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## COMMENTS ON THE IDENTIFICATION OF THE MAGENTA PETREL AND SIMILAR SPECIES

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In his reply regarding a sight record of the Magenta Petrel or Chatham Island Taiko (*Pterodroma magentae*) by Rogers (1980), Imber (1980) gave grounds for a re-identification of the bird as a Soft-plumaged Petrel (*P. mollis*). He further stated that in his opinion an unusual petrel seen near the Chatham Islands by Roberts (1977) was in fact a Taiko. Although Rogers stated clearly that his record is open to speculation, the description and photograph of the bird seen by Roberts clearly preclude a further sight record of *P. magentae*.

The petrel described and photographed by Roberts shows several features that differ from those of *P. magentae*. Firstly, the undertail coverts were noted as "white mottled with brown, while the undertail was probably dark greyish brown or fuscous." These areas are evident in Roberts's photograph and appear as a large dark undertail area. Harper & Kinsky (1978) mentioned that *P. magentae* has "white undertail coverts" and showed them as such in their plate 18d. Secondly, Roberts described the underwing as "fuscous in the axillary and underwing coverts region, with an extensive sub-terminal white primary patch." He further stated that "at the base of the primaries, there was a series of alternating burnt umber, white and tawny areas giving a rather mixed colour pattern." Close examination of the photograph shows the large white primary patches and white greater primary coverts, the latter apparently with dark tips forming a dividing line across each wing patch, although somewhat obscured, possibly by reflection. In addition, some pale patches are evident on the median primary coverts. Most striking is the presence of large pale marginal and/or lesser covert areas (herein referred to as *marginal patches*)

on the leading edge of the inner underwing, tapering outwards to near the carpal joint. In the photograph, these appear similar in colour to the white primary patches and are thus either very pale or white. Bourne (1964), describing the type of *P. magentae*, mentioned that the "underwing and axillaries are dark" and Harper & Kinsky concur. The illustration in Harper & Kinsky shows entirely dark underwing coverts, lacking pale primary or marginal patches.

Furthermore, a recent photograph of *P. magentae* in the hand, taken by R. N. Thomas at the Chatham Islands, confirms that *magentae* lacks any pale patches. The marginal, lesser and median coverts appear wholly dark grey and non-reflective, whereas the greater coverts and flight feathers are more silvery grey and reflective.

Roberts also mentioned that "in flight the short squarish tail was a prominent feature." Thomas's photograph of *P. magentae* shows that, viewed from the underside, the tail is obviously graduated, similar to that on skins of Grey-faced Petrel (*P. macroptera*) and Providence Petrel (*P. solandri*). This suggests that in the field *magentae* may show a relatively long, slightly wedge-shaped tail similar to *macroptera* and *solandri*, whereas the "short squarish tail" is closer to that of the Kermadec Petrel (*P. neglecta*) (DWE, pers. obs.).

Roberts made no mention of a dark thigh patch, a feature shown prominently in Thomas's photograph and also illustrated by Harper & Kinsky.

Imber suggested that the "lowering sun played tricks with the underwing pattern by causing reflections off the dark plumage," thus accounting for the white and pale patches described and shown by Roberts. The photograph clearly shows large white areas on the primaries and adjacent covert groups, together with a much darker, greyish area on the main underwing coverts tapering towards the body. The surrounding coverts and trailing edge are much darker again, and yet the pale marginal patches stand out on the leading edge of the wing.

