

REFERENCES

- LANDSBOROUGH-THOMSON, A. 1964. A New Dictionary of Birds. London: Nelson & Sons Ltd.
- MILLENER, P.R. 1972. The biology of the New Zealand pied cormorant *P. varius varius*. M.Sc. thesis, Zoology Department, Auckland University.
- OLVER, N.D. 1984. Breeding biology of the Reed Cormorant. *Ostrich* 55: 133-140.
- SIEGAL-CAUSEY, D. & G.F. HUNT. 1981. Colonial defense behaviour in Double-Crested and Pelagic Cormorants. *Auk* 98: 522-531.
- SNOW, B.K. 1960. The breeding biology of the Shag on the island of Lundy, Bristol Channel. *Ibis* 102: 554-575.
- VAN TETS, G.F. 1965. A comparative study of some social communication patterns in the Pelecaniformes. *Ornithol. Monog.* 2: 1-88.
- . 1976. Australasia and the origin of shags and cormorants, Phalacrocoracidae. *Proc. XVI Intern. Ornithol. Congr.*: 121-124.
- VESTJENS, W.J.M., G.F. VAN TETS & M.J. TAYLOR. 1985. Little Pied Cormorant *Phalacrocorax melanoleucos* (Vieillot, 1817). In: Source manuscript for Reader's Digest Complete Book of New Zealand Birds. Sydney: Reader's Digest.
- WILLIAMS, L. 1942. Display and sexual behaviour of the Brandt Cormorant. *Condor* 44: 85-104.
- C.W. MATTHEWS and R.A. FORDHAM, *Department of Botany & Zoology, Massey University, Palmerston North, New Zealand*

Received 6 June 1985; accepted 27 November 1985

TASMANIAN NATIVE-HEN *GALLINULA MORTIERII*: THE FIRST LATE PLEISTOCENE RECORD FROM QUEENSLAND

In 1983, Mr Ian Sobbe collected a complete right avian tarsometatarsus (Queensland Museum [Q.M.] F13690) from a bone-rich lens at the base of the 'Toolburra Silt' (= Pleistocene fluvial deposits; quotations are necessary as it is not considered a valid stratigraphic unit, R. Molnar pers. comm.) on the south side of King Creek, Clifton, Queensland. The tarsometatarsus is similar to that of *Gallinula mortierii* and differs from that of all other known Australian members of the Rallidae because it is larger and more robust (Olson 1975). The total length of the specimen (73.7 mm) is less than that of any other fossil or modern tarsometatarsus of *G. mortierii*. However, the proximal width (13.0 mm), least width of shaft (5.6 mm) and distal width (14.1 mm) are well within those recorded for that species (Baird 1984). Mr Sobbe has also collected from the same locality an incomplete right tarsometatarsus (Q.M. F13683) and the proximal end of a synsacrum (Q.M. F13692) of *Gallinula mortierii*, and the distal end of a left tibiotarsus of *Gallinula tenebrosa* (Q.M. F13691). The incomplete tarsometatarsus is missing the trochlea for digit III, which precludes the taking of a direct measurement of its total length. However it is comparable in size to a complete tarsus 79.5 mm length: it measures 70.0 mm from the proximal end to the distal foramen.

Gill (1978) described stratigraphic sections along both Darymple and King Creeks, where he located the bone-rich lens at the base of the 'Toolburra Silt'. C14 dates on the lens, from Clifton, include 23 600 ± 600 years before present (Y.B.P.) (NZ612), 28 400 ± 1400 Y.B.P. (JAK1394), and 41 500 ± 6100 Y.B.P. (NZ613) on

charcoal, and, 24 000 ± 600 Y.B.P. (NZ641) and 30 800 ± 3000 Y.B.P. (NZ640) on carbonate nodules (Gill 1978, pers. comm.).

This is the first Late Pleistocene record of *G. mortierii* from Queensland. Earlier records of the species from the Plio-Pleistocene Chinchilla Sand (Woods 1960) were considered to be of a small subspecies of *G. mortierii*, *G. m. reperta* (Olson 1975). Baird (1984), using the larger sample sizes afforded by recently identified Late Pleistocene specimens, showed that the specimens from the Chinchilla Sand were referable to *G. m. mortierii*.

