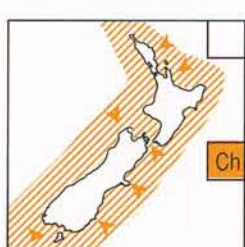


Flightless stocky seabirds with dark upperparts and white underparts. Wings modified into flippers. Robust bill. Short stout legs with webbed feet. Dense short and flattened feathers in adults; thick down in chicks. Swim low in the water, with head and upper back (occasionally tail) visible; some porpoise when swimming fast. Feed at sea by diving. On land, walk upright with waddling gait or short hops with flippers used to maintain balance. Toboggan on ice and mud. Visit land to breed and to moult. During the 2–6-week moult, birds look ragged while all feathers are replaced rapidly; birds fast and are unable to swim. Breed solitarily in burrows or under vegetation, or in large dense colonies on the surface. Lay 1–2 white eggs.

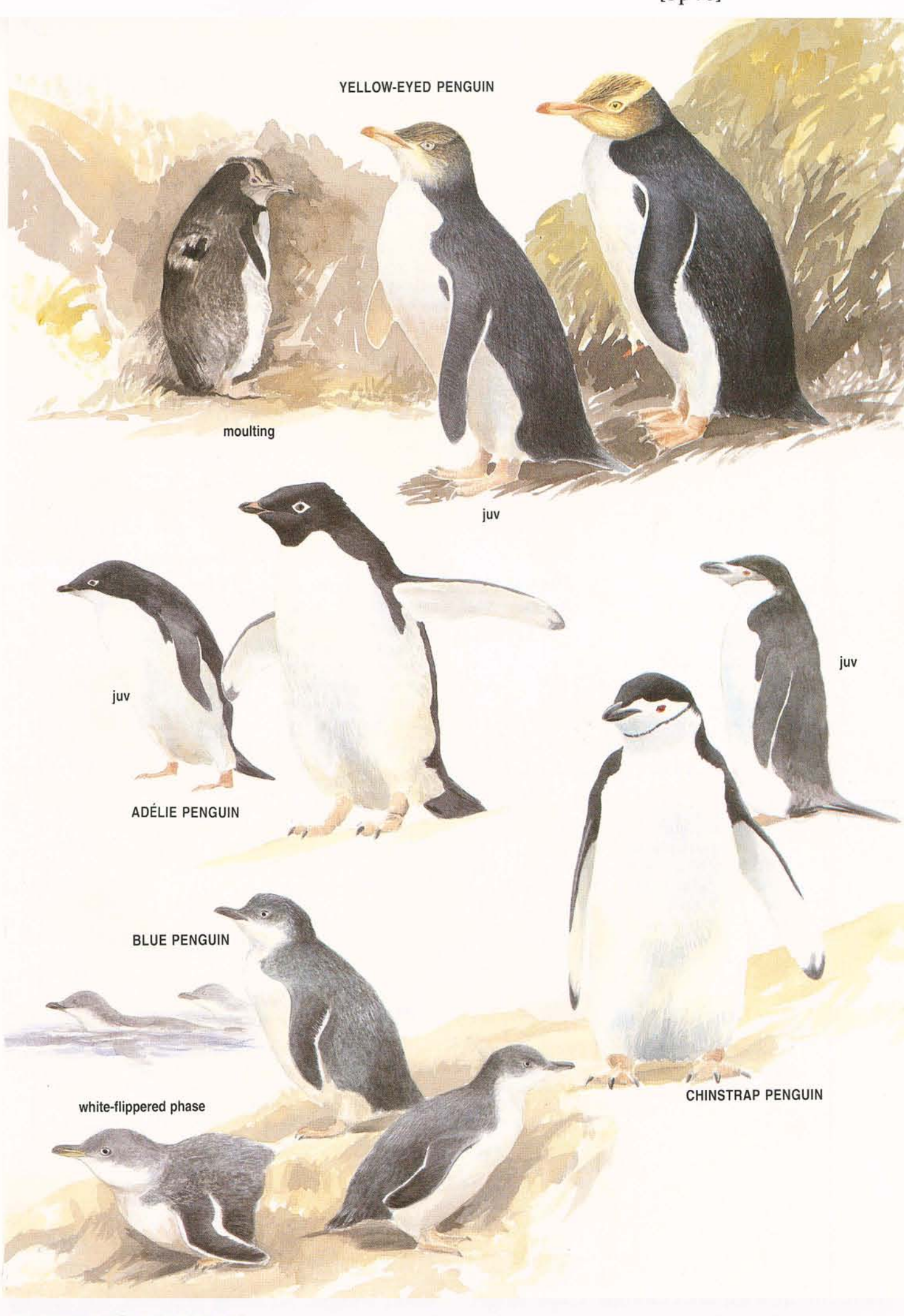
**BLUE PENGUIN (Korora)** *Eudyptula minor*

