from the Belgian Congo and the Cameroons, is very similar to *Agapornis swinderniana* from which it is distinguished by its orange collar and the yellow mixed with a little orange-red of its breast.

Dr. Emin Pascha found this species at Manjenna in the Belgian Congo. It was described in the *Proceedings of the Zoological Society* in 1894. I am convinced that there exist other species or races of *Agapornis*, but those already mentioned here will give an idea of the many species of dwarf Parrots which are to be found on the African continent and neighbouring islands. Some of the species are most prolific and interbreed freely, producing very attractive hybrids.

THE ABYSSINIAN LOVEBIRD

Agapornis taranta (Stanley).

Psittacula tarantae Fnsch.

Psittacula taranta Hrsf.

This was described a hundred years ago, but the bird fanciers of that day do not seem to have troubled about this little Parrot. It was not until 1909 that Mr. H. D. Astley brought a pair that had been presented to him from Italy to England; this pair provoked the enthusiasm of all that saw it, so much so that they were described in the AVICULTURAL MAGAZINE. However, it was only in 1923 that they began to be imported in small numbers and became popular, especially in the United Kingdom. Mr. Lewis in 1925 was one of the first to rear them. This bird is green, with lighter breast and head of a darker maroon shade. There are some red feathers on the forehead and a circle of red feathers round the eye. There is some black on the primaries and tail. The feet are grey with dark claws. Natives call this bird Donkoro. The Australians have often imported this species, as also others of the genus *Agapornis* and have obtained excellent results from them.

THE MASKED LOVEBIRD

Agapornis personata Reichenow.

This species has a black head, yellow neck and breast, the latter often inclining to orange, the rest of the body is green with some sky-blue on the tail merging with the orange. The bright eye is encircled with white, beak coral. This bird comes from Tanganyika and Nyasaland. Mr. Pointer introduced several specimens into the United States in 1925. It also breeds with us,

and is one of the most robust of the dwarf Parrots. The black velvet-like cap and the coral beak form a striking and beautiful contrast. In the AVICULTURAL MAGAZINE (February, 1928, vol. vi, No. 2) there is a reproduction of a painting by Roland Green of the blue *Agapornis personata*, in which the yellow of the common *personata* is replaced by white and the green by bright blue. This latter bird merits the attention of all bird lovers, as besides being curious and interesting, it is undeniably beautiful. I believe that the first breeders who succeeded in putting on the market a number of dwarf Parrots of this species would do good business ! Finally, I do not doubt that the various types of *Agapornis* will become extremely popular as they are better known, and that at a not too distant date they may perhaps rival the Australian Budgerigar (*Melopsittacus undulatus*) so well known to-day, new varieties of which are constantly being produced by clever breeders. In May, 1931, an article was published in England of the steps that could be taken to obtain other blue *personata*. In 1932 a blue pair bred in the Zoological Gardens in London and were exhibited at the Crystal Palace. Mr. Cross writes from California that he has succeeded in rearing a blue specimen which he displayed to the Avicultural Society of America at San Diego.

These are the best-known African Parrots in Europe, but I do not doubt that many others may be added with which I am not yet acquainted. In the meantime these notes will suffice to give an idea of the many and varied forms of Psittaciformes that have come to us from the African continent.

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REVIEW

WARTIME FEEDING OF CAGE BIRDS. Price 1s. 3d. post free. Published by *Cage Birds*, Dorset House, Stamford Street, London, S.E. 1.

The publishers of *Cage Birds* are to be congratulated on having produced, just when most urgently needed, a small book on substitute diets for captive birds, a subject that is worrying every aviculturist at the present time when the importation of the usual foods, which we have all considered as essential, has had to be stopped.

The matter was urgent and no time has been lost in collecting a team of specialists all of whom have themselves experimented with various substitute foods.

Canaries are very thoroughly dealt with by Mr. A. W. Tunesi, and his advice will be useful, not only in the case of Canaries but for many of the Finch group. Mr. Cyril H. Rogers deals with Budgerigars, which are less easy to train to a substitute diet though, by taking pains and gradually accustoming them to other foods than the usual seeds, it can be done. Mr. Victor Carr is a great authority on the keeping of British birds and as these feed in nature upon the seeds of the countryside there should be little difficulty in securing them plenty of food if we follow his advice as to how to do so.

The problem of the feeding of foreign birds is a more difficult one and is dealt with by Mr. Allen Silver. The smaller seed-eaters such as Waxbills and Grassfinches present the greatest difficulty and, in order to induce them to take substitute foods such as meal in one form or another, Mr. Silver suggests a Canary as a teacher. But it cannot be denied that without a certain amount of millet or canary seed their maintenance will be very difficult, which brings us to the question of the possibility of growing these seeds in this country, a subject that is dealt with by Mr. R. C. Smith who maintains that there is no difficulty in doing so.

Every aviculturist should obtain a copy of this useful booklet which contains a coloured plate illustrating no less than twenty-five plants all of which provide seeds useful as bird-food.

D. S-S.

NOTES

FAILURE OF RED ROSELLAS TO REAR YOUNG

Mrs. Kewley, of The Old Court House, Witchurch, Aylesbury, writes :
" I have a very good pair of Golden Mantled Red Rosellas which have bred the last three years, hatching successfully two, three, and four young. I have fed them with the usual seeds and crushed biscuits, but every year they fail to rear all the young hatched. Last year they hatched three. One lived till it was full grown then died, but they reared the other two. Every year one is found dead in the nest. How can this be accounted for ? Any hints would be most gratefully received as to management and where this is wrong.

" My Redrumps breed freely and rear all their young on the same treatment."

ACKNOWLEDGMENTS

The editor acknowledges with much gratitude a special donation from Mr. J. Spedan Lewis as a contribution towards the cost of the plate of the Ocellated Turkey which appeared in the February-March number of the magazine.

The Editor also gratefully acknowledges the loan by *Country Life* of the blocks of the photographs of Clères which illustrate Monsieur Jean Delacour's article in this number.

Acknowledgment is made of the invaluable help of Miss Phyllis Thomas, Zoological Museum, Tring, in translating the article "African Parrots" by O. P. Stigand, and for her invaluable assistance in many other ways.

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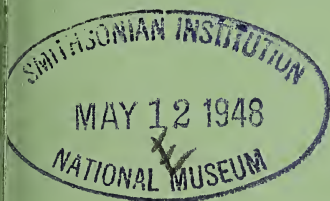
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AVICULTURAL MAGAZINE



WATERFOWL NUMBER

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THE AVICULTURAL SOCIETY

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RED-BREADED GOOSE (*Branta ruficollis*).

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THE RED-BREASTED GOOSE

(*Branta ruficollis*)

By R. STEVENS

If I were told that I should be allowed to keep only one species of Goose I would find the choice easy. First of all it would have to be a true Goose and not one of the aberrated forms which, though attractive, still leave me with a preference for the romantic northern birds which so completely excite the imagination. With the scope of choice thus narrowed down I should probably hesitate a little over Ross's Snow Goose and the most impressive Emperor Goose, but very soon my decision would rest on *Branta ruficollis* and there would be no regrets afterwards. For one thing it is the only true Goose that is really arrestingly coloured—not that that consideration counts for a lot because, after all, it is the character of the northern Geese which is so admirable. All the same the stencilled markings give this Goose such marvellous distinction.

It seems to be a human peculiarity, at any rate among aviculturists, that they like a bird to be either large or small. In this case the Red-breasted is, for a Goose, extremely small ; it would be better to call it petite for that would also suggest daintiness—and that it most certainly has. For this reason this bird ought to be seen on the land rather than on water. It looks lovely enough on the water, but see a pair or, better still, a flock on the land and you will notice that they proceed with a delicate, mincing gait without a suspicion of a waddle. Indeed, if their top halves only could be seen in their progress they would, but for their more sharply inclined angle, have the appearance of swimming, so smoothly do they walk. They can run, too, surprisingly fast.

The sexes are alike. Only a very close observer could see any difference between male and female.

In collections of waterfowl the Red-breasted is definitely rare. Until within recent years it was extremely rare, but Mr. Peter Scott, who very naturally was an ardent admirer of this lovely fowl, went to great trouble and managed to get about forty from Russia. Added to this number is a large flock at Woburn, the result of remarkable breeding successes from an original two pairs, I believe. There are two pairs at Walcot which were joined at the beginning of the war by Mr. Scott's birds. It is a grand sight to see this lot grazing in the Park; they are, in fact, the main feature of the very fine collection of waterfowl to be seen there. Apart from these birds there are only a very few scattered pairs in the world's collections.

This species is abundant in the wild state but the supply has never been properly tapped because of the inaccessibility of their breeding grounds and because the Russians are so jealous of outside collectors procuring them. In winter it is met with in large flocks in the Mugan Steppes and in the Caspian Sea regions. Some find their way to the plains of Hungary and it has occasionally been recorded in Britain. The breeding grounds are mainly in the Yenesei and Obi Rivers area in Northern Siberia, and there is an unpleasant possibility that the eggs, together with those of other Geese, are being collected for the sake of their albumin in the interests of the film and other industries. It seems probable that in the times of the Pharaohs some numbers of them wintered as far south as Egypt; at any rate the Egyptians portrayed it on the walls of at least one of their tombs. It naturally would be exactly the right type of bird to satisfy their artistic sensibility.

Unfortunately the Red-breasted Goose is a very shy breeder, but if we take the original two pairs which bred so well at Woburn as an example it seems that, in common with other species, once a pair has decided to breed one can expect them to go on breeding year after year provided, of course, they be not moved. I understand the Woburn birds were in captivity fifteen years before they started to breed. Our two pairs at Walcot go through all the usual preparations for breeding every spring, and just as often our hopes are raised, but they are maddeningly provocative and nothing comes of their promises. The fact is they are shy of other

fowl and uneasy in surroundings that do not afford absolute quiet and peace. It is not altogether true to say that the Walcot birds have never bred. A few years ago a male Red-breasted paired with a Ross Snow Goose, and one hybrid was the result—which ultimately went to the London Zoo. It was an extremely small, neat little bird which resembled a Ross Snow Goose plus an extra amount of immature grey. Two years or so afterwards its plumage had not changed appreciably so that the bird still looked immature.

In the early days of the Stevens' collection, and for years before we possessed any of these lovely birds, I remember a certain dossier that reposed in a drawer with other weighty matters. It was endorsed "Red-breasted Geese" and contained much correspondence and schemes for procuring these birds. There were many conferences over this dossier, much talking and much planning, and probably a good many unhatched chickens were counted; but I am recording this simply to illustrate the great longing that was felt to possess some of these Geese. When eventually a pair was procured at great cost the event was celebrated by the adoption of the Red-breasted Goose as the firm's trade-mark, which it still is to-day—though dimmed by the calamity of war. When happier days return it will shine again more brightly than ever.

Look at the picture which accompanies this article. It is easy to see that when Mr. Philip Rickman painted it he was thinking of the lonely Tundra which this bird inhabits, and inwardly hearing the wild mating call of the male. It is in terms such as these that one likes to think of the Red-breasted Goose.

* * *

EDITORIAL

With the near approach of the close of a second year of war, the members of the Avicultural Society in no way show any sign of diminishing their determination to ensure that the Society shall survive. The difficulties confronting aviculturists in Great Britain seem almost insurmountable, but, in spite of all, they are not daunted, and are encouraged not a little by the expressions of sympathy and offers of help which have been sent to them from every quarter of the globe.

The bitterness, the loss, the personal suffering and sadness are much in evidence at present, but out of it all has come such a warmth of friendship from fellow aviculturists in the great British Commonwealth of Nations and the United States of America that this alone is proof that the suffering has not been in vain and that the future holds great hope and possibilities.

The following letters received by the Hon. Secretary and Editor show the spirit of comradeship of the aviculturists overseas and their desire to give practical assistance to their British colleagues.

From Dr. E. B. Woolf, President of the Avicultural Society of South Africa :—

“ For some time, I have been concerned about the destruction in Great Britain of not only the wild bird life, but also birds housed in the various zoological gardens and private collections.

“ I have therefore approached the Secretary for Agriculture and Forestry, and have obtained from him ‘ a special permit for the introduction of all species of wild and caged birds, including Pheasants and Quail, which are rare and are threatened with extinction by bombing ’.

“ This permit for the introduction of birds has been granted on the distinct understanding that the birds will be accommodated in recognized Zoological Gardens and maintained there under veterinary supervision. As regards Parrots, the permit limits the introduction to such rare species as have been caged for a period twelve months prior to shipment. They will also have to be kept in recognized Zoological Gardens. The permit stipulates that every bird must be inspected by a competent veterinary surgeon prior to shipment.

"You will appreciate that this special authority has been obtained in order to preserve your birds during the war, and there is no intention that these birds should pass into the permanent possession of any private individuals.

"I am the newly elected president of the Avicultural Society of South Africa, and I have interested myself in this matter with a view to preserving your birds. The members of the South African Society will do their utmost to assist in the care of these birds when they arrive and are housed in the appointed institutions.

"Trusting that these arrangements may be helpful in preserving the collections of those members and such institutions as are being bombed out of existence."

From Mr. V. C. Hughesdon, Hon. Secretary of the New South Wales Avicultural and Biological Research Society :—

"At the last meeting of my Society I was requested to write to you expressing our sympathy with your Society and its individual members in the dark days and misfortunes through which you are all passing.

"It must be most difficult to carry on both the Society's functions and also the establishments and aviaries of the members, and we congratulate your Society on being able to produce its excellent Magazine without interruption throughout the past year, notwithstanding all Mr. Hitler's attempts to the contrary.

"I am also directed to forward you as a small token of our practical sympathy a donation of £3 sterling towards the expenses of the Magazine or such other purposes as you may decide.

"Assuring you of our sympathetic interest and support, and in the hope that better days lie ahead."

From Mr. C. L. Sibley, Wallingford, Connecticut, U.S.A. :—

"I sent you a donation of £5 . . . my thought was that, even though the amount is small, it might help to continue for those of us who love birds the activities of the Society. We all hope for an early termination of the war, if it can be terminated with Democracy the victor. The eventual outcome cannot be in doubt, of course, but if it must continue for a long period in order to have

Right triumph, we can only wish you a continuation of the bravery and fortitude which has made England the admiration of all of us who are on the side of Truth and Justice . . . I have just received the Magazine, and I marvel that with so much stress and strain it still reaches us. Sincere congratulations and best wishes."

From Mr. A. W. Halverson, Chicago, Illinois, U.S.A. :—

"I am bomb blasted if I can understand how you keep up the AVICULTURAL MAGAZINE under present conditions in England. The undaunted courage and steadfastness of the English people, during this awful period of destruction in your country, will never be forgotten by true Americans.

"Our sympathetic blessings are with you, and may the good Lord be with you to a winning end."

Concluding with a personal note, the Hon. Secretary and Editor record their heartfelt appreciation of the kindness of the Hon. Secretary and Treasurer of the Avicultural Society of New Zealand, Mr. Rowland Hutchinson, in sending them each a parcel of honey, butter, and tea. Not only were the generous gifts more than welcome, but his thought will not soon be forgotten, and is yet another proof of the close bonds of sympathy which are created by a common interest in aviculture.

PHYLLIS BARCLAY-SMITH.

* * *

WAR-TIME AVICULTURE : A SUGGESTION

By Prebendary J. E. SWEETNAM

It is evident that the difficulties with which all aviculturists are now contending will tend to increase the longer the war continues.

Chief amongst these is that of securing adequate supplies of the right kind of food for the several species, but lack of time, lack of importation and, especially for those with large collections, lack of labour, all contribute to discourage the maintenance of any considerable number of birds.

If, as seems probable, these conditions continue for a considerable time to come, there is reason to fear that the breeding stock of many of those species which have become established here will die out, and those aviculturists who have either the heart or the wherewithal to carry on after the war will find it very difficult, if not impossible, to replenish their stock.

The suggestion this article is written to make is that, before it is too late, we aviculturists (or at least we members of The Society) should take steps to preserve at least some species by pooling our resources, and each agreeing to try and maintain breeding stock of a limited number of specified species, rather than attempt what will almost certainly prove to be the impossible task of maintaining a number of different species under present conditions.

Under these conditions, the care of a small number of birds should be much easier than of a large and varied collection, especially where different families and species require different feeding and treatment, and cannot safely be kept together in such limited space as would suffice for a few of the same or kindred species.

Failing even such limited accommodation, there are many birds, both hard-billed and insectivorous, which could be kept in cages by those unable to spare the time and labour to maintain even a small aviary. Such an arrangement would have the additional advantage of economizing in fuel for aviary-heating, by keeping the cage(s) in the living-rooms during the winter months.

It would probably be found that (rather than allow birds to suffer from lack of the care and the feeding which, sooner or later, many are likely to be deprived of as conditions become even more

difficult) there are many bird-lovers who would be both ready and able to take charge of a few birds.

What I have in mind is that, through the medium of the Magazine, our members be asked to state (*a*) The species of which they now possess breeding pairs, (*b*) which of these species they would try to maintain, (*c*) whether they would be willing to take charge of a few birds for other members, and (*d*) whether they have any reserve supply of food which they would contribute to a common pool.

Much could be done in this way through the Magazine alone, but the successful operation of such a scheme would probably require the good offices of someone not so immersed in war-work as most of us are, and willing, in the interests of aviculture, to undertake the considerable task of acting as liaison officer between those willing to co-operate in the scheme.

It would be essential to compile a register of those possessing the several species, so that others would know from whom they might obtain birds of those species after the war.

It would be for individual members to arrange whether their birds should be sold, loaned, or given to their new hosts ; but all such considerations would be secondary to the main object of securing the survival of breeding pairs of at least some of the species of foreign birds still in this country.

Though the pooling of food supplies would seem to be almost as essential as the "pooling" of the birds, it might well present even greater practical difficulties than, as the writer is well aware, apply to the application of the whole idea as here outlined. But, should there be a general agreement that some such scheme is in the best interests of aviculture, no such problems should prove incapable of solution.

If adopted at all the idea might be taken up by the members of other avicultural associations and perhaps, if the suggestion here outlined commends itself to them, the Editors of other similar periodicals would take steps to bring it to the notice of their members with a view to their either co-operating with our members or operating a similar scheme through the machinery of their own association.

If anything of the kind is to be attempted it should be put in hand with as little delay as possible.

The suggestion made by Prebendary Sweetnam is one of the utmost importance, and its urgency cannot be stressed too strongly. The difficulties of aviculturists have enormously increased during the last six months, more particularly with regard to feeding-stuffs, and it is vital for the future of collections in this country that some system of conserving a representative nucleus of species should be adopted. In a letter in the November number, 1939, Mr. A. F. Moody appealed to owners of waterfowl to co-operate in safeguarding the rarer species of these birds by agreeing that they should "*all not part with or keep the same*" and in the December number of the same year Mr. P. J. Lambert made a similar plea for the maintenance of a stock of Pheasants. The President, Mr. Alfred Ezra, also in that December number, appealed to members to do everything in their power to keep their collections, and himself contributed to this end to the utmost of his power by taking birds for those who were no longer able to look after them themselves, to the extent that his aviaries were "overflowing".

In this number is the letter offering tangible help from the President of the Avicultural Society of South Africa, and previous offers of the same kind have been received from America, notably from Mr. S. Dillon Ripley (Connecticut) who offered to co-operate to the fullest extent in any scheme by which birds could be sent over to America to be cared for "*for the duration*". The difficulty of accepting these welcome offers is that of the transport of the birds.

At the beginning of the war (as reported in AVIC. MAG., Nov., 1939) a meeting between aviculturists and members of the trade in bird foods, etc., was organized by *Cage Birds* to discuss more particularly the state of stocks of food supplies and the possibility of breeding mealworms and other live foods. Unfortunately the attitude taken by the trade at that time has proved far too optimistic. However, though there has been no building up of large stocks of seed nor organized breeding of mealworms on a large scale, as was envisaged by the Editor of the AVICULTURAL MAGAZINE and further suggested by Dr. Amsler, individual aviculturists have undertaken mealworm breeding most successfully. Efforts are being made to grow millet and canary seed in this country, but Mr. Allen Silver, the well-known expert on bird foods, does not regard these with much optimism and writes :—

“Millet, I am afraid, cannot be satisfactorily cultivated in Great Britain and canary seed which once was grown in Kent is of poor keeping quality. The same applies to English-grown sunflower and flax. As things are, no one can use ground for non-essential crops, and there is both a shortage of labour and land, and it is questionable whether it would pay. Amateur growing of such things could only furnish small lots of no interest except to the user.

“Canaries and Budgerigars are all right, as they can thrive without seed. The former do well on rape, but that is scarce, and the latter do well on hemp and sunflower, which also is disappearing. Exotic Seedeaters of many kinds, i.e. Weaving Finches, which will not eat oil seeds must go when millet disappears entirely, unless they can be induced to consume meal food. This may be brought about by caging a hen Canary or two with them. Insectivorous birds can still be fed, but when all desiccated insectile matter is exhausted, I can make, I believe, an efficient substitute.

“Apart from Weaving Finches, any surviving birds of other kinds should be manageable. Groats, oats, etc., are now not allowed, except for human use or on coupon for certain utility purposes otherwise. Preserved milk and egg has been withdrawn from purchase, except for human use, and meals and grain can only be released on coupon to rationed keepers of utility livestock, i.e. my miller or merchant could not sell me anything except for my registered poultry-keeping clients. No cheap millet can be released if it exists, except for milling.”

The three bogeys facing aviculturists—lack of food, lack of heat, and lack of time to care for the birds, will become very serious this winter, and it would be a great advantage if someone would offer, as suggested by Prebendary Sweetnam, to undertake the large amount of work, needed in acting as liaison officer between aviculturists. In the meantime the Editor will be glad to receive the views and suggestions of members on this subject.—ED.

SOME EUROPEAN SEA-DUCKS

By JOHN YEALLAND

I can remember reading a book on domestic ducks in the foreword of which the writer spoke of them as "our intelligent friends".

I thought at the time that the use of this expression was, in the schoolboy phrase, "pitching it strong," and that almost the last thing of which you could accuse a Mallard, or any of the varieties of him, was intelligence.

It is, of course, true that all the Surface-feeding ducks are singularly acute in the detection of danger, as those who have spent cold and fruitless hours of a winter's night in trying to shoot them will be well aware, while the females are, most of them, extremely clever in the matter of knowing their own eggs, in their choice of a nesting place and in covering their eggs on leaving the nest, as those who, in the course of keeping Waterfowl, have ever trodden on the nest of some rare species, will not hesitate to agree—and I have heard it said that the keeper of Waterfowl who has never trodden on a duck's nest cannot, *ipso facto*, be an expert because he cannot have had much experience.

But these are matters more of instinct than of intelligence and the impression one gathers of ducks in general is that, while the surface-feeding ones are rather stupid, the Diving ducks, like other creatures which are obliged to hunt for most of their food, are quite intelligent, though there are, of course, exceptions, notably among those which are mainly mollusc-eaters. The so-called Sea-ducks are, of course, divers, and it is, I think, their remarkable submarine agility and their intelligence, no less than their beauty, that is their charm.

Of the exceptions perhaps the most noticeable is the Common Eider (*Somateria m. mollissima*) which, I believe, will nest readily in places arranged for them by human beings for the purpose of robbing the nests of down and, while unaware that their flesh is far from being in the "*bonne bouche*" class, will, so I have read, allow human beings to approach near enough to touch them. The Scoters are other exceptions, besides being, I consider, among the ugliest and least kindly disposed of ducks, interesting only in so far as they are among the most difficult of all to keep.

Until recent years the Sea-ducks were not, so far as I know, kept with any real success : there were, of course, some instances of birds thriving for long periods in captivity, but this only happened where the water on which they were kept was extensive or for some other reason contained a good deal of live food. It seems that the main cause of the lack of reasonable success has been the unintelligent treatment of Sea-ducks : people fed them on corn, like the Fresh-water ducks, thereby choosing for them an exceedingly unsuitable diet, for unless abundant live food is available, these birds will be killed with certainty by corn, though the Eiders and Golden-eyes will live for a time on it.

Next to a reasonably correct diet there is no doubt that clean water is essential to success and that, of course, generally means running water, for if the water is clean though still when the ducks are put on it, it will, unless it is of exceptional expanse or depth, very soon be made muddy by their diving and searching for food on the bottom. If the current is swift, or even only moderately swift, then some provision should be made to ensure that the birds are able to sleep on the water in comfort and without being obliged every now and then to swim upstream when they have been carried down to the boundary grids. If this is not done, there is a danger that they will take to sleeping at night on the banks and so be exposed to attack by vermin.

Naturally they prefer to spend the night on the water and therefore the best provision for them is a backwater where they may sleep in peace : alternatively a rocky island or two will afford them greater security than the banks.

The Surface-feeding ducks are very fond of resting on thick poles or limbs of trees fixed just above or anchored in the water and, naturally, these resting places are perfectly safe, for no vermin can lurk on them, but for some reason the Diving ducks do not like them, and, as I say, much prefer to stay on the water.

The collection at Sterrebeek was of considerable interest and especially so because nearly all were reared there.

The summer of 1939 was a particularly satisfactory season : I cannot recall with accuracy the numbers of eggs put into incubation, numbers of ducklings hatched and reared, nor the details of the system of rearing them, and although notes were made of all this and of the findings of post-mortem examinations,

it is likely that they will remain unpublished for some time or may even be altogether lost.

Towards the end of June the eggs arrived from Iceland : they included eggs of Common Eider, Harlequin Duck (*Histrionca h. histrionica*), Long-tailed Duck (*Clangula hyemalis*), Barrow's Golden-eye (*Bucephala c. islandica*), Common Scoter (*Melanitta n. nigra*), Goosander (*Mergus m. merganser*), and Red-breasted Merganser (*M. serrator*).

The eggs were well packed and the boxes were turned each day on the journey : they travelled well and, considering that they were fully three weeks on the way, the hatching from them was good. The worst travellers were the eggs of Common Eider : it seems that the membrane dividing the albumen from the air-space is very fragile and a good many of these membranes were broken.