The fossil-bearing sediments yielding this species are distributed throughout eastern and south-eastern South Australia and western Victoria, and range in age from approximately 26 000 Y.B.P. to approximately 12 000 Y.B.P. Although there are numerous localities along the east coast of Australia from which fossil-bearing sediments are known, *G. mortierii* is conspicuous by its absence from this area. I assume that it never colonized the Great Dividing Range or eastern coastline of the continent. The absence of *G. mortierii* from the east coast fossil-bearing sediments, together with the new record, suggests that the prehistoric geographic distribution of *G. mortierii* was restricted to the catchment of the Murray/Darling River Systems and the coastal plain as far south as Tasmania. These areas would have provided permanent water during the Late Pleistocene (Jones & Bowler 1980). The species probably went extinct on continental Australia because of the fluctuating wet and dry cycles that occurred between 20 000 and 12 000 years ago (Baird 1984). Horton (1984) also proposes that

it was because of these cycles that the large mammals went extinct.

Due to its sedentary nature and dependency on permanent water for breeding (Ridpath 1972), *G. mortierii* may be an important indicator of palaeoclimatic changes during the Late Pleistocene. Because it is flightless and cannot disperse widely, its disappearance from the Murray/Darling catchment in western New South Wales and Queensland may indicate the first stage of Late Pleistocene desiccation in this region.

ACKNOWLEDGEMENTS

My appreciation is extended to Mr Ian Sobbe who allowed me to work on his privately owned material and for donating this material to the Queensland Museum. I am grateful to Mr Shane Parker (South Australian Museum) and Dr P.V. Rich (Monash University) for critically reading early drafts of this work. A stipend during the completion of this work was provided by a Monash University Graduate Scholarship.

R.F. BAIRD, *Department of Earth Sciences, Monash University, Clayton, Victoria, 3168*

Received 28 June 1985; accepted 13 August 1985

REFERENCES

- BAIRD, R.F. 1984. The Pleistocene distribution of the Tasmanian native-hen *Gallinula mortierii mortierii*. *Emu* 84: 119-123.
- GILL, E.D. 1978. Geology of the Late Pleistocene Talgai cranium from S.E. Queensland Australia. *Arch. and Phys. Anthrop.* in *Oceania* 13: 177-197.
- HORTON, D.R. 1984. Red kangaroos: last of the Australian megafauna. *In* Pleistocene extinctions: 639-680. P.S. Martin and R.G. Klein (Ed.). Tucson: Univ. Ariz. press.
- JONES, R. & J.M. BOWLER. 1980. Struggle for the savanna: northern Australia in ecological and prehistoric perspective. *In* Northern Australia: Options and Implications, 3-31. R. Jones (Ed.). Canberra: Res. Sch. Pac. Stud., A.N.U.
- OLSON, S. 1975. The fossil rails of C.W. DeVis, being mainly an extinct form of *Tribonyx mortierii* from Queensland. *Emu* 75: 49-54.
- RIDPATH, M.G. 1972. The Tasmanian native-hen, *Tribonyx mortierii*. III Ecology. *CSIRO Wildl. Res.* 17: 91-118.
- WOODS, J.T. 1960. Fossiliferous fluviatile and cave deposits. *In* *Geology of Queensland*: 393-403. D. Hill and A.K. Denmead (Eds). *J. Geol. Soc. Aust.* 7.

CORRIGENDA AND ERRATA

Emu 85, Part 2, p. 106, line 13 of Summary. 'All species had some clutches' should read 'All species had some repeat clutches'.

Part 3, p. 197, References. 'Croxall, J.P. 1981' should read 'Croxall, J.P. 1982' and 'C.N.F.R.A. 81' should read 'C.N.F.R.A. 51'. The two following references should read 'Gibson, J.D. 1963' and Gibson, J.D. 1967'.

Part 4, p. 218, Table III, column 3. '39 year ash' should read '39 year wattles'.