REPTILES OF THE NORTH CAPE REGION, NEW ZEALAND

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SUMMARY

Nine species of reptiles are currently known from North Cape: the geckoes Naultinus grayi, Hoplodactylus duvauceli and H. pacificus; the skinks Cyclodina aenea, C. ornata, Leioplosma smithi and L. suteri; and the loggerhead sea turtle (Caretta caretta). The tuatara is known from subfossil remains.

INTRODUCTION

The reptile fauna of the North Cape region of New Zealand has received scant attention by herpetologists and only five species (Naultinus grayi, Hoplodactylus duvauceli, Leioplosma smithi, L. suteri and Sphenodon punctatus) have previously been documented.

The North Cape area extends from 172°38' E to 173°03' E and 34°23'S to 34°31'S (see Fig. 1); a large portion is contained within the Te Paki Farm Park (c. 21 000 hectares). North Cape consists of Lower Tertiary basic volcanics, Cretaceous (?) volcanic intrusives, Miocene sandstones and Quaternary swamp and sand deposits. Sand tombolos...
provide connection with the rest of Northland. Repeated burnings over the past 100 years have reduced the vegetation cover to small isolated pockets of broadleaf/podocarp forest, regenerating scrub communities of predominantly *Leptospermum* and grazed pasture. The coastline is comprised of rocky shores, shingle and extensive sand beaches.

Fauna surveys of the North Cape area were conducted during three trips with the Auckland University Field Club; the first two were based at Tapotupotu Bay (10 — 19 November 1979 and 4 — 11 July 1981), while the third was at the Te Werahi Stream (26 — 28 December 1981). Six species of lizards were recorded during these visits and *C. aenea*, *C. ornata* and *H. pacificus* constitute new reports for the region.

**ANNOTATED SPECIES LIST**

**Order Rhynchocephalia**

*Sphenodon punctatus* (Gray 1842).

The tuatara is known from North Cape only from subfossil remains. Few are known to be associated with Maori middens and most of the skeletal material would have originated from natural populations which occurred in the area when the vegetation was more suitable (and before the introduction of exotic predators e.g. rats) (P.R. Millener pers. comm.).

**Order Squamata**

*Hoplodactylus duvauceli* (Dumeril & Bibron 1836).

Three specimens in the Otago Museum (OM 98.93) are labelled as Cape Maria van Diemen (McCann 1955). It is possible that they originated from Motupao Island, which was a manned lighthouse station (operating from 1879 to 1941) and thus a likely point of collection (A.H. Whitaker pers. comm.). Motupao Island was not visited during these three surveys. It has been modified with most of its vegetation removed; the status of its wildlife is uncertain.

*H. pacificus* (Gray 1842).

Few mainland localities of *H. pacificus* are known in Northland; localities are given at Karikari Peninsula and Kaitaia by Robb and Rowlands (1977). Several individuals were found in boulder piles near Mt. Tirikawa, but they can also be expected to inhabit cliffs and similar habitats which provide protection from rat predation.

*Naultinus grayi* Bell 1843.

Small scattered populations were located in *Leptospermum* scrub. The distribution of this species has probably been the one most influenced by the early farming practise of repeatedly burning off the scrubland. Populations have probably radiated from undamaged stands of vegetation, usually in the headwaters of catchments, into
regenerating teatree (*Leptospermum ericoides* and *L. scoparium*). This gecko has been recorded from Te Werahi Stream, Spirits Bay, Mt. Tirikawa and Mt Unuwhao (A.H. Whitaker pers. comm.).

*Cyclodina aenea* (Girand 1857).

Common in suitable habitats which range from open pasture to forest where they are usually found under rocks or logs. Localities include Pandora, Tapotupotu Bay and eastern Tom Bowling Bay.

*C. ornata* (Gray 1843).

This species was located in similar habitats to *C. aenea*. The two species occurred sympatrically in several localities e.g. beneath macrocarpa trees and regenerating scrub at Pandora.

*Leiolopisma smithi* (Gray 1845).

Several were located amongst sand dunes at Pandora while a dense population was found in stone beaches at Tapotupotu Bay. A specimen from Twilight Beach is held in the Auckland Institute and Museum (AIM Rep 33.13).

*L. suteri* (Boulenger 1906).

Four were found in boulder beaches at Tapotupotu Bay. Other mainland localities for *L. suteri* include Taupo Bay and parts of the Coromandel Peninsula, where they invariably occur in rocky/stoney habitats. Hardy (1977) suggests rafting is the primary mechanism for its dispersal and that sandy shorelines may act as barriers to subsequent overland movement. This could explain the isolated Tapotupotu Bay population.

Order Chelonia

*Careta careta* (Linne 1766).

During March 1980, a juvenile loggerhead turtle was found washed ashore on Ninety Mile Beach and died shortly afterwards (V. Hensley pers. comm.). The specimen is shown in Fig. 2. The loggerhead is the most frequent of the four marine turtles which are known to visit New Zealand waters.

DISCUSSION

The arrival of the Gekkonidae in New Zealand, probably by rafting, is postulated as the early Miocene, with a number of speciations occurring during the Plio-Pleistocene ice ages (Bull and Whitaker 1975). During the Pliocene, the Northland Peninsula consisted of an island archipelago which influenced speciation of land molluscs (Powell 1949) and possibly initiated some speciation within the genus *Leiolopisma* (Hardy 1977). It seems reasonable to speculate that *Naultinus grayi*, which is allopatric with *N. elegans*, also originated in one of these northern islands.

It is interesting that *H. granulatus* and *H. maculatus* have not been recorded from the North Cape area to date. Although the region may be
north of their geographical range, lack of intensive searching could be the reason for their apparent absence, as they occur throughout most of New Zealand. It is possible that the sand tambolos connecting North Cape to Northland have acted as a barrier to the northern spread of these two species.

Subfossil remains of large skinks (Cyclodina?) and geckoes have been found in sand dunes at the Far North (P.R. Millener pers. comm.). Whitaker (1978) discusses reptiles and rat predation in detail and has shown that it is usually the larger species that are most vulnerable to predation. He suggests that many reptiles with relic distributions may have once ranged over much of the North Island before the introduction of rats, the first being the kiore (Rattus exulans) which is presumed to have arrived with the Polynesians sometime after 1 000 AD.

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REFERENCES


Fig. 2. Juvenile loggerhead turtle found at Ninety Mile Beach in March 1980 by V. Hensley. Length c.300 mm. (Photo by R.N. Thomas).


