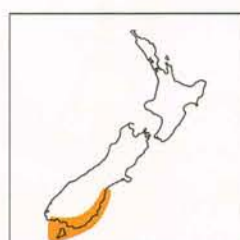


Shags are medium to large aquatic birds. Most are all black, or black above and white below. Bill long, strongly hooked at the tip. Upright posture when perched. Short legs; feet are fully webbed. Many have brightly coloured facial skin when breeding. Sexes alike. In flight, wings short and broad, and neck is extended. Swim with head held uptilted and body low in the water.

STEWART ISLAND SHAG *Leucocarbo chalconotus*

Locally common endemic

68 cm, 2.5 kg. Large pink-footed shag with pied and bronze phases and some intermediates. Pied phase is like King Shag, but caruncles orange and facial skin purplish; juvenile is brown above and white below, and usually lacks white patches on wings and back. Adult bronze phase is all brownish black with green and blue sheen, orange caruncles and purplish facial skin; juvenile is brown except for some white streaks on breast. Breeding birds develop long black crest on forehead and scattered faint white streaks (filoplumes) on head. **Habitat:** Coastal waters off southeastern South I and Stewart I. **Breeding:** Aug–Mar. [Sp 96]



SHAGS

33 species worldwide in freshwater and marine habitats; 12 species breed in the New Zealand region, including 8 endemic species.

In New Zealand, all members of the Phalacrocoracidae are called shags, whereas elsewhere the term 'cormorant' is used for members of the genus *Phalacrocorax*. Foot colour varies between the three genera in New Zealand: black in the mainly freshwater *Phalacrocorax*, pink in the marine *Leucocarbo*, and yellow in the marine *Stictocarbo*.

Shags are medium to large, long-necked aquatic birds with a stiff, wedge-shaped tail, and moderately short, rounded wings, which black-footed shags hold out to dry when perched. They feed by diving from the water surface to catch fish and crustacea with their long hooked bill. They use their webbed feet to swim underwater. The outermost toe is

Phalacrocoracidae

longest, and a web connects the inner toe with the long hind toe. In the breeding season, bare skin on the face becomes brightly coloured and contrasts with the eye and bill.

Shags sometimes feed in flocks, but they typically roost in flocks and breed in colonies on cliffs or rocky islets, or in trees overhanging water, sometimes together with other shags. They have an elaborate series of ritualised courtship displays at or near the nest, a bulky platform made of sticks or seaweed. Their eggs have a chalky encrustation on the surface. Both sexes share incubation. The chicks are naked at hatching but soon develop down. Both parents regurgitate food for the chicks. If a predator approaches, chicks in tree nests overhanging water will jump well before they can fly, but they are adept at climbing back up to the nest.

96. STEWART ISLAND SHAG

Leucocarbo chalconotus Plate 24

Other name: Bronze Shag (dark phase)
Size: 68 cm, 2.5 kg
Geographical variation: The two main colour forms, pied and bronze, interbreed freely. Birds breeding in Otago are much larger and

have more developed papillae above the bill than those in Foveaux Strait. The bronze phase predominates in the north, while the pied phase predominates in the south; a few birds have intermediate plumage.

Distribution: New Zealand only. Breed from Maukiekie Island (North Otago) to Foveaux Strait and around Stewart Island. About 15 colonies of 10–500 pairs are occupied each year. Numbers fluctuate widely at particular colonies, and some colonies are abandoned only to be reoccupied several years later. Colonies are on small islands and on sea cliffs on the mainland. After breeding, some birds disperse northwards to about the Waitaki River and west to Te Waewae Bay. A vagrant has reached The Snares.

a level platform about 0.5 m in diameter, made of twigs and seaweed and cemented with guano. The breeding season is long and variable, but laying is mostly in September–November. They lay 1–2–3 pale blue eggs (66 x 42 mm). There is no information on incubation or fledging periods.

Population: Moderately common around the southeastern South Island and Foveaux Strait. The total population is 1600–1800 pairs.

Behaviour: Sometimes roost on headlands and islands in huge flocks of 1000+ birds, particularly in April–May. They are silent away from their colonies, and only the male calls at the nest.

Conservation: Protected rare endemic. Stewart Island Shags are sometimes illegally shot by fishermen, and a few birds are caught accidentally in fishing nets. Numbers of birds at particular colonies fluctuate from year to year, making long-term population trends hard to assess.

Feeding: Diet in Otago is mainly bullies and seafloor-dwelling fish such as flounders and sole. Marine invertebrates such as crabs, shrimps, octopuses and polychaete worms are occasionally taken. Most food is taken in water less than 30 m deep, but they feed up to 15 km from land. Average dive times are 50–70 seconds, but the maximum recorded is close to 3 minutes. Rests between dives last 20–40 seconds.

Breeding: Nest in colonies on islands and on sea cliffs, sometimes only a few metres above high-water mark. The nest is usually

Reading: Lalas, C. 1983. PhD thesis, Univ Otago. Sansom, M.L. 1956. *Notornis* 7: 16–20. Watt, J.P.C. 1975. *Notornis* 22: 265–272.