

Buller's Mollymawks on Rosemary Rock, Three Kings Islands, in 1985

In December 1983, Northern Buller's Mollymawks (*Diomedea bulleri platei*) were found breeding near the summit of Rosemary Rock at the Three Kings Islands, northern New Zealand (Wright, A.E. 1984. *Buller's Mollymawks breeding at the Three Kings Islands*. *Notornis* 31: 203-207). Previously, this subspecies was thought to breed only at the Chatham Islands, some 1600 km south-east of the Three Kings Group. When we visited Rosemary Rock in January 1985, we found 15 nests, 13 of which were occupied.

We landed on Rosemary Rock (Fig. 1) for one hour in the afternoon of 16 January 1985. During this time, the nesting area discovered and illustrated by Wright (1984) was relocated. We found that the colony described by Wright near the summit of the island comprised two incubating adults, an adult brooding a chick, and two displaying birds occupying an empty nest. Additional nests and birds were found in two separate areas, both on the south-facing slope of the island. A single bird was incubating at the western end of the island. Eight nests in the middle of the island included two unoccupied nests, two nests with an adult but no egg, three nests with incubating birds, and one nest with an adult and a young chick. In total, 12 mollymawks were seen, of which six were on nests with single eggs, two were brooding young chicks, and four were associated with three empty nests. During this visit, a total of 13 nests was found, two of which were unoccupied. One of the unoccupied nests contained old egg fragments, indicating either breeding in previous years or failed nesting during the current season.

The dimensions of 11 nests were as follows: average maximum height above the surface of the ground 90 mm (range 60-180 mm), average inside diameter 220 mm (range 200-240 mm) and average outside diameter 310 mm



FIGURE 1 — Oblique aerial view from the south-east, showing Rosemary Rock (foreground) with islets of the Princes Chain in the rear. The mollymawks are nesting on this side of the island

Photo: D. L. Homer, N.Z. Geological Survey

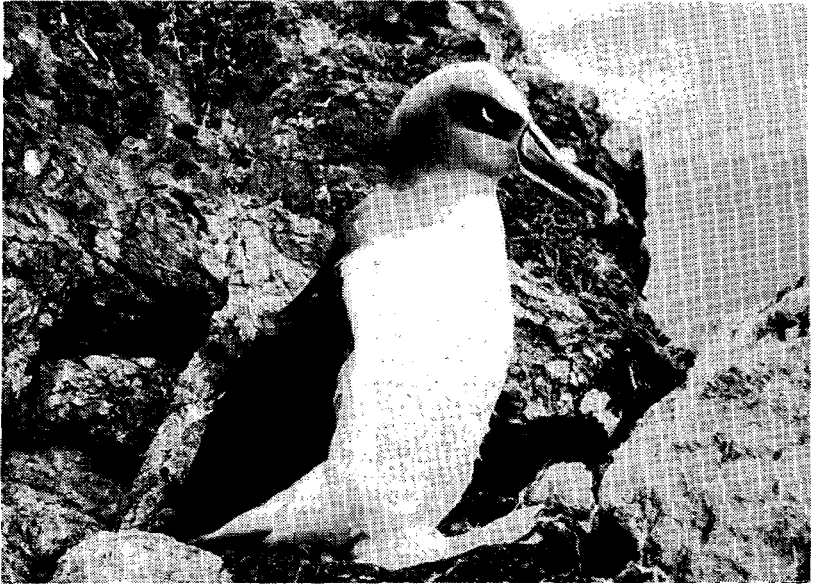


FIGURE 2 — Incubating Northern Buller's Mollymawk at Rosemary Rock with yellow stripe less than half of width of lower mandible

