NOTES ON LATHAM'S SNIPE *GALLINAGO HARDWICKII* IN JAPAN

Latham's Snipe *Gallinago hardwickii*, is a highly migratory bird which breeds only in Japan and nearby areas, and winters throughout eastern Australia. Though conspicuous in the breeding season because of its displays and calls, it is an elusive bird to study. Nesting birds invariably only flush when almost trodden upon and chicks are nidifugous, leaving the nest soon after hatching. Frith (1970) summarised their status in Japan. The aim of this paper is to update Frith's (1970) summary from information available to us.

Arrival and Departure

First sight records for the past 17 years have varied by only 12 days. From 1966 to 1973 Latham's Snipe was first seen at Bibai (Fig. 1) between 13 and 20 April (Fujimaki 1973). Since then, first sightings have been on 19 April 1974 and 20 April 1975. Observations after 1975 were then continued at Obihiro, where first sight records were 24 April 1976, 18 April 1977, 19 April 1978, 22 April 1979, 20 April 1980, 16 April 1981 and 19 April 1982.

Only a few departure records are available and they vary by almost a month. The single record for Obihiro is 30 August 1978 which compares with 3 records for Bibai of 22 August 1966, 16 September 1970 and 20 August 1971 (Fujimaki 1973).

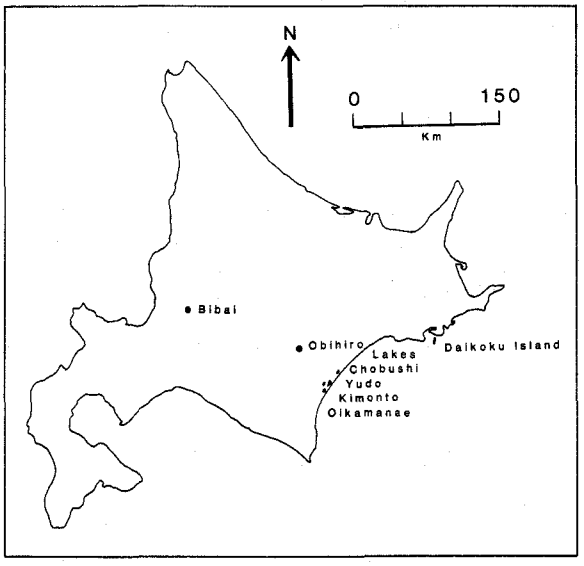

Figure 1. Location of places in Hokkaido mentioned in text.

Latham's Snipe does not flock before or during migration. Very little is known of its migration route in Japan although in central Japan they are seen mainly in cultivated fields (Aichi Study Group 1980). Banding as a means of discovering the migration route has been unsuccessful, for only 61 have been banded in Japan between 1961 and 1981 (Yamashina Institute for Ornithology, Tokyo, pers. comm.).

Distribution

Latham's Snipe nests mainly in Hokkaido (Fig. 2). Its distribution in central Honshu is restricted to mountain meadows but northwards it breeds at lower altitudes. Its breeding distribution and density in Honshu has contracted over the past 30 years, nests becoming increasingly difficult to find on the slopes of Mt. Fuji (Burns 1951; Ingram 1908; Wolfe 1954). In the survey of

