

A large diverse group of birds of estuaries, coasts, riverbeds and farmland. Most are long-legged and feed in or near shallow water. Bill shape is varied; short and stubby in those (e.g. dotterels) that peck from the surface, but longer in those that feed in shallow water (e.g. stilts), or probe deeply (e.g. godwits). Flight strong and direct. Often form flocks while roosting or flying, but disperse to feed. Many species seen in NZ breed in the Arctic and arrive in September, with remnants of breeding plumage, and depart in March, often in breeding plumage. Most subadults and a few adults spend the southern winter here.

NEW ZEALAND SNIPE (Hakawai) *Coenocorypha aucklandica*

Locally common endemic

23 cm, 105 g. Small rotund richly variegated brown wader with long (5 cm) slightly drooping brown bill and short yellowish-brown legs. Head marked boldly with buff central stripe over head from forehead to nape, long buff eyebrows and brown line through eye; pale buff cheek patch, streaked darker. Upperparts heavily mottled with black feather centres and brown or buff edges. Throat, neck and breast buff, streaked brown. Female larger than male. Male calls a low 'terk terk terk' and 'queeyoo, queeyoo', but sometimes a ghostly whistle at night caused by vibrating tail feathers as air passes through the spread tail during aerial display. Confined to NZ subantarctic islands. **Habitat:** Forest and scrub of The Snares (*heugeli*), Antipodes (*meinertzhagenae*), Jacquemart I (Campbell I), and Ewing and Adams Is in the Auckland Is (*aucklandica*). **Breeding:** Aug–Feb. [Sp 191]



SNIPE, SANDPIPERS, GODWITS and CURLEWS Scolopacidae

About 79 species, of which 2 breed in New Zealand (non-migratory snipe) and 32 reach New Zealand as migrants for the northern winter.

Apart from stints (known as peeps in North America), these waders have a slender bill that is as long as or longer than the head. In curlews and godwits, the bill is sensitive and flexible at the tip, and the mandibles open during probing in soft mud or shallow water. All have long, pointed wings, rapid flight, a long neck, long legs and, for birds, a short tail. Their eyes are smaller than those of plovers and dotterels, as suits their more tactile, less visual, feeding. Gregarious when not breeding.

Their food has not been studied in detail in New Zealand. They take a variety of mudflat-burrowing crabs, small amphipod and ostracod crustaceans, polychaete worms and small gastropod and bivalve molluscs. Their diet includes insect larvae and pupae of crane flies (Tipulidae), midges (Chironomidae), beetles and flies; they may also take spiders and earthworms. They swallow grass, sedge and rush seeds, but whether by accident or design is not known for certain. The various species probe to different depths according to the length of their bill. Most of the rapid, vigorous, sewing-machine probing of medium and smaller waders is exploratory, as often is the slower, more careful probing of godwits, curlews or whimbrels.

The waders that migrate to New Zealand mostly breed in the arctic or subarctic tundra of the Northern Hemisphere and are strongly migratory. Those that breed furthest north tend to migrate furthest into the Southern Hemisphere, from the largest curlews to the smallest stints. The routes taken by the various species of wader are being elucidated by an extensive co-operative programme of banding and leg-flagging throughout the East Asian flyway. The New Zealand Wader Study

Group have caught over 4000 Arctic migrants in the Auckland area, and some of these have been marked, to enable resightings, with white plastic leg flags.

The first Arctic migrants arrive in September-October, but others trickle into the country through November. Most leave in March-April, but a variable proportion of the summer population stays behind to spend the southern winter in New Zealand; most are probably yearlings, as few adopt breeding plumage, and so the number left behind provides an indication of the success of the previous northern breeding season.

New Zealand is at the southern limit of many species, and some of the distances travelled are huge; it is possible that some of the migrants fly between New Zealand and China, Japan or the Aleutian Chain in a single flight, although most stop at least once to refuel. In order to undertake such a long journey, waders feed voraciously in the weeks before departure and often arrive late to their roosts. They lay down extensive fat deposits, their weight can increase to 50–75% above their normal non-breeding weight. On arrival, they are often exhausted and quite approachable, but quickly regain their condition. The adult Arctic migrants moult all their flight feathers during the southern summer, and so can be distinguished from juveniles, which do not moult or lose only a few feathers until the southern autumn.

