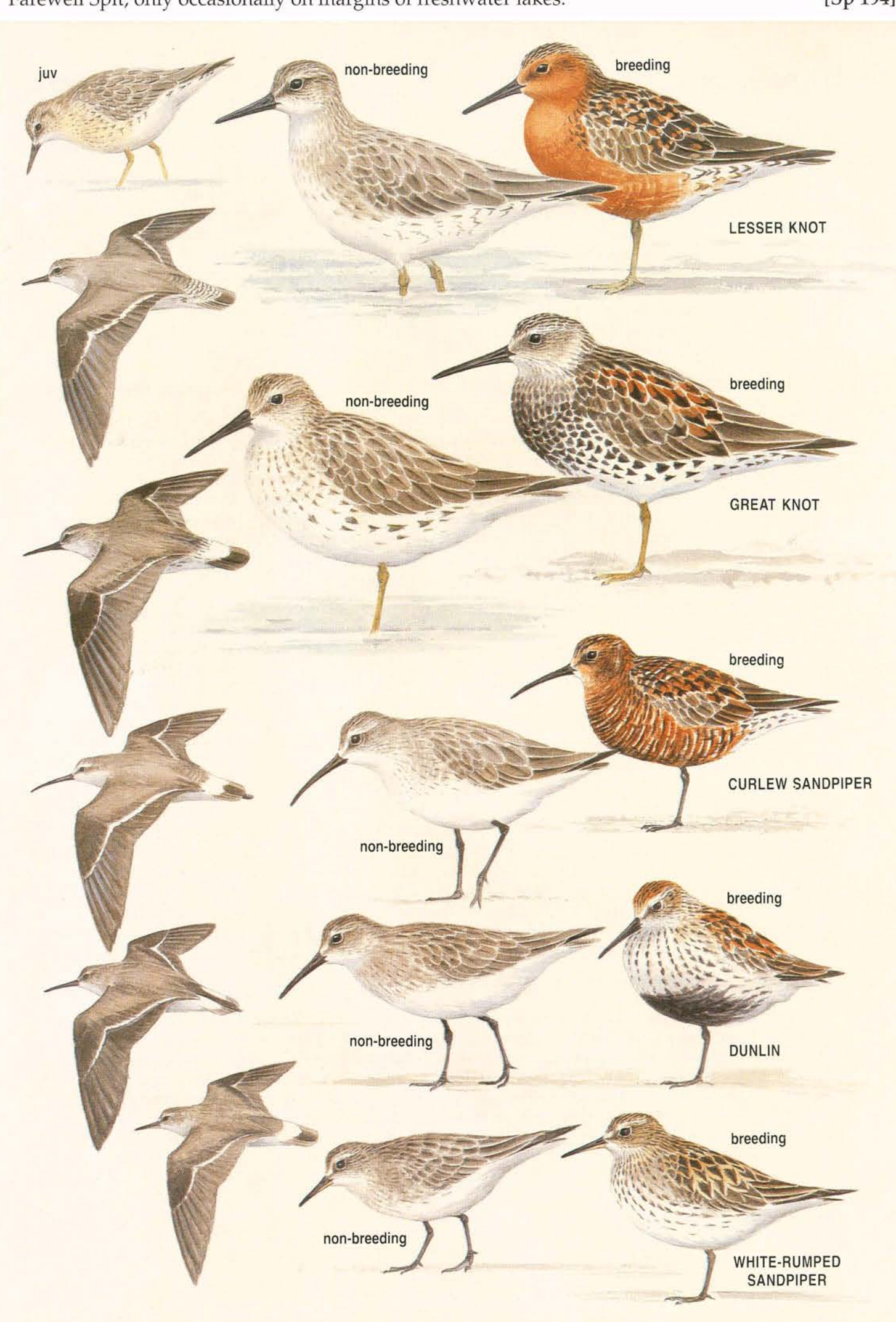


A large diverse group of birds of estuaries, coasts, riverbeds and farmland. Most are long-legged and feed in or near shallow water. Bill shape is varied; short and stubby in those (e.g. dotterels) that peck from the surface, but longer in those that feed in shallow water (e.g. stilts), or probe deeply (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.

