

Behaviour of an incubating Woodcock

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INTRODUCTION

In his well-known paper on the breeding habits of the Woodcock *Scolopax rusticola*, Steinfatt (1938) records: 'The brooding female only rarely changes her position during the day; she lies for hours on the nest motionless. There seems to be a sort of rigidity, which overcomes the female. It obviously serves the purpose to reduce smell and so the possibility of being observed. Only twice a day, in morning and evening twilight, the female leaves the nest, in order to find food, for a total time of an hour'. A report on the European Woodcock (Shorten 1974) states that 'Steinfatt's description of behaviour at the nest seems to have been the basis for many subsequent accounts'. Also Vesey-Fitzgerald (1946), writing of his own experience in Surrey, says, 'I do not think that, unless disturbed, a sitting Woodcock leaves the nest during the day'. As circumstantial evidence had led me to believe that a sitting Woodcock did leave the nest and feed by day, I decided to attempt a prolonged watch on an incubating bird.

THE NEST SITE

The nest was in woodland, about 5 km north of Haywards Heath, West Sussex, on a hill-side sloping down from the main London to Brighton railway line to a stream at the bottom of the valley. The section of the wood concerned had been cleared of undergrowth and mature ash *Fraxinus excelsior* in 1972/73 leaving only standard oaks *Quercus*. Re-planting with mixed conifers had taken place in 1973/74 in the open areas but not immediately round the nest, which was under the canopy of a group of six mature oaks, the lowest branches being 5 or 6 metres from the ground which here carried a thin growth of brambles *Rubus fruticosus* and bracken *Pteridium aquilinum*: but around the small conifers were only short grasses and a variety of perennials which had not made much growth by the end of March. Along the stream, which was some 35 metres from the nest, was a broad ride in which were patches of bare earth, short grass and, in the wetter parts, tufts of *Juncus*. From the hide looking downhill towards the nest, I could see part of the ride and a considerable area of re-planted ground to the right. To the left, the fall of the ground obscured the view both of the ride and the re-planted areas.

THE NEST

The nest, with four eggs, was found during the afternoon of 5th March 1975. As the eggs hatched during 23rd/24th March, and

presuming an incubation period of 22.3 days, which Morgan and Shorten (1974) give as an average, the clutch was probably completed on 2nd March, which is an unusually early date. Roding also began early. Witherby *et al.* (1940) gave 26th February as the earliest date but I started watching for the beginning of roding on 1st February, about 175 metres from the site of the nest, and on 3rd February I noted six flights in eleven minutes; it was not until 6th February, however, that I heard the croak as well as the 'tis sik' call.

OBSERVATION TECHNIQUE

Although it is well known that an incubating Woodcock will accept a hide placed close to the nest and Steinfatt (1938) built a hide only two metres from the nest he watched, it does not follow that the bird is behaving naturally merely because it continues to incubate. I judged it better to erect the hide some 9 metres from the nest. The bird could be adequately seen without removing any vegetation, but after three days I removed three stalks of bramble about 5 metres from the nest and, on 22nd March, two more sprays of bramble a metre in front of the nest in anticipation of hatching. After finding the nest, we did not flush the bird again nor was it approached closer than 9 metres. There was some evidence to suggest that the bird's natural activities were inhibited even by looking at it through binoculars over the top of the hide. The hide could be entered and vacated without the occupant being visible to the bird. The structure was made of stout canvas which did not flap in the wind and also muffled slight noises within. Binoculars were used to see details of the bird and the lenses were held well back from the opening to avoid catching the bird's attention.

THE WATCH

Watches were kept on a shift basis by W. H. Lambert and myself and were restricted almost entirely to the daylight hours affording reasonable visibility. Each group of three consecutive days of observation was followed by a day on which no watch was kept. From 19th to 23rd March I undertook the watching alone, and was able to check that the established pattern of daytime activity continued unchanged. On the afternoon of 23rd March T. W. Parmenter kept watch and on 24th March, the last day, W. H. Lambert and I took turns in the hide. A total of about 125 hours was covered and details appear in table 1.

THE OBSERVATIONS

Absences from the nest

Table 1 shows the times at which the bird left the nest and the duration of its absence. In some cases extraneous circumstances most

Table 1. Incubating behaviour of Woodcock *Scolopax rusticola*

All times are GMT. Times marked with a asterisk were influenced by extraneous events