Common native

40 cm, 1100 g. Smallest penguin. *Slate-blue upperparts* and sides of face to near eye, white below; lacks crest or distinctive face markings. Juvenile has a brighter blue back. White-flipped phase, of Canterbury, has more white on upperside of flipper. Often noisy on land at night; utters loud screams, wails, trumpeting and deep growls. **Habitat:** Breeds on rocky coasts and islands throughout NZ, but nest can be several hundred metres inland. When breeding, comes ashore at dusk and departs at dawn. Moults in burrows, under rock piles or in dense vegetation; often surrounded by piles of moulted feathers. Often seen in coastal waters. **Breeding:** Aug–Mar.



[Sp 78]



**PENGUINS**

16 species confined to the Southern Hemisphere: 13 in the New Zealand region, including 4 endemic and 5 other breeding species.

Penguins are a clearly defined group of flightless, stocky seabirds standing up to a metre high. They are a primitive group dating back to the late Eocene, about 45 million years ago; fossils of three species have been found in the South Island from this era.

Penguins are covered with a waterproof coat of dense, short and flattened feathers; the wings are modified into flippers, and the tail is short and stiff. They have a large head and a powerful, short, stout bill. Their legs are short and stout, with webs linking the three forward-pointing toes. On land, they walk upright with an ungainly waddling gait, and hop over obstacles, using their flippers to maintain balance. On ice, they sometimes toboggan. In the water, they can swim rapidly, being propelled by their flippers only. Some species porpoise when travelling fast.

Penguins dive to catch food. The extreme example is the Emperor Penguin, which has been recorded diving to 450 m and staying submerged for 11 minutes. They feed on fish, crustaceans (especially krill), squid and a wide range of other marine invertebrates.

Penguins visit land to breed and moult, and some inshore species return to land on

the Department of Conservation if a moulting penguin is in danger from dogs or other predators. Many records of unusual species visiting the New Zealand region are of wandering birds forced to come ashore in autumn to moult.

**Reading:** Davis, L.S. & Darby, J.T. (eds). 1990. *Penguin Biology*. San Diego: Academic Press.

**Spheniscidae**

most nights to roost. They have ritualised displays, and most give a variety of brays, trumpets and growls. Colonial breeders often engage in fights with neighbouring birds.

They usually lay a clutch of 1–2 whitish eggs each year; a few failed pairs attempt to re-lay. Nests vary from burrows for Little Blue Penguins and some Fiordland Crested Penguins to simple scrapes for most species. The King and Emperor Penguins build no nest and incubate the egg between the top of their feet and their body.

Penguins vary from solitary to colonial, some colonies being of millions of pairs. Eggs are small in relation to their body size, and have a long incubation period of 33–65 days depending on the species. Usually both sexes incubate, except that in the Emperor Penguin only the male incubates. Chicks hatch covered in thick down and are fed irregularly by both parents. In colonial species, chicks group together in crèches from about three weeks old until they have their natal moult into full feathers and leave the colony at 2–6 months old.

During the moult of 2–5 weeks in summer or autumn, birds look ragged and 'sick', as almost all the feathers are replaced simultaneously. During this time, the bird fasts and is unable to swim without getting waterlogged. If you find birds moulting, leave them alone, and do not return them to sea; contact

Harrison, P. 1987. *Seabirds of the World: a photographic guide*. London: Christopher Helm. Harrison, P. 1988. *Seabirds: an identification guide*. London: Christopher Helm. Murphy, R.C. 1936. *Oceanic Birds of South America*. New York: MacMillan. Serventy, D.L. et al. 1971. *The Handbook of Australian Sea-birds*. Sydney: Reed. Stonehouse, B. (ed.). 1975. *The Biology of Penguins*. London: MacMillan.