All the eggs were set under bantams and fowls and the Long-tailed ducklings were the first to hatch on the twenty-third day. These ducklings are extremely difficult to manage and, as seems to be the case with the young of most Sea-ducks, the first trouble with them is that they are quite willing to start feeding too soon with the result that the yolk will not be fully absorbed. In 1938 we lost a number from this cause : in some cases they live as long as two or three weeks and the post-mortem examination of such as these will reveal a small almost solid ball of unabsorbed yolk, while in those which die sooner, the yolk is, of course, more liquid. I believe the explanation is that the yolk of Sea-ducks' eggs is of a richer and more highly concentrated nature than that of the other Ducks' eggs—at any rate it seems to be of quite different consistency—and consequently the young should not be given food until from 50 to 60 hours after hatching.

From the first the Long-tailed need very clean water, for otherwise the eyes will develop some inflammation which causes them to water, making the surrounding down quite wet and sticky.

We reared all the Sea-ducklings in brooders, being able in this way to keep them much cleaner than if they were with bantams—indeed, I doubt if Long-tailed could be reared with bantams. The brooders were so made that no fumes from the heating lamp could enter the ducklings' compartment and so that the air in

this compartment was quite pure and frequently changed, though without draughts, by the ventilating system, while the temperature underneath the drum in the centre could be kept as high as required. The floor of the brooder was covered with a blanket which, of course, was frequently changed. For the first four or five days the ducklings were kept in a brooder attached to which was a wooden run having the floor, some 10 inches above the ground, covered by frames of wire gauze and a large dish of water at the end. This arrangement was for the purpose of training them to go freely in and out of the brooder which they very quickly learned to do.

Later they were moved to open pens having near the brooders deep concrete basins holding about 30 gallons of water and surrounded by shingle. The water in these basins was changed daily or every second day according to the number and size of the ducklings.

These Long-tailed Ducklings were fed for the first few days on mosquito larvæ and fresh ants' eggs, and later on dried flies, minced bullock's heart, ants' eggs, chopped water-cress (or alternatively chickweed), a little salt, charcoal, ground cuttle-fish bone, and cod-liver oil, but we found that they quickly died if they were given any farinaceous food whatsoever until they were fully three weeks old, though other species could safely be given fine biscuit meal mixed with the flies, meat, and so on almost from the first. Occasionally we also gave some of the small red water worms—I think they are crustaceans really, being covered with horny scales—which are very common and were sold in Brussels for fishing, being, I presume, used as a kind of ground-bait, for they are too small to be put on hooks. These and the mosquito larvæ, being put into the water, encouraged the ducklings to dive—a very necessary exercise for them no doubt, for on land they do not move about much.

The agility of the young Long-tailed Ducks under the water and the speed at which they could swim were truly remarkable: on the surface they are, even when adult, rather slow swimmers and seem to move with difficulty, their little thick-set forms reminding one of bluff-bowed tugs, but when submerged the transformation is striking and they can travel long distances with little effort and at a high speed.

We found that at all ages these birds were extremely susceptible to aspergillosis : we have lost quite young ones as well as adults with it and we were always at a loss to know how they could contract it, for though the spores of the fungus are, of course, practically everywhere, it seemed unlikely that the concentration of them in the conditions under which we kept these ducklings would be sufficient to afflict them so severely.

It was, of course, natural to suppose that the Sea-ducks, never having had occasion to gain immunity from aspergillosis, would be much more liable to it than are the Fresh-water ducks, but the curious thing is that, apart from the Long-tailed, it was uncommon in all the other species.

In 1938 we reared a small number of the Long-tailed and up to about six or seven weeks old they were fine sleek birds but then, after being changed from the young birds' food to the duck-bread (bread made up of wheat flour, barley-meal, meat-meal, fish-meal, salt and yeast) and the Sea-duck mash (made of the same ingredients with the exception of the yeast and the addition of cod-liver oil), they went back and, through not going so much to the water, their feathers became dry and ragged and their tails broken off short, so that it seemed a little absurd to speak of them by their proper name. Most of these were lost through aspergillosis—it may have been that some of the food was taken by the ducks to the water and fragments of it dropped to the bottom, there to become fertile spots of *Aspergillus fumigatus* if such a fungus can develop under water.

Similarly the bread, which was always thrown on the water and which would float for a long time, may, if not entirely cleared up by the Ducks, have sunk to the bottom and decayed there. That winter four were killed in one night by a pole-cat which caught them sleeping on the banks and eventually the remainder died of disease. One female was reared in 1937 and though it was never in very good plumage and hated to go on the water, it lived until the autumn of 1939.

The 1939 ones were altogether better birds, possibly because of the addition of bullock's heart to their diet. There was less aspergillosis among them, probably because, from the first, we gave them a small dose of iodide of potassium in their food each day.

In the autumn the Long-tailed were sent with almost all the other Sea-ducks to the estate of a friend of Dr. Derschied where there was a fine expanse of clear deep water. Here they thrived beyond anything we had previously experienced with the species, no doubt finding a good deal of live food in addition to the duck-bread which was their main food.

In 1938 we received only a few eggs of Harlequin Duck : two hatched on the thirtieth day, but one was weakly and did not long survive. The other did well on the diet already described with the addition of some fine biscuit-meal and meat-meal and grew up to be the brightest and most intelligent duck I had ever seen, and, at the end of that winter, already nearly in full colour. Later it was sent by air to the late Sir Phillip Sassoon but though we packed it with great care and it could have been but seven or eight hours on the journey it died the next day.

In 1939 a fair number of eggs arrived, a good percentage of them hatched and most of the ducklings were reared without difficulty—and a very fine lot they were. These were also taken to the new place because the water at Sterrebeek was comparatively shallow and slow flowing, so that so large a number of Sea-ducks as we had at the end of that summer made it very muddy by their diving activities. I do not recall a single case of aspergillosis in these. A large number of Barrow's Golden-eye were reared that year : these are, of course, one of the easiest to bring up.

The chequered black and white young were rather wild and nervous for some time, but after about four weeks they gradually became quite spontaneously tame.

A number of this species had, of course, been reared at Sterrebeek in previous years and a pair of the 1937 ones nested there in 1939, but though the female scraped out a nest in the earth inside a nesting box and we were certain that she laid, we did not find any of the eggs and evidently they were laid in the water.

In the breeding season the male became very quarrelsome towards the other ducks, waging against them a clever kind of submarine warfare, so that we had to take them away and have the pair to themselves. It will be remembered that a fine plate of this handsome duck appeared in the first Waterfowl Number.

About ten Common Scoter were hatched in 1939 : the species had been kept though with poor success in previous years. At first

they did well, but soon after getting their feathers they began to show the first signs of decline in their dislike of water.

The ducklings were not at all active and spent most of their time sitting together on the pebbles like a cluster of large drab-coloured Aphides.

At no age is this species attractive, nor is it, as a rule, anything but unfriendly towards other ducks, though I have known individuals to form peculiar attachments to individuals of other species.

Eventually all of them died and, indeed, from their general air of melancholy and their funereal appearance, the event was one for which they seemed to be most suited.

It was much the same with the adult wild-caught ones, which lose the waterproofing of the feathers within two or three days after being caught. In this state they naturally dislike the water and so the feathers tend to become worse.

One female was hatched in 1937 and reared with the female Long-tailed, to which it was devoted. It lived for about two and a half years and there were times when its plumage promised to become fairly good, but, though it was otherwise in good health, it was never a good specimen and eventually caught a chill and died through staying out in heavy rain. In 1939 we received a newly caught pair of Velvet Scoter (*Melanitta f. fusca*): I think they had been caught only two or three days, but their feathers had already lost their waterproofing. They were fed at first on edible mussels, some taken out of the shell and small ones given as they were, but though Scoters are supposed to feed largely on mussels, they did not eat many of the whole ones, so may prefer some more easily digested species of *Mytilus*. They were also given duck-bread, cod-liver oil, a little meat and fish. For the first two days we had to forcibly feed them, but they very quickly learned to feed themselves. Individuals of the species have, I believe, been kept with success; certainly one has thrived and kept in good plumage at Clères, but this pair did not at any time resemble velvet and lived only seven or eight months. The difficulty with Scoters is, one supposes, due to some deficiency in the food.

Some eggs of Common Scaup (*Aythya m. marila*) and Tufted Duck (*A. fuligula*) were collected by mistake and sent with the

others : those which hatched were easily reared as were the small number of Common Eider ducklings.

The eggs of Goosander and Red-breasted Merganser hatched moderately well : the young were very pretty. Some of each species were reared with a bantam foster-mother, an arrangement which proved as successful as rearing them in a brooder. They were fed on strips of fish and bullock's heart : they would also eat a little of the other ducklings' food and later ate duck-bread as well as fish and meat. For the first two or three days it was necessary to offer them the fish and meat by holding it in a pair of tweezers and dangling it before them : they took it with the utmost readiness and thereafter they fed themselves and gave no trouble. The bantam was, of course, taken out of the coop twice daily and fed on grain outside the aviary. As a variation from the meat and fish we gave some earth-worms to some of these and to the Eiders.

Earth-worms were, of course, used with success by several well-known aviculturists for the rearing of Eiders, but we felt certain that those we gave were responsible for transmitting gape-worms to most of the ducklings that received them. We treated the ducklings with Aniodol, but, because they were so small at the time, it was very difficult to treat them thoroughly. We also tried a proprietary powder widely used, I believe, for poultry, the patient being put into a box and the powder being blown in. We lost some of the ducklings, but the survivors grew quickly into fine large birds. Those reared with the bantam did not have any earth-worms and had no gape-worms either.

In the collection, though not reared at Sterrebeek, were a male and two female Common Golden-eye (*Bucephala c. clangula*). The male displayed a good deal in the spring of 1939, but they did not nest. There were also three Smews (*Mergus albellus*) which had been in the collection for about two years : apparently all three were females.

During the exceptionally severe weather in the winter of 1938-39 which caused such distress among the Fresh-water ducks that we had to bring them in, full-winged Tree-ducks were killed or had their legs frozen, and only the Sea-ducks were happy, the Smews kept a small area of water open at a place where the current was strongest.

They frequently dived under the ice, swam about for some seconds at a considerable distance from the hole and found their way back to it with a skill that was altogether remarkable.

The other Sea-ducks also kept a small area of water open by staying on it, but they did not go in for the Smews' winter sport. Some wild-caught Goosanders and Red-breasted Mergansers, like the Smews, did well on duck-bread, meat, and fish, though, curiously enough, they did not like fish and were not attracted by the live roach in their ponds. A favourite sport of the Mergansers was jumping into the water from the rocks some five feet above. The males performed their curious display throughout the early summer, but no nesting took place.

We sometimes gave freshly-caught shrimps to the Eiders, Golden-eyes, Scoters, and Harlequins, but it was a pity that they were not fond of such excellent food.

The young Barrow's Golden-eyes and Harlequins ate duck-weed with great relish.

One difficulty we had with the duck-bread was that it would not keep well in hot weather : I have since thought that mixing in a lot more salt might have prevented its going sour, and it seems unlikely that a lot of salt would be harmful to Sea-ducks.

To those who have suitable water for them, the Sea-ducks are deserving of high recommendation : there are, of course, some handsome and interesting European species and when air travel, besides other things, becomes normal again, it should be possible to import eggs of the various beautiful North American species.

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THE PSYCHOLOGY OF GEESE

By J. C. LAIDLAY

Geese, more so than Duck, are birds of temperament. It has been commonly stated that those purchased from abroad take a long time to settle down and breed in this country. Seemingly it is not only the change of climate and probable different feeding that is the deciding factor, but more important to their mentality is the change in type of vegetation they have been accustomed to expect for nesting sites. To quote cases in point. At the beginning of this war we decided to close down those pens that were at some distance from the house, using only the one that was nearest and which is the largest and most suitable for waterfowl. In one enclosure lived two pairs of Blue Snow, one pair of Bean, and a pair of Cackling Geese. These Geese had always bred and obviously were happy and contented in the surroundings. They were moved in October, so should have had ample time before spring to get accustomed to their new quarters, which not only is much larger but has more water space ; but not an egg was laid nor even a scrape made by these birds despite the nesting of the Geese who had always been in this pen. Geese, apart from all cases of what one might call exceptional nesting sites, do prefer to nest in conditions as near as they can find to those they would have chosen in a wild state. The large enclosure I have already mentioned is of some six acres, approximately half being water and marsh, a portion wooded with some low bushes and rank herbage, and a piece kept short by grazing ; at one end the water runs out and is flanked by a short length of steep bank. Bernicle, being usually cliff-nesting, choose the bank to nest on, Greylag nesting in the low bushes, whereas the Blue Snow, being tundra-nesting birds, often make their nests on the barest of ground, but the Lesser Snow prefer small islands; in fact all kinds show clearly their individual preferences for nesting sites. Of course, there are always the exceptional nesting sites and where birds that are very tame and much accustomed to seeing people like those kept in Zoological Gardens or Public Parks can and do nest under strange conditions.

Mr. St. Quintin's pair of Pink-footed nested in a flower border close to the house : were they attempting to get as near to their

own rocky nesting site by the proximity of the house? Geese do not, as is usually said, pair for life. Sometimes for reasons unknown they agree to separate, as in the case of a pair of Canada who, though they had brought up young and were most obviously paired, one year separated, the male bird pairing with one of his daughters and the old female with her son. Canada seems a Goose that has lost some of its proper instincts, for I knew a case where a male Canada arrived one day on a farm and commenced grazing along with a flock of sheep, eventually singling out one ewe for his particular attention whom he remained with for two years, until killed by accident. When spring came and lambs were born he would fuss round them as if they had been goslings. Further the ugliest hybrid I ever saw was between a Canada and an Australian Black Swan. Possibly a more extraordinary case still was that of an Egyptian Gander, not of course a true member of the Geese, who, reared in the Edinburgh Zoological Park and left full-winged, flew into the sea-lion enclosure and made firm friends with a sea-lion, this friendship being unbroken for many years. Occasionally one Gander will pair with two Geese. We had such here when one Bernicle Gander, pairing with two Geese, who made their nests closely together laying usually four eggs each, all proving fertile, and the Gander remaining on guard equally between the sitting birds during their twenty-five days of incubation. Another Gander, a Greylag, who has remained paired to two Geese for several years, shares his affection equally between the Geese until the first egg is laid, then he drives off one Goose, presumably the one that has not yet laid, and will have nothing to do with the second Goose until either the young are hatched or the eggs taken, whereupon the second bird is allowed to return and is fussed over as before. I have never heard yet of any Gander taking three Geese and producing fertile eggs. Some years ago the Duchess of Bedford wrote to me saying that her four Red-breasted Geese had proved themselves to be three females and one male and did I think it possible to expect fertile eggs from all three Geese. I thought not, and if I remember rightly each of the three Geese laid four eggs but the clutch of the third bird were all clear. The habit of the male birds to remain sitting by or close to the incubating Goose throughout the entire period of incubation has been here unbroken by Bernicle, Lesser Snow,

and Cackling, usually by Blue Snow and Greylag, though the latter does occasionally leave the female to search for food. I say usually by Blue Snow, for we had an exception two years ago when a Blue Snow Gander left his mate when she started to incubate and attempted to pair with another Blue Snow Goose who was already paired ; this was a most unusual case for he did not return to his Goose after she had hatched and was going about with three Goslings. Hybrids among Geese are not so common as in Duck, Greylag and White-fronted will breed together and Lesser Snow and Blue Snow are very prone to mix up, and as the young are fertile one can soon get rather a fearsome collection. I imported once some wild-caught Blue Snow from America and one certainly had Lesser Snow blood in it, so this mixing of the species may go on in the wild state. Hybrids are rarely worth producing being as a rule a poorer edition of both parents. The most beautiful hybrids I ever saw were Egyptian $\times$ Ruddy Sheld-duck, an improvement on both parents but alas with the most awful tempers and quite impossible to keep with other birds. Geese, with the exception of Cereopsis and Magellan, can be kept in numbers together if sufficient space is given and rarely are bad tempered towards Duck. Swans should not be kept with Geese as though Swans are gentle with Duck, they will often attack Geese. We had a Bewick, a male bird, who killed a number of Geese, and our Black-necked Swans would, both male and female, bully the Geese considerably. Coscoroba alone we have found quiet with Geese. Feeding unquestionably affects fertility in Geese, too much grain being harmful. Some grain in winter and early spring is of course essential, but when grazing can be got they do best on that. Goslings, from the day they hatch, should graze only. In only one species, the Blue Snow, as day-olds for the first week of their life, have I noticed that grazing alone was not all they expected, as they spend much time diligently hunting every grass blade for minute insect life. Young Greylag seem to graze as one might say straight forward on all young growth that is short and sweet. Bernicle show a preference for wild white clover as indeed do most Goslings, that is those being reared under hens, but I have noticed when left to their own mothers to rear they are by some species kept more on the water than others, and taken to beds of watercress and duckweed for their first feeds. Later on, as the Goslings grow, and so does

the grass, they then prefer to pick off the seed heads of many kinds of grasses to the actual blades. At no age do they care about eating rank grass, and Blue Snows show a marked liking for the roots of grass which they bore holes to get at. Eggs of Geese hatch more quickly and the young are stronger when hatched if Geese incubate the eggs. I think this is due primarily to the continual heat of unbroken incubation, for when set under hens one has to take the hen off daily to feed and drink. It is a good plan to allow the Goose to incubate the eggs until a day or two before they are due to hatch then giving them to a hen, if possible leaving one or two for the Goose to hatch herself. Geese can stand most severe weather, though in their old age some will get rheumatic. Last winter was intensely cold with the ponds here frozen to a foot in depth and snow lay for months ; despite these conditions a pair of *Cercopsis* nested in early February and produced fertile eggs. Their nest being a scrape in the snow. During such weather it will be noticed that Geese with black feet and legs seem to feel the cold more than those with flesh-coloured or yellow legs and feet. We had to feed considerably on grain as the birds could not get down to the grass with the exception of the Red-breasted, who appear to depend more on green food for a living than any other species. The snow had to be swept clear on different portions of grass for them daily. In these times, when grain cannot be readily got, such a winter is a serious handicap, but during normal times Geese have an advantage over most captive kept birds in that the majority of their food should be grass. As I remarked we have had removed all the outlying birds to one pen, but two Geese eluded us and were left in one enclosure, a Bernicle and a Magellan ; these two birds have been given no food at all since war was declared and have gone through two of the hardest winters on record—both birds look in splendid condition. Rushes in this pen stood above the snow and presumably they must have lived on them ; the Magellan, a female has laid six eggs and is paired to the Bernicle.

Another advantage Geese have is that they are easily fenced in, large mesh netting such as sheep netting will contain them and small vermin that can enter, like weasels, stoats, or rats, they can defend themselves from.

SOME UNUSUALLY KEPT DUCKS IN THE LILFORD COLLECTION

By A. F. MOODY

THE NEW ZEALAND OR PARADISE SHELD-DUCK (*Casarca variegata*)

The accompanying photograph represents a pair of New Zealand Sheld-ducks with their brood of week-old young.

The white-headed bird is the female and the dark coloured male is seen on the defensive in a very characteristic attitude with bill to the ground. This pair were imported direct from New Zealand. They nest annually and rear young at Lilford.

MUSCOVY DUCK (*Cairina moschata*)

The true wild Muscovy Duck is not very often seen in confinement. A native of Paraguay, the name Muscovy appears to be misleading, and is thought by some to be derived from the fact that the species was first introduced into this country by an old Muscovite trading company.

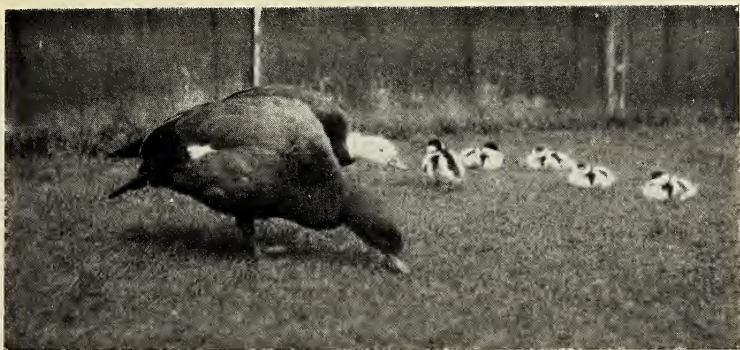
The same disparity of size in the sexes exists in the wild as in the well known domestic form. The true wild type, however, is more active and alert, and except for the usual white wing patch, is entirely black in colour, glossed and overwashed with metallic green and purple. The male has only slight indications of the caruncles or face wattles so conspicuous in the domestic race.

A quaint and amusing species, the wild Muscovy is hardy enough to live out of doors except during severe frost. I have found them breed freely, but the powerful males are not usually safe to trust with smaller waterfowl.

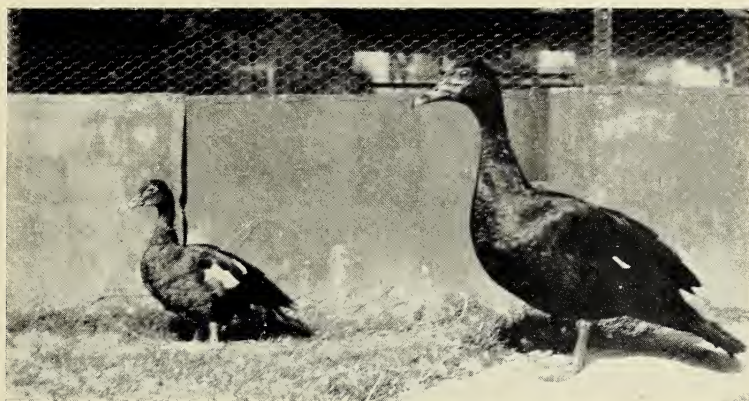
WHITE-WINGED WOOD DUCK (*Asarcornis scutulata*)

In size and general appearance this species bears some resemblance to the Muscovy. It is, however, a much rarer bird, and until recently was almost unknown in this country.

A native of India, the White-winged Wood Duck is said to inhabit swampy woody situations. Our examples, I have noted, are of a retiring nature. They creep about amidst herbage, and when on the water show a preference for pools overhung with the lower branches of trees.



PAIR OF NEW ZEALAND SHIELD DUCK AND YOUNG



PAIR OF WILD MUSCOVY DUCK



Copyright]

PAIR OF WHITE-WINGED WOOD DUCK

[A. F. Moody

[To face p. 136

The male only slightly exceeds the female in size, and can be distinguished by his whiter head and more brightly coloured bill.

Their general colouring may be described as of a rusty-blackish brown, the redeeming features in the colour scheme of these large sober plumaged birds being a beautiful lavender wing patch and a certain amount of metallic green overwash on parts of their chest and lower neck. I have not heard of the Wood Duck breeding in captivity, but understand that there is one record of their having hybridized with the domestic Duck. The present species stands our climate tolerably well, but in Northamptonshire requires at least protection from severe and continued frost. We confine them during severe spells to a warm shed, bedded down with wheat straw.

BREEDING OF AUSTRALIAN SHELD-DUCK

(*Casarca tadornoides*)

By A. F. MOODY

A notice of the nesting of the Australian Sheld-duck at Lilford appeared in the June number of the AVICULTURAL MAGAZINE, 1939 (page 202), written a few weeks after the hatching of the young.

The first of the six eggs laid was during the last week of March. Incubation commenced on 9th April and lasted thirty days. The eggs were very similar to those of the Ruddy and New Zealand Sheld-duck. The young on hatching were also similar but I think the dark markings were more grey. The five young which left the shell were reared by their parents in a small grass enclosure. By 10th June they were feathering fast and showing colour on the breast. Eventually they proved to be two males and three females, two pairs of which were parted with on 8th September that year to Messrs. R. and N. Stevens. The fifth is still at Lilford. This is the first record of the breeding and rearing of the Australian Sheld-ducks in the United Kingdom.

GEESE I HAD AT CLÈRES

By J. DELACOUR

One of the more regrettable results of the disappearance of my collection at Clères is the destruction and dispersal of my unique series of Wild Geese. The cool and even climate and the rich grass and cold running waters of Normandy are particularly suitable for Geese. During the last twenty years, I had patiently built up my waterfowl collection and in 1939 every existing species of Wild Goose, Sheld-duck and Tree-duck was present on my grounds, as well as most other Ducks and Swans.

Many wild species of Geese have been bred at Clères, some in considerable numbers, and among others, a few of the rarest. Our successes had equalled and even surpassed those of my late friend F. E. Blaauw who, for half a century, kept an excellent collection of Geese at Gooilust, in Holland, and reared young of many species for the first time in captivity. After his death, a few years ago, the more interesting specimens in his collection were moved to Clères. Of the commoner Geese—Canada, Grey-lag, White-front, Bean, Pink-footed, Egyptian, Lesser Snow, and African Spurwings, I only possessed a few odd specimens and never bothered to try to multiply them, although some were successful in nesting; there was no space or time to waste on them. But with practically all other species, I had succeeded in building up a nice stock of breeding birds.

To start with the "true" Geese, I will mention a pair of Siberian Bean Geese (*Anser serrirostris*), sent to me from Japan by the Marquess Kuroda; these never nested. They are large and rather ugly birds, of uncertain temper and unattractive.

Blue, Greater Snow, and Bar-headed Geese bred regularly and without difficulty, only a few pairs being kept on the lake. Ross's Snow Goose, a pretty and rare small species, the breeding grounds of which were discovered only last year in Arctic north-west America, was among our favourites. We kept seven or eight pairs and since 1920 some were reared each year.

Emperor Geese did exceedingly well and during the last twelve years a great many were reared at Clères, from four or five breeding pairs. It is also one of my favourite birds.

The Lesser White-fronted Goose, an interesting and pretty species, was also kept in some numbers and bred annually.

We had sixteen Red-breasted Geese and they started breeding in 1939. Most of them had been reared and presented by the late Duke of Bedford.

The last four small species were kept in the garden, with the Flamingoes, Scarlet Ibises, Radjah Sheld-ducks and different Teal. Some Hutchins' and Cackling Geese lived with them also, but never nested.

A Hawaian gander, over forty years old, the only one in Europe and a legacy from Mr. Blaauw, inhabited the garden as well. He had very rheumatical legs and was taken in during the winter, but otherwise was in good health.

