

spread wing (in a few individuals visible as broad primary edging on closed wing) is *I. plumbea*. The solid black upper surface of the tail is present in both species of all ages; the banded lower surface of the tail and blackish upper surface of the wing, characteristic of all stages of *plumbea*, is also present in immature and juvenal stages of *mississippiensis*. Lack of conspicuous rufous in the spread wing is characteristic not only of all stages of *mississippiensis* but also occurs in some (not all) juvenal and immature individuals of *plumbea*. In juvenal plumage both species have banded tails, blackish secondaries and primaries, and streaked ventral surfaces, but the streaking is brown (somewhat rufescent) in *mississippiensis* and slaty in *plumbea*. Judging by the rarity of juvenal plumaged specimens, this body plumage is apparently molted in the first winter, and replaced by a feather coat essentially like that of adults, but the juvenal remiges and rectrices are retained. *I. mississippiensis* is known to breed in this immature dress. In both species it can be distinguished from the adult (definitive) plumage of *I. plumbea* (which it resembles) by white barring on the under wing coverts and white markings on the inner webs of the primaries (often also on the lower abdomen and thighs). In this plumage separating the two species would be difficult in the field, except for those *I. plumbea* showing rufous on the wings; in skins *I. mississippiensis* has much more white on the under side of the wings, is paler dorsally, generally shows some semi-concealed basal patches of white on the scapulars, and has the wing tips not extending beyond the tip of the tail (in *plumbea* they almost always extend well beyond). One character apparently separating the two species in all plumages (even the juvenal) is the color of the tarsi and toes. In life *mississippiensis* has the exposed front surface of the lower tarsus and the upper surface of the toes mainly dull grayish brown or dusky; in *plumbea* the tarsi and toes are wholly yellow to orange red (specimen labels; Friedmann, *op. cit.*; Sutton, *Condor*, 41: 45, 1939; Skutch, *op. cit.*: 25). In dry skins the tarsi and toes are dusky in *mississippiensis*, dull yellow in *plumbea*.

Of interest is the fact that in all plumages the tropical *plumbea* has considerably longer wings in relation to tail than the northern, probably more migratory, *mississippiensis*. Most skins of the latter (unlike the former) do not have the wings projecting beyond the tail; in life the wings (at least of perched adults) do so extend (see photographs in Sutton, *Condor*, 41: 43, 45, 1939). Despite its long pointed wings, *plumbea*, when on migration, spiraling upwards on thermal air currents, spreads its primaries so that the wing tips look oval, not pointed. Probably the same is true of migrating *mississippiensis*.

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**Additional eastern records of Ross' Goose (*Chen rossii*).**—The first records of Ross' Goose in the eastern Arctic were those of Hearne (S. Hearne. *A journey from Prince of Wales' Fort in Hudson's Bay to the northern ocean in the years 1769, 1770, 1771, 1772 and 1773*. 1795. Cited from new edition, J. B. Tyrrell [ed.], *The Champlain Society*, 1911.) at Churchill, Manitoba, in 1771. No additional reports were published until 1953, when conclusive evidence was obtained of the recent presence of Ross' Goose in the Hudson Bay area (Cooch, *Condor*, 56: 307, 1954; 57: 191, 1955). In 1956, Barry and Eisenhart (*Auk*, 75: 89–90, 1958) confirmed that nesting occurred at Boas River, Southampton Island, Northwest Territories. Additional records have since become available, indicating that the species is even more widespread in the Hudson Bay region than was formerly thought.

On 18 July 1960, MacInnes observed three downy young with a single adult about five miles inland from the mouth of the McConnell River, N. W. T., on the western side of Hudson Bay (60° 50' N, 94° 30' W). On 14 June 1961, Cooch discovered two nests containing three and four eggs respectively, less than a mile from the area where MacInnes saw the brood in 1960. In the course of banding operations in that locality in 1959 and 1960, six adult Ross' Geese were found among a total of 9,000 Blue Geese (*Chen c. caerulescens*, including *C. h. hyperborea*) trapped. One of the six Ross' Geese, an adult male banded 18 July 1960, was shot by a hunter on 12 November 1960, at Gum Cove, Calcasieu Parish, Louisiana, the first Ross' Goose reported taken in Louisiana since 1916 (G. Smart, *Wilson Bull.*, 72: 288-289, 1960).

Additional records were obtained from Southampton Island in 1960 by members of a Canadian Wildlife Service banding crew who saw four adults with goslings at the mouth of the Boas River (63° 40' N, 85° 45' W). They also saw Ross' Geese at Manico Point, 15 miles southeast of the Boas, and at East Bay (64° 00' N, 82° 10' W). A previous record of a Ross' Goose shot near Native Point in June 1953 by Toma, a Coral Harbour Eskimo, is thus lent strong support. N. G. Smith, of Cornell University, also reported a brood of Ross' Geese near Manico Point in August 1960, while MacInnes banded a family of two adults and three young at Boas River in 1961. One of these was shot on 24 October 1961, near Killarney in southern Manitoba.

