Tyto alba (Aves : Strigidae): A DELETION FROM THE NEW ZEALAND SUBFOSSIL RECORD

By P. R. MILLENER

ABSTRACT

Bones of an owl, from Holocene dune sands in the North Cape area, North Island, considered by Scarlett (1967) to constitute the first subfossil record of the Australian Barn Owl *(Tyto alba delicatula)* in New Zealand, are shown to be those of the endemic Laughing Owl *(Sceloglaux albifacies)*.

The current checklist of New Zealand birds (Kinsky *et al.* 1970) records four species of owl from New Zealand. The Morepork *(Ninox novaeseelandiae)* is common and widely distributed. The Laughing Owl *(Sceloglaux albifacies)*, which occurred sparingly in the southern North Island but was reasonably widespread in the eastern South Island last century, is now almost if not completely extinct, the last fully substantiated sighting having been made in 1914 (Williams & Harrison 1972, Williams & Given 1981). Bones of both these species, but of the latter more often, have been found in subfossil deposits in both the North and South Islands (Millener 1981). The Little Owl *(Athene noctua)*, which was introduced from Central Europe in 1906-10, is now widespread throughout the South Island east of the ranges and has been seen occasionally in the North Island. The Australian Barn Owl *(Tyto alba delicatula)* has been reported as a vagrant on three occasions, all in Westland (Kinsky *et al.* 1970). However, it is also listed subfossil by Kinsky *et al.* (1970: 61), Condon (1975: 217), Scarlett (1979: 76) and Falla *et al.* (1979: 171, 174) as a consequence of Scarlett's (1967) attributing to this species bones from sand dunes in the far north of the North Island.

Tyto v. Sceloglaux : *tibiotarsi and tarsometatarsi compared*

The four bones which were the subject of Scarlett's paper were collected by J. A. Grant-Mackie in 1966 from a deflation surface among Holocene dunes at Tom Bowling Bay, North Cape. They are held by the Canterbury Museum under the catalogue number Av20876. The series comprises a left tibiotarsus and two right and one left tarsometatarsi (incorrectly given as "one right and two left" in Scarlett's text p. 218, but correctly, as above, in his table of measurements on p. 219). In addition, two further right tarsometatarsi, collected from the Tom Bowling Bay dunes by Scarlett and Grant-Mackie in 1968, are listed in Canterbury Museum files as " *Tyto albo* subsp." (Av 21795, Av 21832 Fig. 1, 4).