LESSER KNOT (Huahou) *Calidris canutus*

Abundant Arctic migrant

24 cm, 120 g. A stocky rather nondescript wader with a heavy (3 cm) straight black bill and short dull green legs, but distinctive rusty red head and underparts in breeding plumage. Head and upperparts of non-breeding adult plain grey with paler feather edges, whitish eyebrow; underparts pale grey to off-white, with lightly speckled grey on neck, breast and flanks. Head, neck and breast of breeding adult become *rusty red*, and back black with rust and white speckling; females less richly coloured. Juvenile like non-breeding, but back more scaly with white feather tips and subterminal black lines. In flight, indistinct white wingbar, *pale rump barred white and grey*. Often seen in flocks and with Bar-tailed Godwits. **Habitat:** Breeds Arctic. Second most common migrant visiting NZ estuaries each summer; many overwinter. Favours northern and western estuaries, especially Kaipara, Manukau, Firth of Thames and Farewell Spit; only occasionally on margins of freshwater lakes. [Sp 194]



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.

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.

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.

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.

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 craneflies (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.

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 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

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.

194. LESSER KNOT *Calidris canutus*

Plate 44

Other names: Huahou, Red Knot
Size: 24 cm, 120 g
Geographical variation: Four or five subspecies: *rogersi*, which breeds on the Chukot-

ski Peninsula of eastern Siberia is the form that migrates to Australasia, including New Zealand.
Distribution: Breed in widely separated parts

of the high Arctic and winter in temperate and tropical estuaries of both hemispheres. In New Zealand, they are unevenly distributed around the coast, with large concentrations (10,000+ birds) regularly at the Kaipara and Manukau Harbours and at Farewell Spit. Flocks of 1000-10,000 birds are often recorded from Parengarenga, Houhora, Rangaunu and Whangarei and Waitemata Harbours, and the Firth of Thames. Smaller flocks of 250-1000 birds regularly spend the summer at Mangawhai Estuary, Tauranga Harbour, Manawatu Estuary, Golden and Tasman Bays, in Southland coastal lagoons and estuaries, at Paterson Inlet, Stewart Island, and at Te Whanga Lagoon, Chatham Island. Smaller groups, often mostly transients in September-October and March-April, are at other estuaries and coastal lagoons. A surprisingly rare bird on the Aotea, Kawhia and Ohiwa Harbours, Ahuriri Estuary, Avon-Heathcote Estuary and the Otago coast. A straggler to the Kermadec, Auckland and Campbell Islands. Usually 7-15% of summer visitors remain to overwinter, mainly in the Manukau Harbour.

New Zealand to eastern Siberia, starting in March-April, is apparently mainly through staging areas in the Gulf of Carpentaria and New Guinea, and then on the coast of China or Korea.

Population: Lesser Knots are the second most numerous Arctic wader to reach New Zealand: between 45,000 and 70,000 each summer. About 4000-8000 birds overwinter.

Behaviour: Gregarious; flying, roosting and feeding in packed masses. In flight, a flock will twist and turn like swirling smoke clouds. In New Zealand, Lesser Knots are usually silent, but feeding flocks and roosting flocks disturbed by the rising tide may keep up a subdued, not unmusical chatter. Birds in flight may utter a throaty 'knut, knut', and before migration they give a clear 'weet, weet' call. **Feeding:** Diet is mainly small (5-15 mm) thin-shelled bivalves *Myodora*, *Tellina* and *Nucula*, with other thicker-shelled molluscs (e.g. the cockle *Chione*) and gastropods, which are swallowed whole. They feed close to the tideline on intertidal mudflats and sandflats, often with Bar-tailed Godwits. A tactile rather than visual feeder, feeding as a flock with remarkable co-ordination, they rapidly drill soft mud or wet sand, with a sewing-machine action, head held low and bill nearly vertical.

Reading: Barter, M. *et al.* 1988. *Stilt* 12: 29-32. Piersma, T. 1991. *Stilt* 19: 30-36. Riegen, A.C. 1999. *Notornis* 46: 123-142.