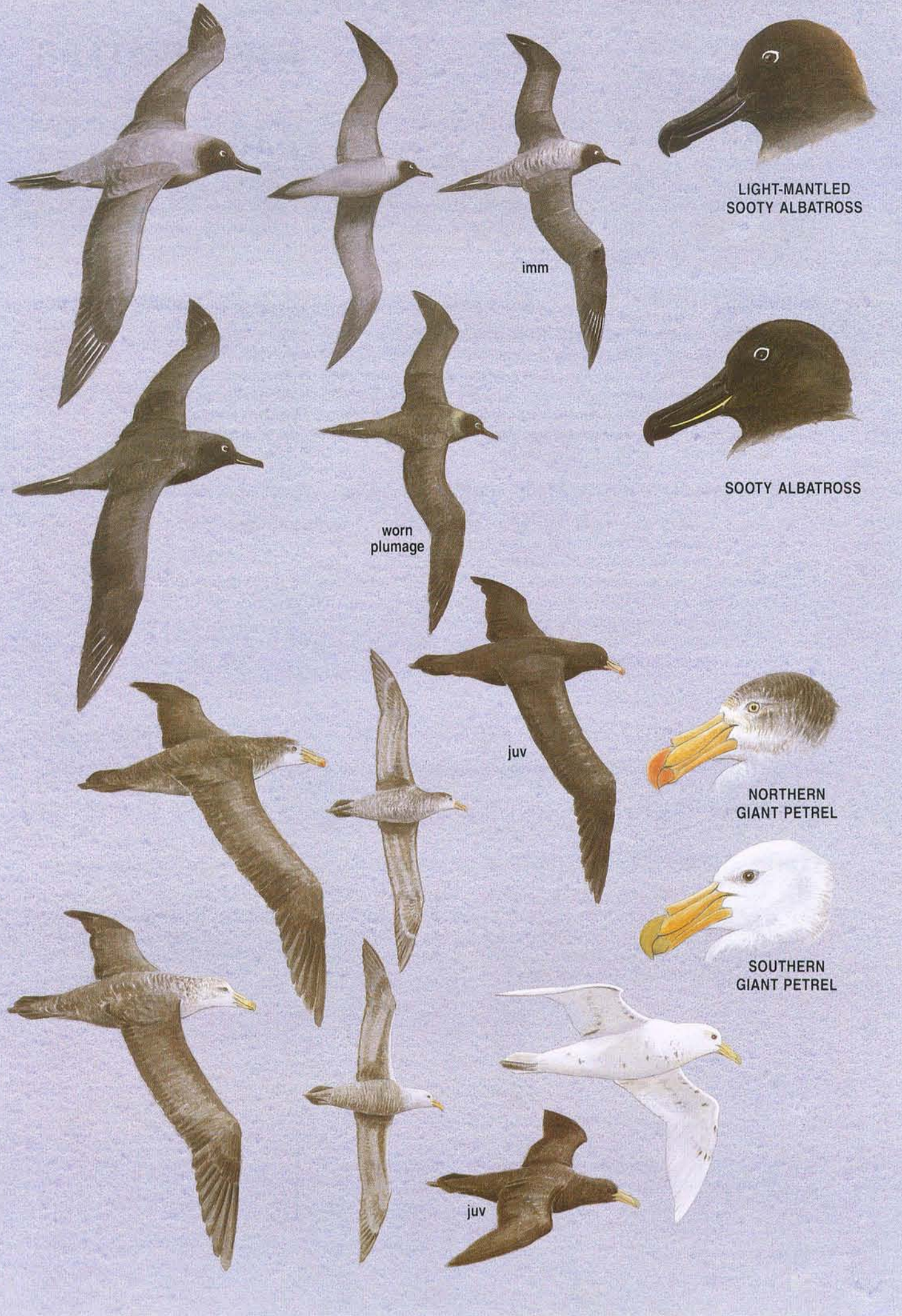
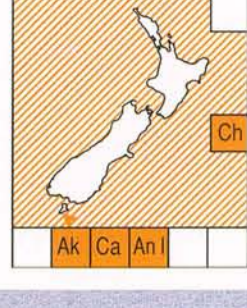


The two giant petrels are very similar robust brown-to-white (rare) fulmarine petrels with short wings and tail. Massive pale bill with prominent nasal tubes. Flight laboured with burst of flapping interspersed with long glides and wheeling, not soaring. On land, mobile and can stand upright. Oceanic and coastal. Frequently follow ships and trawlers. Silent at sea except when fighting for food. Loud calls at colonies. Lay 1 large white egg in low cup-shaped bowl. Long incubation and fledging periods. Sexes alike but male larger; juveniles darker.