On the lake, with the Snow Geese and the general collection of ducks, was also kept a pair of the rare wild Chinese Geese, a fine species, totally different in shape from the ugly domestic breed. In 1940 they produced seven young, which I fear must have been destroyed at the time of the invasion. The gander had been wild caught in China, while the goose had been bred by Messrs. Stevens. Barnacle and Brent Geese, including a Black Brent, were also on the lake, but the latter never bred. I had to remove to the deer park some White-cheeked Geese, from British Columbia, as they proved spiteful to other species and to Coscoroba Swans.

Semipalmated or Pied Geese never laid with us, nor the Orinoco, which is surprising.

Maned Geese and both the South American and the African-Indian Comb Ducks nested successfully in 1939 and we kept many of them.

Several pairs of Cereopsis Geese, each in a pen, nested annually, as well as Magellans, and we had great success with their rarer relatives—Ashy-headed, Ruddy-headed, Andean, and Blue-winged. We usually kept in separate pens four mated pairs of each, while younger birds lived in flocks in different meadows until they became too old and savage to be left together. In the case of the Andeans, however, we had to separate each pair after the first year. We had great luck with this fine but difficult species and since 1930 reared from four to eight annually.

In 1939 Mr. A. Morrisson brought me some fifteen Antarctic, or

Kelp, Geese (*Chloephaga hybrida*), an exceptionally attractive species, but they did poorly, although they fed well on cut-up lettuce, biscuit meal, and powdered sea-weed. They suddenly died, for no apparent reason, one after the other, until they were reduced to three birds last year. We still have much to learn on the needs of this marine species.

Common, Ruddy, Paradise, and South African Sheld-ducks bred freely every year and in 1939 we reared three Australian Sheld-ducks, for the first time in captivity. Radjahs, of which I had the two subspecies since about 1925, never laid, but I had many one-half and three-quarter hybrids with the Ruddy Sheld-ducks. The species was bred last year for the first time by my friend Mr. J. Spedan Lewis.

In June, 1940, when Clères was abandoned, my pair of Mountain Crested Ducks (*Lophonetta cristata alticola*) were sitting on eggs, for the first time in captivity. I have no idea what happened, but naturally expect the worst.

I have mentioned the Sheld-duck and this last species for the reason that I am convinced of their relationship with the Geese of the *Cereopsis-Chloephaga-Alopochen* group.

I wonder if such a collection of Geese, so successfully established, will ever be seen again? If the English collections can survive this war, the answer is in the affirmative, with the exception of a few of the rarest species, and I wish the best of luck with their birds to my friends, Mr. A. Ezra, Major A. Pam, Messrs. R. and N. Stevens, Mr. J. Spedan Lewis, Mr. J. C. Laidlay, and the Duke of Bedford. There are certainly now no collections in continental Europe or North America which can compare with theirs, but as Geese are mostly grass-eaters, one can hope that they will be preserved throughout these dark years. It is particularly important to maintain an adequate breeding stock of Ross's, Emperor, Ashy-headed, Ruddy-headed, Blue-winged, Red-breasted, and Chinese Geese, as well as of all the exotic Sheld-ducks.

All our rare geese eggs were usually incubated under broody hens, but hatched in an incubator to avoid the foster-mothers crushing the goslings in the nest. They were then given back to them when sufficiently dry and strong and reared in coops with a run attached, placed on a good lawn and moved several times

a day. This was found to be much safer and more satisfactory than leaving the goslings to the care of their own parents, although on many occasions broods were reared in this natural way.

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SOME RARE DUCKS I HAVE KEPT

By ALFRED EZRA

Although I have no running water, and all my ponds are small and cemented, I have kept a good many very rare Ducks successfully, and have even bred some. All my ponds are small and are overcrowded with different kinds of Ducks, and the birds get no natural food in them at all.

The rarest Duck I have ever had is the PINK-HEADED DUCK (*Rhodonessa caryophyllacea*). At one time I had as many as ten of these birds, and some of them lived over ten years. They inhabit Eastern India, and are very rare indeed. The colour of the drake is a deep golden brown with white rectrices. Bill, head, and neck, excepting a narrow band in front, a beautiful rose colour. Feet are brown. The duck's head and neck are brown shot with rose. Although these birds lived in perfect condition for several years, they never attempted to nest.

THE COTTON TEAL (*Nettopus coromandelianus*) is a very small bird with a short raised bill and short legs. When in colour in the spring the drake is white with the back of the head black. The back and part of the wings and a narrow collar are fine metallic green. Tail grey with the primaries black and white. Bill and feet, black. During the rest of the year the drake is white with grey spots beneath, grey above with the top of the head and eyebrows grey. The duck is the same, but has no white in her wings. These pretty little birds are found in India, China, Indo-China, Malaysia, and part of Oceania. I have kept them in perfect health for several years, but lost them all in one night in the severe frosts of 1940, when the thermometer registered 20 degrees of frost. They never attempted to nest with me.

EYTON'S TREE DUCK (*Dendrocygna eytoni*) is a native of Australia, and the prettiest of the genus. Its shape is most graceful, and it

has a longer tail and a smaller bill than the other Tree Ducks. The neck and head are tawny, the upper parts of the body dark brown checked with pale tawny ; the rump and tail, deep brown ; the breast is light chestnut barred with black ; abdomen, tawny. Its chief beauty consists of the feathers on its flanks, which are very wide, long, and tapering, pale tawny yellow edged with black. These feathers form like two fans, one on each side of the bird. The bill is pale pink spotted with black ; feet, pink. Although these birds come from the hottest parts of Australia, I find them the hardiest I have ever kept. They stood the hard frosts of 1940, when the thermometer registered 20 degrees of frost, and I did not lose a single specimen out of the eight birds I have. They have not attempted to nest with me.

THE RING-NECKED TEAL (*Anas torquata*) is a native of Paraguay, and to my mind it is undoubtedly the prettiest of all Teal, and what makes it most attractive is that the drake never goes out of colour, as he has no eclipse. The head of the drake is the colour of sandstone, with a black crown, and a stripe of black on the neck and half a black ring at the back of the neck. The breast is mottled pink ; flanks, french grey finely pencilled ; back, chestnut ; bill, blue-grey ; legs and feet, pink. The female is a light greyish buff mottled with brown, with a black bill. I have found these birds quite hardy and they have reared young here several times.

THE HOTTENTOT TEAL (*A. punctata*) is a very pretty little species which comes from South, South-West, and East Africa. It is a brown bird speckled with black, with a pale yellow, black, and blue-grey head. The wings are metallic green. They are charming birds for a small pond, and are quite hardy.

THE VERSICOLOR TEAL (*A. versicolor*), a South American species, is also a very pretty bird, and does well in captivity. The head is black on the crown and buff on the cheeks. The breast is spotted and the body heavily pencilled, producing a grey effect. The sexes are alike. I found these quite hardy to keep here.

THE MADAGASCAR WHITE-BACKED DUCK (*Thalassornis leuconota insularis*) is a typical diving Duck, small, with short body, swims low in the water with straight upstanding neck, and has a rather large head and large feet. Its colour is various shades of brown with black transverse stripes. Its actual back is, presumably, white, though this does not show except in flight. It spends most of its

time on the water, diving frequently and obtaining much of its food on the bottom. It is decidedly awkward on dry land. Mr. Webb, the well-known collector, brought home a few of these birds in 1930, and after he had placed most of them with well-known waterfowl enthusiasts, had two left. I did not care to take them, as I thought my ponds were unsuitable for such rare birds. In the end Webb sent these two down to me, and I put them on the small pond with my Mandarins, Carolinas, and Pink-headed Duck. They did not only turn out to be a true pair, but they actually nested in 1931. After sitting on three eggs for three weeks, they deserted the nest. I then put the eggs under a broody hen, and they all hatched out in perfect condition, but the ducklings only lived for ten days. In 1932, early in April, I accidentally found a nest on the island of the small duckpond. Hearing some hissing, we looked to see where the sound came from, when we suddenly found the bird sitting on three eggs in a very bad temper at being disturbed. The nest was a very high one, and the birds kept adding to it each time we saw it. Two of the three eggs hatched out, but one of the young was found dead just outside the nest. The other one was swimming along gaily with its parents, and was the funniest little thing I have ever seen. As soon as it saw any of us, it dived and kept under water for quite a long time. The parents took great care of the baby, swimming on either side of it, and no other Duck on the pond was allowed to get anywhere near it. The birds were given plenty of duckweed and gentles, and in a few days the young one was tame enough to come and feed with the parents. By the middle of June it was impossible to know the young one from its parents. The old birds sat again, and on the 12th July hatched out five beautiful young ones. Since then they have bred every year. I may mention that Webb's was the first importation of this bird, and mine are the only ones that lived well and bred. All the others imported by Webb have died. These are the nicest and most amusing Ducks I have ever kept. As they hardly ever left the water, I never pinioned the young ones and they never flew away.

THE WHITE-WINGED WOOD DUCK (*Asarcornis scutulata*) is found in India, Indo-China, Malaya, and is very much the size of the Muscovy Duck, and has the same habits. The head and neck are white with black spots, and the rest of its plumage is golden brown,

deepening into chestnut below. The wings are heavily marked with white and blue-grey. Beak yellow and orange at the base, and speckled with brown ; feet, orange-yellow. It is a very hardy Duck. At one time they were very rare in confinement, but now a good many people have them. They have been bred in captivity.

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THE EFFECT OF WAR CONDITIONS AND HARD WINTER ON A WATERFOWL COLLECTION IN SUTHERLAND

By JESSIE TYSER

As regards my collection of ornamental waterfowl in Sutherland :—In the first place I have very little time nowadays to devote to the birds myself, and of course nearly all our men on the estate have been called up ; so one of our remaining older keepers and I try to cope with it in whatever time we can spare. Fortunately I decided at the outbreak of war immediately to concentrate on keeping only the rarer birds ; I also laid in what food I could ; even so the supply of suitable food for them is *very* short now. I had to harden my heart and kill off a great many birds, practically all of which were eaten (not by me ! !).

I still have a lovely lot of Red-breasted Geese, these were originally given me by the Duke of Bedford ; but it gave me immense pleasure, and a great thrill, last year to see my own young Red-breasted hatched here. I also have Australian Maned, Ashy-headed, Lesser Snow, Bar-headed, White-fronted, Pink-foot, and Greylag Geese. These now have to be almost entirely self-supporting—easy enough in the summer, but during a winter such as we had this year it was little short of miraculous how they survived. I could only give them less than a quarter of the grain they used to have pre-war. I gave them what greens could be spared ; a few of them ate potatoes cut up raw, but not all would eat these.

We had the worst snowstorm in living memory on 27th March (this followed another very severe one in January), and even my

poor birds were buried under it, in fact one of my Brush Turkeys was buried under a small bush for nine days !! We could find no trace of him and thought he was dead, but when the snow began to thaw, out he came quite hale and hearty ! This feat of endurance, and test of stamina, could not, however, compare with that of one of our ewes who—three weeks from lambing time—was buried alive in this really terrible snowstorm, and who, finally freed by the snow melting, walked out of a drift by herself twenty-two days later ! During the first two or three days after this storm—which caused the loss of two shepherds' lives, and lost us nearly five hundred sheep—you can imagine that none of us had time to really attend to the birds or hunt for those missing. We spent all day long trying to find the missing men, and rescuing what poor sheep we could, and it was in fear and trembling that I turned my attention to my poor birds the moment I could.

I found all fences out of sight ! and parties of my birds, geese especially, walking on the snow all over the place ! but they came home, hoping for food, thank goodness. In view of the appalling severity of the weather—the snow storm raged for two nights and a day and a half, and was accompanied by about a 100 miles an hour gale—it was really marvellous how few of my birds perished. I lost five Red-breasted, all my Mandarin drakes (who were all full-winged), and several Teal, including Versicolor, Cape, and Brazilian. It seemed curious to me how the Mandarin drakes disappeared ; they were all paired, and their ducks are pinioned. I think they must have attempted to fly from one enclosure to the other, and literally got blown away, because when the snow went we never found any trace of them.

Now the birds are all looking incredibly well, and are very busy nesting, in fact it looks like being a particularly good nesting season, which is very sad, as I have to take most of the eggs away. I cannot let them rear clutches this year as it is impossible for me to feed any more.

At the beginning of the war I had a flock of about forty Greylag Geese, which I had reared here, with the intention of first establishing a good flock of them, joint pinioned, and then allowing their young to remain full-winged. I wanted to see if they would remain here wild, or return here in the winter if they migrated, and I hoped they might remain here to breed. Well, of course

I could not keep so many, and all but twelve had to go. These twelve I took 3 miles lower down the river, to our home farm fields by the loch side ; they have remained perfectly happily there all the year and been entirely self-supporting. But each nesting season they all solemnly troop up the road, and across the hill, to their old enclosures 3 miles away ! They roam round and round the enclosures, making a tremendous cackling and calling and although there are now no Greylag inside these enclosures these poor birds seemed desperately anxious to get back home ! As I could not let them in (to eat the precious little bit of food I have for the others !), they seemed to give up hope, and after a few days back they went, and are once more quite happily settled at the farm, where now some of them are undoubtedly nesting. Last year none of them nested ; they seemed thoroughly upset by being moved, and by not being allowed back to their old nesting places inside the enclosures. During the bad weather it was terribly pitiful to see the wild birds. Hundreds of Green Plover perished. I found dozens of them frozen into the snow, so weak and thin they no longer could fly, and just were frozen and starved to death ; a great many Oyster-catchers died in the same way. The storm coming so late in the year the birds had come in to nest, and the Oyster-catchers and Green Plover would not go : but the Golden Plover had only just arrived—we get hundreds of last year's hatched Golden Plover coming back to this place every spring, these had just come—and they disappeared completely, and have not come back.

Another new and most interesting experience for us is that a splendid pair of Whooper Swans are nesting on our ground. Every winter we get a number of them on our loch, but each spring they leave us : this year, however, I am glad to say this pair has remained and is starting to nest. We also have an unusual number of Greenshanks nesting.

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ABOUT DUCKS

By D. SETH-SMITH

It is much to be hoped that when the world settles down to sanity again that fascinating group of birds, the Anatidae, will be just as popular as they were before the present upheaval, and let us hope that those who have stocks of these birds may manage to keep them going to form the nucleus of the fine collections that will be formed when better days come.

I like to let my memory roam back to the more interesting of those Ducks that I knew during my thirty years at the London Zoological Gardens, and to feel again some shadow of that intense excitement one experienced when some new species arrived or brood of rarities was hatched.

According to the most recent classification, the genus *Anas* now includes the Pintails, Wigeon, and Teal, as well as the Mallard group which were formerly its sole occupants. The latter are certainly distinct enough to be worthy of a genus to themselves, as indeed are the others, but the whole lot have been lumped together in a confusing mass.

It is rather strange that of the Mallard group the only one in which the sexes differ markedly in plumage is the Common Mallard or Wild Duck (*A. platyrhynchos*), all the others being more or less dull-coloured in both sexes. Meller's Duck from Madagascar and the American Dusky or Black Duck (*A. rubripes*) strike one as particularly uninteresting species though the Australian Wild Duck (*A. superciliosa*), the Indian Spot-bill (*A. poecilorhyncha*), and its Eastern form (*A. p. zonorhyncha*) as well as the African Yellow-bill (*A. undulata*) are all handsome and desirable species.

The difficulty in keeping any of these Ducks of the Mallard type together is that they recognize their affinity to one another and hybridization takes place. The African Black or Speckled Duck (*A. sparsa*) is perhaps the most interesting of the Mallards, though it is very rare. It is a striking Duck of dark grey plumage, its back conspicuously speckled and barred with white. Its habits differ considerably from those of the others in that it is of a solitary nature, and only found singly or in pairs in the African rivers. The consequence is that it is very impatient of the company of

other Ducks, and a breeding pair would have to be kept by themselves unless on a very large piece of water.

Many years ago the London Zoo had several examples of the pretty Marbled Duck from Southern Europe, but for the last thirty years or more none appear to have been imported. Its grey plumage, marked with darker blotches, give it a distinctly marbled appearance, and to me its name will always be remembered as *Marmaronetta* though, I suppose, we must follow out systematists and call it *Anas angustirostris*. In the same way we of the older school will always think of the Wigeon as *Mareca*.

All of the Wigeon, which are now crowded into the genus *Anas*, are very desirable birds, and so long as they have access to plenty of short, tender grass, they will thrive well and probably breed. I remember a Duck of the Common Wigeon that lived for a number of years at the London Zoo with full wings, and every year made her nest in the middle of a flower border near the Three-island Pond. The Head Gardener took a great interest in her, and delayed pulling up the old wallflower plants and replanting with summer flowers until she had brought off her brood. When this happened, she would march her family round to the gate leading to the enclosure and wait until someone opened it for her.

The American Wigeon (*A. americana*) was formerly very rare in collections here and, if I remember aright, W. H. St. Quintin was the first to own and breed it. In later years it became much better known. The drake is a very handsome bird and quite distinct from our red-headed species, but the ducks of the two are very much alike except that the American is considerably darker than the European. In the third species, the Chiloe Wigeon (*A. sibilatrix*), of the southern parts of South America, the sexes are more or less alike, though they can readily be distinguished by the brighter colours of the drake. Like other Southern Hemisphere Ducks, it has no eclipse plumage and both parents tend the young.

The Common Pintail, formerly known as *Dafila acuta*, now as *Anas acuta*, is the only one of the Pintails in which the sexes differ, and the drake is certainly one of the most elegant of Ducks. Although it is apparently so distinct, it has been found to cross readily with the Mallard and to produce fertile hybrids. Possibly this readiness to interbreed in ducks may have influenced those who have been responsible for including so many in one genus. The male of the

common Pintail goes into a complete eclipse and takes no part in the rearing of the offspring, whereas the other Pintails, the Bahama (*A. bahamensis*), the South African Redbilled (*A. erythrorhyncha*), and the Chilian Pintail (*A. spinicauda*), are alike in the sexes, have no eclipse, and both parents tend the young.

The Teal have always been to me the most fascinating of the Ducks on account of their small size, beautiful colours in many of them, and the readiness with which they take to a life in captivity ; many of them, moreover, breed quite freely. One has always known them as occupying the two genera *Querquedula* and *Nettion*, and to lump them in with the larger Ducks in the one genus *Anas* as has been done, seems about as sensible as it would be to place the smaller Falcons with the Eagles !

The Chestnut-breasted Teal (*A. castanea*) is one of the most prolific in captivity. I am inclined to think that there were none in this country before 1908. Its name appears in the Zoological Society's *List* before that, but from an examination of a series of skins of Ducks in the Zoo collection it appears that specimens labelled *castanea* belonged in reality to the nearly allied *A. gibberifrons*. The first examples of the true Chestnut-breasted Teal that I ever saw were two pairs in the garden of the late Mrs. Roberts, in Hobart, in the early part of 1908. I was much struck by them and persuaded Mrs. Roberts to let me take them to London. They bred so freely and reared their ducklings so successfully during the next few years that the Zoological Society was able to supply not only English duck-keepers, but most of the Zoological Gardens of Europe, and I am not sure that we did not send some to America as well. So far as I know there have been few, if any, importations since, so it is not surprising if the European stock of this Teal is becoming very in-bred.

In the Slender or Grey Teal (*A. gibberifrons*), which is also Australian, both sexes closely resemble the female of *A. castanea*, and another closely allied species is the Andaman Teal (*A. albogularis*), which normally has a white ring around the eye and a white throat, but after being in captivity for some time develops a considerable amount of white on the head and neck. A chance importation of these Teal to the London Zoo some thirty-five years ago kept the Gardens stocked with the species for many years as it bred very freely, but there was nothing very attractive

about it. It seems now to have entirely died out on account of in-breeding as there have been no further importations.

One of the most interesting birds I met with in Australia was the Musk Duck (*Biziura lobata*) which was quite common in the West. We netted some on one of the lakes, and I brought them home for the Zoo where they survived for some years. It is a somewhat ugly creature that would never become very popular, but interesting on account of its rarity here and its peculiar appearance. It is dark brown in colour with a large lobe or wattle hanging from the throat, and, so far as I remember, we fed it upon meat and fish.

The Australian Sheld-duck was common enough in those lakes and marshes, and is known there as the Mountain Duck. It used to be thought that it would never breed in captivity, but last year both Captain Delacour and Mr. Moody succeeded in inducing it to do so.

One could ramble on about Ducks for some time, but space will not permit.

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REVIEW

INTERNATIONAL WILDFOWL INQUIRY, Vol. I. Factors Affecting the General Status of Wild Geese and Wild Duck. Published by The Cambridge University Press. Price 8s. 6d.

It will be remembered that in October, 1938, Mr. Seth-Smith, through a personal appeal published in the AVICULTURAL MAGAZINE, commended to us the British Section of the International Committee for Bird Preservation, and that a leaflet setting forth the constitution, achievements, and present activities of the British Section accompanied that number of the Magazine. Perhaps the most difficult and certainly not the least urgent of those activities was the undertaking of an inquiry into the status of Wildfowl throughout Europe, and an investigation into the factors affecting that status—unhappily too many of those factors being adverse ones, causing a decrease in wildfowl that has for some time been giving rise to no inconsiderable alarm.

A special sub-committee was appointed for this highly important undertaking, and here, in this first volume, we have a record of

some three years of splendid work in eight papers contributed by specialists. In the Introduction, the Chairman, Dr. P. R. Lowe, sets out the history of events leading to the formation of the sub-committee, explains the present disquieting state of European Anatidæ and the factors conspiring to bring about a very serious deterioration of that state, wisely pointing out the lessons to be learned from the condition of affairs in the North American Continent and the measures already taken there.

The paper, "Conditions in Northern Breeding Areas of Wild-fowl," is contributed by Messrs. C. G. and E. G. Bird, Major W. M. Congreve, Messrs. S. W. P. Freme, and C. T. Dalgety, Captain J. H. McNeile, and Dr. E. S. Steward.

These contributions, the personal observations and views of these ornithologists and sportsmen, who have visited the areas concerned, present a tragic picture (but little relieved by news of the existence of some areas, such as N.E. Greenland, where at least some wildfowl may breed in peace) of the depredations of both man and in no small degree of natural enemies. Suggestions are made in regard to measures to diminish the appalling devastation done by the egg-hunters at Spitzbergen and elsewhere who do not even discriminate between fresh and incubated eggs and whose activities constitute so grave a menace, especially to Brent Geese.

Dr. R. W. Butcher contributes a masterly paper on the "Distribution of *Zostera* (Eel Grass, Wigeon Grass), and other Seashore Plants in Relation to the Migrations of Wildfowl", and this extremely valuable paper is accompanied by diagrams.

"British Decoys," a paper submitted by Captain H. A. Gilbert, assisted by Messrs. Colin McLean, C. W. Mackworth Praed, and H. Leyborne Popham, presents a survey of great interest of the small and decreasing number of decoys fully or partly in use in Great Britain and the glad tidings that decoys as commercial undertakings are likely to die out in this country.

"Punt-gunning," by Mr. C. T. Dalgety, assisted by Messrs. R. A. H. Coombes, H. A. Gilbert, H. Leyborne Popham, and T. Russell-Goddard, gives us the surprising truth concerning this sport. There is no doubt that the general impression was that punt-gunning inflicted severe losses on wildfowl and that that unhappy element in any shooting, the proportion of wounded,

was unconscionably large ; but clearly this is not so, except possibly when the gunning is undertaken by the inexperienced, while the numbers killed and wounded by the most skilful are small.

“ Ringing of Duck at British Decoys for the Wildfowl Inquiry Committee ” will be read with the greatest interest by all. It would be superfluous to stress how essential to the preservation of all but the comparatively stationary birds is the ringing, defining, as it does, seasonal movements and the paths of migration.

In recounting the ringing done at the well-known Orierton decoy, Pembrokeshire, Mr. Mackworth Praed mentions, *en passant*, the astonishing homing abilities of Coots and Moorhens. Further on he states that “ the sense of smell of all surface-feeding Duck is acute, but a burning piece of peat held in front of the mouth kills the smell of man completely : the difference can be demonstrated any day ”.

This belief has been held by wildfowlers for a great many years and Dr. Stanley (*History of Birds*, 1851), speaks of it as an established fact.

I do not know if it has been proved, but Mr. Praed’s assertion certainly seems to bear it out, unsupported though it is by the well-known method of catching Duck in Northern South America and the East.

Of no less absorbing interest is the paper, “ Results of Ringing Duck : General Survey of Data from all Sources,” by Dr. A. Landsborough Thomson. This survey which, like the foregoing paper, is illustrated with maps, gives us information concerning the ringing of Duck since its inception some thirty years ago.

The Wild Birds’ (Duck and Geese) Protection Act, 1939, promoted by the British Section of the International Committee for Bird Preservation is, it need hardly be said, a very considerable contribution to the preservation of these birds, allowing in general, as it does, an extra month of protection to the paired birds early in the year and eleven precious days at the end of the breeding season, besides the benefit to birds in other European countries gained by the clause which prohibits the importation of wildfowl from 1st February to 11th August.

The phraseology of Acts of Parliament never fails to render the reading of them exceedingly uphill work, but here in this last

paper, "Close Time," by Miss Phyllis Barclay-Smith, the new Act, as well as certain important features of the former relative Acts, are explained with a clarity that is at once highly commendable and very welcome.

This paper concludes with an appeal to all European countries for an adequate "close season" so very essential to the welfare of wildfowl.

Here, then, in this volume, which is well printed, well bound, and worthy of its distinguished contributors, we have inspiring evidence of the sound work already done by the British Section : it will be read with the greatest interest and satisfaction by naturalists, sportsmen, and others alike.

J. J. Y.

* * *

NOTES

FROM AN AVICULTURIST IN SOUTH AFRICA

Mr. J. H. Abrahams, writing to the Hon. Secretary, says :—

Though in South Africa we are not nearly so worried about our birds, nor are our lives endangered by that dreadful bombing as you are in England, I, nevertheless, am kept really very busy on war work.