Date (March 1975)	Hide occupied at	Bird left nest at	Period of absence (mins)	Hide vacated at	Remarks
7	08.10	11.45	23	18.30	hide not occupied 13.30-14.00
8	08.35	14.42	23	18.15	bird absent when hide first
		17.30	24		occupied 08.35, returned 09.45.
9	08.35	15.17	—	16.30	hide not occupied 12.45-14.00, bird had not returned at 16.30
11	05.35	08.52	58*	18.10	change over at hide, whilst bird absent, at 09.10
		13.24	30		
		17.30	30		
12	06.50	08.55	40	18.10	
		11.55	30		
		14.22	25		
		16.40	38*		bird back on nest before being noticed
13	06.52	08.37	26	18.10	
		10.45	25		
		13.10	25		
		16.40	30		
15	06.50	08.06	40	18.10	
		11.25	25		
		13.00	22		
		14.42	39		
		17.16	22		
16	06.45	07.51	31	18.10	
		10.35	33		
		13.23	46*		someone near nest
		17.10	28		
17	07.00	08.23	46*	18.00	Stoat near nest at 09.08
		11.55	32		
		14.16	25		
		16.35	34		
19	08.30	11.54	—	12.00	hide vacated before bird re- turned
20	08.30	08.45	22	16.25	hide not occupied 11.50-13.00
		11.22	22		
		13.50	23		
		15.03	14		
22	07.50	08.16	25	16.40	hide not occupied 11.00-12.40 hide vacated before bird returned
		10.56	—		
23	08.47	11.50	—	17.20	hide not occupied 12.00-12.55, bird off nest at 08.47, returned at 09.27

probably affected the length of absence, such as people walking through the wood or a change of occupant in the hide. These are noted in the last column of the table. The times of departure from the nest may have been similarly affected but this was not obvious except perhaps during the first three days of the watch when we may not have been sufficiently cautious when looking at the bird from outside the hide and also the bird itself was not fully used to the presence of the hide. On the last day, 24th March, when the eggs were hatching, and up to the time of departure of the chicks, the bird's behaviour changed and it left the nest more frequently and for shorter periods. This is set out under '*Hatching and departure of the young from the nest*' and is not included in the table. Ignoring those periods of absence from the nest when the bird was assumed not to have returned as soon as usual because of some extraneous event (marked with an asterisk in the table), 28 fully observed periods of absence averaged 27.4 minutes (range 14-40).

The normal daily pattern, during hours of full daylight, appeared to be four absences from the nest at average intervals of about 2 hours 35 minutes. On one occasion there were five absences but these were not of shorter duration. On the two days before hatching absences were less frequent; the bird sat throughout each afternoon.

Behaviour off the nest

The bird left the nest to feed and this occupied nearly all its attention when off the nest. Before actually leaving the nest it would turn its head quietly from side to side with an interval of up to several seconds between each turn. At first the head would not be raised to its full extent but before the bird stood up and walked away the neck was usually fully extended and the head turned two or three times more quickly. The bird then stood up and walked about 30 cm towards the hide before turning to left or right and continuing on foot to the edge of the open ground where it began to feed. It was not seen to travel more than 30 metres from the nest. On four occasions the bird walked only a short distance, from 0.5-4.0 metres, and flew to its feeding ground. Twice the bird continued on towards the hide after leaving the nest and came within a metre or so of it. Almost all feeding was done in the open, that is either on the ride by the stream or among the small conifers, so that it was quite often easily visible. The bird mostly probed at an angle, not pushing its bill vertically, and, after three or four probes, the bill was fully withdrawn and the bird could be seen to be swallowing something. The head was rapidly moved back and forth to assist in transferring the food to the gape, the action resembling that of a feeding Snipe *Gallinago gallinago*. It was sometimes possible to see that the food consisted of a worm which on occasion was so large as to take some

effort to pull from the ground. Apart from worms, other food items taken were too small and too rapidly ingested to identify. Although probing was rapid and more or less continuous, the bird seldom covered a large area and might spend ten minutes in a few square metres. Now and again it impaled an oak leaf which was brushed off the bill with its foot.

The bird preened infrequently when off the nest. On one occasion it stood for at least five minutes preening its breast, tail and wings and rubbing the crown of its head on its back. Most preening took place on the nest.

Only once was a second Woodcock seen on the ground near the nest. At 08.53 hours on 13th March, the sitting bird had left the nest and was out of sight. A Woodcock flew up the ride, close to the ground and alighted opposite the hide. It raised its tail and there was a flash of white from the tips of the tail feathers. At this moment a second bird followed it and alighted as the first flew off. It stood about for three minutes before feeding, then walked back down the ride the way it had come, until out of sight. It is likely that this was the incubating bird, which returned to the nest from that direction within six minutes.

As the feeding period drew to an end the bird would begin to walk in the direction of the nest, feeding as it went until reaching the brambles and bracken within a radius of 5 or 10 metres of the nest. Then it normally walked quickly forward and sat down without pausing. Once it flew back to the nest area and landed and almost immediately a Stoat *Mustela erminea* was seen emerging from the immediate vicinity of the nest. The Stoat moved away and the bird quickly went on to the eggs.

When the Woodcock settled on the eggs there was always a certain amount of shuffling. Sometimes the bill was poked downwards and at times partly under the body. This was also done whilst sitting, and it was difficult to decide whether this was to turn the eggs or not.