**NORTHERN GIANT PETREL (Nelly) *Macronectes halli***

**Common native**

90 cm, 4.5 kg. Similar to dark phase Southern Giant Petrel, but bill pinkish-yellow horn tipped brownish, and face darker. Adult has greyish-brown body with paler forehead, sides of face and chin, sometimes white on chin and around base of bill. Bill robust (90–105 mm); eye grey to off-white. No white phase. Juvenile all dark sooty brown, fading to grey-brown with age; eye usually grey. **Habitat:** Breeds circumpolar subantarctic; in NZ region, at Chathams, Port Pegasus (Stewart I), Antipodes, Auckland and Campbell Is. Ranges widely through southern oceans and often seen in NZ waters, especially Cook Strait. **Breeding:** Aug–Feb. [Sp 42]



**SHEARWATERS, FULMARS, PRIONS and PETRELS**

**Procellariidae**

The Procellariidae is the largest and most diverse family of seabirds, with about 72 species. In the New Zealand region, 49 species have been recorded, including 11 endemic species and 23 other breeding species.

The Procellariidae includes a wide variety of seabirds from the giant petrels to the diving petrels. All have distinctive external nostrils encased in a tube on the top or sides of the bill. They have 11 primaries. The 11th (outermost) is minute, but the 10th is at least as long as the 9th, giving the wing a pointed tip. All seabirds have webbed feet with three forward-pointing toes of about the same length.

Most species nest in burrows or crevices, normally clumped into colonies. Birds return

being chilled for six days. Incubation stints shorten as incubation proceeds, and when the egg hatches the downy chick is brooded and guarded for only a few days in hole-nesting species, but for several weeks in surface-nesting species, until it is able to maintain body temperature.

Throughout its development, the chick is fed large meals at irregular intervals. It gains weight rapidly, becoming much heavier than its parents, but this declines towards adult weight before it fledges. Chicks normally spend some time on the surface exercising their wings before they eventually leave the colony. Once they have flown, they are completely independent of their parents. Young birds usually return to their home colony at 2–7 years old, and spend several years visiting the colony, especially when breeders are incubating or feeding chicks, before attempting to breed. The Procellariidae are typically long-lived, with several species known to live over 25 years.

Most species now breed only on offshore and outlying islands because mainland colonies have been ravaged by introduced mammalian predators. They generally return to their colonies at night, and once on land they are clumsy and unable to take flight rapidly; their only defence is by biting or by spitting stomach oil. The nestling is particularly vulnerable to predators because it is often left unattended for long periods while the parents feed at sea and it emerges from the nest at night to exercise its wings in the week or two before it can fly.

The Procellariidae feed on a wide variety of sea life, ranging from some of the prions, which sieve zooplankton on comb-like lamellae along the edge of their bills, to the giant petrels, which scavenge on dead marine mammals and occasionally kill small seabirds. Most species feed within a few metres of the sea surface, but some shearwaters dive to at least 20 m. These seabirds have well-developed nasal glands for extracting salt from their blood and exuding it out of the prominent nostrils.

The shearwaters (*Calonectris*, *Puffinus*) include about 15 medium to large species with long slender bills and flat nasal tubes. They

to their colony months before egg-laying to claim their nest sites (usually the same site is used year after year) and to court. After copulation, females leave the colony for one to six weeks on a 'pre-laying exodus' to form the egg. Males also leave but often make occasional visits to the nest site.

All species lay one white egg, which is very large relative to the female's size. The few instances of two eggs in a nest are from two females using the same site. A long incubation period is typically split up into several incubation stints lasting from several days to several weeks between changeovers. Occasionally the changeovers do not coincide and the egg is left unattended for several days; however, eggs have hatched successfully after

are usually brown to black above and white or brown below. Some have large sternums and dive well for fish and squid, using their wings for propulsion, while others have small sternums and feed on, or close to, the surface.

The four species of diving petrel (*Pelecanoides*) are small, stocky black and white seabirds with short wings adapted for propulsion under water. They have a fast, direct, whirring flight and readily dive for small krill and copepods.

The four species of *Procellaria* are large stocky seabirds with large, heavily hooked pale bills with dark markings and prominent nostrils. They feed mainly at night on bioluminescent squid but also now take offal discarded from fishing boats.

The three species of *Pseudobulweria* are medium-sized seabirds with exceptionally large feet and a notch on the cutting edge of the upper bill caused by the latericorns having blunt ends.

The fulmarine petrels (*Lugensa*, *Pagodroma*, *Daption*, *Thalassoica*, *Fulmarus* and *Macronectes*) are a diverse group of 8 species, all of which have robust bills with prominent joined nasal tubes, rising from the base.