During the last eighteen months I cannot remember having a day at home with the birds. Everybody seems war-minded, even our bird boy, after twelve years' faithful service, just suddenly disappeared, without giving the customary notice or saying good-bye, and "joined-up". Consequently the whole responsibility has now fallen to my good wife. Very fortunately for myself and the little birds my wife loves them all and they get first rate attention. Nevertheless you will readily appreciate what it means to have the extra work of three people suddenly tossed on to your shoulders.

There is always a lot of necessary "donkey-work" which has to be done, which plays a big part in successful bird keeping. There are termites, grass seeds, and bushes to gather and install, which all has an important bearing on a successful breeding season. It is this "donkey-work" that is sadly missing. Nevertheless my good lady has been doing her bit and here is the result of her efforts for the breeding season now fast ending. Nests of young bred and reared to full maturity include : Blue Breasted Waxbills, Red-headed Parrot Finches, White Zebras, Blue-faced Parrot Finches, Diamond Finches, Painted Finches (True Australian P.F.), Gouldian Finches, Long-tailed Grass Finches, Masked Finches $\times$ Long-tailed Grass Finches, Fawn Bengalese, White Bengalese, and Bicheno's Finch.

Others that went to nest but which failed to rear their young to maturity include the South American Red Crested Finch, the Australian Star Finch (*B. ruficauda*), Red-faced Waxbill (*Pytelia melba*). Perhaps the most interesting of these, at the same time the most disappointing and worrying, has been the experience with the Red Crested Finch from South America. Last breeding season they had no less than eight nests and two so far this season, but she has failed on every occasion to rear her babies to maturity. Only on one occasion did the young reach the feathered stage. The remainder died about nine days old.

This was naturally very worrying indeed ; the thought of all those youngsters being lost, perhaps through our ignorance, made my wife's heart feel very sore, particularly because they were such a charming pair of birds and more so when they had young in the nest. They gave us lots to think about. It was felt that perhaps they were not getting sufficient flying insects, yet the aviary stands surrounded by fruit trees, vines, and creeper, and insects are always about. Live food, in the form of termites, green and soft food are always available.

However, notwithstanding all this, we put ourselves out to find flying-termites, when she had young in the nest, but despite all our efforts, we have not had the pleasure of seeing any youngsters on the perches. When incubating the hen was so tame that she would feed from my wife's hand while actually sitting on the nest. When young were in the nest the hen would feed from my wife's hand after closely waiting for her to enter the aviary door, then fly off to her nest with the wings of the insects hanging out on both sides of her beak. It was a common sight to see both parents, loaded with insects in this fashion, sitting on the edge of the nest and the youngsters with their little outstretched necks and beaks wide open greedily begging for food. Just imagine that pretty picture and the consequent feeling of disappointment when you realize you haven't a youngster to show after such an interesting and pretty experience. Nevertheless the beauty and charm of the parents, during these periods, is a sight we will always remember.

ACKNOWLEDGMENTS.

The Editor acknowledges with many thanks the permission to reproduce, and the loan of the colour blocks of, the painting of Red-breasted Geese, the frontispiece of this number, by Messrs. R. and N. Stevens.

The Editor also records special thanks to the authors of the articles appearing in this number, by whose invaluable help the production of a special Waterfowl number was made possible.

CORRESPONDENCE

THE SOLITARY LORY

Mr. Patten's observations on the Ruffed or Solitary Lory (*Phigys solitarius*), and Mr. Seth-Smith's note which accompanied the article, will have been read with great pleasure, especially by those who know this rare and handsome Lory.

As a point of interest it should perhaps be added that Lord Tavistock was presented with a pair of these birds by Dr. Derscheid in 1937 and that, after some partial successes, two young were bred in the autumn of 1939, and one, at least, has been bred since.

I am informed that since 1937 the pair has nested often, and that a number of eggs, in clutches of never more than two, have been laid. Some eggs have been broken in the nest, a small percentage of survivors have been infertile, and a rather large proportion have contained dead chicks. I think it may not be correct to say that the normal clutch is three or four ; two seems to be the usual number with Lories, and unless the nest was exceptionally porous underneath and extremely well ventilated above, the presence of three or four young Lories inside would, in tropical heat, produce an atmosphere that does not bear thinking about. Because of the usual Lory habit of being often together in the nest, I think that a nest with an inside diameter of 6 inches is rather too small ; if I remember rightly, the nest used at Haywards Heath was of 7 inches inside diameter, and that a good depth of crumbled decayed wood and peat moss kept it reasonably dry and clean.

I saw one of the first young ones in early 1940 ; its beak and feet were then almost yellow and the bird, which resembled the parents, could easily be distinguished from them by its duller plumage.

The parents are still at Haywards Heath, and the young are elsewhere in England.

JOHN YEALLAND.

56 WHITE'S ROAD,
BITTERNE,
SOUTHAMPTON.

I was most interested in Mr. Seth-Smith's note on the Ruffed or Solitary Lory, as mine is the bird he refers to at the London Zoo. The Duke of Bedford has some of these birds in his collection, from which he bred two in 1938 ; but they did not survive long. The one I have was fully reared by him in 1940, and was nine months old when I bought it. It is a very bright and lively bird, continually climbing about its cage, and loves bathing. It does very well on bread and milk, honey, and a little apple. I found when the bird was in Devon it could stand a good deal of cold during the winter months. It can stand the temperature of a room without a fire in the winter, and is altogether very hardy. It is a great pity that more are not imported from Fiji, as this Lory makes a very charming cage bird.

P. H. MAXWELL.

PALMERS DAIRY,
QUEEN STREET, LYNTON,
DEVON.

THE MAY-JUNE NUMBER

The May-June AVICULTURAL MAGAZINE is of exceptional interest, with its tragic account of the loss of Clères and the "News About Sparrows".

The loss of Clères is a heavy blow, because to many, like myself, who dream about what they would do if they had the where-with-all, such is a realization of one's ambitions, which while personal, is largely shared by the whole world of aviculture and science. The concluding sentence in M. Delacour's article about holding material possessions in too great esteem, does not apply in the sense of avarice to a collection of the beauties of nature and their study, care, and propagation for the benefit of the whole interested world, nor to the books and literature of a favourite subject. I hope that some day when Right has slain Might and brutality that M. Delacour will again realize his life's ambition and the bitterness of his dreadful losses of these times will be a memory obliterated almost to oblivion in a new world of aviculture and books reborn.

And about Sparrows. My hearty congratulations to Mr. A. H. Scott who has come forward as the Sparrow's champion. His article is an eye-opener, and on a par with say the full story of the Cuckoo's domestic affairs. I am certain that article will make many of us think differently about the cheeky Sparrow and regard him as a person to be studied.

W. FERRIER BROWN.

10 EBERS ROAD,
MAPPERLEY PARK,
NOTTINGHAM.

[The Editor accepts no responsibility for opinions expressed in Correspondence.]

IMPORTANT NOTICES

RETURN OF THE HON. SECRETARY.

It is great pleasure to announce the restoration to health and return to duty of Miss E. Maud Knobel, who will resume the office of Honorary Secretary and Treasurer on 1st September. *From that date* all communications regarding membership, subscriptions, etc., should be sent to her at Lindeth Lodge, Peaslake, Surrey.

A great debt of gratitude is owed to Mr. David Seth-Smith, who took over the duties of Hon. Secretary and Treasurer during Miss Knobel's illness, and there is no doubt all members will agree in according him a most sincere vote of thanks for carrying on the work of the Society.

SUSPENSION OF ENTRANCE FEE.

It has been unanimously agreed by the Council of the Avicultural Society that from now onwards, the entrance fee for membership of the Society should be suspended until the end of the war.

It is hoped that members of the Society will continue and extend their efforts to secure members, and thus help the Society through the most difficult period of its existence.

The greatest appreciation is expressed to those members who have already given invaluable assistance in this way ever since the outbreak of war.

V

CANDIDATES FOR ELECTION

HOWARD HENRY DAVIS, Little Stoke, Patchway, nr. Bristol. Proposed by D. Seth-Smith.

E. MARSHALL, Hillside, Cadewell Lane, Shiphay, Torquay. Proposed by H. C. Judge.

ERNEST WILFORD SMITH, 15 Kingsway Road, Leicester. Proposed by O. E. Dunmore.

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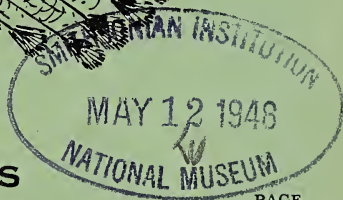
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AVICULTURAL MAGAZINE



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THE AVICULTURAL SOCIETY

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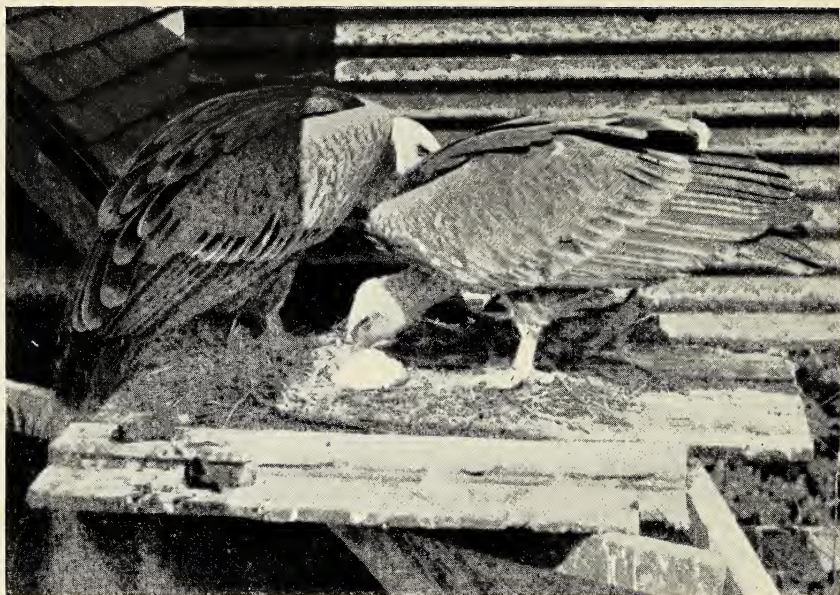
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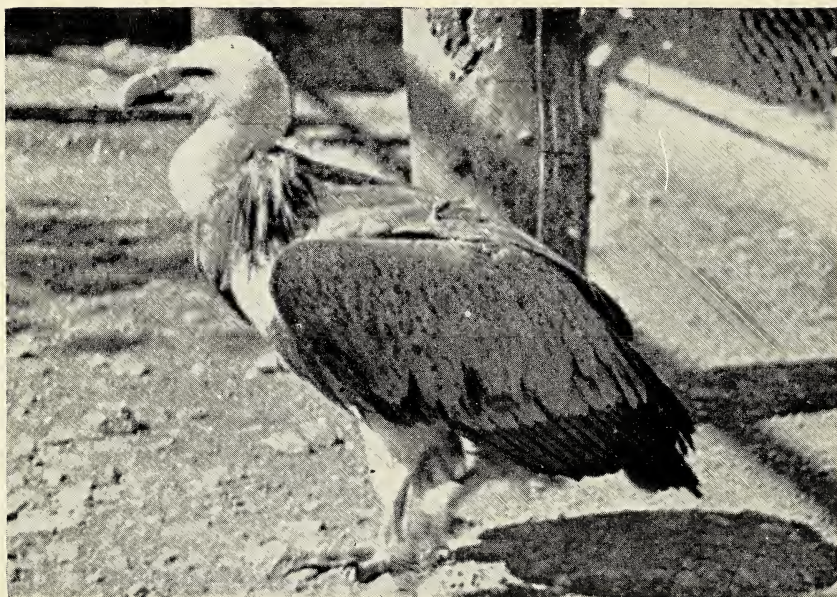
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GRIFFON VULTURES AND YOUNG (HATCHED 1939)



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[Chester Zoo

YOUNG GRIFFON VULTURE (HATCHED AND REARED 1940)

AVICULTURAL MAGAZINE

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SEPT.—OCT., 1941

THE GRIFFON VULTURE IN CAPTIVITY

By G. S. MOTTERSHEAD

Director-Secretary, North of England Zoological Society

Griffon Vultures are not every aviculturist's fancy, but a few remarks about the successful breeding of these at Chester Zoological Gardens in 1940 may be of interest.

I first saw this particular pair of Griffon Vultures about 1929-1930. They were then kept in an aviary about 12 feet square, containing a platform on which they could build a nest. I was given to understand that they had laid but had been unsuccessful in hatching the egg.

In 1933, however, the pair came to Chester Zoo, and were placed in an open aviary somewhat larger than the one in which they had been previously.

As it was April when they arrived, no attempt at breeding took place that year, but the following February they showed signs of wanting to nest. They set about building one on a platform near the top of the aviary, from some twigs which had previously been placed inside for them, and in due course an egg was laid.

The egg, which is somewhat larger than the average goose egg, is a dirty white in colour, and the shell is of a rough texture.

Unfortunately, this egg was left by the hen after sitting for a period of eight weeks, and on examination it proved to be infertile.

Later that same year the birds were moved to a much larger aviary against a building with an overhanging roof, thus providing them with some shelter.

A platform had been erected underneath this projecting roof, and in 1935 and 1936 a nest was built and an egg laid, but in both cases no results were obtained.

In February, 1937, an egg was laid. It, however, rolled off the platform and broke, but in March they laid again and after the hen had sat on this egg for what appeared to be about eight weeks, we thought it time to remove it, as we wanted to give the aviary a good cleaning, particularly the platform which becomes a filthy mess during this time. Whilst examining the egg we thought we could discern a tapping noise inside it, so it was at once replaced, but the following morning no trace of the egg or chick could be found.

I felt convinced that with the shell being hard, the parents had tried to liberate the chick but had eaten it in the process.

The following year saw another egg laid, but after eight weeks the hen left it, and I subsequently discovered that it contained a perfect chick dead in the shell.

Apparently the nest was too sheltered, and the egg had been kept too dry. I, therefore, moved the platform out into the open, where apart from catching the normal rainfall, it would receive, on very wet days, a deluge from the adjoining roof.

In the February of 1939 they laid again, but once more misfortune overtook them, for we discovered the egg on the floor, cracked. As it would have a fall of over ten feet from the nest, I could only presume that for some reason or another the egg had been laid on the floor.

In March the birds laid again and after sitting on the egg for a little over six weeks, it hatched and all went well until the end of June, when after a particularly violent thunderstorm we discovered the chick on the floor of the aviary badly hurt, and it died soon afterwards.

Quite oblivious to the extreme arctic weather in February of 1940, the Griffon Vultures started carrying bits of fur up to the platform, which was then many inches thick with trodden snow, so some twigs were provided and on the 23rd February they laid an egg, despite the fact that we were experiencing several degrees of frost.

This egg took fifty-eight days to incubate, and on the 21st April

a fine healthy chick was hatched. I attribute the extra time to incubate being due to the very cold weather.

When hatched the chick is about the size of a fat pigeon and is covered with white fluff. It grows very rapidly and begins to feather after about twenty-eight days and appears to be fully feathered after about nine weeks. It does not, however, show any signs of leaving the nest and the parents begin to carry the meat up to the platform and eat it in front of the young one.

To my knowledge the hen only, feeds the chick and this she does immediately after feeding herself. I have never seen the cock bird perform this duty, and as far as my observations went the cock simply acted as a guardian.

On 9th August the young bird was almost as large as its parents, and on that day it left the nest, to become quite independent, fighting with the other Vultures in the aviary for its food.

The young Griffon is much more handsome than its parents, its plumage being of a nutty brown colour. The ruff, which is white in the adult bird, being a rich brown, also the leg feathers are a rich brown in colour.

This young bird is now over a year old and so far these colours show no signs of changing to that of the parents.

The old birds have laid again this year, but after sitting for over six weeks, I discovered that all trace of the egg had completely vanished, they apparently having eaten it.

Although the Griffon Vulture appears an extremely nervous bird, this successful breeding took place in view of all the Zoo visitors entering the Lion House, the nest being only a few feet from them.

* * *

SOME EUROPEAN WADERS

By JOHN YEALLAND

In general the Waders are, I consider, among the most charming of aviary birds, for though few of them could be said to be colourful, most have a distinctive elegance of form, a friendliness of disposition, and a certain gentility of manner, as if they were by nature well-bred.

I never think of Waders without being reminded of two strange facts in connection with them.

One is that Avocets (*Recurvirostra avosetta*) have bred at the London Zoo, one young being fully reared—perhaps one of the most remarkable events in aviculture, for though one would not have expected the parent birds to be too discomposed by the presence of other Waders, it is extraordinary that they were not completely discouraged by the large numbers of human spectators.

It is also curious that although Waders are generally exceedingly shy birds in nature, they become fairly tame very soon after being taken into captivity.

When watching these birds on the mud-flats on the northern shore of the Isle of Wight, where one may see a fair variety at most times of the year, I have noticed that it is impossible, except in very severe weather, to approach to within a quarter of a mile of them, for there, at any rate, they are very nervous and suspicious of human beings and can only be identified with field-glasses.

I have sometimes wondered why the wading birds were not more widely kept ; they are not difficult and the amount of water they require would not, I am sure, be too much trouble to supply in any garden aviary, for, though a fairly large area of water is naturally best, it should not be much more than one inch deep for small Waders nor more than three inches deep for the large ones—indeed if it is much deeper than this they will not wade in it, and I am certain that if they do not wade they will not thrive and their feet will quickly become diseased.

Dr. Derscheid used to get Waders from a Dutch dealer ; they were, I think, always caught in Holland (but I cannot imagine how this apparently difficult feat was carried out) and were always quite recently taken. On arrival these birds were without exception extremely thin : the travelling boxes contained as food soaked

biscuit meal and dried fish—a diet which I have no doubt the birds did not find exciting and which very probably accounted for their emaciated condition. They were, nevertheless, generally in good health, but it always took a long time to get them to normal proportions. The plumage was sometimes rather poor and had always lost its waterproofing, so that heavy rain would drench them and, as they at first did not like to go under cover, it was difficult to keep them dry and we sometimes had to catch them and put them inside when the night promised to be wet and cold.

After a few weeks, however, the feathers regained their waterproofing and the birds could safely be left out in rain.

In 1938 we received a few large Waders, including a single Avocet, two Oyster-catchers (*Hematopus ostralegus*), two Curlews (*Numenius a. arquata*), one of the rotund Grey or Silver Plover (*Squatarola s. squatarola*), two Bar-tailed Godwits (*Limosa l. lapponica*), a Lapwing (*Vanellus vanellus*), a Ruff and Reeve (*Philomachus pugnax*), and two Redshanks (*Tringa totanus*).

We did not keep these long because the aviaries were not so suitable for them as for the smaller species which came later. The small Waders are, I think, much more attractive than the large ones, though the Avocet is an exception and is, perhaps, the nicest of all, while the Redshank is one of the most elegant of the medium-sized ones. Of the small European Waders none is more charming than the Ringed Plover (*Charadrius h. hiaticula*), whose round head and large dark eye give it the appearance of a kind of wading Robin. Several of these came at different times and all were quite tame: they seem also to be more nocturnal in habit than most and long after dusk could be seen making their characteristic short swift runs about the aviary. The Dunlins (*Calidris alpina*), of which we had four, were rather wild: they seemed to be of no especial interest except for their comical shape, which reminds one rather of a child's drawing of a bird.

The Common Sandpiper (*Tringa hypoleucos*), of which we had several, seems quite unlike the other Waders in temperament and all those we had were very shy and liked to hide themselves in the bamboos. I think they come inland a good deal which may account for their very Rail-like habits.

There were two Little Stints (*Calidris minuta*) and a single Temminck's Stint (*C. temminckii*) in the collection and they were

among the nicest of all. It was amusing to see them eating mealworms—and the swallowing of a mealworm more than half-grown was for them a difficult undertaking, but, having grasped it squarely after running it several times through the beak, they would, by little movements of the beak and tongue, make it travel jerkily upwards as if conveyed by some little unseen escalator.

A single Curlew-Sandpiper (*Calidris testacea*) came in 1939, but I do not recall that it was of any special interest.

The Ringed Plovers and some of the others had the curious habit when resting on one leg of being too lazy to put the other to the ground when they wanted to move, preferring to do the journey by hops—I at first thought they were lame, but that was not so.

In 1939 Dr. Derscheid received an Avocet of about three weeks old and still in the bluish-grey down and with it came a Lapwing nearly fully feathered. These were reared together in a brooder without any difficulty, becoming fine well-grown birds.

At the same time a freshly-laid Avocet's egg and four partly incubated eggs of Redshank came: the Avocet's egg we put under a Bantam and it hatched on, I think, the 23rd day, while the Redshank's eggs which were put into an incubator hatched after about three days.

The young Redshanks were very pretty—rather like little balls of some lichen in reddish brown and cream: they were all fully reared but at about two or three weeks old all four developed twisted necks, the cause of which we were quite unable to discover. It was certainly not rickets, for the birds were too healthy and otherwise well-formed for that, nor was it sunstroke, but I suspect that the food caused them to grow too quickly.

I have seen the same thing in perfectly healthy Carolina Ducks, and one may often see in Tragopans and other Pheasants a well-grown and healthy bird with one or more twisted toes—I feel certain that this is not due to rickets and that true rickets occurs only in weakly and undersized birds.

Though these four Redshanks were reared and were fully as large as the wild-caught ones they did not improve in the matter of their twisted necks. All went well with the Avocet, but unhappily at about ten days old it was accidentally drowned—we had a large number of newly-hatched Sea-ducks at the time

so could not spare a brooder and pen for the Avocet and were obliged to keep it with a few Long-tailed ducklings which, of course, needed deep water for diving.

The young Waders were fed at first on fresh ants' eggs, small earth-worms, small strips of bullock's heart and some mosquito larvæ and, later, on a proprietary food mixture (which contained biscuit-meal, meat-meal, dried egg yolk, ants' eggs, and even a little crushed hemp !) as well as a few mealworms in addition to the earth-worms and so on. The adults were fed on the proprietary food already mentioned made moist and mixed with a little mashed potato and sometimes hard-boiled egg. In addition they were given either mealworms or strips of bullock's heart every day and sometimes fresh ants' eggs or earth-worms.

After the commencement of the war it was difficult to get the ready-mixed food so then we gave as a substitute for it a mixture of crumbled duck-bread (a bread made for the Sea-ducks composed of wheat flour, barley-meal, meat-meal, fish-meal, yeast, and salt), mashed potato, hard-boiled egg, and a few dried flies.

For the winter we put the Waders (then increased by the addition of a further seven Avocets) into a large room with a pool of water in the corner and the floor covered with peat moss. It has, I think, been said that there is a danger of Waders' feet becoming frost-bitten in an outdoor aviary with fresh water and that in nature they are afforded protection by the salt water, but as shallow parts of the sea sometimes freeze without causing injury to the wild birds' feet, it may be that there is little danger.

One trouble we had with a few individual birds was the formation of small swellings on the feet : these resembled corns, but underneath there was an accumulation of pus and the trouble was very hard to cure.

We did not find the cause—such a thing might have been a result of too rich a diet or to absence of salt in the sand, but not, I think, in these cases to lack of wading, for the birds went a good deal into the water and kept their feet very clean.

I think that Waders look best in an aviary with no grass or plants except, perhaps, a few small clumps of rushes—a rather short greyish green species which grows in fields, not the large bright green one which is more aquatic and very untidy—and covered with sand relieved here and there by a rock, the whole

being suggestive of the sea shore which is, of course, the perfect setting for all Waders.

I also think that comparatively few Waders in an aviary look better than a lot: a pair in a small aviary present a prettier picture than a lot in a large one, but the drawback would be, of course, that some species are very difficult to sex.

Sea-sand would, I am sure, be better for the aviary than pit or river-sand: we could get nothing but Rhine sand which quickly becomes discoloured by a kind of algæ and which no amount of raking can destroy.

In the absence of plants it would no doubt be a good thing to sprinkle salt all over the sand now and then for this would prevent the algæic growth, disinfect the aviary and would, perhaps, be good for the birds' feet.

But for the war we should have tried rearing a large number of the various Waders in 1940: this would in itself have been very interesting and it would have been of far greater interest to see if, as in Waterfowl, the hand-reared females would nest in captivity more readily than the wild-caught ones. However, no doubt someone will eventually be able to make the effort—I hope so, for the wild-caught birds seem to be very shy breeders, and I can think of nothing in aviculture more fascinating than the breeding of the small Waders.

In the absence of the parents, incubation of the small Waders' eggs could, of course, only be done in incubators and the rearing of all sizes could only be done with any success in brooders, for I am sure that the smallest bantam would be altogether too clumsy to rear even the large Waders. Moorhens (*Gallinula c. chloropus*) should, of course, not be mentioned in this article, but as they are not worth a note to themselves I will make here a few remarks about the rearing of some. For the purpose of sending two or three pairs to the U.S.A. we hatched and reared nine: they were reared in a brooder with a few ducklings and were very easy to manage. For the first two or three days after they were ready to feed we were obliged to give them their food on the end of a stick or in the fingers. They were at first rather sleepy, very unsteady on their feet, and altogether comical, picking at the food in a curiously drunken way, but thereafter they fed themselves and were no trouble. For a time they were quite tame, but they

gradually became more nervous and were eventually, I think, wilder than the wild ones. When adult they did well on soaked duck-bread and a little Waders' food : it was curious that they also ate apples and lettuce which were going to seed leaving only the fibrous part of the stem and the roots. At the beginning of the war when it was evident that we could not very well send them away, I took them to a near-by marsh and liberated them. From the alacrity with which they disappeared into the reeds it was clear that they were entirely in favour of war, while I was very glad to see the last of those scrambling idiots.

* * *

ADDITIONAL AWARD OF MEDAL

The Council proposes to award a medal for the following first breeding record in the United Kingdom :—

AUSTRALIAN SHELD-DUCK, *Casarca tadornoides*. A. F. Moody (for Lady Lilford), Lilford, Oundle, Northants, 1939. Noted *Avi. Mag.*, June, 1939, page 202, and described *Avi. Mag.*, July–August, 1941, page 137.

Miss E. M. Lupton has written pointing out that she is not entitled to the award of a medal for her breeding of Jameson's Ruddy Waxbill, *Lagonosticta jamesoni* Shelley, as this species had previously been bred by F. Johnson (Kent) and an account was published in *Foreign Birds*, March, 1936.

