

SOME BREEDING-HABITS OF THE
SPARROW-HAWK.

(6) LAYING AND INCUBATION.

BY
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IN a previous series of articles in *British Birds*, Vol. X., on the Sparrow-Hawk (*Accipiter n. nisus*), some mention is made of the intervals in laying and the period of incubation, but some amplification of those notes may prove interesting. It is there stated (*t.c.* p. 26) that laying takes place on alternate days; as a general rule there is an interval of forty-eight hours between eggs. Occasionally the period is seventy-two hours, and, much more rarely, even more. A period of more than two days is unusual when a bird lays five eggs, but not uncommon when she lays six. Then, if there is one interval of more than two days, the probability is that there will be two. This year the birds had not begun to lay when we came back to Felsted on April 30th, and so I was able, with the help of some boys, to get a number of details of the laying dates of several nests. As all these nests were visited daily and some of them, which we intended watching right through the incubation period, even twice a day, I give the numbers of the eggs and the days they were laid. All the dates are in May.

No. of Egg	1st	2nd	3rd	4th	5th	6th	7th	
Nest (1) ..	3	5	7	10	12	15	—	} Dates of Laying
„ (2) ..	4	6	8	10	12	—	—	
„ (3) ..	8	10	12	14	16	—	—	
„ (4) ..	12	14	16	18	20	—	—	
„ (5) ..	4	6	8	10	12	14	—	
„ (6) ..	8	10	12	14	16	18	—	
„ (7) ..	3	5	8	10	13	15	24	

No. 7 was communicated to me by Mr. W. Rowan from Skipton, Yorkshire; unfortunately this bird was shot on May 25th. He examined the bird and found no sign of more eggs to come. He did not say in his letter whether there were signs of the seventh egg having been laid by her. It is just possible that it was the produce of another bird,



HEN SPARROW-HAWK WALKING ON TO EGGS.
(Photographed by J. H. Owen.)

though very unlikely. The probability is that the egg would have been infertile, and it is a great pity that his observations were cut short. Very often the first egg is badly marked, often the worst marked egg in the set; the last egg may also be badly marked and is often marked with quite different coloured markings from the rest of the set. By the time the second egg is laid, one can usually say whether there will be five or more in the set.

If the first egg is well marked, the eggs are the produce of a bird that has reached maturity, and the rest of the eggs, except possibly the last, should be very well marked. If there are six eggs in the set, the markings nearly always keep the colour well in such a case; if five, the last egg loses brightness and often is absolutely different in colouring from the others. If the first egg is poorly marked, and the second well marked, I think the bird is younger, and the probability is that there will not be more than five eggs and that the last will also be badly marked. If the first egg is poorly marked and also the second, I take it that the eggs are the produce of an old bird and that the rest of the set will all be poorly marked. As a bird attains maturity her eggs seem to acquire depth and brightness in the markings, and then after a time the markings deteriorate. One bird, for example, used to lay five eggs very nicely and brightly marked with rather light markings. In 1916 the markings fell off very much; in 1917 she could only produce two eggs, with an interval of seventy-two hours between them, and there was hardly a mark on either. I found her nest in mid-March and she did not lay until mid-May. In 1918 I could find no trace of her in that wood or any of the neighbouring woods. As each hen Sparrow-Hawk has many little peculiarities which distinguish her from others, I was sure of my bird from her behaviour, for I observed her from a hut in 1915. Another bird has laid six eggs every year, and I have taken them annually for the school museum. In each of the years 1916, 1917, and 1918 she followed six eggs with five; in 1916 and 1917 three of these five were infertile. This year her first set has lost a vast amount of colouring and her second eggs have no markings at all. Up to this year her eggs (I have them since 1913) have been very beautiful; next year the number should drop below six or the colour further deteriorate. I have also known longer periods than three days between eggs, but they were usually easily accounted for.

For example, in 1916 a boy wanted a set of eggs, and I took him to a nest which I had not troubled to go up to and



HEN SPARROW-HAWK, SHOWING POSITION WHEN INCUBATING.
(Photographed by J. H. Owen.)

in which I thought that incubation had begun. He got four eggs, and pulled the nest down. However, the bird had not finished laying, and hurriedly made a new nest quite close by and deposited an egg the next day or day after. She then began to sit, and a new set of eggs was developed in her, of which the first was laid ten days later. When her brood grew up, the oldest nestling was fledged when the second was only beginning to show plumage under the down.

The average size of eggs of the first laying is approximately 38.9×32.1 mm. A set may be slightly above or below this size. Eggs of the second laying are very often smaller than those of the first laying. As an example I give the measurements of a second laying of four; the five eggs of the first laying were very finely-marked, large eggs. These eggs are also well marked and, I should say, the produce of a young but mature bird.

- (1) 36.9×29.1 mm.
- (2) 38.6×30.1 „
- (3) 35.5×28.0 „
- (4) 38.0×30.3 „

Another bird, which by my observations, should be an old bird, followed a five of very poorly-marked eggs with three eggs lightly marked, and all below the average, but I did not take the measurements: Birds that are continually robbed will go on laying a large number of eggs, and the eggs in such cases become much smaller as the number increases. Boys have brought in very small specimens from birds nesting very near to the school. The smallest of these described as "about the thirtieth," measured 36.2×29.3 mm.

(To be continued.)