Photo: M. P. Francis

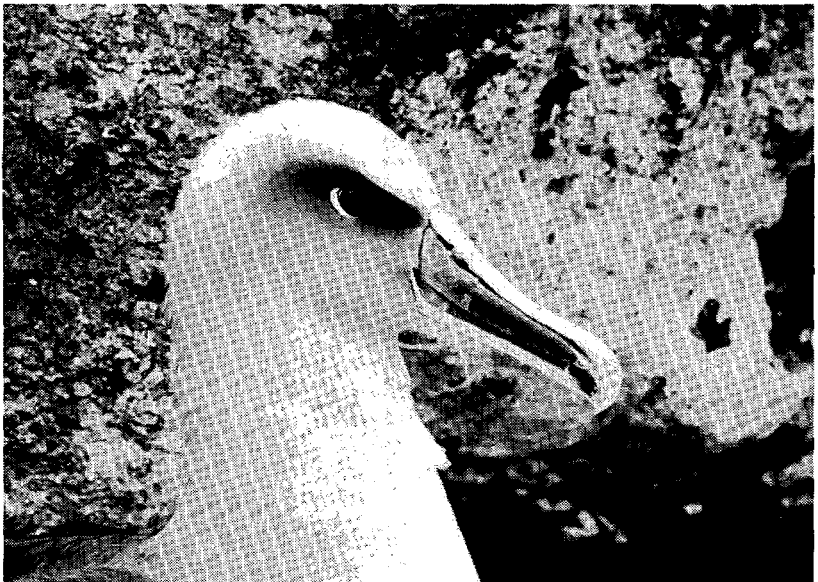


FIGURE 3 — Northern Buller's Mollymawk at Rosemary Rock with yellow stripe greater in width than half of lower mandible

Photo: M. P. Francis

(range 290-340 mm). The nests were made of dried mud and plant material. Some nests were built over an irregularly sloping rock surface and others over loose stones. Although taller nests may indicate occupancy over many seasons, the height of nests seemed to be partly related to the topography of the substrate. It may be significant that the two unoccupied nests were among the lowest in height.

Observations from the sea on 18 January revealed two additional nests on the south-facing slopes of Rosemary Rock, both occupied by a pair of adult-plumaged birds. On that day, a minimum number of birds seen was 18, including several flying above the colony.

Eight culmen measurements of adult birds at Rosemary Rock were made with a steel ruler (112, 113, 117, 117, 118, 118, 119 and 119 mm), giving a range that overlaps with both subspecies of Buller's Mollymawk (C.J.R. Robertson, pers. comm.). However, the colour of the forehead (silvery grey rather than white) and the presence of a heavy eyebrow reaching the base of the bill (Fig. 2) indicate that the birds on Rosemary Rock are Northern Buller's Mollymawks (C.J.R. Robertson, pers. comm.). This identification is confirmed by the date of hatching. During our visit, one egg was hatching while the two chicks that we saw would not have been much more than ten days old. Their culmens measured 35 mm. Laying dates of late October to early November (with a 68-69 day incubation period, C.J.R. Robertson, pers. comm.) and hatching of eggs in mid-January are characteristics of the northern subspecies from the Chathams, while the southern race (*Diomedea b. bulleri*) from the Snares and Solander Islands lays from early January to early March.

The two mollymawk subspecies have also been differentiated by the width of the yellow stripe on the lower mandible, where the stripe width is greater than 50% in the southern subspecies and less than 50% in the northern race (Robertson, *in* Wright 1984). Figure 3 shows a bird with a yellow stripe width greater than half the lower mandible. This bird is brooding a chick and fits the description of the northern subspecies. Figure 2 shows an incubating adult at Rosemary Rock with a yellow stripe less than half the width of the lower mandible. It therefore appears that the yellow stripe width is variable within the northern race and not a reliable feature for subspecific identification.

It is doubtful if the mollymawk colony on Rosemary Rock has increased dramatically since Wright's observations, although our 1985 figures of 18 mollymawks and 15 nests contrast with the six birds and five nests found in 1983. Our survey was more extensive in that we were able to examine the small ledges down the steep south-facing slope of the islet. However, the Three Kings colony should be watched regularly to assess changes in numbers and possible spread to other islands in the group.

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