* * *

ORNITHOLOGICAL MONOGRAPHS AS AN AID TO AVICULTURE

By SYDNEY PORTER

A feature of nineteenth and early twentieth century literature is the number of splendid ornithological monographs, which include some of the finest and most costly books ever published.

These books were produced mainly between the years of 1840 and 1920 by the leading ornithologists of the day, usually for wealthy patrons, various large libraries, and natural history societies of the world.

Each covers very exhaustively a single family or genus of foreign birds and all are illustrated with very beautiful coloured plates, the likes of which we shall no doubt never see again, as the method of reproducing them is far too costly for modern production. These plates were lithographed from stone and then coloured by hand. They were drawn by the great bird artists of the Victorian era such as Wolf, Hart, Thorburn, but mainly by Keulemans, the most prolific of these famous artists.

The editions of the monographs were usually limited to about a hundred copies, sometimes only fifty. They are of great use to the aviculturist who takes his hobby seriously, for not only are they an aid to identifying birds, but they give the life history and full accounts of the wild foods, etc.

The price of the books varies according to the binding and the state they are in ; naturally copies in fine leather binding by such well-known binders as Rivière fetch much more than copies in cloth covers, but it is the contents that are the main interest to the aviculturist and not the covers, and he can always have a poorly bound book rebound if he feels like giving himself a birthday or Christmas present at any time!

While a proportion of these literary works are beyond the means of the average person quite a few are within reach of the man with a modest income. They are really an investment as they will never lose their value and will doubtless appreciate in worth in time to come, especially as many valuable libraries are being lost by enemy action.

To the aviculturist one of the most useful of these monographs is the *Monograph of the Weavers*, which can be purchased for as low a figure as 35s., while two very beautiful volumes, the *Monograph of the Bee-eaters* and the *Monograph of the Rollers* are valued at from £4 to £6. Another work useful to the keeper of parrot-like birds is the *Monograph of the Lories*; this has sixty-one life-size and hand-coloured plates of these gorgeous birds, but some of the plates are rather badly coloured and not up to Keulemans' usual standard. This work has a fixed price of £6 10s. Another book very useful to the bird keeper, with over 120 exquisite hand-coloured plates, is Shelley's *Sunbirds*, this is one of the most beautiful of the monographs, but the price is rather high, being about £16 when obtainable, which is not often. Seebohm's *Thrushes* is another of these useful works and is one of the best bird books ever published; it contains about 150 of Keuleman's finest hand-coloured plates, all life-size. This book was published at £28, but can be obtained at about £10 to £12, and is a mine of information regarding the world's Thrushes.

Blaauw's *Monograph of the Cranes* is a very scarce book, but is invaluable to the keeper of these stately birds. It was written by a very famous aviculturist who was a member of the Avicultural Society and who died a few years ago. This work is difficult to obtain and the price, on the rare occasions when it is offered for sale, is about £8. All the Cranes are illustrated from life and the plates are hand-coloured.

Two magnificent monographs have been written about the Birds of Paradise; these are superbly illustrated, but in a few cases the artist's imagination has rather run away with him and the birds are shown displaying their plumes in very unnatural attitudes. One of these books is by an American author, D. G. Elliot, and the other by an equally famous English ornithologist, Dr. Sharpe. Both are quite beyond the purse of the ordinary aviculturist, costing about £50 apiece, but they can be seen in various large public libraries. The Zoological Society has one of the finest natural history libraries in the world and all the books may be seen at any time by members. It is well worth being a member of the Zoological Society for the sake of using this magnificent library.

Gould, the eminent Victorian naturalist, published several monographs, his finest being that on the Humming Birds, but

owing to the demand in America for the plates for framing these books now fetch a fantastic figure. None of them, however, are of much use to the aviculturist as they are about birds which are not usually kept in captivity.

The last two monographs to be published are the most useful from an avicultural point of view, both are by American authors.

These are amongst the finest books published during the present century. One is Phillip's *Monograph of the Ducks* ; there is a coloured plate of every known Duck, excluding domestic ones, and the subject is treated very exhaustively. The other is Beebe's *Monograph of the Pheasants* ; this is a wonderful work and many years were taken in its preparation. Dr. Beebe is a well known and famous author and his literary skill makes this book fascinating reading. The plates, though not in the old hand-coloured style, are very fine.

Unfortunately both these books are very costly, they were published at £50 apiece, but, for some unknown reason, the price of the *Monograph of the Ducks* has soared to about £100, while that of the "Pheasants" has fallen to about £40. Fortunately there is a small and condensed edition of the "Pheasants" which can be purchased for about 50s. ; this contains most of the information of the larger edition but lacks most of the purely scientific matter and some of the plates. It is a book which every Pheasant lover should possess.

Below is a list of most of the Monographs published in English. (Quite a few monographs were published on the Continent, but they are not up to the standard of those issued in this country) :—

The Barbets (Marshall). The Bee-eaters (Dresser). The Birds of Paradise (Elliot). The Birds of Paradise (Sharpe). The Birds of Prey (Swann). The Cranes (Blaauw). The Cassowaries (Rothschild). The Currassows (Rothschild). The Ducks (Phillips). The Hornbills (Elliot). The Humming Birds (Gould). The Jacamars and Puff-birds (Sclater). The Kingfishers (Sharpe). The Lories (Mivart). The Petrels (Godman). The Pheasants (Beebe). The Pittas (Elliot). The Partridges of America (Gould). The Plovers (Seebohm). The Rollers (Dresser). The Sunbirds (Shelley). The Swallows (Sharpe). The Thrushes (Seebohm). The Toucans (Gould). The Trogons (Gould). The Weaver Birds (Bartlett).

* * *

THE URAL OWL

(Strix uralensis)

By THE MARQUESS HACHISUKA

The Ural Owl is an inhabitant of eastern Europe, and throughout Russia, as far east as Japan. This species is generally distributed over the Palæarctic region, but, as its occurrence in Western Europe is unknown, articles in English are scarce.

They are divided into approximately ten geographical forms, and Japan, alone, possesses about five races. Very whitish-looking birds are found in Sakhalin, and occasionally chocolate-black individuals are found in southern Kiushiu, the locality famous to aviculturalists as the home of Ijima's Copper Pheasant. In spite of its large size it is quite common in the wooded hills and countryside.

The photograph reproduced here is my pet, *Strix uralensis hondensis* (Clark), taken in the garden when he was about two years old.

During the summer of 1938 I made a journey with a party of friends to Kawaguchi, one of the seven most beautiful lakes skirting Mt. Fuji. The altitude of this lake, I believe, is about 2,000 ft. Its vegetation is still like the lowland, with tall pine trees and thick undergrowth woods.

A small boat brought us to an island, situated in the middle of the lake, where the steep hilltop is covered with tall big trees, and there one of us spotted a few scattered feathers of Thrushes and other small birds. We all visualized the scene of tragedy which had occurred to our little songster—probably an attack by a Hawk. Suddenly, another member of our party spotted, not very far from the scene, a big baby Owl sitting on a branch quietly looking at us, but his wide open eyes clearly showed an expression of fear and surprise. He looked like a buff-coloured puff-ball, appearing quite white against the dark forest. By some mistake he had not got into his nest-hole during the night. His branch was high up, well beyond our reach, but our noisy conversation finally made him take to wing. Had it been evening he could have flown away without much trouble, as his wing-spread was quite wide, but every time he flew from branch to branch he lost his height and finally came into our hands.

After all, he was young enough not to realize fear, which he would have felt if he were a few weeks older, so he soon became accustomed to the box during our journey and readily ate food from our hands.

Later in the summer I placed him at the entrance hall of my Japanese villa, near the sea, where he slept happily on a perch. When I returned late in the evening he would open his eyes wide with acknowledgment and welcome me by fluttering his wings, often awakening the entire household. His wing-spread was, by then, over two and a half feet, and he often put his nails through the paper screen which separated the hall from the passage.

Having become quite friendly with our dog, a little fox terrier, I put him on the back of the dog and walked around the garden. The bird did not mind it at all, but the dog was always opposed to this form of walk.

I fed him entirely on meat, chiefly a piece of chicken's head, legs, and such bony parts. Like many other Owls he remembers his master very well, always begs for food with great enthusiasm, and would nibble my thumb if he found nothing to eat in my hand. As he grew very tame, I began to realize the great mistake I had been making in not training him to eat by himself. It took a couple of years to train him to eat alone, that is to say, to pick up the food from the ground and tear it between his powerful bill and toes. Therefore, for a long time, as I did not like to keep him in a small space, I turned him loose in a chicken pen where he greatly enjoyed his life in association with the hens. The chickens at first objected to his flying about after dark, but soon both seemed to come to an understanding and lived happily together, eating different food, and the Owl never once tried to attack the hens.

When my Owl was about a year old the pen was attacked by a stray dog which got inside of the Owl's cage. Of course nobody had seen the scene, but presumably he had fought his enemy courageously and defended himself. As his nails are very powerful he could not perch on my arm without wounding my skin, so probably the dog could not get very near him. About this time he suffered with bad eye-sight so I realized that his diet was too strong, as he was not having sufficient exercise. I decided to wash his food in water, diluting all the blood and fat out of the chicken meat. In a month or two the filmy appearance over the iris gradually



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[Marquess Hachisuka

URAL OWL (*Strix uralensis hondoensis*)

[To face page 170

disappeared, but it took several months before he regained his shining eyes. I think the great secret for anyone who keeps Owls, or other birds of prey, is not to keep their diet too strong, or to overfeed them. After all, in my opinion, even a big Owl often does not prey on first quality diet, such as small birds and mice, as much as they wish to, so they must often be content with a more inferior kind of diet such as frog, lizard, or even grasshoppers. It is also very important to leave fur and feathers with the meat in order to keep the bird's health in perfect condition. Some kinds of Owls prefer less feathers than others but my Ural Owl never objected to a large portion on the chicken's head. You can generally judge the health of the Owl by the quality of its pellet.

The only voice of our pet I know is his reply to us. I have never heard his own voice such as we might expect to hear during the summer moon nights. The Owl is now in his third year and seems to enjoy his contented life with us, although the pen is a bit too small for him to hover. I did not have time enough to train and let him fly outdoors like a Hawk, but I was told a Ural Owl, if turned out a few hours each day, would soon remember his master's voice and would fly back when called. But I have never heard of anyone who has kept this Owl in an absolute free state. Many readers will agree with me and appreciate that an Owl is an affectionate companion, the like of which cannot be found among any other group of birds.

* * *

THE AUSTRALIAN GROUND PARROT IN CAPTIVITY

(*Pezoporus wallacus*)

By H. MANFIELD,

Head Keeper, Adelaide Zoological Gardens

Re your note on page 316, December issue, "Which is the rarest Parrot you have ever kept?" I think in our case, in the Adelaide Zoo, it is the Ground Parrot (*Pezoporus wallacus*). I may state in writing this I am fulfilling a promise made to Major Alan Lendon, of A.I.F., now on active service with the Australian Army Medical Corps. In the year 1937 I was in charge of a big consignment of Australian birds for shipping to a Continental Zoo and while waiting for the ship I was stationed at the Melbourne Zoological Gardens for about eight days. I became acquainted with a Mr. David Fleay, who was at that time in charge of the Australian section, and who showed me around some of his treasures among which was a Ground Parrot, the first live specimen I had ever seen, and thought it the most beautiful bird of the whole of my bird career, and it was not long before I was pleading to Mr. Fleay to let me take the bird back to Adelaide. Offer what exchanges I might the answer was "No". I wrote off to the late Mr. R. R. Minchin, Director of the Adelaide Zoo, and told him of my great discovery and he wrote me saying try and get it, offer a pair of Princess Alexandras, but no, it was no good. Mr. Fleay said no, and he meant it. Anyhow later Mr. Minchin offered a very attractive list of Australian Parrots bred in the Gardens, and back came the Ground Parrot. What great excitement there was the day it arrived and Mr. Minchin handed the box to me, saying, "Look what is in here"; we looked at the bird over and over again, and the more we looked the more beautiful was our bargain. We were housing the only Ground Parrot in captivity; of the fifty-nine species of Australian Parrots, we had been housing fifty-three, and this one made fifty-four. It was not until about twelve months later that we heard of a second one, and we lost no time in securing it, but unfortunately this bird had crippled feet and we were doubtful if it would be of any use as a breeder;

anyhow we were the proud possessors of two live Ground Parrots, and both looking well. It was at this time that I cut my first Parrot's wing, being a ground bird and pretty wild at that, it was no use to run the risk of its dashing against the wire netting. The more we looked at these two the more we felt sure we had a true pair. It is always said that Ground Parrots make no call or noise whatsoever, but the bird with crippled feet has a little soft call much resembling the Rock Parrot (*Neophema petrophila*), only, perhaps, just a little softer.

It was not until late in 1940 that our present Director, Mr. V. D. Haggard, came to me one day with the great news that he had located still another, a third, bird. He had received advice from a friend who said he had heard of a man who was scrub rolling about 300 miles from Adelaide when he flushed a green bird in the thick scrub and it flew against a bough of a tree and hurt its wing. We made an offer and in about a fortnight back came Ground Parrot No. 3 in a little padded box and looking as good as bird No. 1, also eating as well as the others. We think up to the time of writing that we have the only Ground Parrots in captivity in the world, and we hope it will not be long before we can breed this rarity; one would be most unlucky to have three birds all of the one sex. I will try and give a short description of its habits, etc., in captivity and will enclose a couple of feathers for your inspection, one is a breast feather and the other outer tail. In colour it is a grass green and marked with black and yellow. Breast is a greenish yellow with black and green markings, scarlet red bar on forehead, tail yellow, rather long with black and green markings, bill horn colour, feet and toes long. It walks very quickly and the birds we have never perch, although small branches are placed low down in the cage. They spend most of their time sunning themselves in the grass that is growing in the cage, even on a very hot day one will see these birds lying out in the heat with stretched-out wings. A label has had to be placed in the enclosure reading, "Look for birds in grass sometimes difficult to see," as one often hears visitors say, "Can't see anything in here." So one can gather the birds would be very difficult to see in their wild haunts.

The food given consists of Canary seed, Pannicum seed to which is added a little Sunflower, hulled oats, and hemp seed. Green food given is lettuce and thistles or any small seeding grasses.

[The Editor will be glad to send the feathers of the Ground Parrot, forwarded by Mr. Manfield, for the inspection of anyone wishing to see them. It is greatly to be hoped that the Adelaide Zoo will be successful in breeding these beautiful Parrots and this event will be awaited with keen interest.]

* * *

THE "WING-STRIPE" AS AN INDICATION OF SEX AND MATURITY IN THE AUSTRALIAN BROAD-TAILED PARROTS

(Family *Platycercidæ*)

By Major ALAN LONDON

(Reprinted by kind permission from the *South Australian Ornithologist*)

Many past workers in Australian ornithology have devoted much time to the description of subspecies based on minor differences in size and plumage, while at the same time overlooking the more obvious plumage differences between the sexes and between the plumages of maturity and immaturity. Perhaps the height of absurdity is reached when a rare form is rediscovered after a lapse of years and promptly dubbed a subspecies, an example of this being the rediscovery after many years of the Golden-shouldered Parrakeet (*Psephotus chrysopterygius*). On the other hand, a glaring example of an obvious sexual difference being overlooked, was perpetrated by John Gould in his monumental *Birds of Australia* when he figured two male Turquoise Parrakeets (*Neophema pulchella*) at that time, in his own words, a plentiful bird, and stated that the sexes were figured and were alike.

In the past it has not been generally realized what a large contribution scientifically conducted aviculture can make to the study of plumage variations and it needs to be stressed that accurate observations of changes in plumage and the times and ages at which adult plumage is assumed and so on, can only be ascertained with certainty when birds are kept and bred in captivity.

The Australian members of the order Psittaciformes have never received due attention from ornithologists, and the writer will attempt in this essay to draw the attention to an interesting feature exhibited by a typically Australian family, the *Platycercidæ*, of which there are found in Australia the six genera, *Platycercus*, *Barnardius*, *Purpureicephalus*, *Psephotus*, *Neophema*, and *Lathamus*. In several species the difference in plumage between male and female is very marked, e.g. *Psephotus dissimilis* and *Neophema splendida*, while again in others there is marked dissimilarity between the plumages of mature and immature forms, e.g. *Platycercus elegans* and *Purpureicephalus spurius*.

On the other hand, in some species the similarity between plumage of adult male and female is such as to render it difficult even for the practised eye to distinguish the sexes, e.g. *Platycercus venustus* and *Neophema petrophila*. The same difficulty does not as a rule occur in distinguishing adults from immatures as even when the plumages are generally similar the immatures are invariably duller. Speaking generally, and this applies particularly to those species where there is not much difference in plumage between the sexes, the males of this family have a larger, broader, and flatter head than the females, and the width of the upper mandible is considerably greater.

There is, however, another feature of the plumage which will be of great assistance in distinguishing males from females and adults from immatures, and that is what, for want of a better name, the writer has designated the "wing-stripe". This consists of a series of white spots, variable in size, on the inner webs of some or most of both primary and secondary flight feathers. If the stripe is extensive it is generally present on all the flight feathers with the exception of the outer two or three primaries; if limited, it is usually confined to the fourth, fifth, sixth, and sometimes third or seventh primaries, and it is invariably symmetrical. It is present to some degree in the great majority of immature *Platycercidæ* and tends to be better marked, i.e. more extensive, in immature females than in immature males.

At the first moult it is almost always lost by the males and in a great number of cases retained to some degree by the females. In some species, e.g. *Psephotus dissimilis* and *P. varius*, it is invariably retained by the females, and this appears to be associated with

marked dissimilarity between the two adult plumages. It is fairly constantly retained by the adult female in those species where the dissimilarity, though less obvious, is still pronounced, e.g. *Barnardius barnardi* and *Purpureicephalus spurius*, while it is comparatively rarely retained by the female in such species as *Platycercus elegans* and *Barnardius zonarius* where there is little difference between the adult plumages. To sum up, it would appear that in adult members of the family *Platycercidæ*, i.e. those who have moulted their flight feathers at least once, if the wing-stripe is present the bird in question is almost invariably a female, though if absent it is not necessarily a male. Further, in immatures a marked wing-stripe is a general indication of the female sex, while a slight one or its absence strongly suggests that the specimen is a male.

The writer has considered what can be the possible purpose of such a marking which is only noticeable when a bird in flight is seen from below. It is generally assumed that all such markings in birds are in the nature of a warning signal to other members of the species, and thus it would appear that as warning signals would be less necessary where the male is much more brightly coloured and noticeable in flight than the female, e.g. *Psephotus dissimilis*, or where the adult is much brighter than the immature, e.g. *Platycercus elegans*, so in the cases referred to will the stripe be lost in the male or adults respectively.

It will now be the writer's task to deal with each species individually and indicate to what extent the above suppositions are borne out.

Genus *Platycercus*.—In this genus immature birds almost invariably exhibit the wing-stripe to a marked degree, *P. venustus* being an occasional exception. The retention of the stripe by the adult female varies, being generally absent or slight in those species where the adult plumage differs markedly from the immature, e.g. *P. elegans*, *P. adelaidæ*, *P. flaveolus*, and *P. caledonicus*, and being markedly retained in those where the immatures are merely duller editions of the adults, e.g. *P. eximius*, *P. adscitus*, and to a lesser degree *P. venustus*. In the eighth species, *P. icterotis*, there is a well-marked plumage difference between the adult male and female, and the adult female retains the stripe to a marked degree also. The plumage of the immature in this species does not differ very greatly from that of the adult female.

P. elegans, Crimson Rosella.—Wing-stripe invariably present in immatures and tends to be more pronounced in immature females. The stripe is lost at the first moult by practically all males and only retained to a slight degree by a few females.

P. adelaidæ, Adelaide Rosella.—As would be expected in species so closely related, the same holds good as in the preceding, namely immatures—invariably present; adults—absent in males and absent or slight in females.

P. flaveolus, Yellow Rosella.—Another closely allied species in which immatures invariably possess the stripe, but here there seems to be more tendency for it to be retained to a greater degree in the adult females than in either of the two preceding species. In adult males it is absent.

P. caledonicus, Green Rosella.—Here again, invariably present in immatures, invariably absent in adult males, and, if present, only to a slight degree in mature females.

P. adscitus, Pale-headed Rosella.—In this species where the immature plumage is but a duller edition of the adult, the stripe is still invariably present in the immatures, tending to be more pronounced in the females. In the adults it is invariably absent in the males and practically always present to a marked degree in the females.

P. eximius, Eastern Rosella.—Again the immature plumage is a dull edition of the adult and wing-stripe is always present, and more pronounced in the females. In the adults the male loses the spots at the first moult and the female retains hers to a marked degree.

P. venustus, Northern Rosella.—Although the immature plumage once again is but a duller edition of the adult, here one finds that the wing-stripe is by no means constant in the immatures, even in the females, and as would be expected it is, therefore, comparatively uncommon in the adult females and absent in the adult males.

P. icterotis, Western Rosella.—In this species the immature plumage is a somewhat duller edition of that of the adult female both exhibiting the wing-stripe to a marked degree. The adult male, although with a very much brighter plumage than that of the adult female, does exhibit the stripe to some extent in quite a number of instances.

Genus *Barnardius*.—In this genus the wing-stripe is not invariably present in the immatures of some species ; particularly is this so in the young males. The retention of the stripe by the adult female is variable also and is particularly marked in *B. barnardi*, the species which exhibits the most difference generally between the plumage of the adult male and female.

B. barnardi, Barnard's Parrakeet.—The wing-stripe here appears to be present in almost all immatures of both sexes and, as just stated, to be present in the majority of adult females. It appears to be absent in adult males.

B. macgillivrayi, Cloncurry Parrakeet.—The writer has not had the opportunity of examining many specimens of this species, but the available material suggests a close correspondence with the preceding species in that immatures exhibit the stripe and that it is retained to some degree in most adult females.

B. zonarius, Port Lincoln Parrakeet.—In this species the stripe is by no means constant in immatures ; in fact, the majority of immature males show a complete absence, although it is present in all immature females. Adult males, as would be expected, do not exhibit it and only a small proportion of adult females appear to retain it.

B. semitorquatus, Twenty-eight Parrakeet.—As would be expected in a species so closely allied to the preceding, there is close correspondence in the presence or absence of the stripe, but there appears to be a tendency for it to be more constantly present in immatures of both sexes and for a larger proportion of adult females to retain it than in the case of the preceding species.

Genus *Purpureicephalus*. *P. spurius*, Red-capped Parrakeet.—As would be expected in this species where the immature plumage differs so markedly from that of the adult, the wing-stripe in the immatures is constant. Again, as the adult female is considerably duller than the adult male, so there is the corresponding practically invariable retention of the stripe in the female and its loss in the male at the first moult.

Genus *Psephotus*.—It will be convenient to consider the members of this genus by regarding them as constituting three subgenera :—

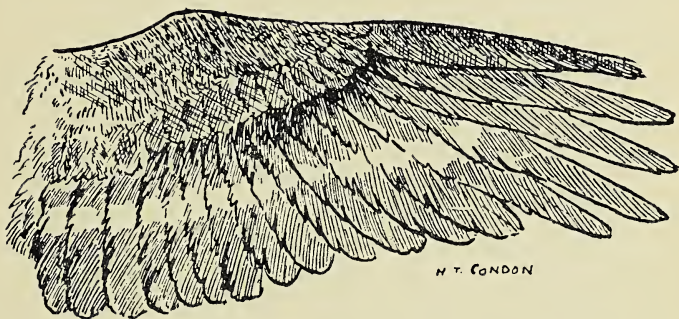
Subgenus *Psephotus*.—In this subgenus the marked difference in plumage between the adult male and adult female is quite apparent, though to a slightly lesser extent in the immatures.

P. varius, Many-coloured Parrakeet.—Immatures of both sexes, although immediately differentiated by the brighter plumage of the males, exhibit a marked wing-stripe. This is invariably retained by the adult female and equally invariably lost by the adult male.

P. hæmatonotus, Red-rumped Parrakeet.—Exactly the same holds good as in the preceding species, namely immatures of both sexes exhibit the stripe, adult females always retain it and adult males never do so.

Subgenus *Northiella*.—In this subgenus there is not the marked difference in plumage between adult males and females and the immatures are merely duller editions of the adult.

N. hæmatogaster, Blue Bonnet.—In this species the stripe is fairly constant in immatures with a tendency for it to be less



Wing of Female *Psephotus varius* from below to show "Wing-stripe" marked in males. Adult males seldom exhibit any trace of a stripe, while a fairly large proportion of adult females retain some trace thereof.

N. narethæ, Little Blue Bonnet.—In this species the stripe appears to be almost invariable in the immatures and, as would be expected, corresponding with the more obvious plumage differences between the adult male and female, compared with the preceding species, so the stripe disappears in the male and is retained in the female.

Subgenus *Psephotellus*.—Here again there is a very marked difference between the adult plumage and correspondence with changes in the stripe.

P. dissimilis, Hooded Parrakeet.—The stripe is invariably present to a marked degree in the immatures in which there are no very obvious sexual differences. It is retained to an equally marked degree in all adult females and is completely lost in all adult males.

P. chrysopterygius, Golden-shouldered Parrakeet.—In such a closely related species one would expect absolute correspondence with what occurs in *P. dissimilis* and, although the writer has not seen any living specimens, the few skins examined bear out this conclusion.

P. pulcherrimus, Paradise Parrakeet.—Although not quite so nearly related as the preceding two species are to one another, yet it is sufficiently close to assume a similar presence or absence of stripe, and again the few skins available support this.

Genus *Neophema*.—In this genus, the wing-stripe is so variable that it is impossible to make any generalization, and it is best to consider each species individually.

N. bourki, Bourke's Parrakeet.—In the immatures the stripe is a certain guide to sex, being absent or slight in immature males and well marked in immature females. In adults, as would be expected from the foregoing, it is absent in males and practically invariably well-marked in females.

N. chrysostoma, Blue-winged Parrakeet.—In the immatures, the stripe is generally, though not invariably, present; if absent, the bird is almost certainly a male. In adult males it is always lost, but adult females are variable, quite a large number showing some evidence of it.

