

Miscellaneous observations of the feeding behaviour and plumage of the Latham's Snipe

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Latham's Snipe *Gallinago hardwickii* is considered to feed primarily under crepuscular conditions. Observations recorded in this note describe diurnal feeding and resting behaviour in a range of habitats of anthropogenic origin. When resting, the lid of the closed eye appears to enhance the cryptic pattern of the plumage. These observations provide insights into opportunistic foraging strategies adopted when the preferred wetland feeding areas dry out during summer.

INTRODUCTION

Latham's Snipe *Gallinago hardwickii* is described as a crepuscular species, which while predominantly found in freshwater swamps and water meadows, will, under appropriate conditions, frequent other vegetation types up to 100m from water (Higgins *et al.* 1996). Most people's experience of this species is of a flushed bird flying rapidly away uttering a harsh grunt before dropping and disappearing into dense cover. During the last 16 years I have lived on a 1.6ha property at Woodville (32° 40' S 151° 38' E) which has a large dam, interconnected to three other dams on adjacent properties. Snipe were present during the initial inspection of the property and for each of the subsequent 16 summers, with a maximum count of eight. Co-habiting with Latham's Snipe provides a unique opportunity to obtain new insights into the behaviour of this elusive species.

On several occasions, including two successive nights in November 2008, I noted snipe leaving the dams and flying towards the nearby Butterwick Floodplain. These observations are consistent with the hypothesis that the snipe feeds out on the floodplain under crepuscular conditions and that diurnal use of the dams is for resting in the surrounding cover. However, the observations reported in this note demonstrate that Latham's Snipe under suitable conditions feeds diurnally and is surprisingly opportunistic in exploiting a range of short-term foraging opportunities.

FIELD OBSERVATIONS

While most of the observations of snipe involved birds flushed from the margins of the dam they were also seen well away from the dam in the vegetable patch, mulched shrub beds and in open areas of mown grass where the birds appeared to be feeding by probing with their bill into firm ground. Unfortunately systematic records were not kept. However, it appeared that the exploitation of these more unusual habitats occurred with increasing frequency between January and migration in March, particularly after periods of heavy rain. Consequently I decided to focus on the prevalence of this behaviour during the summer of 2009.

In the early afternoon of 2 January 2009, three Latham's Snipe were flushed from areas of mowed grass up to 75 metres from the dam. During the subsequent four days one or more snipe were flushed, either as a group or individually, from the same area at various times of the day. The ground was firm and there had only been approximately 10mm of rain during the previous two weeks.

The next five-week period until 10 February was dry culminating in a week of uncharacteristically hot weather with maximum temperatures as high as 40°C. During this period one or two snipe were flushed from the margins of the dam, particularly from an area of mud exposed by the rapidly falling water level. This area could not be observed

without flushing the birds and it was not possible to determine whether foraging was occurring. No sightings were made away from the dam.

After a period of rainfall on 11 February a snipe was observed in a mulched native shrub bed approximately 20 metres from the house and 35 metres from the dam at approximately 1340 hours. Detailed observation using a Leica telescope commenced at 1349 hours when the snipe spent approximately 2 minutes constantly probing with its bill in a manner reminiscent of the stitching action used by Red-necked Stint *Calidris ruficollis*. Most probes involved insertion of about one third of the bill, but occasionally the bill was fully inserted. At least two earth worms were extracted and then swallowed during this period. A piece of vegetation was lodged in the bill during this process and removed using a foot.

The snipe then rested, standing on the mulched ground under a small tree. The head was rotated with the bill positioned down the back of the bird. The snipe then periodically closed its eye by raising its lower eyelid. Initially the periods of closure were quite short, up to 4 seconds at a frequency of around 10 seconds, but the bird appeared to become more relaxed with the eye being closed for up to 26 seconds and open for 8 seconds. The colour of the lower eyelid is buff which enhances the cryptic characteristics of the plumage. With the eye open there is a black stripe from the lores to the front of the eye and two dark stripes extending behind the eye (Higgins *et al.* 1996: see Plate 1 opposite p. 64). When the eye is closed the black line from the lores becomes bifurcated into two continuous dark lines either side of the closed eye. The buff eyelid blends with the feathers on the cheek behind the eye to provide a uniformly coloured triangular patch between the bifurcated dark stripes. It is suggested that this effect, which does not appear to have been described previously, enhances the cryptic pattern of the plumage.