Because of the large numbers of flightless geese handled during banding drives (up to 6,000 in one drive), because of the difficulty of distinguishing month-old Ross' Goose goslings from white-phased Blue Geese of similar size, and because their presence is not anticipated, immature Ross' Geese are rarely detected in banding operations.

Although there is only one definite record of a Ross' Goose being banded in the eastern Arctic and subsequently shot in a state of the Mississippi Flyway, a total of nine other birds banded originally as young white-phased *Chen caerulescens* have been reported as suspected Ross' Geese. Eight of the nine birds were banded on Southampton Island and were recovered in Wisconsin (3), South Dakota (2), Texas (2), and Louisiana (1), while the other, a bird from Eskimo Point, was taken in Kansas.

There have been scattered reports over the past 50 years of Ross' Geese being seen or taken in areas which are on the migration routes of the Blue Geese that nest in the Hudson Bay area. In addition to the two birds taken in southern James Bay (Cooch, *op. cit.*), others have been reported from Illinois, Missouri, Louisiana, Kansas, and Texas (summarized in Smart, *op. cit.*). In the autumn of 1961, one young-of-the-year was trapped in the course of netting operations at Sand Lake, National Wildlife Refuge, Brown County, South Dakota. MacInnes saw an adult Ross' Goose on the Refuge, while another was reported shot near the northeast boundary of the Refuge. Two more were reported taken near Brookings, Brookings County, South Dakota.

Three adults seen on Salt Plains National Wildlife Refuge, Alfalfa County, Oklahoma, by MacInnes on 12 November 1961 and by MacInnes and R. J. Hitch on 14 November 1961, are presumably the first reported for that state. The birds were feeding with a flock of several thousand small Canada Geese (*Branta canadensis cf. hutchinsii*). Another adult Ross' Goose was seen on 30 November at Laguna Atascosa National Wildlife Refuge, Cameron County, Texas, again feeding with a flock of small Canada Geese.

It may be, as Johansen (H. Johansen. *Revision und Entstehung der Arktischen Vogel-Fauna. Acta Arctica*, Fasc. VIII, Part 1, p. 98, 1956.) and Amadon (*Auk*, 70: 461, 1953) suggest, that *Chen rossii* is a relict form which formerly had a much wider distribution. Competition with the larger and more aggressive *C. caerulescens* may be suggested as a probable cause of the present restriction of the numbers and range of *C. rossii*, but knowledge of the breeding ecology of the latter form is so limited that this is little more than speculation.

All known nesting of Ross' Geese in the eastern Arctic has occurred along the peripheries of large Blue Goose concentrations, usually on small islets in lakes. There is good evidence that other species of geese nesting in such peripheral habitat receive heavier predation pressure from Arctic foxes (*Alopex lagopus*), Parasitic Jaegers (*Stercorarius parasiticus*), and Herring Gulls (*Larus argentatus smithsonianus*) (Cooch, unpublished; T. W. Barry, pers. comm.) than do similar species nesting in central portions of colonies or in better habitat. If the same predation pressures were exerted against Ross' Geese, average reproductive success would probably be too low to produce significant increases in Ross' Goose populations.

Because few hunters are able to detect the difference between flying Ross' Geese and white-phase Blue Geese, it is possible that the same shooting pressure is applied to both species. If that premise is correct, then approximately 30 per cent of the total eastern Ross' Goose population is accidentally shot each year.

The distribution pattern of Ross' Goose records on the Gulf Coast and during migration follows so closely that of Blue Geese and small Canada Geese originating from the western and northern portions of Hudson Bay, that it is probable that the birds involved come from McConnell River, Southampton Island, and possibly also from the Koukdjuak River area of western Baffin Island. It is not safe to assume that this represents a recent eastward extension of Ross' Goose range from the Perry River area. In view of Hearne's old records it is more likely that a very small population has always been present in the eastern Arctic, and that the recent increase in the number of observations merely reflects increased activity by ornithologists, particularly in the North.—C. D. MACINNES, *Department of Conservation, Fernow Hall, Cornell University, Ithaca, New York*, and F. G. COOCH, *Canadian Wildlife Service, 150 Wellington St., Ottawa, Ontario*.

**The first record of the Double-striped Thick-knee in the United States.**—On 5 December 1961, while making a survey of wintering geese on the Laureles Division of the King Ranch in Kleberg County, Texas, we came upon a Double-striped or Mexican Thick-knee (*Burhinus bistriatus*). It was feeding in brushy, dry grassland approximately 250 yards from the shore of the Laguna Madre, and some five miles from the nearest human habitation. It was alone, although several Long-billed Curlews (*Numenius americanus*) were feeding nearby. The bird was collected, and found to be a female, probably immature. Its stomach contained three beetles (two Scarabaeidae and one Carabidae), a weevil (Curculionidae), and the legs and other hard parts of several grasshoppers.

The skin was sent to the United States National Museum, where it was identified as *Burhinus bistriatus bistriatus* by Dr. J. W. Aldrich. The family Burhinidae is therefore added to the avifauna of North America as defined by the A. O. U. Checklist in its recent editions.—C. D. MACINNES, *Department of Conservation, Cornell University, Ithaca, New York* and E. B. CHAMBERLAIN, *U. S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, Maryland*.