N. elegans, Elegant Parrakeet.—Very inconstant in immatures and when present to any extent it is an indication of the female sex. In adults it is absent in males and it is quite unusual for it to be retained to any marked degree, if at all, in females.

N. petrophila, Rock Parrakeet.—Fairly constantly present in immatures and tending to be more marked in females. In adults occasional evidence appears to persist in males and there is fairly constant, though usually quite slight, evidence in adult females.

N. chrysogaster, Orange-bellied Parrakeet.—In the few specimens handled there appears to be a fairly constant presence in immatures with complete absence in mature males and variability in adult females.

N. pulchella, Turquoise Parrakeet.—Immatures of both sexes show a practically constant and well-marked stripe which is invariably lost in adult males and almost invariably retained to a marked degree in adult females.

N. splendida, Scarlet-chested Parrakeet.—The immatures are very variable, some, which appear to be invariably females, exhibiting a marked stripe while in others of both sexes it is absent. Correspondingly it is invariably absent in the adult male and quite inconstant in the adult female, being usually either well marked or entirely absent.

Genus *Lathamus*. *L. discolor*, Swift Parrakeet.—This strange honey-feeding Parrot reveals its platycercine affinity by the presence of a wing-stripe as well as in other ways. The stripe appears to be present in all immatures and rather inconstant in adults of both sexes, being retained in some males and lost in some females.

Acknowledgments : The writer has to acknowledge his indebtedness to the authorities of the South Australian Museum for permission to examine their collection of skins of the family under review. The remainder of the conclusions have been based largely on observations of living specimens in the writer's aviaries where twenty-five of the twenty-eight species considered are represented by true pairs, the three missing species being *Psephotus chrysopterygius*, *P. pulcherrimus*, and *Neophema chrysogaster* ; and where during the past four years twelve species have successfully hatched and reared their young and their plumage changes have been accurately recorded until they have reached maturity. Of the species which the writer has not succeeded in persuading to breed to date, a further nine have been successfully reared either in the Adelaide Zoological Gardens or in the aviaries of fellow aviculturists and the writer is indebted to them for the opportunity of examining the young birds at frequent intervals until they reached maturity.

BREEDING RECORDS TO DATE

By Dr. E. HOPKINSON, C.M.G., D.S.O.

(Continued from p. 94)

PARROTS : Part IV

Macaws

BLUE AND YELLOW MACAW (No. 350), *Ara ararauna* (Linn.).

There are plenty of records of the breeding of this Macaw dating from a hundred years ago to now. I give here all I know.

The earliest is in Lauder and Brown's Parrot volume of the *Miscellany of Nat. History* published in 1833. Here (*p. 47*) we read : " We have an interesting and detailed account of various broods of a pair of Blue Macaws (*Psittacus ararauna*) which bred at Caen in France, from the pen of M. Lamoureux, Professor of Natural History in that town. These birds, the property of M. Eshault of Caen, commenced incubation in March, 1818, and up to August, 1822, they had 9 broods, and the female laid during that period 62 eggs. Of these 25 were productive and ten only of the young birds died ; the others lived, thrived remarkably well and seemed quite naturalized to the climate." Both Butler (*ii, 152*) and Neunzig (*p. 679*) mention this event, the latter adding the detail, " in a cage " and recording another success in Germany with the reference *Die Gef. Welt, 1901, 303* ; in this case a pair belonging to Herr Sharland laid in a cupboard in a room and hatched out one young bird, which left the nest at 94 days old. In a more recent *Gefederte Welt*, i.e. 1932, *p. 110*, M. Müller describes success in the previous year in a large flying aviary at Essen, Germany, and gives photos of the single young bird hatched at various ages from seven to twelve weeks old. It was hatched on 5th October and was over four months old when the article was written. A summary of the account appeared in *A.M., 1932, 226*.

As regards the U.K., Seth-Smith (*A.M., 1939, 411*) says that it was bred in the Edinburgh Zoo in 1939 ; two young were hatched in August, which were still alive in November, and I believe still are.

This Macaw was also bred successfully in West Australia by Mr. Padbury from 1926 onwards ; when I saw them in 1932

there were two pairs of home-bred birds in the aviary as well as the old birds. See also *A.M.*, 1932, 221.

RED AND BLUE MACAW (No. 351), *Ara macao* (Linn.).

Was bred in the U.S.A. by Holmes *teste* the list given in *Aviculture (U.S.A.) Jan.*, 1932, and according to Delacour (*A.M.*, 1938, 121) was also bred in England—at Lilford.

GREEN-WINGED MACAW (No. 353), *Ara chloroptera* (Gray).

Two were reared at liberty at Lilford in 1936, and had been reared there before *teste* Moody, *A.M.*, 1936, 338.

ILLIGER'S MACAW (No. 354), *Ara maracana* (V.).

"Has been bred with success in a flight-cage" says Neunzig (*p.* 675), and according to Russ the first breeder was Herr Frenzel, but Butler (*ii*, 154) quotes Russ to the effect that a pair belonging to Dr. Frenzel "bred" one young one, but it only survived a few days, which (if correct) distinctly upsets the record. Our Zoo bred them in 1931, rearing two young *teste* Seth-Smith, *A.M.*, 1931, 226. Both the young thrived and I saw one in Miss Knobel's bird-room in 1935. Two more were reared at the Zoo in 1938, *teste* the Report for that year.

Macaw Hybrids

RED-AND-BLUE × MILITARY MACAW (*militaris*).

Four of these hybrids were in the Zoo in 1901 (*teste* Report), which had been bred at Milan (*P.Z.S.*, 1901, 279).

BLUE-AND-YELLOW × RED-AND-BLUE MACAW.

Delacour saw two *ararauna* × *macao* which had been bred in California and writes in *A.M.*, 1937, 138, "two beautiful Macaw hybrids, a lovely apricot underneath, pale greenish blue above—much prettier than either parent." In *Bird-Fancy*, 1938, 77, Harold King refers to a hybrid *ararauna* × *macao* bred by Bell, 1937, "now

adult." This cross has also been bred in New Zealand at the Wellington Zoo ; I saw the young bird and its parents there in 1938.

BLUE-AND-YELLOW × GREEN-WINGED MACAW.

Were bred at the Dresden Zoo in June, 1897, *teste* Neunzig (679). Seth-Smith in *A.M.*, 1938, 30, refers to a hybrid "Blue and Yellow × Green Macaw" bred by Tuke at Ilford in 1937 ; it was two months old at the time of writing, but still could not walk properly. (Did it live, and was it actually this cross ? There is some confusion in the use of the English names of Macaws, hence I feel that I must leave some doubt, to be cleared up by others I hope.—E. H.).

GREEN-WINGED × BLUE AND YELLOW MACAW.

This cross has been bred in New Zealand by Anderson, of Wanganui. The first was bred in 1931 and the others in following years, see *A.M.*, 1932, 220 (*photo*), and 1936, 83. When in New Zealand in 1936-7 I saw the three young which had been bred.

Conures

YELLOW CONURE (No. 355), *Eupsittula solstitialis* (Linn.).

Bred at Rouen by de Kerville in 1883 according to *Bulletin*, 1884, 615. On this success Neunzig (673) writes : "... pair had been with their owner since 1872. For the first four years the hen never laid, but in the next four she produced 29 eggs. In 1881 the cock died and was replaced by another ; the pair nested successfully two years later."

Hybrids

YELLOW CONURE × GOLDEN-CROWNED CONURE.

p. 346 (Mairel (Rothschild) Ferriere).

The breeding of this cross is recorded in the *Bulletin* for 1870,

QUEEN OF BAVARIA'S CONURE, *Eu. guarouba* (Gm.).

First bred by Dr. Osman Hill at Colombo, Ceylon, in 1939. Two young were hatched and both reared; the young were hatched before 21st March and left the nest 3rd and 4th May, according to the full account given by the breeder in *A.M.*, 1939, 388, which is accompanied by a photo showing the parents and their family, when they were apparently over four months old.

YELLOW-HEADED CONURE (No. 356), *Eu. jendaya* (Gm.).

Butler (*ii*, 157) says that there is a record of successful breeding in *Notes on Cage-Birds*, *ii*, 173. In France Biquet was successful in 1924 *teste L'Oiseau*, 1925, 28, and Moody in *A.M.*, 1929, 8, writes "They have bred at Woburn every year since 1926".

Hybrids

YELLOW-HEADED × BROWN-THROATED CONURE.

Two young reared by Sturton Johnson in 1905; see *A.M.*, 1905, 341. (In the account here the name used is "Yellow-crowned".)

YELLOW-HEADED × GOLDEN-CROWNED CONURE.

One young hybrid of this cross reared by Lord Poltimore in 1913 (*B.N.*, 1914, 19).

BROWN-THROATED CONURE (No. 360), *Eu. pertinax aeruginosus* (Linn.).

Bred by Williams in 1908; two young reared, A.S. Medal for a first success (*A.M.*, *n.s.*, *vi*, 302, 316). Hybrids with the male YELLOW-HEADED CONURE have also been recorded.

BROWN-EARED CONURE (No. 361), *Eu. ocularis* (Scl. and Salvin.).

Bred by Shore-Baily in 1915 (*B.N.*, 1915, 261, 306).

GOLDEN-CROWNED CONURE (No. 362), *Eu. aurea* (Gm.).

Neunzig (*p.* 665) says that this Conure has been bred several times and that according to Dr. Russ the first to succeed was Wenzel. In the U.K. Capt. Ward was the first to succeed; he reared one young bird in 1926 (*A.M.*, 1926, 327.)

Hybrids are also on record with males of the **YELLOW** and **YELLOW-HEADED CONURES**.

PETZ'S CONURE, *Eu. canicularis* (Linn.).

Has been bred in the U.S.A., *teste* the list in *Aviculture* (U.S.A.), *Jan.*, 1932; the breeder's name was Palmer.

RED-MASKED CONURE, *Aratinga rubrolarvata* (Mass. and Souancé).

Bred by Shore-Baily in 1925, two young being reared and the A.M. Medal for a "first" awarded (*A.M.*, 1925, 318; 1926, 116).

GREEN CONURE (No. 358), *A. leucophthalma* (Müller).

According to Russ it was bred (Abroad) by Gabriac, but Neunzig does not mention this and Lauder and Brown in their **PARROT** volume of the *Miscellany of Natural History* (1833) say under "Peacock Parrot, *Psittacus guyanensis*" (which = this species) that M. de Gabriac only got as far as young birds, which were not reared; this would indicate that this record cannot stand, unless Russ had further information from some other source. Anyhow the species was bred in Australia recently, at the Adelaide Zoo in 1936, when one youngster was reared. See *A.M.*, 1937, 309, and the Adelaide Zoo Report, 1937.

CACTUS CONURE (No. 359), *A. cactorum* (Kuhl.).

First breeder (and so far the only one) Lovell-Keays in Sussex in 1914; three young reared and the F.B.C. Medal awarded (*B.N.*, 1914, 349; and *A.M.*, 1915, 41).

BLACK-HEADED CONURE (No. 357), *Nandayus nenday* (V.).

First bred by Cornely in Holland *teste* Russ—in 1881 *teste* Neunzig, p. 672. In the U.K. Mrs. Johnstone was the first to succeed, rearing three young in 1901. A.S. Medal (*A.M.*, 1901, 1902, 45). Brooks also reared two in 1916 (*A.M.*, 1917, 28), and Whitley bred them in 1928, but never recorded the facts.

CAROLINA CONURE (No. 363), *Conuropsis carolinensis* (Linn.).

Russ was the first breeder *teste* Russ. On his success Neunzig (*p.* 663) writes: "A pair in Dr. Russ's bird-room hatched out three young and later on five more. Three to five eggs were laid; both parents sat and fed; nest-down mouse-grey. The young were the same size as the adults, but . . . a lighter green, . . . not till the second year was the yellow or orange of the head fully developed."

They have also been bred in America and are included in Beebe and Crandall's List of Birds bred in the U.S.A., which appeared in the *N.Y. Zool. Soc. Bulletin*, 1909, 581, where we learn that one success was in 1885 (9th Sept.), when a young Carolina Conure was hatched by a Turtledove at the Philadelphia Zoo after an incubation period of 14 days, but we are not told how long the young bird lived nor indeed whether the egg had been laid by captive birds or taken from a wild nest. This Conure does not appear to have ever been bred in this country, but Butler (*ii*, 161) says "has been freely bred in Germany". See also Nowatny in the *Auk*, 1895, 28-38, and Salvadori's foot-note in the *Ibis*, 1906, 458 for further information on the breeding in captivity of this extinct (or almost extinct) Parrakeet.

WHITE-EARED CONURE (No. 365), *Pyrrhura leucotis* (Kuhl.).

Butler (*ii*, 163) says that this Conure was bred in London in 1885 and quotes Russ to the effect that they were also bred in Vienna in 1889 by Prince Frederick of Saxe-Gotha. Brooks reared seven young in Scotland in 1906 and was awarded the A.S. Medal

in spite of the earlier record given by Butler (*A.M.*, 1907, 59, 110). Neunzig says "once bred" and M. Decoux told me that L'Abbé Leray had bred them often. Neunzig (*p.* 661) says that hybrids with the RED-BELLIED CONURE have been obtained, but does not definitely say which way.

RED-BELLIED CONURE (Nos. 366, 367), *P. frontalis* (V). (*vittata*, Shaw; not Bodd). (*P. f. frontalis* and *P. f. chiripepe* (V) = subspecies.)

Bred by Mme Lecallier in France in 1918 *teste* Decoux in *A.M.*, 1927, 140, where the name *luciani* was used, but Delacour told me that the birds bred by this lady and elsewhere in France in the same year were "all *vittata*" (= *frontalis*), and that *luciani* had only been imported very rarely, and one of these rare occasions was a true Lucian's Conure, which he himself had once possessed.

Shore-Baily reared one young "*chiripepe*" in 1923 (*A.M.*, 1923, 203) and four young "*vittata*" in 1934 (*A.M.*, 1925, 131). As the parents were the same pair, the young were the same species, i.e. almost certainly *frontalis*.—E. H.

Hybrids with the WHITE-EARED CONURE (? which way) are also on record.

RED-EARED CONURE, *P. cruentata* (Max).

Bred by Whitley in 1937, three young being reared which I saw in October three months old, and they were still alive in 1938. Success never recorded by the breeder.

NOTES

STOCK DOVE HYBRIDS

Readers of my note, p. 316, Vol. V, Fifth Series, 1940, may be interested to know that my F 2 Stock Dove Hybrid Males have, with Tippler Pigeons, produced healthy offspring (sex at present unknown). I hope to be able in 1942 to again pair these F 3 birds to domestic pigeon if males, and if females to try with both Pure Rock Dove and also male pigeon.

ALLEN SILVER.

BLUE-MASKED LOVEBIRDS

In reference to the Blue-masked Lovebirds mentioned on p. 90, Mr. Rudkin writes in July, 1941, to tell me that this blue variation is now well established in California; he had thirty of his own breeding at that date and had disposed of a number of others. I have no news of what has happened to those bred so successfully by Mr. Whitley, and hope that this perhaps may elicit some information.

E. H.

* * *

CORRESPONDENCE

WAR-TIME AVICULTURE

While I am sure that every member of the Society will greatly appreciate the kind gesture of our overseas friends in offering to take some of our rarer birds for the duration of the war, I think few, perhaps, realize the almost insurmountable difficulties which would occur in connection with the shipping of the birds.

Voyages now take, in some cases, three and four times as long as they did previously and for that reason it would be a very difficult matter to procure the requisite amount of food for that period. It is also very difficult to make any arrangements with individuals on the ships to look after the birds for, besides the men having so much more to do these days, few if any would care to take on extra duty in looking after the birds.

Owing to the fact that one is only given a few hours' notice from the shipping companies before the ship sails, and also that one is not allowed to know by what ship or from what port the cargo sails until the day of sailing, one may have to keep the birds in their travelling cages for perhaps several weeks before the actual dispatch. For this reason it is very difficult to make contact with any of the ship's personnel to give instructions regarding the feeding and care of the birds.

Livestock is a very different proposition to ordinary merchandise and only those who have to send the latter overseas these days know the great difficulties one has to contend with. I rather doubt whether any shipping company would accept livestock now or if one could get permission to send it abroad. Judging by the slow motion working of Government bureaux, the war would be over by the time one did get permission.

I don't think the danger from bombing is half as great as the hazards by sea. Our great difficulty is food and far more birds have died from the lack of proper food than by bombing. If only some of our overseas friends could manage to get some small consignments of food sent, that would go a long way to saving our birds.

SYDNEY PORTER.

THE WHITE GATES,
STENSON ROAD,
DERBY.

Having read Prebendary Sweetnam's article in this month's magazine I feel it is up to me to offer to house a few birds over here for the duration—not seed eaters. The birds I have got here and who seem to stand our winter well are Forster's Lorikeets and if any member has any which they would care to have housed and fed for the duration I will gladly do it. Mine live on bread and milk and fruit when we can get it and they are in a large enough aviary to have two or three more pairs. The arrangement must, of course, be that I return them (or what is then alive) after the war. Here milk is easy, and I think I can safely say I could take anything ready to live on bread and milk. As to getting them here I can usually find an escort from London if given time. I don't know whether this offer is worth anything to any one but if it is I am only too glad to make it.

H. G. CHICHESTER.

GALGORM CASTLE,
BALLYMENA,
NORTHERN IRELAND.

I should like to express my appreciation of the splendid July–August number of the Magazine. It is a real achievement under present extremely difficult conditions. It is also a matter of great consolation still to be able to read articles by Mr. Delacour. There is one very paradoxical aspect of the food question which I should like to point out. On account of restrictions, thousands of rare and valuable birds, and millions of poultry will have to be killed off, although several thousands of useless greyhounds, kept solely for betting purposes, are being kept in training. This is a strange anomaly, which no member of the Government has endeavoured to explain. I have two empty aviaries suitable for Pheasants should any member care to entrust me with the care of them for the duration of the war.

G. BEEVER.

GREEN ROYD,
FENAY BRIDGE,
HUDDERSFIELD.

REQUEST FOR BODIES OF GOLDEN-EYES FOR ANATOMICAL EXAMINATION

We are anxious to obtain specimens in the flesh of Barrow's Golden-eye (*Bucephala islandica*) for critical examination of the trachea, which has been described as differing from that of the common Golden-eye, and we should be very grateful to receive the bodies of any specimens which may die in captivity. We are particularly anxious to examine a bird in its first autumn or winter, but examples of any age would be acceptable, and specimens of the common species would also be useful for comparative purposes. We should be greatly obliged if readers of the AVICULTURAL MAGAZINE who keep waterfowl would bear this in mind and any specimens which may become available should be addressed to B. W. Tucker, Dept. of Zoology, University Museum, Oxford.

B. W. TUCKER,
H. F. WITHERBY.

[The Editor accepts no responsibility for opinions expressed in Correspondence.]

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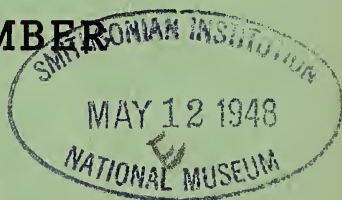
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SPOTTED TANAGER.
Calospiza chrysophrys.

AVICULTURAL MAGAZINE

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NOV.—DEC., 1941

THE SPOTTED TANAGER

(*Calospiza guttata chrysophrys*)

By J. DELACOUR

Few genera of birds are more brilliant than the Tanagers of the genus known as *Tangara*, *Calospiza* or *Calliste*, and generally known to aviculturists as Callistes. The marvellous colour of practically all its members, and they are numerous, is enhanced by the glossy and silky appearances of their feathers. However, as their shape is that of a graceful, but very normal Finch, nothing in them comes to distract the eye from their gorgeous, but always harmonious, plumage.

The lovely Superb, Tricolor, Blue-headed, to mention only a few species, are familiar to all bird lovers ; their varied and bright hues of blue, green, yellow and red are very striking. If not so showy, other Callistes are nevertheless excessively pretty and the Spotted Tanager, represented on the adjoining plate, is a very handsome and interesting one. This species is widespread and ranges from Trinidad, west to Colombia, and north to Costa Rica, with several weakly marked geographical races, negligible as far as aviculture goes. Slightly different species (*punctata*, *varia*, *xanthogastra*), with a few sub-species, are found in the Guianas, Amazonia, Ecuador, Peru, and Bolivia. The birds usually imported are the Venezuelan (*guttata-chrysophrys*), and the Panamanian (*eusticta*) forms.

I have seen the Spotted Tanager in the wild state in Northern Venezuela. It is fairly common there in the woods, or the mountains, especially in gullies where little flocks are found on trees

and bushes, often in company with other *Callistes* and sugar-birds, looking for berries and hunting small insects.

In captivity, Spotted Tanagers usually prove to be good livers. They are rather more insectivorous than other *Callistes*, although fruit is the basis of their diet. At different times I brought over and kept several, and they were more satisfactory than many other *Callistes*, which require a great deal of care if they are to thrive in captivity for a long time.

* * *

THE BREEDING OF INSECTIVOROUS BIRDS

By MAURICE AMSLER, M.B., F.Z.S.

Our dauntless Editor has promised us a number devoted to softbills and has asked me for an account of my successes and failures. After due consideration I have decided to omit a number of the latter as they might have a deterrent effect on budding aviculturists with a leaning to this class of birds.

There can be no doubt that of all our birds the softbills are the tamest and most intelligent, exception being perhaps made for a few of the Parrots. No one will deny that the group under consideration contains the most beautiful and graceful of all the birds known to our aviaries. As instances, one should perhaps begin with some of the larger species, such as the Occipital Blue Pie, the Azure-winged Magpie, and the Birds of Paradise, then come my favourites, members of the large family of *Turdidæ* which includes of course the true Thrushes, the Robins, Chats, Redstarts, etc. I had almost forgotten the numerous species of Glossy Starlings, with their marvellous iridescent plumage, and what bird is more striking than the Royal Starling with its wonderful combination of canary yellow and purple, added to which, unlike most Starlings, he has a grace of movement and outline which reminds one of the Yellow Wagtail. Finally we have those feathered jewels the Sun-birds, Sugar Birds, and the Fruitsuckers (*Chloropsis*).

I have no experience of Humming Birds whose upkeep is so artificial and precarious that I think it will be many years before a breeding success will be recorded.

From the preceding remark it will, I fear, be deduced truthfully that I have not much use for any bird whose breeding is almost, if not quite, impossible, though I must admit that I have before now attempted the impossible, and that naturally I have failed.

At the risk of labouring the comparison between softbills and seed-eaters, can anyone name one of the latter dressed in plain browns and buffs and black, which can vie with the beauty of the common Song Thrush, the Long-tailed Tit, the Pied Wagtail, or the little Jenny Wren?

Lastly, when one has considered such points as grace, colouration, intelligence, and tameness, there remains one outstanding quality, that of song, and there is no question that for some reason the softbills more than hold their own, though it must be admitted that many of the Crow family, such as Jays and Birds of Paradise, have a raucous vocabulary which makes them tiresome, not only to neighbours but to their owners also.

I see from my very rough notes that since 1909, when I started aviculture seriously, over twenty of the species of softbills which I have owned have either reared young or have attempted to do so. My first adventure into the realm of insectivorous birds was the purchase of that jolly little fellow, the Red-whiskered Bulbul (*Otocampus jocosa*), in 1910, and shortly afterwards I bought another, and although there was no outward difference these birds proved to be a true pair and quickly built a nest in a Canary travelling cage. They were so pugnacious, however, that I had to transfer them to other aviaries on two occasions before peace was declared with their fellow-occupants. To cut a long story short these birds had two nests of three and four eggs respectively, and although several young were hatched only one was fully reared from each nest. I was only just beaten on the tape for a first-time success by that doyen of aviculturists, Mr. W. E. Teschemaker.

Older members of the Society will remember this gentleman as the most successful breeder of those days, who "lifted" far more medals than any of his contemporaries.

My next success was a failure, if I may be allowed an Irishism.

I had bought from the late J. D. Hamlyn a "pair" of Golden-fronted Fruitsuckers (*Chloropsis aurifrons*), one of which, the hen, was in a terrible state of dirt and featherlessness. I only paid 2s. 6d. for this bird, whose life I hoped I might save. By dint of clean

conditions, an old shaving-brush, and soapsuds I soon had the bird in good feather, when she proved to be Jerdon's Fruitsucker (*C. jerdonii*). My breeding was thus deferred for a year when I obtained what I thought was a true hen of *Chloropsis aurifrons*. The introduction of this bird to the old cock was not encouraging, for both birds began to sing, and quite a lot of chasing and bickering took place. This state of affairs gradually subsided ; before long I noticed both birds carrying bits of hay, and although this went on for some time no progress was made beyond the placing of a few bents in a privet bush. The books tell us that this species uses spiders' webs in the construction of their nests. I had no difficulty in finding a quantity of this material, but it was not looked at.

Finally I fixed an old Thrush nest in the favoured spot in the privet, and very shortly afterwards found a few coco-nut fibres neatly laid in the nest. The next day an egg was laid, and the following day another. My experience proved that the usual clutch is only two. The egg was what might be described as stone-coloured with a few reddish brown spots at the thicker end. Incubation was from thirteen to fourteen days, and was entirely performed by the hen, moreover she took over the whole of the feeding on this occasion, but the one chick hatched only lived about twelve hours.

