

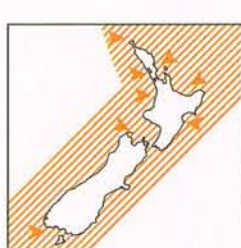
Large mainly black and white or brown and white seabirds. Streamlined body with long narrow wings and a long tapering tail. Conical bill, bare facial skin; fully webbed feet. Sexes alike. Juveniles and immatures darker than adults, taking several years to attain full adult plumage. Flight steady and direct; short periods of deliberate flapping and long glides. Feed on fish and squid caught by spectacularly diving into the sea, often from a considerable height. Often sit on the surface between feeding bouts. Gannets favour temperate and subtropical seas, whereas boobies favour tropical and subtropical seas. Gannets nest on the ground in large dense colonies; boobies nest on the ground or in trees singly or in loose colonies. Lay 1-4 plain pale eggs.

AUSTRALASIAN GANNET (Takapu) *Morus serrator*

Common native

89 cm, 2.3 kg. White with buff-yellow head and most flight feathers black (but not the three innermost secondaries or tertials as in Masked Booby); amount of black in the tail varies with age and moult, adults typically have only 4 central feathers black. Bill pale bluish grey; feet slate grey with blue-yellow lines on legs and toes. Juvenile is grey-brown spotted above, white with brown streaks below, and a dark bill. Adult plumage is attained over 3-5 years, head and underparts whitening first, whereas the rump and tail often remains blotched. **Habitat:** Breeds on many islands and some headlands around the NZ coast. Feeds mostly in coastal waters over the continental shelf. Most juveniles move to the seas off eastern and southern Australia and return when 3-7 years old. **Breeding:** Jul-Jan.

[Sp 88]



GANNETS and BOOBIES

Sulidae

9 species: 2 breed in the New Zealand region and 1 is a visitor to New Zealand waters.

Gannets and boobies are marine birds, mainly feeding close to shore rather than in open oceans. All plunge-dive – gannets for fish, boobies for flying fish. Whereas gannets are typical of temperate seas, boobies are typical

of tropical and subtropical seas. Breeding adults tend to stay permanently around their colony and in local seas, whereas non-breeders and young disperse widely.

Their bill is sturdy and cone-shaped, with its cutting edges serrated for seizing fish. The forehead is flattened, and much of the face is covered with bare skin. Three webbed toes,

sometimes with all or some skin brightly coloured. The sexes are alike, but juveniles take two to four years to gain fully adult plumage. They breed in colonies, and gan-

netries are particularly dense, mostly on islands and typically on the ground.

Reading: Nelson, J.B. 1978. *The Sulidae: Gannets and Boobies*. Oxford: OUP.

88. AUSTRALASIAN GANNET

Morus serrator

Plate 22

Other name: Takapu

Size: 89 cm, 2.3 kg

Geographical variation: Three species: *bassana* of the North Atlantic, *capensis* of southern Africa, and *serrator* of New Zealand and Australia. In recent years, *capensis*, which has a gular (throat) stripe 3-4 times as long as in *serrator* (from the base of the bill to the foreneck as opposed to from the base of the bill to the chin), has been recorded in increasing numbers in Australia and has interbred with *serrator*.

Distribution: Breed in New Zealand, Philip Island (Norfolk group) and Australia. In New Zealand, they breed in 28 colonies, from the Three Kings Islands south to Little Solander Island. In 1980-81, 99% were in gannetries on islands off the northern half of the North Island. The largest colonies are Gannet Island, west of Kawhia, with 8000+ pairs in 1980-81, and White Island. Three of the smallest are in the South Island – an islet in Waimaru Bay (Marlborough Sounds), The Nuggets (Otago coast) and Little Solander Island (Foveaux Strait). There are three mainland colonies; the Muriwai (West Auckland) and Cape Kidnappers colonies are on plateaus on coastal headlands, whereas the other colony has recently established on shellbanks near the tip of Farewell Spit. It grew from c. 75 breeding pairs in 1983 to c. 600 pairs in 1987.

Adults and a few juveniles range widely in New Zealand seas during the winter, mostly north of Cook Strait, but vagrants reach the Chatham and Auckland Islands, and Campbell Island (1968). Almost all juveniles and some adults disperse to coastal waters of Australia, as far west as the Indian Ocean and as far north as Rockhampton, Queensland. Most young New Zealand gannets stay in Australian waters until they are 3-7 years old, but a few return at the age

of 1-2 years. Of the 100-300 gannets beachwrecked annually, most are found on Northland coasts in November-February, during chick-rearing and with the departure of juveniles across the Tasman.

Population: National counts were 21,100 breeding pairs in 1946-47, 37,800 pairs in 1969-70, and 46,000 (of 53,000 pairs in the subspecies) in 1980-81. The annual increase over the 34 years was 2.3%. Excluded from the counts are the large number of immature birds in Australian waters.

Conservation: Protected native. Numbers are increasing rapidly, and mainland colonies have benefited from strict control of access by sightseers because breeding birds are easily disturbed.

Breeding: The breeding season varies from year to year and between gannetries, depending on latitude. Hauraki Gulf males return in mid-June, eggs are laid between late July and mid-October, and chicks leave the nest from late December. At Cape Kidnappers, they return in late July, eggs are laid in late September to December, and chicks leave the nest from early February.

The nest is a depression in a mound mostly of seaweed and guano. Nests are spaced out according to the striking distance of neighbouring sitting birds. They lay 1 pale blue-green chalky-covered egg (77 x 47 mm), which both sexes incubate under the webs of their feet for c. 44 days. The young leave the nest at 93-115 days old. Most cross the Tasman Sea soon after leaving the gannetries, arriving from January onwards. They first breed when at least 5 years old. The oldest banded bird in New Zealand lived over 30 years.

Behaviour: Usually solitary away from the colony, but loose flocks form over shoals of fish, and sometimes the birds commute in small flocks. Except when feeding in flocks, they are usually quiet away from the gannetry.

Feeding: Diet is mainly small fish such as pilchard, anchovy and jack mackerel from shallow water, and saury from deep water. Small squid are also taken. They are almost entirely marine, feeding primarily over continental shelf and inshore waters, but also enter harbours and estuaries.

They dive straight down from up to 30 m high. Just before hitting the water, they fully stretch their wings backwards, entering the

water at tremendous speed. Inflatable air sacs beneath the skin on the lower neck and breast cushion the shock of entry. In shallow water, such as surf, they dive at a narrow angle. Most prey is swallowed at the surface.

Reading: Fleming, C.A. & Wodzicki, K.A. 1952. *Notornis* 5: 39-78. Hawkins, J.M. 1988. *Notornis* 35: 249-260. Robertson, D.A. 1992. *NZ J Ecol* 16: 77-81. Wingham, E.J. 1985. *Emu* 85: 231-239. Wodzicki, K.A. et al. 1984. *Notornis* 31: 232-261.