At 1342 hours the snipe walked onto the grass and then flew about 10 metres to another mulched bed close to the house which was being used as the observation post. The snipe left this bed almost immediately and walked about 25 metres across an area of short grass to another mulched shrub bed probing occasionally but not appearing to obtain any food or showing any inclination to forage seriously. On reaching the mulched ground the snipe foraged actively using similar tactics to those described above. At least three earthworms were eaten before the snipe commenced an extended

period of rest at 1353 hours, standing in the open on the mulched ground at the end of the shrub bed and remaining motionless for in excess of one hour.

Prolonged periods of heavy rain during the subsequent week resulted in over 250 mm of rain, a record February fall for the area. The dams overflowed and areas of the Butterwick Floodplain were inundated. Subsequent to the rain one or two snipe were occasionally flushed from areas adjacent to the dams, which were at capacity, but were not seen in other habitats.

DISCUSSION

The dominant food sources found in the stomach contents of Latham's Snipe sampled at Raymond Terrace, which is about 20 km from the location of these observations, were plants 60.3% and animals 39.7% by volume (Frith *et al.* 1977 cited in Higgins *et al.* 1996, p.33). Earthworms constituted 77.8% of the animal component of the diet. At a second location, Cooma-Jindabyne, animals were 56.3% by volume of the diet, 96.9% of which was earthworms. Clearly earthworms are a very important food resource for Latham's Snipe providing 30.9% and 54.6% of the diet respectively at the two locations.

The following explanation is offered for the observed foraging behaviour of Latham's Snipe. When snipe arrive at the end of winter the dams are relatively full and the ground on the Butterwick Floodplain is moist providing the crepuscular feeding opportunities preferred by this species. The dams predominantly provide diurnal shelter for resting. During dry periods in summer foraging on the floodplain becomes more difficult and the snipe seek supplementary diurnal feeding opportunities in the vicinity of the dams. These include foraging on the exposed mud margins as the water level in the dam falls. After heavy rain the mulched shrub beds and the vegetable garden become a lucrative source of earthworms, an important food resource, and are immediately exploited as a foraging option. During dry periods the shrub beds may be unsuitable for foraging as a consequence of the hard ground and the worms being further from the surface. Under relatively dry conditions the grass areas appear to become an option of last resort which is exploited in preference to the mulched shrub beds. In view of the previous comments concerning the hardness of the ground and the depth of worms it is speculated that the snipe are exploiting an alternative food

resource. One possibility is that they are probing into cracks for spiders and insects rather than earthworms. Initially it was thought that diurnal feeding in an extended range of habitat types was associated with the need to obtain supplementary food intake to build up body weight pre-migration. However the observation of this behaviour in January 2009 more than two months before migration is not consistent with this hypothesis.

Latham's Snipe usually occur singly or in small loose groups, occasionally gathering in larger groups of several dozen (Higgins *et al.* 1996, p. 30). The experience related in this note is consistent with this summary and also highlights the ready use of modified or artificial habitats (Higgins *et al.* 1996, pp.30-31; McGarvie *et al.* 1974). On this basis the exceptionally high numbers of Latham's Snipe sometimes observed at the Pambalong Nature Reserve (e.g. 475 recorded 20 December 1997, cited in Stuart 1998) are an abnormal phenomena which can be plausibly explained by the gradual deterioration of some of the many local niches supporting snipe, such as the one described in this note, during very dry summer conditions. Consequently the numbers generated

by the Hunter Bird Observers Club's Annual December Snipe Count at Pambalong Nature Reserve are primarily an indication of the suitability of the many local sites which normally support the dispersed population of Latham's Snipe, rather than an indication of population change. However it must be stressed that these occasional large accumulations of snipe highlight the essential need for drought refuges for this species.

REFERENCES

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