Two more attempts were made, on the second of which the only chick lasted for forty-eight hours, but on the third we nearly succeeded, the youngster being reared to the age of twelve days when I found him dead on the aviary floor some way from the nest. He had a small wound on the scalp and I rather suspect the cock to have been the culprit. The attempted breeding of these birds must be a very rare event, in fact the only other case I know of occurred in the late Dr. Lovell Keay's aviaries, where a nest was built. The commissariat of Fruitsuckers with young was somewhat difficult to cater for. They refused fruit and nectar mixtures for their young, and as they were extremely tame I was able to watch the feeding process at close range. In the second and third nests the cock did help with the feeding, a little pure undiluted honey was used, a few fresh ants' eggs, and very young cockroaches, but, as is usual, mealworms were the favourite items. These were chewed up for a long time, after which the case was thrown aside, the juices, having been completely extracted, were then fed to the

young. The twelve-day-old youngster which I somewhat sentimentally preserved in spirit till a year or so ago, clearly showed his parentage, the wing quills were just bursting, showing the typical green colour, the bill was slender and curved, but much less so than is the case in adult birds. I had often promised myself that I would make a fourth and successful attempt to breed these Fruitsuckers, but the mixing of special food for a single pair of nectar feeders has somewhat deterred me. I now notice that most bird-keepers feed these birds on the ordinary softbill mixture, they seem to thrive on this, but I cannot think that it can be so natural to this type of birds as the old honey and condensed milk mixture.

Mrs. Wharton-Tigar, by the way, owned until recently a very fine pair of *Chloropsis*, the Javan, I believe, and these birds attempted to breed on at least one occasion, but no eggs were laid ; indeed I do not know whether they got as far as a complete nest. An attractive and beautiful genus, but extremely combative : two of a sex will fight to the death, and even among true pairs I have known murder when the breeding season was over. This is undoubtedly one of the class of bird where it would be safer to cage up the male within sight of the female if and when young are hatched.

As these notes are becoming alarmingly lengthy, it will suffice to give very brief accounts of birds bred in my aviaries, more especially as these successes and failures have already been recorded in the Magazine.

Blue-tits (*Parus cæruleus*) reared one nest in a mixed aviary containing Waxbills and other small inoffensive Finches. They did not bear out the statement often made of the Paridæ that they are of a murderous disposition. I have no record of these little birds having bred elsewhere ; they are easy to cater for and very beautiful. I often think what a sensation they would produce were they exotics imported for the first time.

The Great-tit (*Parus major*) earned me one of my first medals, oddly enough they were extremely wild when first trapped and put into a small aviary by themselves. They went to nest none the less, and brought off six young, which I liberated as soon as they were independent. A second clutch was soon forthcoming, and on this occasion I gave the birds their liberty as soon as the young

were hatched, and from having been so wild they became pesteringly tame, took mealworms from my hand, came into the house during meals, and helped themselves to what they wanted. Unlike the Blue-tit the Great-tit is a born murderer.

I have kept several species of foreign Tits, both Indian and American, none was long-lived, and all seemed to require large quantities of niger seed, otherwise they died almost immediately.

The Blue-winged Siva (*Siva cyanuroptera*) in many ways is very Tit-like in its behaviour and in its love of a scrap. They are almost impossible to sex, and of several pairs I have kept only once have I reared them to leave the nest.

The following lists include species with which I have had partial success only.

Built, but did not lay :—

- Black-headed Sugar-birds (*Chlorophanes spiza*)
- Rufous-throated Sugar-birds
- Flame-shouldered Troupials (*Agelaius phoeniceus*)
- Shining Calornis (*Lamprocorax metallica*)

Built, laid, but did not rear :—

- Malachite Sunbirds (*Nectarina famosa*)
- Blue-headed Rock Thrush (*Monticola cinchloryncha*)
- Grey-winged Ousels (*Merula bouboul*)
- Chestnut-breasted Rock Thrush (*Monticola rufiventris*)

The attempted breeding of the Malachite Sunbirds perhaps deserves some amplification. The birds were given one end of a greenhouse which I had wired off, and planted with a honeysuckle (*Lonicerus hildebrandtii*) and a jessamine (*Jazoricum*). Both of these plants flowered freely, but were almost overlooked in favour of the nectar provided in the feeders. Here again is a species much given to fighting, and marital squabbles are the rule. None the less a nest was built in the jessamine, one egg was laid, and a chick hatched. Both parents did a lot of hawking for flying insects, but these are not numerous inside a greenhouse. Mealworms were not favoured, but I got a certain amount of food with a sweeping net worked through meadow grass. This was hard labour, and had to cease when I had an epidemic in my practice which left me no spare time for such exercise. The young Sunbird promptly died,

he was then four or five days old, and the male added to my sorrow and disappointment by immediately killing his hen.

It will be seen that I failed both with the Blue-headed Rock Thrush and with the Chestnut-breasted Rock Thrush. These Rock Thrushes, though easily sexed, are most difficult to deal with on account of the males' murderous proclivities. The cock Blue-headed killed no less than four hens, the last of which he did allow to build a nest and lay a few eggs before dispatching her. Though this is one of the most beautiful of this section of Thrushes I was so annoyed with him that I presented him to the Zoo in 1930, where thousands of people must have seen him since he was certainly still living when last I visited the Small Bird House in 1939. He was an adult bird when he first came to me, and I had him about four years, which makes his age at least fourteen years. Thus do the wicked flourish !

A cheery little fellow is the Hermit Thrush (*Hylocichla guttata*) with his charming little tinkling song. He much resembles our Song Thrush on a very small scale, but belongs to a separate genus. I had no trouble in breeding this species apart from sexing the birds. When male and female are identical one has to rely on the principle of trial and error. The Hermit Thrushes were quite inoffensive towards all the little seed-eaters sharing their aviary, indeed this might be said of almost all softbills, excepting the Crows, of course, but I have yet to find two species of softbill which will breed in the same aviary unless it be a very large one. The breeding of the Hermit was a "first timer".

Ever since I read the late Mr. Astley's book, *My Birds in Freedom and Captivity*, I have shared with him a great love for the Blue Rock Thrush (*Monticola solitaria*) though none of mine ever regaled me with the song one often reads about. These birds are seldom on the British market, chiefly, I think, because they are highly valued in Southern Europe where most of them are caught. During a plant-hunting visit to the Maritime Alps and Northern Italy I saw the bird in its wild state and also in cages, but the price asked, whether in francs or lira was always exorbitant, and I refused to be "done". Finally when leaving my hotel for my journey home I saw several bulky cages wrapped up in canvas, and was told they contained "*passeras*", the price, now that I was definitely leaving, was quite reasonable, and I purchased a pair. These

birds were in a divided cage obviously made for travel, it was dark, but I could see that both birds were bright-eyed and lively, which was good enough for me. On my way home I broke my journey at Clères, and M. Delacour kindly allowed me the use of two cages wherein the birds might have a little exercise, a bath, and so on. I immediately discovered that the hen of my "pair" was a Pied Rock Thrush (*Monticola saxatilis*), also a most delightful species which I have since possessed, but not what I wanted. By great good luck M. Delacour wanted this bird and was able to give me a hen Blue Rock Thrush in exchange. I was a happy man when I got back to Eton, and had not the usual "end of the holidays" feeling, for I had at last got a pair of a species I had coveted for years. In addition, I had a very fine collection of alpine plants collected during that holiday which, after a long period of years, are still flourishing with me, though the birds, alas, are no more. They did, none the less, after much fighting and many temporary separations, build, lay, and hatch four young of which one, the first Blue Rock Thrush to be bred in England, lived for many years in the possession of Mrs. Astley, to whom I gave him. This bird, which was kept in a cage, proved to be a very fine singer, though he never obliged on the occasion of my visits.

Another love of mine, with which I have had less luck, is also a European migrant, that perfect gem, the Arctic Blue-throat (*Luscinia cyaneula*). Dr. Armand, at one time a well-known French aviculturist living in Paris, usually had several of this species and kept them for a number of years. Another successful bird keeper, M. Plocq, also a Frenchman, not only kept this bird without much difficulty, but actually caught his own birds on the southern migration. If you are not familiar with this little beauty, picture to yourself a diminutive and lively Robin Redbreast. The abdomen is greyish-white, the back rufous brown, and the throat has a patch of azure blue with a white spot in the centre. In the female there is only a small blue patch without the white spot. There is another species with a red patch which takes the place of the blue. They have the great intelligent eye of the Robin tribe, and were it not for the great difficulty of wintering them they would rank high among the most desirable of softbills. I once kept a true pair for some nine months, and the hen got as far as placing a few fibres in a faggot of sticks, but like so many of the more delicate softbills her

flight feathers were none too good, and one cannot expect much from a bird which cannot fly strongly.

The same trouble has been my undoing with the Niltavas, of which I have had pairs of the Greater (*N. grandis*), the Rufous bellied (*N. sundara*), and the Lesser (*N. macgrigoriæ*). The first two of these went as far as building, but no further. Here again we have birds whose portrayal requires the pen of a poet and the brush of a very skilled artist.

Of the true Thrushes the only species I can remember to have bred is the Migratory Thrush (*T. migratorius*), often spoken of as the American Robin, which title ought really to have been given to the Bluebird. These Thrushes are quite easily bred, the parents being quite satisfied with a plentiful supply of earthworms, small at first, but later on the larger the better.

The late Mr. H. D. Astley was one of the first to breed the Migratory Thrush in his aviaries. Later he put the eggs in the nest of wild Blackbirds, these were hatched and reared, but I believe the young strayed away and were not seen for long. Probably their migratory instincts were the cause of their departure. The male Migratory Thrush is a handsome fellow, very hardy, with a song which somewhat resembles the Blackbirds', but is less beautiful than this bird's performance.

A very old favourite of mine is the Orange-headed Ground Thrush (*Geocichla citrina*), a species which for very many years I have seldom been without. Again a very easy species to breed, and quite definitely double-clutched. I have had pairs which were late starters, notwithstanding which they have laid their second clutch as late as September, with successful results. Individual pairs vary a good deal. In some cases the birds can be kept together the whole year round, in others one or other, usually the male, keeps the other away from the feeding pans, and if starvation will not do the trick, well, there are other and quicker methods.

Shamas and Bluebirds shall end my recital of the Thrush tribe which I have kept in my time.

Of the Shama much has been written, and I suppose it must be conceded that it is the most popular of cage birds. It has a rousing and cheerful song, and a wild or timid Shama is a thing I have never seen. Moreover some of the hens sing almost as well as the cocks. So fearless are they that one has to be careful not to walk

out of one's aviary with a Shama perched on one's hat or shoulder. Given any sort of rough box they will almost always build, lay, and hatch out young, but considering the very large numbers of these birds kept in captivity, very few young are reared during a season. I must have had more than a dozen pairs of these birds and have only once reared one to maturity, something has always happened, either the hen has died or the young have flown straight into the bath and met a watery death, and in the early days before I learned wisdom the cock often took the young out of the nest for a fly round the aviary and forgot to put them back. The remedy, as is now well known, is to cage up the male when the young are three or four days old. I am quite sure that they could be bred quite easily if given semi-liberty when the young are hatched, but as I have always had Bluebirds flying loose during the breeding season this has not been possible for me as these two species are not good "mixers".

I have written so much in this Magazine on the subject of Bluebirds or, as they are more commonly called, Blue Robins, that I hesitate to add much to my previous notes. My first pair came to me in 1926, from these I managed to rear fully one young male, although many more were reared to leave the nest the first season. These died of neglect shortly after. Had they been caged up with their parents after leaving the nest, they would almost certainly have lived. From the old pair, the young cock and a hen which was later given to me, I reared over sixty Bluebirds in the course of eight or nine years. My record, although it ended in disaster, was twelve independent young from one pair, all of which died in the autumn from enteritis. Quite suddenly they all seemed to take a dislike to their ordinary soft food so I gave them an unlimited quantity of mealworms, a handful at a time three or four times a day. Whether this lack of appetite for their usual food was a precursor of the disease, or whether it was actually produced by a surfeit of mealworms, it is difficult to say, but I have ever since greatly reduced the ration of that indispensable insect as soon as the youngsters were on their own. Although others, more capable than myself, manage to breed Bluebirds in captivity, all that I have bred, with the exception of the young male just mentioned, have been reared either by wild Redbreasts or by their own parents at liberty. This procedure appears risky, but I have had extra-

ordinarily few losses by parents straying or losing their way. Granted that at first you may have a *mauvais quart d'heur*, which may even last an hour or two, the parents always seem to know their way back in the end. After this all usually goes smoothly. Further, the lesson once learned the sense of orientation persists, and the following season one has no qualms in liberating the parents, providing they are in the same aviary.

My knowledge and experience of Crows are not large, but my first venture in the realms of aviculture, apart from Jackdaws and Magpies kept as a boy, was the importation of four young Ravens from Scotland. They arrived in a large box, together with a whole rabbit which they were much too young to deal with. The din they made when I first liberated them can better be imagined than described, and I had to stuff them with whatever food I could find in the larder to prevent complaints from my neighbours. Unfortunately they learned that any serious clamour would bring me rushing out to appease and quieten them, and I was much relieved when they learned to be independent of me and became less noisy. As I only had a large dog-kennel in which to keep these birds I soon got rid of two, and the remaining pair, with clipped wings, were often given their liberty in my garden. They were the most destructive brutes I have ever known, a large clump of some such tough plant as an iris or Michaelmas daisy was destroyed in no time, neither were they very safe with dogs, especially if these were asleep. Finally I built them an aviary, but was never really attracted by them so parted with them and used the aviary for smaller birds, got badly bitten by the cult, and joined the Avicultural Society.

One of my Ravens was given to an Eton master with a house of boys. This bird was very noisy, and annoyed the boys, so one of them was deputed to poison the culprit. When I inquired of this boy what he had tried, as the poison had no effect, his answer was, "Two vegetable laxatives, sir!"

As my aviaries increased in number I again had a hankering for members of the Crow tribe, and my next venture was a pair of Azure-winged Magpies, the species which Mr. Sydney Porter has recently so successfully bred. My birds proved to be a true pair and went to nest their second season, and two young were reared. Their aviary, which naturally they had to themselves, was a small affair, some 12 to 14 feet long and only 3 feet deep.

A few years later this same small aviary was given to a pair of Occipital Blue Pies. These birds built two nests at the same time, but of course only used one. Several clutches of eggs were laid and a good many young hatched and eaten by their parents at various ages. Towards the end of the season the urge to build and lay again became less, and two young were fully reared, though only one survived. Had I kept the parents another season I should certainly have hand-reared one or two, for it would have been delightful to have a really tame Blue Pie flying round the garden as one can so easily do with a Jackdaw, or the more nearly allied common Magpie.

My experience with these two species of Pie taught me that there is a strong tendency to eat the young, and that an abundance of meaty food must be supplied. In the early days, an unlimited supply of mealworms and clean gentles, also cockroaches if you can get them ; later on one must get busy with mouse-traps if these pests are at all plentiful. A Sparrow-trap during the summer will produce countless young Sparrows, but no adults will be caught at that season. They are too wary when breeding. The humane trapper need therefore have no qualms about young nestlings being left to starve.

Writing of Sparrow-traps reminds me of a somewhat shattering experience I once had. I was taking a very sweet old lady round my garden. Incidentally she was a great lover and tamer of wild birds. Suddenly, to my horror, I heard the fluttering made by numbers of trapped Sparrows. Frantically I whispered to my wife to hide the trap. This was done and I breathed again. What was my surprise to get a letter from this lady asking me if I could tell her where to get a Sparrow-trap, as these birds were so destructive to her flowers, and also disturbed her pet Robins, Tits, etc. ! I often wonder whether the old dear was sharper than I thought, and had spotted my subterfuge.

Should these notes persuade any reader to give up his Budgerigars, Waxbills, or Finches in favour of softbills, my advice is "Don't". This advice is given with the following proviso : wait until peace reigns again. Soft food usually contains suet and honey, also dried flies and ants' eggs, both from abroad, and biscuit meal. All these ingredients are difficult to get at present, and even more important are mealworms which were produced both in

Germany and Holland, and which are now unobtainable except in small quantities. Further, I suspect that many birds one sees advertised are patriarchs, and since very few birds have been imported during the last year, the choice must necessarily be very restricted. When the war is over I firmly intend to try my hand again at Niltavas, Blue-throats, and any of the Rock Thrushes which may be obtainable, and possibly here in the South of England I may have more luck than at my old home in the Thames Valley.

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NESTING OF LONG-TAILED BIRD OF PARADISE

(*Epimachus meyeri meyeri*)

By LEE S. GRANDALL, Curator of Birds, New York Zoological Park

Aviculture has made long strides in recent years but many steps remain to be taken. Each year we learn better the fundamental requirements of our charges and naturally their responses become increasingly more normal. After all, we strive only for normality.

The culmination of our efforts is reached in successful breeding of a species. If this is accomplished, we cannot be far wrong !

If we accept this goal as a criterion, then we are still well short of our objective with some groups of birds. Among these, we must consider the Birds of Paradise, for no member of the *Paradisæidæ* has yet been bred in captivity.

On the other hand, the credit side of the ledger is not entirely blank, for there are several instances of eggs having been laid, including the classical records of Mr. E. J. Brook's Princess Stephanies and Mr. W. J. C. Frost's at the Surabaia Zoo.

In America there appears never to have been any attempt at breeding, at least up to the present year. In spite of the present impossibility of replacements, the collection of Birds of Paradise in the New York Zoological Park is still in excellent condition and now includes sixteen species, exclusive of Bower-birds. They are kept principally in formal wall cages, of the type seen in the Small Birds' House at the London Zoo, and while they do extremely

well and look very lovely, conditions are not conducive to breeding. Moreover, as is well known, the sexes of most species will not live together in such enclosures which is a further obstacle. In all our experience, we have found only one Bird of Paradise of which pairs could be kept together: the Long-tailed (*Epimachus meyeri meyeri*). We have had two successive pairs of this form, and in each instance the birds have lived peacefully together for years.

Our first pair of Long-tails was collected in the Central Division of Papua by the New York Zoological Society's expedition in 1928-9. The second pair, secured by Mr. F. Shaw Mayer "near the head of the Waria", came to us in June of 1937, through the co-operation of our present welcome associate, M. Jean Delacour.

These birds quickly settled down and provided much interesting but as yet unpublished material on courtship displays. It never occurred to anyone that this courtship was anything more than a demonstration until, on 28th February, 1941, the female was found in comatose condition. On examination, she was found to be egg-bound. She responded well to treatment and soon produced what appears to be the first known egg of this genus. As has been reported in *Zoologica*,¹ the egg was "Cartridge Buff" with the expected markings of russet and gray, and measured 44.25×28.5 mm.

After the egg had been measured, photographed, and drawn, it was placed in a bacteriological incubator, the only available machine. This was run at 103 degrees, and when the egg was tested on the seventh day, it was found to contain a living embryo. While our ignorance of required conditions was complete, we began to consider liquid diets and the other problems involved in the care of a motherless fledgeling passerine. However, our plans were fruitless, for on the eleventh day, candling showed that the embryo was obviously dead.

Too late, of course, our own interpretation of the undescribed nest of the species was placed in the cage. However, while both birds were keenly interested, nothing came of it and they have now gone into the long moulting period. Next year, long before February, everything will be in readiness and—who knows?

¹ Vol. XXVI, Part 1, No. 9, p. 47.

CASUAL REMARKS ON INSECTIVOROUS BIRDS

By ALLEN SILVER

The field of knowledge relating to the avicultural side of insectivorous birds has been well ploughed. At the present time it is not easy to add to this, especially when one considers the following points :—

(1) Specimens are unobtainable.

(2) That under the most hopeful conditions the period which must elapse before new arrivals come to hand is likely to be long deferred.

(3) That orthodox feeding substances are disappearing and that alternative substitutes are rationed or are under prohibition for use in bird foods.

Although at the moment few of us can allocate time to the pursuit of distracting recreation or experiment, it behoves us where possible to endeavour to retain alive such specimens as we may possess and to look forward to better conditions in the future. By maintaining this interest we hope to be able to recommence when conditions allow of it, so that the pursuit of aviculture may not only prove as in the past an educational recreation, but may assist ornithology proper in helping to clear up perhaps generally accepted, but in some cases, doubtful information.

Birds coming under the term insectivorous cover many groups, but in fanciers' parlance the term "Softbill" was used to denote many very tough and hard-billed species which in captivity were maintained on a mixed meal diet in contrast to that of species which shelled or swallowed whole seeds or grains. Eliminating the less adaptable (to confinement) species, insectivorous birds as a whole are not only long-lived (when not compelled to endure conditions for which they are quite unfitted) but their survival under changed conditions to a reasonable age is often better as to expectation than that of many small exotic Finches. Whatever kind of bird one may keep it is a foregone conclusion that the aviary or cage containing it needs more or less daily feeding attention and provided one does this systematically I do not think this attention entails more trouble in the case of insectivorous or nectar feeding birds than

the examination, cleaning, and replacement of seed for the other types.

Apart from purely avicultural experiment, most insectivorous birds possess a charm of demeanour and appearance, whether soberly or brilliantly coloured, which makes them more interesting to watch than seed-eaters, and many of them possess vocal abilities which alone endear them to their owners. It is true birds in *Myadestes*, *Trogonidæ*, and *Ampelis* are stolid, to state cases ; but by far the greater number of species (coming under other insectivorous, fruit-eating, and berry swallowing groups) display a vivaciousness and activity which sets them apart from such species as merely peck, shell, and swallow grains.

My avicultural interest in birds goes a long way back, and in those days feeding methods and facilities for such were very different to those available in, say, 1939. To go back almost 50 years, a period when my almost daily acquaintances (of my grandfather's age) included keepers of such birds as Warblers, Tit-Larks, Nightingales, Larks, Thrushes, Starlings, and Blackbirds, etc., and good keepers of them too. "German" Paste, egg, meat, and biscuit, etc., were the main pasty stock foods used. Little was known then regarding other ingredients commonly employed at a later date. Except in such cases when nestling birds fell into the hands of the old men just mentioned, their survival on the cottager's crushed hemp seed and bread and milk diet when a nest was taken was very doubtful, and these unfortunates died from either malnutrition or the reverse, too good food without roughage. Since that period most difficulties have been surmounted ; a more intelligent interest arose in one direction and another, so that it became possible for anyone with what I will call "bird-keeping sense" successfully to keep in good health and contentment species which were at one time approached with considerable temerity. I have possessed or had under observation a wide range of birds coming under this insectivorous category, and have also directly and indirectly been in close touch with the commissariat department concerning their maintenance. This has led me to conclude that certain species can have too much protein food, in fact that certain groups live longer and thrive better on coarser and less expensive food mixtures than others. On the other hand, unless these others have a regular supply of varied and more costly food

one cannot expect them to keep fit or survive if one tries to cut down the costs of their maintenance.

Typical *Turdidæ*, Larks, and birds in *Sturnus* thrive on food mixtures which do not agree with, for instance, birds in *Sialia*, *Hylocichla*, *Œnanthe*, *Saxicola*, *Luscinia*, *Phaniscurus*, *Lamprocolius*, *Spreo*, and *Cinnyricinclus*, to state a few instances. In the space and time at one's disposal at the moment, one cannot enter into details. Generally speaking, one can with considerable success adopt the methods advised for insectivorous birds given under various headings in *Aviculture*, Vols. I and II. For a collection of birds, I have in the past found it most convenient to provide a good mixture of meat fibrine, farinaceous matter, and dried insects, particularly those providing some chitinous matter in combination and breaking that down for such species as do not need so much of it with various things according to the species concerned, including potato, rice, or swollen game or chicken biscuit meals. Crows and Pies as a family must have meat or its equivalent. The appearance and activity of a pair of Pies or Jays which get their mice, rats, pieces of rabbit, dead birds, etc., in comparison to similar specimens compelled to survive on a "pappy" farinaceous diet is remarkable.

On the other hand, provided one was getting a suitable stock food, it was possible to maintain many other species in good fettle for months on end without using any living insect food at all. Much depends upon the genera to which birds belong, regarding their power to assimilate and thrive upon types of foods.

The "gram" and "ghee" food used in the East in combination with the ever ready and almost unstinted supply of easily obtained living food or the maize meal plus ground silkworm pupæ which has been employed in Italy, both keep birds alive, but there is no doubt that when such previously treated birds were weaned on to a good insectile mixture which produced a more natural excretion and pellet casting (irrespective of living food given and the addition of fruit when eaten) they soon improved in both health and general well-being.

One is often asked to recommend or give a list of attractive species by would-be keepers of birds of this type, and when such queries come my way I am afraid that I am inclined to say, What is your experience? What accommodation have you, and what are your intentions? Are you merely interested in song? Do you

want just half a dozen adaptable species for keeping in large cages in or near a dwelling house and so forth, or are you interested in trying to repeat a breeding experiment or hoping to try and breed some species which yet has not been induced to rear progeny to maturity in an aviary?

Much depends upon these questions, for unless one is prepared to provide suitable accommodation, etc., it is better to confine one's attentions to the more hackneyed species of birds familiarly kept.

Insectivorous birds as a whole are often dangerous to others in mixed collections or to members of their own species (and even of opposite sex out of the nesting season), although some species may be mixed or kept with seed-eating birds under certain conditions. Where accommodation may be provided for the attempt to breed a given species, it should be borne in mind that their progeny are reared solely on living food and that arrangements must be made for a continual supply of it until such period as these young birds are able to consume the artificial food provided for their parents. When the mealworm of commerce was readily obtainable the work of supplying living food was less tedious, but these days only dwellers in the country, or those who can breed maggots, collect cockroaches, and other living things including small earthworms, can hope to be able adequately to assist their birds in rearing their progeny.

In looking back one is confronted with certain facts concerning the probability of possible successes with given species.

It appears that the birds most likely to "get off" young which survive to maturity are those coming under such groups as typical *Turdidæ*, *Geocichla*, *Cittocinclæ*, *Sialia*, *Pycnonotus*, and allied birds *Alauda* and allies, *Temenuchus*, *Acridothères*, *Spreo*, and *Lamprocolius*, yet *Leiothrix lutea*, kept by many and not so completely insectivorous as many other species, has proved disappointing. Apart from meagre records, I have yet to see in an aviary birds which have positively been reared to maturity. I did see one miserable youngster in a privet bush in a Hampstead aviary on one occasion, but nothing more was heard of it. I have accommodated in separate aviaries alone exceptionally vigorous pairs on several occasions, which have either built or in some cases laid, but never incubated properly; and usually both nest and eggs disappeared

in spite of the fact that no cats could disturb and the birds were as tame as domestic Pigeons as long as no movement was made to scare them. These birds were inexpensive and if in the future they are as readily obtainable as in the past, I should highly regard the achievement of any aviculturist who could show to his friends a few Pekin Robins positively bred by him during the preceding year.