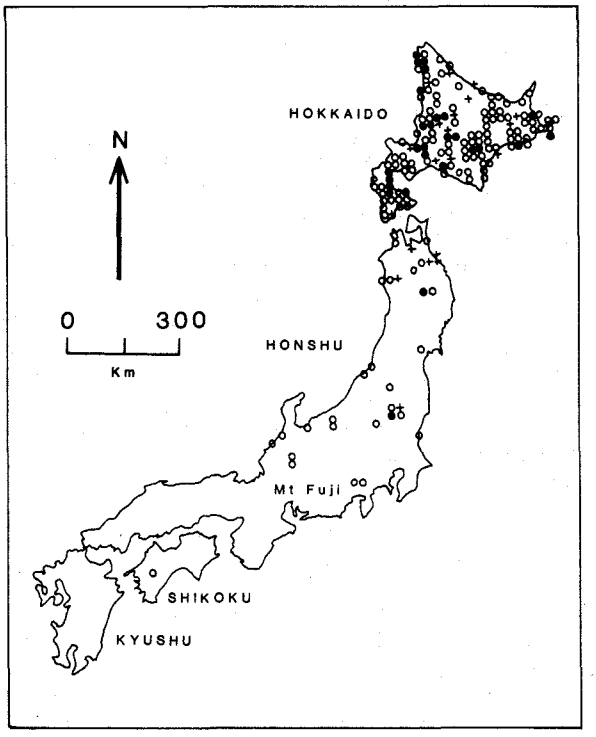

Figure 2. Distribution of Latham's Snipe in Japan based on field survey of 20 × 20 km quadrants. Closed circle, breeding confirmed; open circle, breeding not confirmed but probable; plus sign, Snipe present (after Environmental Agency 1979b).

Latham's Snipe in 1978 by the Wild Bird Society of Japan, no nests were found, although it was considered that it still bred in the Mt. Fuji area (Environmental Agency 1979b). Only one breeding record was obtained in 1978 for Honshu, the other in central Honshu shown in Figure 2 was obtained from a literature survey for the period 1974-78. The field survey consisted of 2,225 quadrants selected at random within areas of greater bird variety. Since the primary aim of the survey was to map the breeding range for each recorded species, some areas of Latham's Snipe may have been missed, particularly in Honshu. However, we consider that these areas are few. There seems to be no lack of habitat on Honshu, Shikoku or Kyushu although much natural habitat has been developed for urbanisation, agriculture and forestry.

Outside Japan, Latham's Snipe breeds on Kunashiri Island and is found on Shikotan Island in the southern Kurils (Nechaev 1969). Recently it was reported that it bred in Origa (43°N, 135°E.), Primorye territory of the U.S.S.R. (Elsukov & Labzyuk 1981). It was caught on Tyulenii Island, Sakhalin in September 1958 (Nechaev & Timofeeva 1980).

Habitat

Suitable habitat for Latham's Snipe covers about one-eighth of Hokkaido (78,000 km^2), including high alpine moors. Important habitats are dry areas in light shrubbery with dense undergrowth and agricultural land, including rough pastures and young tree plantations. Near the Obihiro University farm two birds were flushed on 26 May 1982 from Bamboo Grass *Sasa nipponica*, amongst sparsely distributed Oak *Quercus dentata*, approximately 6 m tall. A Snipe nest was found in this habitat in 1977. Latham's Snipe is frequently seen over developed and rough pastures at the University farm. Main pasture grasses are White and Red Clovers *Trifolium* spp, Timothy *Phleum pratense*, and Cocksfoot *Dactylis glomerata*. These form the typical pasture species on Hokkaido farms.

Marshland is not preferred breeding habitat. Where it occurs near lakes, Latham's Snipe prefers the drier hillsides or heath. At four coastal lakes (Oikamanae, Kimonto, Yudo and Chobushi), each approximately 100 m from the sea, hillside vegetation consists of Bamboo Grass amongst Oak *Quercus mongolica* and heath of short Sweet Briar *Rosa rubiginosa*. Very short grassland is not used, as Latham's Snipe requires cover for itself and its nest.

On the lower mountain slopes, Latham's Snipe is found amongst young Larch plantations *Larix leptolepis* between 2 to 3 m high, and above 900 m amongst Mountain Birch *Betula ermanii*. It nests in mountain meadows up to 1200 m and at such altitudes is not affected by snow, which usually melts in mid- to late March. Snowfalls may occur in late April but usually melt in a day. Birds have been displaying at 1600 m but they probably do not breed at these high altitudes.

Snipe also occur on offshore islands. On Daikoku Island in June 1982 they were commonly seen displaying over the grassy plateau and hill slopes. This island is 2 km long and up to 600 m wide and habitat of Latham's Snipe is Bamboo Grass, Rose Briar and the wild vegetable Fuci *Petasites japonicus*, amongst the occasional Larch. No nests were found in June but breeding has been reported by Fennell (1953). Birds displayed in all kinds of weather, including rain and fog, but more frequently in fine weather.

