

## LETTERS

The Editor,  
Sir,

### CHATHAM ISLAND PARAKEETS

In my paper on New Zealand parakeets in *Notornis* 22 (2): 110-121 (1975) I commented that unlike the smaller yellow-crowned species on the main islands of New Zealand, "Forbes' Parakeet is about the same size as the Chatham Island Red-crowned Parakeet." Mr Geo. A. Smith (Letters, *Notornis* 22 (4): 351-2) doubts this, and states that it is not supported by measurements (length of wing and length of exposed culmen) of museum skins given by Forshaw (1973, *Parrots of the World*). The relevant measurements are: mainland Yellow-crowned Parakeet, wing 106-112, culmen 11-15 mm; Forbes', 121-131, 13-16; mainland Red-crowned, 125-139, 14-17; Chatham Island Red-crowned, 126-141, 14-18.

Smith claims that if, with New Zealand parakeets, "we ignore species and plot, using all species, the width of the upper mandible against wing length this produces a straight line curve: showing that the width of the bill is directly proportionate to body size." He further speculates that "the different widths to the bill between sexes, and between the species, perhaps is best explained as being adaptations to reduce intra-and inter-specific competition."

I have plotted wing length against bill width for 7 Forbes' and 7 Chatham Island Red-crowned Parakeets, the total sample of birds of known sex for which both parameters were readily available, in Fig. 1 as advocated by Smith. This shows that males tend to be larger than females — a characteristic of all *Cyanoramphus* species. However, although the average length of wing was slightly longer in the Chatham Island Red-crowned Parakeets and the average width of bill was slightly greater in the Forbes', there is a vast overlap in the range of both of these measurements between the two species. On the basis of these few specimens, and Forshaw's measurements quoted above, it seems that the two species are indeed roughly the same size.

To examine Smith's suggestion that "bill size is correlated to food source and to the manner of feeding" and that "the difference in feeding pattern between the two species is but a further extension of the, very probable, similar feeding distinctions between the different-sized sexes," I have plotted bill width against bill length (from cere) for both Forbes' and Chatham Island Red-crowned Parakeets (Fig. 2). It can readily be seen that the range of bill sizes overlaps between sexes and is much the same in both species, although their diets are very different (Taylor, *Notornis* 22 (2): Fig. 4). There is nothing here to suggest that different sized bills have evolved to reduce intra-and inter-specific competition.

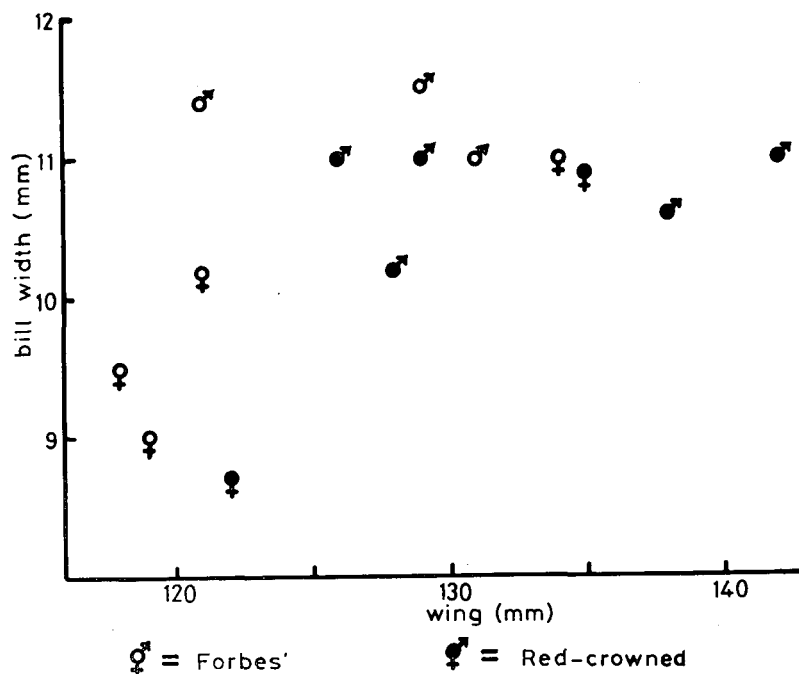


FIGURE 1 — Bill width plotted against wing length for the two species of Chatham Island parakeets.

Finally I must point out that Smith's suggestion that Chatham Island Red-crowned Parakeets may have become stunted in recent years due to the altered habitat and "an insufficiency of food during the rearing period" is wrong. There has been an abundance of food for Red-crowned Parakeets on both South-East and Mangere Islands since at least 1961 and 1968 respectively, and no correlation between year of collection (range 1890-1970) and bill size could be detected in the data plotted in Figs. 1 or 2. The two species on the Chatham Islands are approximately the same size because Forbes' Parakeet is larger than the mainland form, while the Red-crowned Parakeets have remained the same, and not because the Chatham Island Red-crowned Parakeet has become stunted.

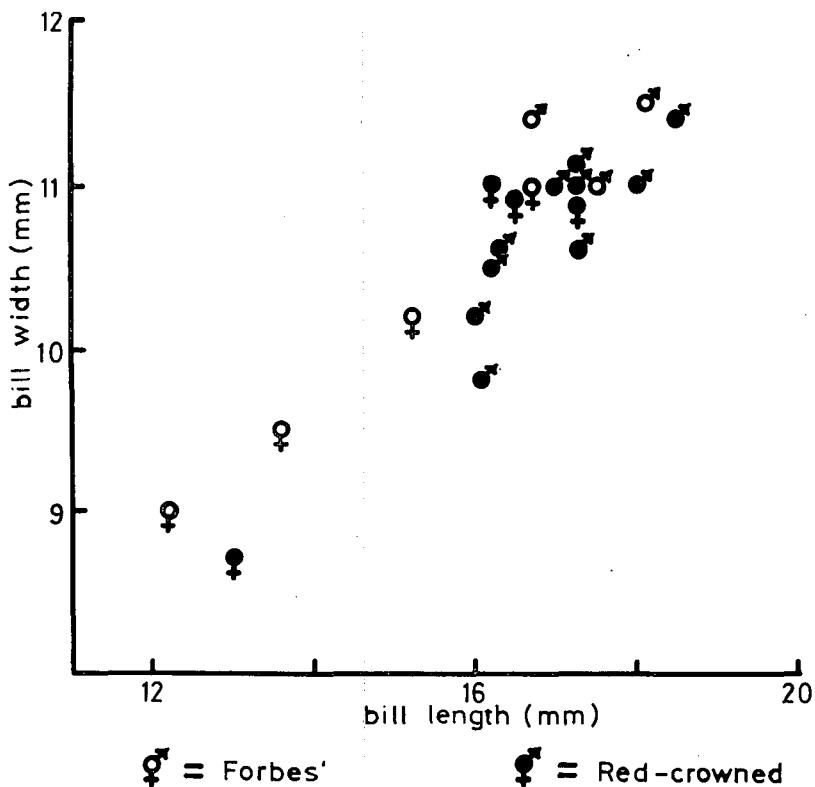


FIGURE 2 — Bill width plotted against bill length (from cere) for the two species of Chatham Island parakeets.

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