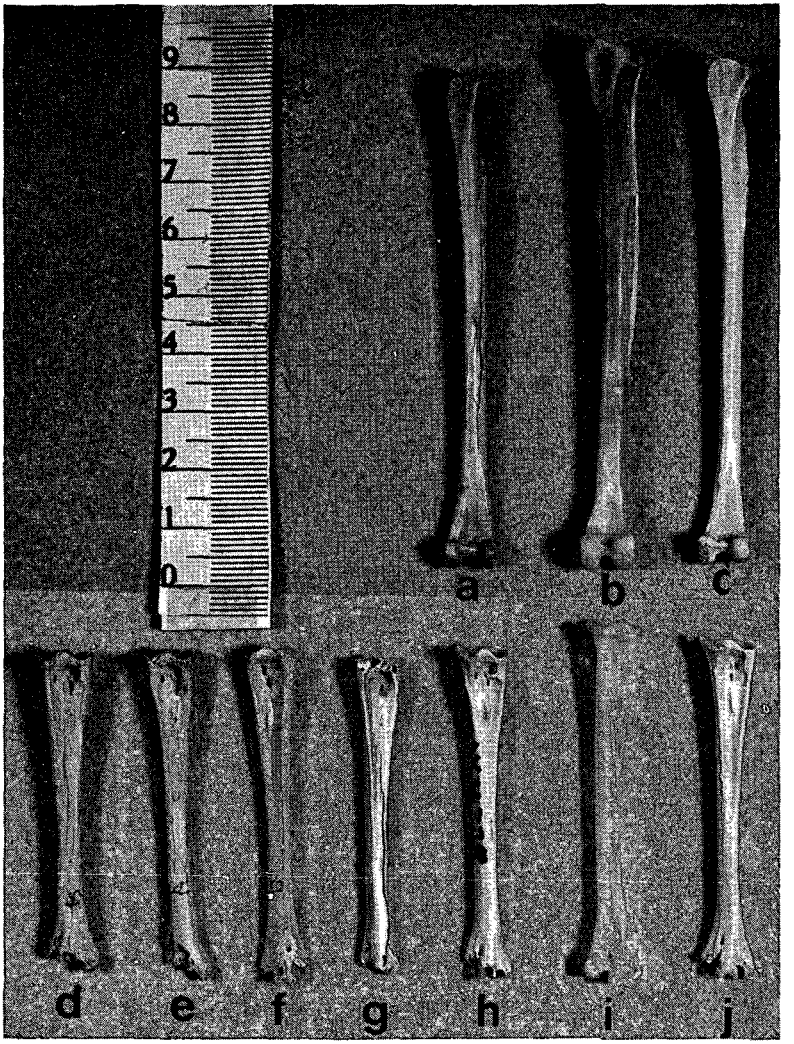

FIGURE 1 — Anterior views of left tibiotarsi (a-c); left (f) and right (d-e, g-j) tarsometatarsi. Scale numerals are centimetres. (a) **"Tyto alba"** Av20876, (b) **Tyto alba lulu** AM699, (c) **Sceloglaux albifacies** AU4834, (d-f) **"Tyto alba"** Av20876, (g) **"Tyto alba"** Av21832, (h) **"Tyto alba"** Av21795, (i) **Tyto alba lulu** AM699, (j) **Sceloglaux albifacies** AU4834

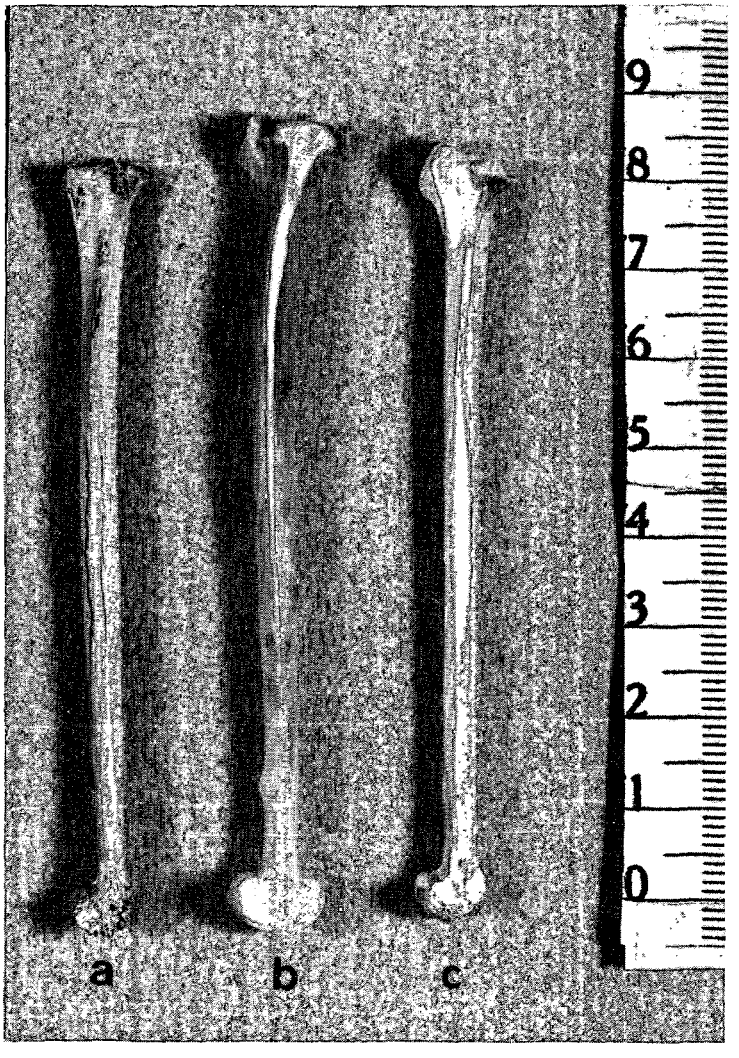

FIGURE 2 — External lateral views of left tibiotarsi. Scale numerals are centimetres. (a) **"Tyto alba"** Av20876, (b) **Tyto alba lulu** AM699, (c) **Sceloglaux albifacies** AU4834

In Fig. 1-4 the bones which Scarlett considered to belong to *Tyto alba* are shown alongside comparable bones of *Tyto alba lulu* (AM 699, recent specimen, Savai'i, Western Samoa) and *Sceloglaux albifacies* (AU 4834, almost complete skeleton of individual, subfossil. Tokerau Beach, Northland).

I have compared, carefully, Scarlett's *"Tyto alba"* bones with four recent skeletons of *Tyto alba* (*T.a. lulu* - AM699, Western Samoa; and NM17581, Nuie Island; *T.a. delicatula* - NM22102, Canberra, ACT; and Av21757, Victoria, Australia) and with all available subfossil *Sceloglaux* material (see Millener 1981: 630).