The sexes are alike, but females are often noticeably larger than males. The non-breeding plumage, as is mostly seen in New Zealand, is dull, the upperparts mottled or a uniform brown and grey, the underparts paler, sometimes with streaks and spots. Before leaving and while breeding, they are brighter, many species becoming much more rufous above and rufous or black below. The age of first breeding is 1–2–3 years, and many birds live to at least 15 years old.

191. NEW ZEALAND SNIPE *Coenocorypha aucklandica* Plate 43

Other names: Hakawai, Hokioi
Size: 23 cm, 105 g
Geographical variation: Five subspecies; two of which are extinct: the Stewart Island Snipe *iredalei* died out on Jacky Lee Island when Weka were introduced and on Big South Cape Island when ship rats got ashore in 1964, and the Little Barrier Snipe *barrierensis* is known only from one caught on Little Barrier Island in 1870. The remaining three subspecies are *heugeli* on The Snares, *meinertzhagenae* on the Antipodes Islands and *aucklandica* on the Auckland Islands. The subspecific status of snipe on the Campbell Islands has not yet been determined.
Distribution: New Zealand only. New Zealand Snipe are now confined to subantarctic islands that mammalian predators have not reached. Snares Island Snipe are on the three largest islands in The Snares, Antipodes Island Snipe are on all islands in the Antipodes group, and Auckland Island Snipe are on all islands in the group except the main island, which has cats and pigs. In November 1997, a small population of snipe was discovered living on Jacquemart Island, off Campbell Island, but snipe had been recorded on Campbell Island in the 1800s.
Population: Common on predator-free islands in the subantarctic, but no estimates of numbers are available
Conservation: Protected locally common endemic. Snipe were present on the New Zealand mainland before European settlement, but probably died out with the arrival of the Pacific rat with the Maori, about 1000 years ago. Snipe nest on the ground, are confiding and rarely fly, and so are extremely vulnerable to ground-hunting predators such as cats, rats and Weka, all of which have been implicated in the recent extinction of snipe on small islands. The only introduced mammal that snipe have survived alongside is the house mouse on Antipodes Island. An attempt to save the Stewart Island Snipe by transferring them to a predator-free island in 1964 failed when the two birds caught died before release.

Breeding: Laying is in August–January, the season varying between island groups. The nest is on or near the ground, among dense vegetation such as tussock, sedge or fern. It is a simple depression in leaf litter, or a bowl of grass or sedge leaves. They lay 2 pale brown eggs (42 x 32 mm, 23 g) with dark spots and blotches. The eggs are laid 3 days apart. Incubation is shared equally by the sexes for c. 22 days. The chicks leave the nest on the day of hatching, and each is cared for independently by one of the adults. The chicks are fed entirely by their parents initially and remain with them for about 9 weeks. Snipe can breed at 1 year old, but most can not obtain a territory until 2–3 years old.
Behaviour: New Zealand Snipe prefer areas of dense groundcover, only venturing into more open areas at night. They are capable of flight but rarely do so unless disturbed at close range or when displaying. Although cryptically patterned and shunning open areas, snipe are confiding and allow close approach. Their presence is often revealed by the male territorial calls: 'terk terk terk' and 'queeyoo queeyoo', particularly at dawn and dusk. The extinct Stewart Island Snipe was apparently the source of the Maori legend of the hakawai or hokioi, a frightening creature that called only at night. This nocturnal aerial display, a call followed by the sound of vibrating tail feathers, is also given by the Chatham Island and Auckland Island Snipe and perhaps the Antipodes Island subspecies, but not by the subspecies on The Snares.
Feeding: Diet comprises a wide variety of invertebrates, including earthworms, amphipods, insects and their larvae. They favour damper areas of tussock, scrub or forest, where they get all their food by probing in the peaty soil and around the bases of plants.

Reading: Miskelly, C.M. 1987. *Notornis* 34: 95–116. Miskelly, C.M. 1990. *Ibis* 132: 366–379. Miskelly, C.M. 1990. *Emu* 90: 28–32.