Many people are not able to provide aviaries especially for the attempt to breed birds, but a much larger number of bird-keepers can manage from six to a dozen species in large cages or small aviaries in a bird room, or its equivalent, or give them summer accommodation in small aviaries in a garden which in any case has a recuperative effect upon many species which for the rest of the year need reasonable warmth and protection. Whilst most people living in the country or on the outskirts of towns find no inclination to confine species which carry on their lives almost on one's doorstep, there are people keenly interested in the musical utterances of birds and who keep them mainly for that purpose. For those I recommend a good Song Thrush, Blackbird, Shama, Mocking Bird, Whistling Thrush, and Rock Thrush, and if smaller birds are desired, a Blackcap Warbler, Pekin Robin, Tree Pipit, Nightingale, or Sprosser and Bush Lark. For those who like to keep a few "showy" birds of reasonably robust constitution, a little collection which includes a Scarlet Tanager, Superb Spree, Silver-blue Tanager, Niltava Flycatcher, Hangnest, Yellow-winged Sugar-bird, comprises six birds which attract one's visitors.

Where roomy accommodation is available for movement few birds show up in a garden aviary as effectively as a pair of Blue Pies, preferably *Urocissa melanocephala occipitalis*, and with these one might try to include a Hunting Crow (*Cissa*), Swainson's Long-tailed Jay (*Calocitta*), Steller's Jay, a Pileated Jay, a Himalayan Whistling Thrush, and one of the *Cissoloplia* group such as Beechey's or an allied species. It should be understood by collection I do not mean keeping these birds together. Separate accommodation is best and in many of the cases imperative.

Many Jays and Pies "sing" and when in good fettle are at least amusing when so occupied. One should not overlook the beauty of any bird in *Garrulus* or *Pica*. My choice is *Lalocitta lidthi*, but my chances of owning it are remote. Provided one has

good flights with a dry shelter and can give the birds comfort in winter a series of these brightly coloured Crows create an impression second only to Paradise Birds and equalled only by Glossy Starlings, also favourites of mine. Of these I recommend Long-tailed, Burchell's, Royal, Beautiful Spreo, Purple-headed, the typical Blue-eared form of Green Glossy *L. chalybens*, etc. Quite one of the most dainty, long-lived, and easily kept insectivorous birds is *Zosterops palebrosa*. A single male kept as a pet will exhibit wonderful bird intelligence, advise one of outside temperatures, and is a non-irritant vocalist and one of the few birds which retains its yellowish colour fully developed after a moult in captivity which is not excelled by a wild specimen. At the moment circumstances will not allow me to say more.

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SOME *CHLOROPSIS* PAST AND PRESENT

By N. WHARTON-TIGAR

The Editor has asked me to write a few notes on my *Chloropsis* for this number, and I am glad to do so because I think there are fewer species that do better in captivity either in cage or aviary given the right conditions.

The one representative of this family that I still have glories in the high sounding name of the Malachite-shouldered Leaf Bird (*Chloropsis sonnerati zosterops*). He came to me seven years ago. One spring day in 1934, Alastair Morrison came to see me, and said there were some new birds at Gamages and among them an unusual Fruit-sucker. I lost no time in going to see, and came back in triumph, with my treasure. He is not one of the most beautiful of the genus, being mainly a bright green with black throat, and is larger than the commoner Gold-fronted (*C. aurifrons*). He is a bird full of personality, and with wonderful powers of song and mimicry, and is of course very tame, and always seems happy, singing most of the day. He can copy any bird, and even tunes, and for this reason it is better that he should hear no ugly sounds. At the present time his favourite song is a perfect rendering of the Blackbirds' lovely melody. I have written before about this bird, and his picture appeared in the magazine of July, 1937, in a coloured plate by Roland Green.

I have had several other *Chloropsis*, beginning with a faultless pair of Hardwick's (*C. hardwicki*) ; they were unique at the time, as a hen of this species had not been seen here for twenty years. The male bird in full plumage is splendid, and my bird had a welcoming refrain which was most engaging whenever I entered the room. I sent them to a show, where I fear they were given too many mealworms, for when I entered the bird room the next day, my little friend sang his delightful little song and fell dead before my eyes. You can imagine my dismay. I also had a fine pair of the Javan Black-throated (*Chloropsis cochinchinensis nigrocollis*), one of the prettiest of the genus ; it is a forest species, and very little is known of its wild life. When writing about this pair in January, 1937, I said I hoped they might breed some day. It might interest readers to hear that, when turned out in an aviary in the summer of 1938, they built a nest in a small round basket placed in a dead bush, and twice the hen laid two creamy eggs blotched with brown streaks. The effort went no further, and even this small success is, as far as I know, the first attempt by this species to nest in captivity ; but not the first attempt for the genus as Dr. Amsler, that most clever breeder of Softbills, did actually succeed some years ago in rearing almost to the fully-fledged and independent stage a nest of *C. aurifrons*.

I once had entrusted to my care for several months a very lovely and closely allied species, *Chloropsis cochinchinensis icterocephalia*, which is similar in build and size, has the same blue on wings, and a yellow head. It is very rare in captivity, though Mr. Frost has told me that it is not really uncommon in its native habitat.

Looking back, I seem to have been successful in keeping birds of this particular genus in good condition ; far more so, for instance, than with the Shama, which I admire so much. Although I have possessed some outstanding Shamas none now lives to tell the tale, and that speaks for itself, but I shall try again, and hope also to have more of the *Chloropsis*. In choosing a specimen one should listen for the song, as individuals vary a good deal ; they require plenty of exercise, and must not be overfed : that sounds absurd at the present time, but I mean, of course, in the happy days to which we all look forward.

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COMMON SOFTBILLS

By H. J. INDGE

I have advocated Softbills almost to the extent of boredom in the years preceding the war, and have been rewarded with a new recruit here and there, but there has always been a certain amount of shrinking on the part of contemplative owners. Now those would-be owners appear to be still in the same contemplative stage because the birds are not too readily obtainable. This can be very easily accounted for by the shortage of seed and the high prices asked for what is available by profiteers and other jacks-of-all-trades who have been buying up stocks to sell again. This has been a wicked ramp and I am sure there have been many valuable birds lost as these merchants, carried away with the £ s. d. idea, have supplemented good mixtures with a lot of wild seeds which are almost useless from a feeding point of view. Fanciers, like corks on troubled waters, will always ride the waves and if Hardbills are forbidden then they will turn as a substitute (?) to the subjects of this article. This is not mentioned in a vindictive way however and if their needs can be satisfied then new adherents are made, not easily to be lost again ; but the birds are not theirs for the asking, nor is this reason hard to find. Softbills become endeared to their owners and, as their food is readily obtainable, the need for disposal does not arise and any such wish is usually farthest from the owners' thoughts.

Coupled with our Editor's wish it was my intention to write on the commoner Softbills—but what is a common Softbill nowadays ? Perhaps I should cast my mind back to the days when the weekly journals announced the arrival of importations and not a few of us would literally be waiting on the doorsteps of the advertisers' premises. What reminiscences these errands make to be sure—telephone calls and frequent visits when a boat was late in arrival, very often a prolonged but determined waiting and the inevitable last train home—but it was good fun even if we were lost for reasonable excuses when we did eventually arrive home. Sometimes it was a trip to the docks to see the birds on board ship and in some cases one would see a veritable zoological collection there. I well remember on one occasion being shown the crates

of monkeys when a young elephant snatched out a package and waggled it on the end of his trunk. One had to move about very warily for fear a panther might be able to get a claw through the wire-mesh of his box, or that one might stand uncomfortably close to a python.

To hark back to the subject : when peaceful days come back again and avicultural activity in the shape of importations is resumed, the first and foremost to find a buyer, at least in the commoners, will be a pair of Shamas. Such birds are not missed until they are absent and then we realize that the Shama was the cleanest and most intelligent of all the members of the bird family. How he would sit, deep in thought, warbling quietly to himself, coming right back to attention at the sight of a tit-bit ; not that the Shama is easily suited that way, unless it be in the form of a mealworm, as he is one of the very few Softbills which refuses practically everything in the form of fruit or vegetable and cares only for insects. I have kept quite a number of these birds and have always given a rich diet, consisting of ant-cocoons, dried flies, silkworm pupæ, c.l.o. biscuit mixed with dripping and given daily with freshly-hard boiled egg. Added to this was a scraping of raw meat and a dozen mealworms. Garden worms and sundry grubs found in the process of digging or hoeing came as further extras, nor did I see anything wrong with such feeding. On occasions I have been asked why a Shama has had a fit and without hesitation have put it down to poor feeding. There was a frantic appeal from a person who had entered his Indo-Chinese (Long-tailed) Shama for the last National Show telling me his bird had had a fit and what could be done in the matter. I wired back " feed richly " and that same bird was top in a class of twenty-one a week later. This may sound revolutionary, but it is my experience. Next in order of favourites is the Golden-fronted Fruitsucker, excelling the leader in plumage-attractiveness, lacking in vocal ability, but running close for intelligence. These are not so easy to keep, mainly because the man-in-the-street, or more correctly the beginner, thinks he must give it insectivorous mixture—or go to the other extreme and offer an abundance of fruit so that solid food is ignored. Fruit they certainly like and one might think is vitally necessary (of which more anon) but a little sweetened soaked sponge-cake, biscuit-meal, and ant-cocoons do help to

balance the diet. Bananas are fed to them fairly liberally by the dealers, but I get them accustomed to taking this fruit in very small proportions, preferring pear and grapes, with orange on alternative days. At first one must keep this species constantly awake until a reasonable time for roosting as they will tuck their heads away and sit like a ball as soon as the first signs of dusk appear and will not be disturbed ; a very long night means a hungry bird the next day so you can understand why I mention this. Of Fruitsuckers there are quite a number of species, but the Golden-fronted is far the most likely to be met with and can be the only species within the scope of this article.

Having similar ways are the Hangnests, the species for mention being the Brazilian. A bright and breezy individual is he, caring little for anything, but seeming to appreciate every happening around him, especially if a mealworm or a slice of orange feature in the activities. Bright yellow and jet black with a dash or two of white makes up his ensemble with a bowing as graceful as that of Monsieur de Paris. He is capable of uttering quite a few different notes together with a summoning whistle. Altogether a fine chap and should be treated similarly to the last-mentioned.

Dama or Orange-headed Ground Thrushes usually come over with the Shamas and although quiet in their manner, are lovely creatures with a grey mantle with a faint white bar on the shoulders, orange head, face, chest, and under parts, and a large, intelligent black eye ; they make an instant appeal. Nor would one be unwise to be attracted to the point of ownership as there is nothing to say against them ; they are of bold shape and manner when pursuing a tit-bit or coming down to the feeding vessel, are absolutely harmless to all other birds, large or small, and the cock has a loud whistle similar to our native Thrushes. There are many who doubt this bird's vocal abilities as it can be seen moving the feathers of its throat with no sound emanating or, at the best, just a faint warbling. But in the Spring, in the early morning, one can hear him at his best and loudest if he does not see the intruder. There is one point of caution and that is, as this species frequents the ground a lot, one must take care that cleanliness is strictly observed, otherwise the feet may become dirty—a complaint always to be avoided.

Dyal birds seem to find friends but to me they are not appealing, though I was once acquainted with a hand-reared Chinese specimen

which would come out on a stick and whistle by request. In the same consignment one may come across a few Mynahs, though the possibility of a talker will be somewhat remote. In spite of this Mynahs are grand birds—but please, they must be given room. Nothing is more heart-rending than to see such a bird hopping from perch to perch enured to a life of boredom. Those which can talk might be excepted to some extent as they seem to find so much enjoyment in this pastime that boredom is killed. Another strong point in favour of extensive quarters is that they have more space in which to avoid getting dirty, as they surely will do in a cramped space. This can be quite understood as their food consists, normally, almost entirely of fruit, supplemented with soaked biscuit and boiled potato. In good condition, from the appearance viewpoint, a Mynah, if of one of the black species, is a handsome fellow. Of the three commoner black kinds, the Lesser Hill Mynah should prove quite a suitable member : being a smaller bird, he naturally does not call for the space that the Giant Javan might, and in other respects he is similar. That the Mynah, if a talker, is a good one, is a fact which even the staunchest Parrot-lover cannot deny, the voice being deep rich and mellow—with a veritable Oxford accent ; though the vocabulary is usually short, the words are slowly and distinctly delivered. It is highly improbable that an adult bird will use this talent and those which do arrive as linguists are taught from babyhood by native trappers. This accounts for the fact that not a few have been known to speak Hindustani quite well, and one particular specimen I knew was so very solemn in his utterances in this tongue that he may have been practising hierology. Scalded hound-meat or broken dog biscuit seem to suit the Mynahs fairly well with the addition of sultanas, either soaked or dry, though I add hard-boiled egg and potato with a piece or two of raw meat now and again.

Jay-Thrushes could in the old days always be found at the larger dealers, and the most impressive of these birds was the White-crested species. One might be carried away by the cackling laughter of a Kookaburra, but after a while one may wish this Kooky to be carried away instead ; the White-crested Jay-Thrush is more refined and, whilst at times he is over-ambitious, his voice is never raucous and, to cast an eye in his direction and see the joyful, pleased-with-life expression on his face, one inevitably

enters into the spirit of hilarity with him. For a comparatively large bird the space required need not necessarily be in proportion, as he prefers to jump and only uses his wings as balancers. My pair of Red-tailed Jay-Thrushes have this same characteristic, at times dropping to the floor from a height of four or five feet and returning on a rebound to their original places with never a flutter of the wings. Neither species seems to mind the cold in the least and the more rain the better they like it. Soaked dog biscuit, potato, and fruit is the former's fare, but the Red-tails like a finer grading and take kindly to insectivorous mixture, hard-boiled egg, currants, and apple. This latter bird is really out of the scope of these notes, but I had to mention the feeding for fear of a misunderstanding with that of the White-crested.

Starlings offer us a wider range, included in which family I might mention the Superb Spree, Green Glossy, Long-tailed Glossy, Purple-headed, Royal, and Abyssinian red-eyed, and whilst the Amethyst, Ruppell's, Purple-shouldered, and Crowned do appear, their prices keep them out of bounds as far as commonness is concerned. One point I should like to stress and that is that the Amethysts are totally different in plumage in the opposite sexes, but all others are as alike as the proverbial two peas in a pod. Differing from our native chimney-stack caroller, these African Starlings are much cleaner in their habits. All seem to prefer food slightly on the coarse side and together with insectivorous mixture like potato, currants, sultanas, a scrap of beef, and such fruit as may be available. It has been said that Starlings should not be given earth-worms, but I beg to differ, having always offered these to all of the above-mentioned species, and never a specimen having shown ill effect.

Readers may think I have forgotten the Pekin Robin ; I had overlooked it as it might well have been placed second in the list. If Pekin Robins were five pounds a pair they would find just as many real devotees ; they have every advantage that a bird might be expected to possess and no drawbacks. The name " Yellow-bellied Liothrix " is far more suited to them than their ordinary every-day name and is self-expressive, I think. A bright, lively little fellow, with feathers like hair and a tail like a fish, he is here, there and everywhere, hopping and skipping with care-free abandon, stopping only for food or to utter his pleasing if short

song. Neither is he particular about food, subsisting on crushed hemp and breadcrumbs on the voyage here and accepting without fuss, insectivorous mixture, boiled rice, fruit of any kind, bread and milk, or seed ! In cages they are entertaining and cheerful, in aviaries they look their best following their natural love for cover and preferring to keep to the lower half, a part little enough occupied by most perching birds. As mixers they are ideal, being quick enough to escape unwanted attention from larger species, not squabbling with others of similar size, and never bullying the small fry.

The avian jewels can be found to a great extent in the family of Tanagers, but in general these are difficult birds to keep for any length of time although there are a few exceptions ; the member which will fill the bill is the Scarlet, nor do I think there is any bird with more depth or purity of colour—a brilliant shining scarlet foiled with black. More than a “ Chip, chip ” I have yet to hear from those I have or did possess, but this scantiness is outweighed by extreme vivacity and cheerfulness generally. Fruit of any kind with crumbled biscuit or cake keeps him well, as it does his rusty-coloured spouse.

Forgive me for having to mention bananas and oranges—one might have thought when these fruits were denied us that our birds would have failed to get sufficient nutriment, yet it is remarkable how well they all seem to be. Practically the only fruit obtainable now is in the form of dried sultanas, raisins, and currants, with an occasional orange. There are tinned pears, apricots, and peaches to be had, though I must say I have never used them, substituting or rather supplementing the first-mentioned with boiled carrot and boiled beetroot. Of course one does not add vinegar to the beetroot ! To get the best from the dried fruits they are placed in a vessel and covered with boiling water, and allowed to stand overnight—by next morning they are practically as full as their skins will allow.

One can enlarge on these points and add to the species, but I feel I have come to the end of my tether as far as the title goes so perhaps I may step up in a subsequent issue (D.V.).

NOTES ON THE WHITE-NECKED NIGHTJAR (*Nyctidromus albigollis*) IN CAPTIVITY

By SYDNEY PORTER

One of the thrills of my childhood was the finding of a Nightjar's nest and eggs on the moors near my home. I collected eggs then, but somehow I had a twinge of conscience at the time and I felt that they belonged more to their wild setting than to my egg cabinet, so to my credit I left them and have never regretted it.

Since those days when I used to hear the "churring" of the soft-winged night hawks on the sparsely wooded hillsides of the Peak district I have always cherished an affection for those strange birds and during protracted stays in various parts of the world I have met with many species including the unique Pennant-winged, a bird which has a single feather in each wing nearly 3 feet long.

The European species has been kept several times very successfully and even bred in captivity, two nests having been reared to maturity. This I think is one of the greatest achievements in the annals of aviculture. Especially as the birds nested on the hearth-rug of the owner's living-room.

The late Mr. Galloway, who was a great expert on the keeping of the more delicate "softbills", had a Nightjar for over three years.

Of course, all the birds which have been kept in captivity have been hand-reared, as it is next to impossible to keep birds caught fully adult owing to them battering themselves about and spoiling their very soft plumage.

The first exotic Nightjar to be imported into this country is the subject of this article, and was generously given to me by the Hon. Anthony Chaplin when he was the Editor of the Magazine. This bird had been hand-reared in South America and was brought over to this country before it assumed its adult plumage.

Though the bird was in perfect plumage when given to me, a week's residence in an aviary at the "Zoo" and a long journey in a travelling basket did not improve matters. The flight and tail feathers, which were nearly full grown, received a severe check, they seemed to dry off before the base was properly formed.

Consequently in a week's time the bird was unable to fly. Being ill at the time and not having a large enough aviary empty indoors, the bird was left in my study and fed by members of the household. In a few days the state of the room can be imagined. It looked as though the painters had been whitewashing the ceiling and had forgotten to cover the carpet over ! Later on the bird was placed in a small conservatory.

The Nightjar's chief food until the summer months when moths could be obtained was minced meat made into small pellets, dipped into water, and then rolled in dry insectivorous food. At first the bird would readily run towards one with outstretched wings, seize the meat, and swallow it, but later on it became more nervous and had to be hand-fed.

It was remarkable the small amount of food the bird required, two pellets (about the size of one's thumb) given in the evening, one in the morning, and one at lunch-time was all that was required. If not hungry the bird would refuse to swallow the food and being put on the ground it would throw it out of its mouth.

Though the beak was very tiny the gape was enormous and seemed to go almost to the back of the head. It was more like a fish's mouth than a bird's. From the upper part of the gape grew a row of hard black bristles. The bird also seemed to secrete a large amount of saliva. Both the bristles and the saliva being necessary to the catching and swallowing of the large night-flying moths and beetles upon which the birds feed in their natural state. Mr. Chaplin thought that the serrated middle claw about which naturalists have always been puzzled, is used to comb the bristles on the upper part of the gape ; this would be quite feasible for no doubt a quantity of "dust" would be left on them after the swallowing of a large moth.

The White-necked Nightjar appears to have a very wide range in tropical South and Central America. Beebe writing on the birds of British Guiana says : " Here, too, the White-necked Night-hawks come at twilight and called their lonesome ' who-are-you ' and performed their weird dances in the moonlight, sometimes fifty or more together." Speaking of this bird in *The Field Book of the Birds of the Panama Canal Zone* the author says, " A very common bird of the Canal Zone, very numerous in the spring along the sides of the Gamboa road. When driving along that road at night

one may see their eyes shine out from the darkness like miniature headlights. They have a habit of jumping a few inches from the ground repeatedly but settling back in the same place after each jump. I saw numbers of them along the paths around Gatun at night, especially under the street lights. During the mating season two or three of these birds get together and utter low guttural noises impossible to describe. The ordinary note may be represented by 'Kwe-ah-reo' uttered in a clear ringing and rather tremulous voice and can be heard a long distance, the call from a distant bird sounds like 'ah-reo'."

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SUNBIRDS

By GWENDOLEN BOURKE

I have been asked to write a few notes on Sunbirds and though no authority on the subject, I have kept these birds for many years. I imported some when I returned from South Africa and they make charming pets, getting very tame, not difficult to feed, seeming happy in captivity, and living to a good age in many cases—indeed I was awarded the medal of the Société Nationale d'Acclimatation de France, in 1920, for keeping a Malachite Sunbird for seven years. But this seems little compared to a Purple Sugarbird I have had twelve years, which is still with me, in perfect health and plumage. I think the most attractive of all the Sunbirds is the Malachite, from Africa—beautiful in form and colour, but only a wheeze for a song. This bird gets very tame, and loves bathing in a flat glass dish, out of its cage. I have noticed this in all the specimens of this Sunbird I have kept, whereas many of the smaller ones will not get into any kind of bath, but splash on the edge, or like to be sprayed. But above all they like to flutter in a privet hedge in the aviary, after a shower of rain, and to watch them preening in the sunshine afterwards, is a sight never to be forgotten. The Purple Sunbird, from India, has a nice song, but it is a dark bird, and its lovely colouring is only really seen in the sunlight. The Amethyst-rumped Sunbird is small, and very confiding, but

delicate. The smallest Sunbird I ever had was a tiny Collared Sunbird (*Anthreptes collaris elachior*) from the Usembara Mountains of North-east Tanganyika ; and another rare one from the Gold Coast is the Splendid Sunbird, one of which I have had four years, and he still keeps his shining plumage. A coloured plate of this bird, by Roland Green, came out in the AVICULTURAL MAGAZINE in 1940.

The southern Bifasciated Sunbird (*Cinnyris mariquensis*) is another beautifully coloured one, but there are so many, and all so lovely, it is impossible to give a list of them in a short space. Anyone lucky enough to possess Shelley's book of coloured plates of Sunbirds, can see for themselves how lovely they are, though this is rather misleading as to size, as the birds are much smaller than depicted in the book. I keep mine in a temperature between 60° and 70° in open wire cages, as large as possible, and they are fed on the usual mixture of condensed milk, Mellins food, honey, and marmite or, in the winter, Virol, with a grape for those who like it. They seem to do well in cages, though nothing puts a bloom on the plumage like letting them out separately in a garden aviary, to find gnats and flies, but how few days in the summer can one be sure of the temperature keeping the same.

* * *

NOTES

BLUE AMAZON PARROT IN NEW YORK ZOO

A blue Amazon Parrot, one of the greatest rarities in the bird world, is now on exhibition in the main Bird House at the Bronx Zoo. The normal coloration of the Parrot is green and yellow, but because of a flaw in its genetic inheritance, the normal colours are entirely lacking and every feather on the bird is blue.

As far as the Zoo has been able to determine, this is the only blue Amazon Parrot ever exhibited alive in any public zoo. In the past forty years, Mr. Lee S. Crandall, Curator of Birds, has never seen another live Blue Parrot, and only one mounted specimen in a museum. The Blue Parrot was presented to the Bronx Zoo by Miss Louise Washington, of Mendham, N.J., in whose possession it had been for fifteen years.

The Blue Parrot is actually a Yellow-naped Amazon Parrot (*Amazona aura palliata*), and in the Zoo's Bird House it is exhibited side by side with a normally-coloured specimen. The green and yellow colours in the normal bird are created by yellow and brown pigments in the feathers, the brown not appearing as brown but being combined with the yellow and transmitted by reflecting prisms in the feathers to appear as green. Occasionally a Parrot in which the brown pigment is lacking, so that only yellow appears, is seen in large collections of Parrots. The Bronx Zoo exhibited one of these all-yellow Parrots several years ago.

Technically it is known as a "lutino", a word applying to an abnormally yellow bird just as "albino" refers to an abnormally white one. In the Bronx Zoo's blue Parrot, the normal yellow pigment is lacking and its absence creates—by means of the reflecting prisms in the feathers—the appearance of blue. Actually the feathers, when held up to a strong light, are seen to be basically brown. Such an abnormally blue bird is known as a "cyanthino".

Blue strains have been developed by breeding and selection in various other birds, and blue Masked Lovebirds are regularly bred in California, in France, and England. Blue Shell Parrakeets are common, and both blue and yellow specimens of the Indian Ring-neck and Alexandrine Parrakeets have occurred in India. They have been selected and bred in England by Mr. A. Ezra. Normally all of these birds are various shades of green. The blue variety are even rarer than the yellow.

J. DELACOUR.

MOORHENS.

I was interested in Mr. Yealland's article on Waders, and particularly in what he writes about young Moorhens. I gather that he does not think that they could be reared otherwise than in a brooder.

A few years ago I put three Moorhen eggs under a barn-yard hen, and though it seemed as if they must be crushed under her great feet they all survived. It was very amusing to see how they kept jumping up at her beak expecting to have their food held out to them, and how puzzled the old bird was by these antics. However, with much clucking and dropping of food in front of them she taught them successfully to feed themselves. In addition to ordinary chickfood they were supplied with duckweed and similar pond products. As pets they were certainly most quaint and entertaining, but they do get wild very soon. Before reaching the age of three months, mine had begun to lurk further and further from the house, when they came to a horrid end by swallowing hooks baited with half-dried worms, which had unfortunately been left hanging within their reach after a fishing excursion. Pets at liberty are far more interesting than those that are captive, but the perils they encounter are so many and various that their careers are usually much shorter.

A. H. SCOTT.

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