squares occupied pre-1900 to 81 in the 1960-1970 period. The story gleaned from his maps is as follows:

No. grid squares	Pre-1900	1900-1939	1940-1960	1960-1970
	35	40	51	81

Mr Lavers claims on p. 173 " However, it was not until the 1960s that, with added concern for this rare bird, more people began to record sightings *and the extent of this contracting distribution became evident."* The reader can find other statements in his paper which cannot logically be drawn from the data it presents.

JOHN M. CLARK

Dudley Road East, RD 6, Inglewood.

The Editor, 13 June 1979

Sir,

Mr Clark is correct in pointing out that there is an increase in the number of grid squares with Kokako from before 1900 until 1970. However, it cannot be inferred from this that the Kokako has increased numerically or that the pattern of distribution has been enlarged, as your correspondent may be suggesting.

Of the few records available for the early period, most give only vague locality references, whereas the more numerous reports over the past two decades can usually be placed in a particular grid square. This tends to show an *apparent* increase in distribution in certain districts (Rotorua, South Auckland, Taranaki and Urewera) where in fact, with a reduction in forest area, such an increase is most unlikely.

The only conclusion that can be drawn from the available records is that the distribution has contracted in areas to the north and south of the Volcanic Plateau as suitable forest habitat has been removed.

R. B. LAVERS

P.O. Box 149, Te Anau.

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REVIEWS

The Dromornithidae, an extinct family of large ground birds endemic to Australia, by Pat Vickers Rich. Bulletin 184. Bureau of Natural Resources, Geology and Geophysics. Canberra 1979.

In this profusely illustrated book of 196 pages, Dr Pat Vickers Rich has done for the Dromornithidae what Sir Gilbert Archey and Dr W. R. B. Oliver did for the Dinornithiformes of New Zealand, and he has done it excellently, despite one of the biggest handicaps that any avian osteologist can encounter — no cranial material, so that the

assignment of this group of extinct Australian birds to the Ratites rests on the fact that the sternum has no carina or keel. The geological range is mid-Miocene to Pleistocene.

I had the opportunity in 1967 of examining the original material, both type and other bones, of *Genyornic newtoni* at the South Australian Museum and later a few other bones of then undescribed birds of the group, elsewhere, and since then Pat Rich has generously supplied me with slides of others, so I was not entirely unfamiliar with the Dromornithidae. Work on the group was begun by Dr Alden Miller and then Dr Ruben Stirton — I supplied the latter with comparative Moa material — but when first Miller and then Stirton died suddenly, Dr Rich took over the study of these intriguing birds and this monograph is the result. Pat Rich's approach is cladistic — in a simplified definition, this means that characters shared by all of a group or those regarded as immediate ancestors are regarded as primitive; those not shared, but peculiar to a particular genus or species are derived. The method has its difficulties but is in my opinion the best taxonomic tool yet devised.

After the usual introduction and acknowledgements, the book outlines the systematic approach used, the methodology and characters used, and then proceeds to discuss the Dromornithidae, first at family level, and then the various genera and species, of which several are new.

The list is:

Barawertornis tedfordi, a new genus and species;
Bullockornis planei, a new genus and species; and another probable species of this genus;
Dromornis australis Owen;
Dromornis stirtoni, a new species;
Ilbandornis woodburni, a new genus and species;
?*Ilbandornis lawsoni,* a new species; and
Genyornis newtoni Stirling and Ziutz.

A detailed account of the statigraphy of the deposits from which the bones are derived is provided, footprints and the egg from dunes in South-western Australia are discussed, and a full bibliography and many pages of tables are included. Altogether, Pat Rich has written a very satisfactory account of the Dromornithidae, working with material that is far less plentiful and satisfactory than that which we have in New Zealand for the various Moa.

R. J. SCARLETT, *Canterbury Museum*

The Hind Limb Musculature of the Brown Kiwi, Apteryx australis mantelli, by Christopher McGowan. Journal of Morphology. Vol. 160. No. 1. April 1979.

As an osteologist, I feel a little diffident in reviewing this very important contribution to myological literature. It is a preliminary to a cladistic analysis of Moa and their other struthious relatives on which