

BULLER'S MOLLYMAWKS BREEDING AT THE THREE KINGS ISLANDS

By A. E. WRIGHT

ABSTRACT

A small breeding colony of Northern Buller's Mollymawks (*Diomedea bulleri platei* Reichenow, 1898) is recorded from the Three Kings Islands off northern New Zealand. The subspecies was previously known to breed only at the Chatham Islands, which lie 10° of latitude south of the Three Kings.

During the Offshore Islands Research Group expedition to the Three Kings Islands (November-December 1983) a brief landing was made on Rosemary Rock, the south-easternmost of the Princes Islands. About 170 x 70 m at sea level and rising to some 50 m, Rosemary Rock (34°09'S, 174°03'E, Fig. 1) is the smallest of the Princes Islands, a chain of steep vegetated stacks between the larger West and South West Islands. The Rock is named after the yacht *Rosemary*, which transported several naturalist-explorers to the Three Kings Islands in the late 1940s and early 1950s.

The landing on 1 December was made to investigate the vegetation of the steep-sided Rock. Five species of native plant were present: glasswort (*Salicornia australis*), NZ iceplant (*Disphyma australe*), shore groundsel (*Senecio lautus*), taupata (*Coprosma repens*), and *Chenopodium allanii*. The Rock was heavily populated by Red-billed Gulls (*Larus novaehollandiae*), which were sitting on eggs.

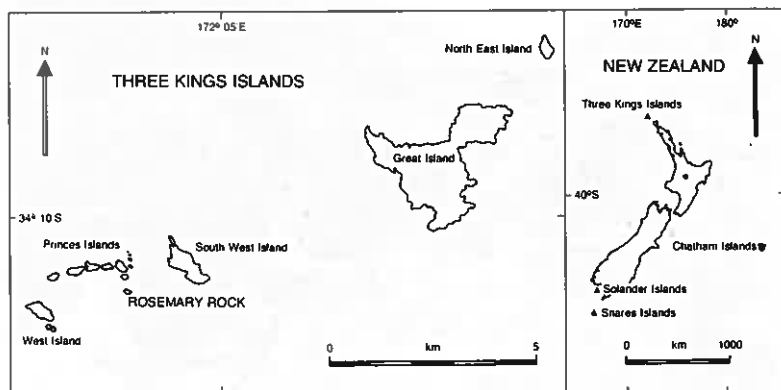


FIGURE 1 — Maps showing the location of Rosemary Rock in the Three Kings Islands and the distribution around New Zealand of island groups mentioned in the text

(A gull chick found on this islet was the only one seen in any of the many gull colonies encountered throughout the Three Kings Group.) Apart from a few low taupata shrubs around rocky outcrops on the dome-shaped summit of the islet, the dominant vegetation was mats of NZ iceplant, which provided the only material used in Red-billed Gulls' nests.

While making notes on the vegetation and gulls on the summit of the island, my attention was arrested by a strident, somewhat duck-like call nearby. Turning, I was greatly surprised to find six very large seabirds occupying a small embrasure in the rocks just off the south-eastern corner of the summit (Fig. 2).

I sketched and noted their prominent morphological characters. Although I saw no birds in flight (or even with wings extended), several features proved to be diagnostic. The bills, estimated to be 8-9 cm long, were a continuous bright yellow on the upper and lower surfaces and black on the sides. On each side of the base of the lower mandible was a narrow strip of bright orange skin. The grey head was capped by very pale grey (almost white) feathers, and the prominent eye was marked by a white crescent just below and behind it. The sitting birds were estimated to be 30 cm from the tip of their tail to the back of the neck, and 10 cm from the flat of the back to the top of the head. However, when rearing up, the length from tail to bill exceeded 50 cm.

On comparing my notes with the illustrations and descriptions in Falla *et al.* (1981) and Harper & Kinsky (1978) immediately after



FIGURE 2 — Five of the six Buller's Mollymawks seen on Rosemary Rock

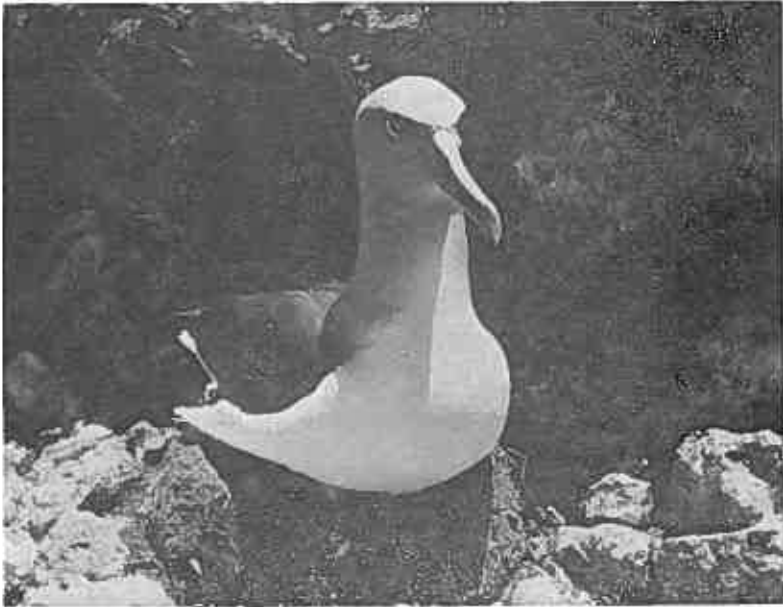


FIGURE 3 — Buller's Mollymawk on raised earthen nest at Rosemary Rock, Three Kings Islands