Numbers

Latham's Snipe is locally common and in fact is one of the more common species in grassland and savanna. (Fujimaki 1980, 1981; Fujimaki & Toda 1981).

Latham's Snipe numbers were surveyed by early morning transects, 100 m wide, at four locations along the Tokachi River near Obihiro. The habitat censused was semi-natural in that flood mitigation works had cleared parts of the river bed of shrubbery. More birds were counted in May (34 birds in 30 km) than in June and July (15 birds in 45 km), although the differences were not significant (Students *t*-test). In May, aerial activity and calls decline because of lessened breeding activity. Counts of the number of birds displaying and calling are a good indication of the number of pairs breeding, as has been found for Common Snipe *Gallinago gallinago* (Smith 1981). Our preliminary estimates in mountain meadows indicate a density of approximately 2 pairs per 400 ha.

Breeding

Only five nests in the last six years have been found near Obihiro and, except for one, were concealed amongst vegetation. Each nest contained a clutch of four eggs. Mean dimensions of 11 eggs (± S.E) were 44.2 (± 0.45) × 32.9 (± 0.62) mm, range 42.8 – 47.1 × 30.7 – 38.0 mm. The average weight of 8 eggs just one day prior to hatching was 20.6 (± 0.28) g.

Hatching occurred in late May or early June. The longest interval between discovery and hatching was 18 days. As eggs were already present in nests when first discovered, the incubation period is not known, although for Common Snipe it is around 20 days (Tuck 1972). Chicks hatched about one day after the first signs such as cracks or a minute hole appeared, and also the last egg hatched within 24 h of the first one. Direct observa-

tions showed that chicks left the nest 1 or 2 h after hatching, when the natal down had dried. The weight of one chick at this time was 15 g. The age at which chicks fledge is not known. Williamson (1960) and Tuck (1972) found that the Common Snipe flew when about three weeks old, although full growth was not attained until the seventh week.

Predators are Red Foxes *Vulpes vulpes*, and probably Weasels *Mustela sibirica*. In one instance a Red Fox was seen carrying a chick, which it dropped when approached. The eggs of birds nesting in agricultural and rough pastures are liable to destruction through trampling by livestock, chiefly cattle and horses (sheep are rare in Japan). Studies of Common Snipe in Europe have shown that there is a high annual mortality of adults of around 50% and of eggs and young throughout the breeding cycle (Mason & MacDonald 1976).

Latham's Snipe has finished breeding by the time pastures are ready for harvesting.

DISCUSSION

Latham's Snipe is widely distributed in Hokkaido and in the higher alpine areas of Honshu its habitat seems to be secure. In Hokkaido it is common on the vast, flat plains and hill slopes while the presence of rough pastures and replacement of forests with young plantations has provided it with alternative nesting habitat.

However, development has affected its numbers to an unknown extent. Widespread exploitation of Hokkaido started in the mid-nineteenth century and must have had a serious effect because a decline in numbers of Latham's Snipe was noticed by bird observers in Tasmania (Legge 1887; Littler 1910). Hokkaido is still widely regarded as a frontier land by the Japanese, although much development of the flat alluvial plains for agriculture has already occurred.

Little is known about the biology of Latham's Snipe as it has elusive habits and it is difficult to trap and band. Even in Australia, where they sometimes congregate in loose flocks around swamps, they are difficult to mist-net (Lane 1978; Milledge 1975). Nothing is known about the effects on Snipe of the vast amounts of pesticides and fertilisers used annually on the small Hokkaido farms. Articles about Latham's Snipe in Japanese are descriptive and concern mainly its aerial behavior, habitat description and nesting (Environmental Agency 1979a). At present its status is secure but, in the face of continual development of Japan, research is needed on the distribution of Latham's Snipe in relation to food and habitat. These aspects are currently being pursued.

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