Although Scarlett (1967: 219) considered that " the bones from Tom Bowling Beach conform in every way except smaller size with those of *Tyto alba delicatula,*" it is obvious from Fig. 1-4 that, in fact. there are clearly definable differences between them and those of *T. alba.* Conversely, it is equally clear that they agree in every respect with those of *Sceloglaux albifacies* and so should correctly be assigned to *Sceloglaux.*

The differences between the tibiotarsi and tarsometatarsi of *Tyto* and *Sceloglaux* that I consider to be diagnostic I have detailed as follows, using the nomenclature of Howard (1929) and Baumel (1979).

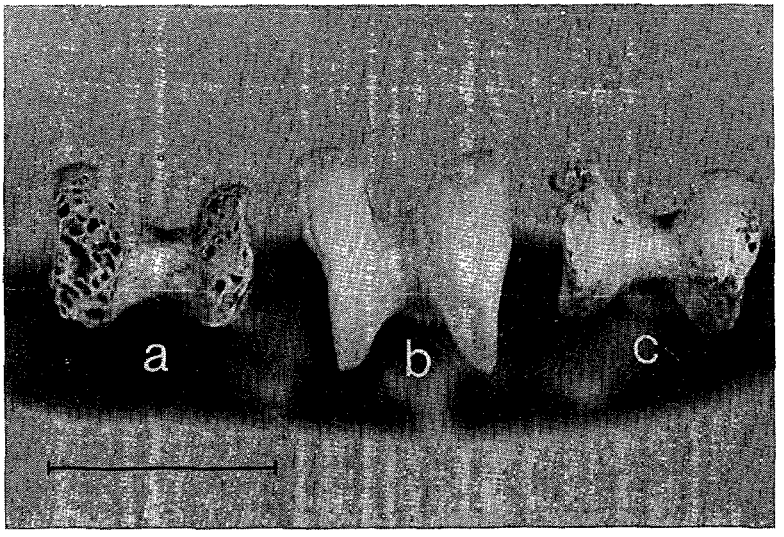

FIGURE 3 — Distal views of left tibiotarsi. Scale bar is 10 mm. (a) **"Tyto alba"** Av20876, (b) **Tyto alba lulu** AM699, (c) **Sceloglaux albifacies** AU4834