One curious trait when off the nest may be mentioned. Now and again the bird bobbed vertically up and down as if on springs. At first one likened this to the action of a Common Sandpiper *Tringa hypoleucos* but that bird rocks more as if pivoting on its legs. Pettingill (1936) refers to this at some length in his book on the American Woodcock *Philohela minor* and exactly describes the motion we saw. He dismisses the idea that 'the bird first located the worms feeling, through its feet, and then followed this by probing with its bill' as suggested by another American writer. He himself believed it to be 'a nervous action resulting from fear or suspicion'. In the bird I watched I did not feel either explanation was valid. It bobbed and then as often as not walked on without probing; it bobbed several

times during a period when it was watched feeding for perhaps ten minutes and nothing seemed to have occurred to make it suspicious. On the other hand, if it was alarmed, it immediately 'froze'.

Behaviour on the nest

Far from remaining immobile on the nest, the bird changed position, usually by 90°, every hour or so. Sometimes only ten minutes elapsed and now and then, having changed position and settled down, the bird immediately changed again. A change was normally preceded by some head movements comparable to its activity before leaving the nest, but on a smaller scale. Each change was followed by shuffling and often the bill was poked downwards in front of the breast as on returning from a feeding trip. After the first shuffling, the head would sink lower and then perhaps more shuffling until it appeared fully relaxed. At this point the bill was usually buried in the scapulars and entirely hidden; the eye visible from the hide would be at least half closed, and now and then appeared fully closed. Quite often the bird preened the tail, back and breast feathers, probing vigorously.

Occasionally it appeared to be alerted by possible danger, in which case the head was fully raised and the eye wide open. It so remained for a few seconds before relaxing.

Hatching and departure of the young from the nest

Hatching was completed during 24th March. On 22nd March the bird was not seen to leave the nest after 10.56 hours, although it left then and once earlier at 08.16 hours. On 23rd March it was off the nest when the hide was first manned at 08.47 hours and it went off again at 11.50 hours but not during the afternoon. Unfortunately the hide was not occupied on 24th March until 12.30 hours when WHL noted that it quickly became apparent that the bird was 'very fidgety' and evidently hatching was well under way if not complete. The bird left the nest to feed at 13.37 hours when it could be seen that two young were hatched and the third either hatched or finally struggling out of the shell. Only three eggs hatched. The bird was absent only six minutes. At 14.15 hours the bird left the nest and, despite a change-over at the hide whilst it was away, it was back on the nest in 14 minutes. At 15.00 hours it was off the nest again and feeding towards the hide, but was back within 11 minutes, collecting one chick that had scrambled out of the nest cup and covering it in the nest with the other two. At 15.43 hours the bird left the nest but went only a metre or so and in two minutes was back; this time two chicks were out of the nest.

At 16.27 hours the bird again left the nest and immediately began

feeding itself, and the three young followed. How far they went could not be seen. As the last one stood on the rim of the nest it seemed to be calling as the bill opened repeatedly, but at this time, and indeed throughout the entire period 7th-24th March, no sound was heard from the adult or the chicks. I saw the adult again 23 minutes later feeding about 3 metres from the nest and, four minutes after that, I saw her brood the three chicks. The bird moved on again at 17.06 hours, she feeding, the young following, but in another two minutes she was lost to my view in a thicker patch of undergrowth.

I did not see them again in the next half hour and I assumed they were moving away in a direction where it would be impossible to see anything from the hide, so I left it without searching for them. I returned the following morning to examine the shells and quite unexpectedly flushed the adult from the three young no more than 2 or 3 metres from where they were last seen the previous night. They were thus still within 10 metres of the nest nearly 24 hours after hatching. The fourth unhatched egg proved to be damaged. The adult was not seen to touch the hatched shells at any time. C. and D. Nethersole-Thompson (1942) state that shells are normally allowed to remain in the nest but give records of one or more shells being removed.

The shells of two of the eggs plainly showed that in hatching they had split along the long axis; but at another nest three eggs opened in the more usual way and one along the long axis. Lengthwise splitting of shells at hatching is reported as a characteristic of the American Woodcock but there are not enough records to show that it occurs as frequently in the case of the European Woodcock (see Shorten 1974, p 43).

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SUMMARY

To test a widely held belief that an incubating Woodcock *Scolopax rusticola* does not leave its eggs during the day, a nest was studied from a hide over a period of 18 days until the young left the nest. Observation was confined to daylight hours. The bird was seen to leave the nest on, usually, four occasions each day for an average of 27.4 minutes (range 14-40). On one day it was off the nest five times but on the two days before hatching it left only twice. Incubation seemed to be undertaken wholly by one bird. A second Woodcock was seen on the ground only

once and then at a distance of about 30 metres from the nest. The incubating bird was watched for much of the total time it was off the nest. It was not seen to travel more than about 30 metres from the nest and nearly all its time was spent feeding in short grass, though occasionally it preened. Feeding behaviour, food taken, activity on the nest and the departure of the young are described. Emphasis is placed on watching the nest in such a manner as to cause as little disturbance to the bird as possible.

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