Examination of skins and personal field experience of pterodromas with dark underwings have shown that, although much of the underwing can be highlighted, particularly the primary bases and greater coverts (often forming a pale line down the centre of the underwing), the almost non-reflective nature of the leading coverts (marginals, lessers and most medians) almost always forms the appearance of a thin dark contrasting line down the leading edge of the underwing, even in bright sunlight. For example, such an appearance was well demonstrated when DWE observed two light-phase Herald Petrels (*P. arminjoniana*) near Tahiti in June 1979, both birds showing strong reflection on all underwing areas except the narrow dark leading coverts. On occasion, these leading coverts may be subject to slight reflection (though still appearing as a dark strip), but this reflection is uniform across the area and would be unlikely to form the almost symmetrical, curving, pale marginal patches so evident in Roberts's

photograph. Thus, even if the primary patches, central underwing coverts and surrounding areas were partly highlighted, the much darker leading coverts were not, and it must be concluded that the pale marginal patches were in fact present and not just a function of reflection.

Of the characters shown in Roberts's photograph, the combination of mainly white underparts and a dark underwing with white primary patches is sufficient to eliminate all *Pterodroma* species except *neglecta* and *arminjoniana*. The head pattern and dark undertail of Roberts's bird are features common to intermediate-phase plumage of both species, leaving only the underwing pattern to provide clues to the bird's identity.

The underwing pattern as depicted in Roberts's photograph is similar to that of an intermediate-phase *neglecta* photographed by Nakamura & Tanaka (1976) in having large white marginal patches and divided white primary and covert patches. The latter feature was also noted by DWE on light- and intermediate-phase *neglecta* (identified by white primary shafts) seen some 700 km east of the Kermadec Islands in May 1979.

*P. arminjoniana* also exhibits large white marginal and divided white primary and covert patches, as shown in a light-phase bird photographed by Warham (1959, Plate 14, Fig. 3). It differs from *neglecta* in having white bases to the greater coverts which form a tapering line extending from the primary coverts inwards to near the body, close to the trailing edge of the wing (see Harper & Kinsky). The greyish tapering band on the main coverts of Roberts's bird is suggestive of *arminjoniana* but perhaps not pale or clear enough to eliminate the possibility of reflection.

On the evidence given above, we conclude that the petrel seen by Roberts was not *P. magentae*. We believe that it was more likely *neglecta* or *arminjoniana*, as Roberts himself suggested, but given the available information, a definite identification cannot be reached.

As is evident from Imber's discussion, *P. magentae* and *P. mollis* are likely to be confused and we here summarise the main points for differentiating between these two species at sea. Harper & Kinsky give the length of *mollis* as 33 cm and that of *P. macroptera*, a key comparison species in the New Zealand area, as 41 cm. Crockett (*in litt.*) states that *magentae* is about 38 cm long, and it is thus roughly intermediate in size. Both *magentae* and *mollis* have dark slate-grey underwings. However, *mollis* also shows some white on the leading edge as a marginal patch. This is illustrated for light-phase birds by sketches in Harper (1973) and in Harper & Kinsky, and is just evident in a photograph given by Sinclair (1978, Fig. 3). The prominent dark thigh patch of *magentae* is lacking in *mollis* (Sinclair, Fig. 3) and could prove to be a useful feature at close range. Other

points include the more uniform, darker grey upperparts and throat of *magentae*, whereas *mollis* has a white throat and narrow dark collar (occasionally meeting in the centre of the breast). As noted by Imber, an appreciation of throat and collar patterns depends on good light conditions.

Finally, we urge observers to take field notes of a bird's "jizz" (a European term denoting distinctive structural appearance), particularly the wing-tail shape and proportions. Points to note include the degree of curvature shown by the leading and trailing edges of inner and outer wings, how far the carpal joints are held forward and the outer wing is swept back, and the shape and length of the tail. Head shape and body bulk are also important. Note that a bird's shape is likely to vary with changes in flight attitude, and these should be watched for so as to gain an overall impression of jizz. A quick sketch is often the most convenient way of recording such information. Recent experience in the Pacific by able observers has shown that some difficult *Pterodroma* species-pairs have quite distinctive jizz characteristics. In normal gliding flight, both *P. mollis* and *P. macrop-tera* hold their wings cocked well forward in a curve to the carpal joints, the outer wings being swept back.

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