leaving Rosemary Rock, I had no doubt that the birds were Buller's Mollymawks (*Dicomedea bulleri*), formerly known to breed only on the Chathams, Snares, and Solander Islands. Colour slides of the Three Kings birds (two of which are reproduced here in black and white — Fig. 2 & 3) were viewed by E. G. Turbott and R. B. Sibson, who confirmed this identification.

Five of the birds occupied raised earthen nests, spread over a distance of 4-5 m, while a sixth was engaged in display with one of the birds at nest. Four of the five birds on nests were sitting on single eggs, still clean and chalky white. (This need not indicate recent laying as, with the fairly dry climate and lack of mud around the nesting site, the eggs could have remained clean for a long time.) The fifth bird on a nest was engaged in display behaviour with the sixth bird, including the occasional calling which had first attracted my attention. I did not determine whether this bird was sitting on an egg. The display behaviour, which did not correspond with any described by Richdale (1949a), consisted mainly of neck and bill rubbing, similar to the greeting behaviour carried out by Australasian Gannets (*Sula bassana serrator*) when changing over at the nest (Fig. 97A in Serventy *et al.* 1971).

The nesting platforms were of dry, sun-baked earth mixed with unrecognisable plant material. They presented a clean, eroded appearance, suggesting brief occupation this breeding season, and ranged in height from no more than a few centimetres to the largest (Fig. 3) c. 20 cm tall. The nests were near the top of the coastal cliffs, where the birds could take off from or close by their nests.

Two of the birds were approached for close-up photography. They refused to leave their nests, even with a camera lens centimetres from their beak, leaning right back on their tarsi, raising their heads and quivering their throats, all the while emitting gentle gulping noises. They remained quiet and unflustered while being photographed.

Discussion

Buller's Mollymawks have been known to breed solely on islands 1300-1600 km south of the Three Kings Group. Oliver (1955, quoting in part from Richdale 1949b) and Serventy *et al.* (1971) recorded one breeding season for the populations inhabiting the Chatham Group, and another for the populations on the Snares and Solander Islands. On the Snares, Richdale (1949b) observed a 7-week laying period from 16 January until early March. Serventy *et al.* (1971) noted that the Chatham Islands population breeds "two or three months earlier" than the Snares colony. Falla *et al.* (1981) gave October-November as the laying period on the Chathams and February as the laying month on the Snares and Solander Islands. Robertson (1974) recorded laying from 26 October to 23 November in one season on the Middle Sister in the Chatham Islands. Thus, the present record of birds sitting on eggs on 1 December places the small Three Kings population close to the Chatham Island birds in terms of breeding time.

Robertson (1984) states that recent field studies suggest two subspecies. The Southern Buller's Mollymawk (*Diomedea bulleri bulleri* Rothschild, 1893) breeds at the Snares and Solander Islands (Fig. 1). The Northern Buller's Mollymawk (*D. b. platei* Reichenow, 1898) breeds at the Forty Fours and Sisters Islands in the Chatham Islands (Fig. 1). This taxonomy was adopted by Peters (1979) in his checklist.

After examining all the colour slides of the Three Kings mollymawks, C. J. R. Robertson (pers. comm.) ascribed the birds to the Northern Buller's Mollymawk on the following major grounds:

1. The heavy "eyebrow" reaching to the base of the bill;
2. The yellow stripe of the lower mandible less than half the width of the mandible;
3. The generally dark colour of mantle, cheeks, chin, nape and throat, and the silvery grey of the forehead; and
4. The breeding time.

A further minor but suggestive ground is that the habitat shown in Fig. 2 is very similar to that at the Sisters Islands in the Chathams.

Although apparently suitable habitat for many more mollymawks exists on Rosemary Rock (and, indeed, other of the Princes Islands) at the Three Kings, the small number of breeding birds does not necessarily mean recent colonisation. The larger nests are substantial, indicating many years of occupancy. Small colonies of large seabirds take a long time to grow by natural increase without waves of new immigrants (C. J. R. Robertson, pers. comm.). On the other hand, judging by the general condition of the habitat surrounding the colony, the birds are not likely to be a relict of an old colony.

Although the beak and body sizes quoted above are only estimates, I have included them because they are significantly smaller than the measurements given in Robertson (1984). He records beak lengths ranging 11.7-12.9 cm in 18 Chatham Island birds. I was particularly careful in estimating measurements and do not think that my figure of 8.9 cm could be as much as 3 cm out. From my handling of museum skins, I believe the Three Kings mollymawks may be smaller than the Chathams birds. In view of Robertson's (1984) conclusion that "the significant morphological and ecological differences between the [existing] southern and northern breeding populations seem to warrant serious consideration of reclassification as separate species," the Three Kings Buller's Mollymawks deserve closer attention.

Acknowledgements

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