

Aquatic birds with a small rounded head, short flattened bill, rounded body, short legs, webbed feet and a waddling gait on land. They fly strongly with neck outstretched. Sexes alike in swans and geese, but male ducks are usually more colourful than females. Lay large clutches. Chicks leave the nest within days but are guarded for several months until they can fly.

BLUE DUCK (Whio) *Hymenolaimus malacorhynchos*

Uncommon endemic

53 cm; ♂ 900 g, ♀ 750 g. Blue-grey duck with a pale pink bill, tipped with black flaps. Adult has yellow eyes, breast spotted reddish chestnut. Sexes similar. Juvenile has dull grey bill and eyes, and fewer breast spots. Uniformly grey in flight. Male call a whistling 'whio, whio' (fee-o, fee-o); female call a rattling growl; often call together in flight. Remain in territorial pairs all year. Seen standing on rocks or feeding with head and neck underwater. **Habitat:** Fast-flowing mountain streams and rivers, mainly in native forest or tussock grassland, occasionally on lakes. **Breeding:** Jul–Jan.



WATERFOWL

Anatidae

Swans, geese and ducks are found worldwide in freshwater and marine habitats. There are about 160 species, of which 14 (4 endemic, 4 native and 6 introduced) breed or have bred in the wild in the New Zealand region since 1920. A further endemic species (*Mergus australis*) became extinct in the early years of the 1900s, and another 6 species are vagrants to the region.

In New Zealand, most introduced and some native species of waterfowl are legally harvested during a strictly controlled shooting season. Each year, Fish and Game Councils determine the length and timing of the season and the allowable bag for each species, and monitor the licensing of hunters and annual hunting statistics. A voluntary organisation, Ducks Unlimited, works to create and protect wetland habitats suitable for waterfowl and is also involved in captive breeding programmes for some threatened and rare species.

All species have webbed feet for swimming in freshwater rivers and lakes, or in coastal waters. Their bill is modified for filter-feeding; water and food is sucked in at the tip of the bill and expelled through fine comb-like lamellae at the sides, which catch minute seeds and invertebrates. Although most feed in this way, some species mainly graze on aquatic or terrestrial vegetation and pick seeds (e.g. peas or wheat) off the ground, and the mergansers have serrated bills for catching fish.

Reading: Frith, H.J. 1982. *Waterfowl in Australia*. Sydney: Angus & Robertson. Madge, S. & Burn, H. 1988. *Wildfowl: An Identification Guide to the Ducks, Geese and Swans of the World*. London: Christopher Helm. Johnsgard, P.A. 1978. *Ducks, Geese and Swans of the World*. Lincoln: Univ Nebraska Press. Williams, M. 1981. *The Duckshooter's Bag*. Wellington: Wetland Press.

129. BLUE DUCK *Hymenolaimus malacorhynchos*

Plate 30

Other name: Whio
Size: 53 cm; males 900 g, females 750 g
Distribution: New Zealand only. They are mainly restricted to fast-flowing and turbulent rivers and streams in forested hill country or mountains, but are occasionally seen on mountain tarns or on sheltered harbours of Fiordland. In the North Island, they are found on rivers of the Volcanic Plateau and from the Raukumara Range to the northern Ruahine Range. A few may persist in the Tararua Range. They have been recently reintroduced to Egmont National Park. In the South Island, they are widespread on rivers of northwestern Nelson, the Paparoa Range and Fiordland, and in the headwaters of rivers in the Southern Alps, particularly on the western side. A few birds persist in Peel Forest at the headwaters of the Rangitata River, and in the Catlins.

Mt Taranaki back to their territory near Ohakune within a few days.
Population: c. 2000–4000 birds: up to 1000 in the North Island, mainly in and around Tongariro National Park, and up to 3000 in the South Island, widely scattered.

Colour-banding studies have shown that breeding birds remain on their territories for life, whereas juveniles disperse up or down their natal river and attempt to settle and establish territories close to their natal territory, but will occasionally shift between catchments, even including 1000 m ascents to cross mountain passes. The ability of Blue Ducks to home over long distances was shown by a pair that flew over 100 km from the young are initially covered in pale creamy-white and olive-grey down. They are quickly led to the stream by the female, and can swim and dive well in fast-flowing water. They are guarded by both parents during their 10-week fledging period. Chicks disperse from the territory soon after fledging. Breeding in their first year of life has been recorded, but most do not manage to establish a territory and obtain a partner until their second year. The oldest Blue Duck recorded in the wild lived over 13 years.

Conservation: Protected threatened endemic. The range and numbers of Blue Ducks have declined since European settlement, especially in the North Island. Clearance of lowland forest and some upland forest, grazing of riverside vegetation, and introduced predators have contributed to the decline. Introduced trout may compete for aquatic invertebrates, and the water flow of some rivers has been altered by hydroelectric dams. Blue Ducks are being bred in captivity for release into suitable habitats such as Egmont National Park.

Behaviour: Usually seen in pairs, occupying the same short stretch of river year after year. Records from the 1800s suggested that non-territorial birds sometimes flocked, but with declining numbers this is now not seen. They are usually seen in the early morning and late afternoon fossicking among rapids and small pools in the lee of large boulders, and

Breeding: Breeding adults remain on their territory all year. The nest is a simple bowl of twigs, grass and down in a hollow log, small cavity or under dense vegetation near a steep stream bank. Laying is in July–December, mostly August–October. Many late nests are replacement clutches. They lay 4–6–9 creamy white eggs (65 x 45 mm, 72 g) at 48-hour intervals. The female incubates for 30–35 days while the male stands guard nearby.

are rarely observed in flight. When they do fly, they fly low and direct by day, but at night they can sometimes be heard flying 50+ m above the ground. Their flight call, and the male territorial call, is a shrill, somewhat hoarse whistle: 'whio' or 'whio-whio'; the female has a rattling growl: 'cr-ack'.
Feeding: Blue Ducks dabble, dive and up-end in the rapidly flowing white water of mountain streams and rivers. Diet is almost entirely aquatic invertebrates; mostly caddisfly larvae, but also mayfly, stonefly and chironomid larvae obtained from the downstream sides of stones and boulders. They occasionally catch emerging adult insects on the surface and also take some algae and fruit.

Reading: Harding, M.A. 1994. *Notornis* 41: 293–295. Kear, J. & Steel, T.H. 1971. *Notornis* 18: 187–198. Williams, M.J. 1980. *Notornis* 26: 306–307. Williams, M. 1991. *Wildfowl* 42: 63–86.