**78. BLUE PENGUIN** *Eudyptula minor*

Plate 19

**Other names:** Korora, Little Blue Penguin, Fairy Penguin (Australia)

**Size:** 40 cm, 1100 g

**Geographical variation:** Up to six subspecies have been recognised on the basis of back colour, flipper pattern and measurements, but recent genetic analysis showed only two clear forms; the Otago birds being closer to Australian birds than all the others combined. The superficially distinct White-flipped Penguin *albosignata* of Banks Peninsula and Motunau Island was not genetically distinct.

vagrants occasionally reach The Snares. Subfossil and midden remains indicate that Blue Penguins were widespread and common on the coasts of New Zealand in pre-European times.

**Population:** Widespread and locally common; the main breeding is on islands off eastern Northland, in the Hauraki Gulf, Great Barrier Island, around Cook Strait, on Motunau Island, around southern Otago and Foveaux Strait, and on the Chatham Islands.

**Conservation:** Protected native. Locally common on uninhabited islands and on remote parts of the mainland coast away from disturbance by humans, dogs, cats and mustelids, but a few persist in coastal urban areas such as around Wellington Harbour and Oamaru. Populations undergo severe crashes, and many dead birds are washed ashore in some years (e.g. eastern Northland in autumn 1974), probably as a result of food shortage or biotoxins.

**Breeding:** Laying is in July–December, with peaks in August and November. They lay 1–2 white eggs (56 x 43 mm, 54 g), 3–5 days apart. The nest is in a burrow, natural cavity or rock pile, or sometimes under driftwood. Some Blue Penguins nest in loose colonies near the shore, but others nest hundreds of metres from any other pair and can be over 500 m inland and above 200 m asl on some islands; some birds are even seen occasionally at 550 m near the summit of Kapiti Island. Incubation starts after the first egg is laid but may be only partial until the second is laid. Both sexes incubate with short shifts of 1–2

**Distribution:** Breed on the coasts of southern Australia, Tasmania and New Zealand. In the New Zealand region, Blue Penguins breed on the coasts and offshore islands of North, South, Stewart and the Chatham Islands. They are generally sedentary and are often seen in shallow inshore waters and harbours close to their breeding grounds. Some birds, especially juveniles, wander several hundred kilometres from their breeding or natal site; e.g. birds from Motunau Island have been recovered in Otago and Hawke's Bay, and

days, until the eggs hatch after 33–36–43 days.

Chicks are brooded for the first 10 days, guarded continuously for a further 1–3 weeks, guarded only at night for a further 3–4 weeks, and then in the final stages they are visited only briefly at night. Chicks fledge at 48–54–63 days old and at about 90% of adult weight. They are independent once they have left the nest. First breeding is at 2–3 years in both sexes. The oldest bird recorded in New Zealand lived over 19 years.

**Behaviour:** Blue Penguins are very vocal when they come ashore at night. They have a wide range of calls, from mewling notes, not unlike those of a cat, to loud screams, trumpeting and deep-toned growls. A complete body moult usually takes place at the breeding site for 10–18 days in December–March.

**Feeding:** Birds breeding on Codfish Island in October take mainly arrow squid and small (10–35 mm) fish, and a few octopuses. They feed mostly within 5 m of the surface but have been recorded diving to depths of 69 m.

**In the hand:** Males have longer and deeper bills than females, but because of the wide geographical variation in the size of Blue Penguins, sexing of birds from bill measurements is reliable only at particular breeding sites.

**Reading:** Banks, J.C. et al. 2002. *Notornis* 49: 29–38. Crockett, D.E. & Kearns, M.P. 1975. *Notornis* 22: 69–72. Dann, P. 1994. *Notornis* 41: 157–166. Gales, R. 1988. *Notornis* 35: 71–75. Kinsky, F.C. 1960. *Rec Dom Mus* 3: 145–218. Kinsky, F.C. & Falla, R.A. 1976. *Rec Nat Mus* 1: 105–126. Montague, T. 1985. *Emu* 85: 264–267. Van Heezik, Y. 1990. *NZ J Zool* 17: 543–548.