The six species of prion (*Pachyptila*) are small seabirds pale blue above and white below with a prominent M-shaped mark across the upperwings and a dark-tipped tail. Comb-like lamellae on the inside of the bill are used to filter zooplankton.

The single *Halobaena* species looks like the prions but has a white-tipped tail and the upper bill has small tooth-like serrations at the base.

The gadfly petrels (*Pterodroma*) consist of 29 species of highly agile seabirds with long wings and short, laterally compressed black bills with a strongly hooked nail. They feed mainly on squid and small fish.

**Reading:** Harrison, P. 1987. *Seabirds of the World: a photographic guide*. London: Christopher Helm. Harrison, P. 1988. *Seabirds: an identification guide*. London: Christopher Helm. Imber, M.J. 1985. *Ibis* 127: 197–229. Murphy, R.C. 1936. *Oceanic Birds of South America*. New York: MacMillan. Serventy, D.L. et al. 1971. *The Handbook of Australian Seabirds*. Sydney: Reed. Warham, J. 1990. *The Petrels: their ecology and breeding systems*. London: Academic Press.

**42. NORTHERN GIANT PETREL *Macronectes halli* Plate 6**

**Other name:** Nelly  
**Size:** 90 cm, 4.5 kg  
**Distribution:** Circumpolar, breeding on many subantarctic islands, including The Sisters and Motuhara (Forty Fours Islands) of the Chathams, on an island in Port Pegasus in southern Stewart Island, and on the Antipodes, Auckland and Campbell Islands. They range widely in the subantarctic zone during the summer and autumn. Some adults and many subadults disperse eastwards and northwards to about 35°S in winter and spring, and some follow the Humboldt Current to about 20°S off South America.

Although the two species are difficult to distinguish at sea, Northern Giant Petrels are probably more commonly beach-wrecked than Southern Giant Petrels in New Zealand waters in summer and autumn, but they are outnumbered by the southern species in winter and spring. Birds banded on Campbell Island have been recovered mainly around New Zealand and in the Tasman Sea, but also on the coast of Argentina. Up to the 1970s, when sewage and abattoir waste were dumped into Wellington Harbour and a whaling station operated just inside the entrance to Tory Channel in the Marlborough Sounds, hundreds of giant petrels (probably mainly of this species) were seen in the Cook Strait area, especially in October–March. Now that these sources of offal have gone, only the odd bird is now seen following fishing boats and the Cook Strait ferries.

**Population:** Uncommon, with main colonies (1500+ pairs) on South Georgia in the South Atlantic Ocean and Kerguelen Island in the Indian Ocean. New Zealand colonies total c. 2500 pairs, including c. 2000 pairs in the Chathams (mainly on the Forty Fours), 230 pairs on the Antipodes, 230 pairs on Campbell

Island and 50+ pairs in the Auckland Islands. **Conservation:** Protected native. The size and trends of New Zealand populations are not well known, but appear to be moderately stable even though some offal sources have decreased, and some birds are caught on tuna long-lines.

**Breeding:** In the New Zealand region, Northern Giant Petrels lay from mid-August to early September. They lay 1 white egg (102 x 66 mm) in a cup-shaped nest built of tussock and other vegetation. Eggs hatch in October–November after c. 60 days. Chicks are brooded for the first 2–3 weeks and then guarded for another fortnight. They fledge in February at c. 112 days old.

**Behaviour:** Nest in colonies. At sea, they are often seen alone, but they join large mixed flocks when feeding around fishing boats, and they used to gather around whaling ships, sewer outfalls and abattoir outfalls. When feeding in flocks they are often noisy and aggressive, but otherwise they are usually silent at sea.

**Feeding:** Males tend to be voracious predators and scavengers, killing penguins and feeding on dead birds and marine mammals, whereas females tend to feed more on crustaceans, squid and fish taken from the sea surface.

**In the hand:** Separated from the dark phase of the Southern Giant Petrel *M. giganteus* by having a brownish, not green, tip to the bill. Males are larger than females, and most adults can be sexed on bill length: males >97 mm, females <95 mm.

**Reading:** Bailey, A.M. & Sorensen, J.H. 1950. *Subantarctic Campbell Island*. Denver: Denver Mus Nat Hist. Hunter, S. 1984. *J Zool (Lond)* 203: 441–460. McIlwaine, C.P. 1964. *Emu* 64: 33–38. Powlesland, R.G. 1986. *Notornis* 33: 171–184. Robertson, H.A. 1992. *Notornis* 39: 263–289.