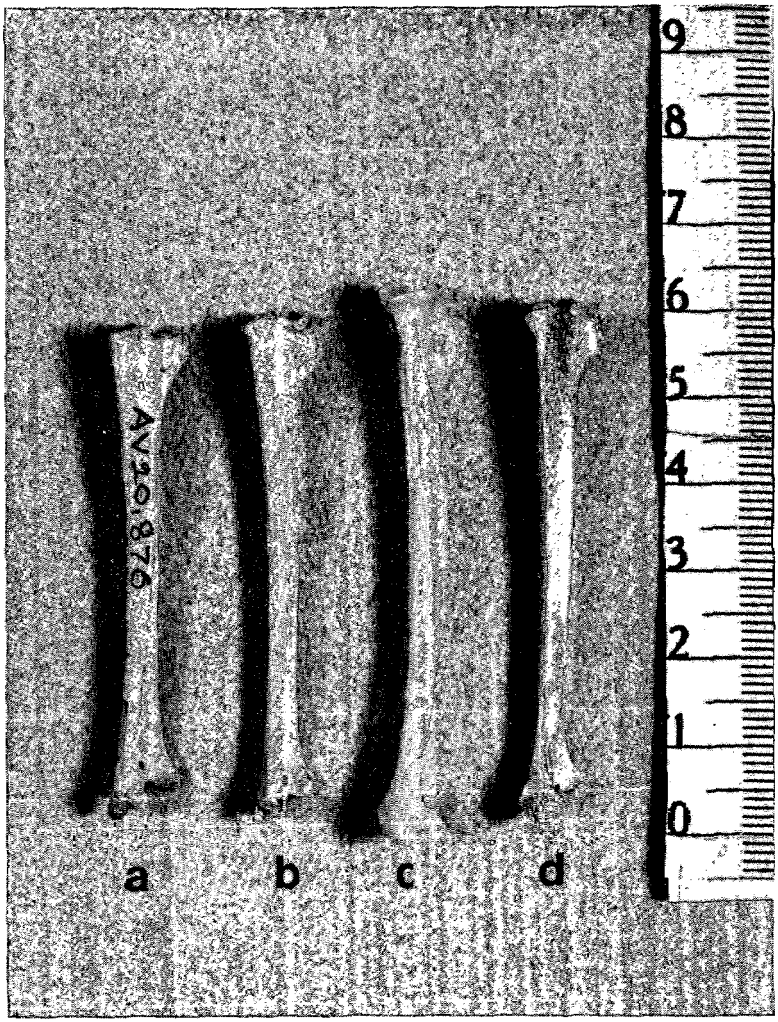

FIGURE 4 — Internal lateral views of right tarsometatarsi. Scale numerals are centimetres. (a) **"Tyto alba"** Av20876, (b) **"Tyto alba"** Av21795, (c) **Tyto alba lulu** AM699, (d) **Sceloglaux albifacies** AU4834

1. *Tibiotarsus (Fig. 1-3)*
   (a) Proximal end: Both inner and outer cnemial crests are shorter and more angular in *Tyto* than in *Sceloglaux*.
   (b) Shaft: That of *Tyto* is relatively stouter and has a greater degree of anterior/posterior curvature in the proximal third of its length. Viewed in anterior aspect the distal portion of the shaft, in the region of the tendinal groove, flares sharply toward the internal condyle in *Tyto*, but more gradually and symmetrically in *Sceloglaux*.
   (c) Distal end: Here the differences between the two taxa are most pronounced. From every aspect the internal and external condyles in *Tyto* are clearly far larger, and the anterior intercondylar fossa and posterior intercondylar sulcus are far narrower and deeper, than those in *Sceloglaux*.
2. *Tarsometatarsus (Fig. 1, 4)*
   (a) Proximal end: In *Tyto* the intercotylar prominence is larger and extends further anteriorly than does that in *Sceloglaux* (Fig. 4) In lateral aspect, the inner calcaneal ridge in *Tyto* is almost rectangular, whereas in *Sceloglaux* it extends further proximally and is more nearly triangular.
   (b) Shaft: That of *Tyto* is relatively stouter and more nearly parallel-sided. Whereas in *Tyto* the shaft flares sharply to meet the proximal articulatory surface, in *Sceloglaux* it does so smoothly and gradually from its narrowest point. In *Tyto* there is no evidence of an ossified bridge (retinaculum extensiorum tarsometatarsi) through which M. extensor digitorum longus passes, as there is in *Sceloglaux* (note that in the specimens illustrated this bridge has been broken, post mortem, in all but Av21795 Fig. 1 h.).
   (c) Distal end: In *Tyto* the trochleae for digits 2, 3, 4 are relatively more massive than those in *Sceloglaux*, and that for digit 4, in particular, extends further distally. Also, in *Tyto* the distal vascular foramen is situated more distally than that in *Sceloglaux* (cf. Fig. 1 h, i).

CONCLUSIONS

In the various features noted above and shown in Figures 1 to 4, the bones from Tom Bowling Bay (Av20876, 21795, 21832) which Scarlett considered to belong to *Tyto alba*, clearly differ significantly from those of that species. In fact, as they have all the diagnostic characteristics of *Sceloglaux albifacies*, they can be correctly assigned to it.

Subfossil avian remains are known from late Pleistocene and Holocene deposits at more than 800 localities throughout New Zealand (see Millener 1981), but the only record of *Tyto alba* has been Scarlett's. The invalidation of this record leaves the current status of *Tyto alba* in New Zealand as that of only a rare recent vagrant.

ACKNOWLEDGEMENTS

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SHORT NOTES

CRESTED GREBES ON FROZEN LAKES

On 25 July 1982, Derek and Peter Howden, Marion and Ross Lane and I visited the main Ashburton lakes in Canterbury to count the Southern Crested Grebes *(Podiceps cristatus australis)*. We counted 21 birds, which can be compared with 21 counted in July 1980 and 42 in July 1981 and is well below the summer counts of 58, 57 and 54 in 1978-1980 (Sagar & O'Donnell 1982, *Notornis* 29: 143-149).

The region had been subjected to a series of severe frosts, and so very little open water was available to the grebes. Lake Emma was almost completely frozen over with only about 50 x 50 metres of open water. The one grebe seen was on the ice some distance from the open water. Lake Camp had a similar amount of open water, and the one grebe seen was on this water. Only the eastern-most of the Maori Lakes had any open water, but no grebes were seen.

Lake Heron had a small patch of open water on the southern shore near Mt Arrowsmith homestead, and three grebes were there; and another small area along the southern edge of the Cameron fan, and 15 grebes were there. These 15 were not reluctant to fly when approached and at one stage were hard to keep account of, so many