

BIRD IN THE HAND

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Giant Petrels

This is a guide to distinguishing between the Giant (Southern) Petrel *Macronectes giganteus* and the Giant (Northern) Petrel *M. halli* which occur around the southern coasts of Australia mainly in winter months. Notes on sexing and ageing are included for each species.

Giganteus breeds on islands near the Antarctic convergence and south to the Antarctic continent; *halli* breeds only on islands between the Antarctic and sub-tropical convergences. Thus there is a zone of overlap just north of the Antarctic convergence where both species breed sympatrically at a few stations, including Macquarie Island*. Most of the data for this guide are derived from birds of the Macquarie Island populations. As a general rule, for two closely related species whose breeding ranges overlap, differences between them are greater in the region of overlap than elsewhere. This phenomenon is known as "character displacement". For this reason it is possible that some of the differences seen at Macquarie Island and described here are less evident between *giganteus* and *halli* from separate breeding populations in other places.

Macronectes giganteus

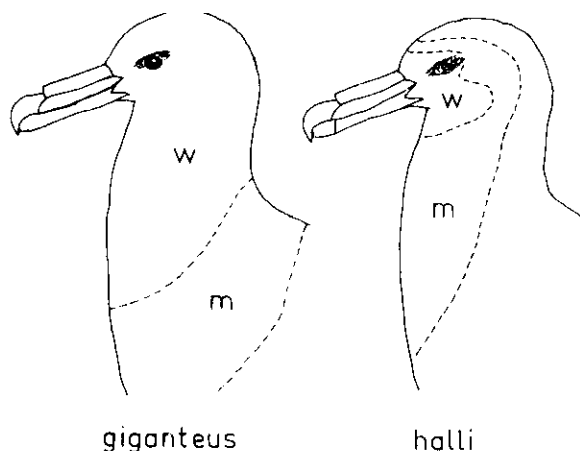
Plumage: About 10% are "white" phase, the remainder "dark" phase. White phase birds are pure white apart from occasional dark feathers which may occur anywhere on the body, and they are white from hatching. Dark phase birds fledge in a dark grey, almost black, plumage, becoming paler and brownish with age. The entire head, front of neck, breast and front edge of wings become mottled with pale feathers with increasing age, until in some individuals they become almost pure white, giving a "white-headed" appearance. The darkest breeding birds (presumably the youngest, at least seven years old) have a very pale face with mottled head and breast.

Bill Colour: Pale pinkish ochre, with the end-plate of both mandibles a lucent green at all ages, more intense in breeding birds.

Iris Colour: All first year birds have dark brown eyes. Of breeding adults at Macquarie Island in 1970, 45% had brown eyes, 17% grey-brown and 38% grey.

Breeding Season: Lay from late September to mid-October, fledg: from mid-March to late April. Populations in the southern part of the species' range may be up to one month later.

* (55° S. Lat., 159° E. Long.) where the author spent 15 months as a member of the 1970 and 1971 Australian National Antarctic Research Expeditions.



- **Figure 1.** The plumage of all birds except white phase *giganteus* becomes paler with age. The illustrations show the approximate extent of white (W) and mottled (M) plumage in the oldest birds.

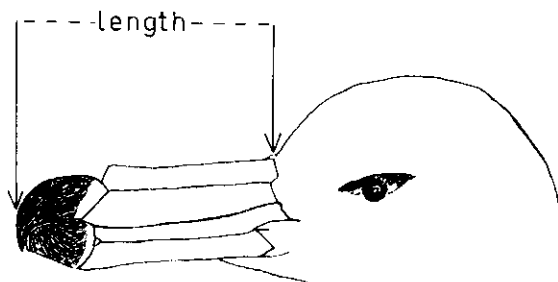
Macronectes halli

Plumage: No white phase. All fledge in a very dark grey plumage becoming brownish with age. The feathers of the face, throat and upper breast (but *not* of crown or back of head or wings) become paler mottled grey in older birds, but white only in the facial area near the base of the bill. Thus they never become "white-headed".

Bill Colour: Pale pinkish ochre, with the end-plate of both mandibles, especially the upper, dull pink, sometimes tending brown or ochre. In first year birds it is less pink, but never green.

Iris Colour: All first year birds have dark brown eyes. Of breeding adults none had brown eyes, 12% had grey-brown and 88% had grey eyes (with some so pale that they appeared white at a distance).

Breeding Season: Lay from mid-August to early September. Fledge throughout February.



- **Figure 2.** The bill is the same colour in both species except for the shaded area at the tip, green in *giganteus* and pinkish in *halli*.

Diagnostic Characters

Apart from white phase birds, the only distinguishing feature which can be used for all ages is the colour of the bill tip, green in *giganteus* and pinkish in *halli*. The distribution of pale feathers around the front of the body and eye colour may be helpful in distinguishing older birds. The pale leading edge of the wing of adult *giganteus*, dark in *halli*, can often be seen in flight, and is diagnostic. The difference in breeding seasons means that first year *halli* may be expected in Australian coastal waters earlier in the winter than first year *giganteus*, but information on this point is lacking.

Sexing

Body dimensions and weight have the same values for both species but differ between the sexes, males being larger and heavier than females. A useful measurement is bill length, measured from the tip of the culmen to the first feather at the base of the culmen. Females of both species have bills in the range 84-94 mm (median 88 mm) and males 95-107 mm (median 102 mm).

There are no sexual differences in plumage or eye colour.

Ageing

In general any giant petrel with entirely dark plumage and brown eyes can be safely regarded as a first-year bird. The stages of the progressive lightening of the plumage with increasing age are not accurately known.