Regular daylight hunting by Barn Owls

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Many books mention that Barn Owls *Tyto alba* sometimes hunt in daylight. I had thought until two years ago that this behaviour was confined to periods when they were short of food, as when feeding young and during unfavourable winter weather. In September 1969, however, I began to make observations which subsequently changed my view, at least with regard to the population of Barn Owls which I am studying.

My study area is a young coniferous forest in the West Riding of Yorkshire where the staple diet of the Barn Owls is the Short-tailed Vole *Microtus agrestis*; this rodent accounted for 84% of the 139 prey items in one pellet sample analysed by D. E. Glue. Where the trees are very small (under ten feet tall), the owls hunt everywhere over the plantations; where they are large and impenetrable, the owls fly low along the rides which separate the plots. This part of the forest contains a wide valley in which there is a large open area of very small trees. By selecting a suitable vantage point, I could scan large parts of the territories of six resident Barn Owls (two pairs, a single male and a female) and smaller parts of the territories of a further three (a pair and a female). Virtually the whole territory of one pair could be overlooked and it was impossible for these two birds to be actively hunting in daylight without my seeing them. In June, July and August 1969, I frequently noticed this particular pair hunting for food for their brood in the early evenings, well before dusk as is normally the case at that stage in the breeding cycle. When, however, the owlets had finally become independent and had left the parental territory, I was surprised to find that the female—B in table 1 (see over) — continued to emerge one hour or more before sunset. On the other hand, her mate (who was not noted during the dawn watches summarised in table 1) was seldom seen then. These observations encouraged me to study the hunting patterns of these owls and thereafter I spent many hours watching from this vantage point.

It soon became apparent that this female was not the only owl regularly hunting in daylight outside the breeding season. An unusually white bird (C) almost invariably began to hunt over a young plantation on the opposite side of the valley well before sunset. Two other owls (D and E) whose territories were partly in view were frequently noted and, taking into account some previous observations, there was little doubt that when I could not see them they were hunting elsewhere.
Another owl (A), whose territory was less well overlooked, was occasionally seen.

Barn Owls tend not to hunt enthusiastically for more than about 45 minutes in normal circumstances. After this time, even if they have failed to make a capture, they lapse into comparative inactivity. Perhaps they are simply tired. The significant point is that by dusk they have usually already begun to sit about or have returned to the roost.

By December it had occurred to me that, if the birds really were making a practice of hunting in daylight, they should also emerge after daybreak. I therefore undertook three dawn watches, the results of which are given in table 1. The owls were recognised individually in four ways:

1. The shade of the plumage of the upperparts, extremes of which could give an owl an all-white or all-brown appearance when viewed from a high vantage point.
2. The type of wing-beat—slow, fast, deep, shallow, generally light or heavy, and so on. (Most showed characteristic and recognisable differences.)
3. Method of hunting—some tended to fly continuously while others watched the ground from fence posts and walls, spending a minute or so at each perch. (All used this latter method to some degree, but some, for example C, were specialists.)
4. The territories they frequented.

The weather on all three occasions was fine, with little wind and good visibility. On 6th and 25th December temperatures were around freezing point on my arrival, and on 26th well below until raised by the warmth of the sun. It should be noted that in fine weather it is

Table 1. Activities of five Barn Owls Tyto alba during three dawn watches in a young coniferous forest in the West Riding of Yorkshire, December 1969

The owls are identified in the text on page 27

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Minutes from sunrise</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th</td>
<td>08.35</td>
<td>37</td>
<td>Took up station; sky clear, and light enough for me to be fairly certain there were no owls hunting</td>
</tr>
</tbody>
</table>
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25th

09.00  -27  Took up station; C hunting already
09.15  -12  D now hunting (soon disappeared from view)
09.25  -  2  A now hunting
09.37  +10  B now hunting
09.50  +23  B returned to her roost
10.30  +63  Left vantage point; C and A still present

26th

08.20  -68  Took up station; weather very clear and ideal for sighting the owls, but none could be seen
09.10  -18  A and B now hunting
09.30  +  2  C seen briefly
09.40  +12  B finished hunting and returned to her barn; A had just disappeared, presumably having finished hunting
09.54  +26  D appeared, hunting below his barn
10.24  +36  D no longer visible
10.30  +62  B emerged again and appeared to make two captures
11.05  +97  B returned to her barn
11.25  +117 C now hunting purposefully
11.35  +127 E appeared, diving into the grass quite near me
11.47  +139 E still present, having been rather inactive, now resting on a post; A reappeared as I left

reasonably light at least 30 minutes before sunrise.

I continued my afternoon watches from the vantage point for the remainder of the winter and then began again in October 1970. I soon found that the situation was very much the same as before, with B, C and D still frequently in evidence. A was less often seen, however, and E had disappeared.

In November an unexpected thing happened: B, who had hunted so regularly in the late afternoons, suddenly ceased to emerge in daylight and was not observed at all between 22nd November and 21st February. By the end of January I was so certain this bird had succumbed that I visited her barn, but to my amazement she was present, dozing on the perch I had provided for her. She persisted with this changed behaviour for the remainder of the winter, emerging in the daytime only once or twice, while C and D continued to hunt regularly in daylight.

Only one dawn watch was undertaken during the winter of 1970/71, on 26th December. This time, unfortunately, the weather was bad, with rain and sleet at first, the sun not breaking through until later in the morning. Only C was seen, emerging at 09.30 (two minutes after
sunrise) and hunting for 30 minutes before beginning to doze on a fence post.

**DISCUSSION**

It is evident that some of the Barn Owls in my study area hunt frequently in daylight at all times of the year. They begin to emerge shortly before sunrise to engage in an early morning hunting foray and reappear in the late afternoon, well before sunset, to complete another foray before darkness. Nevertheless, there are Barn Owls in the area which seldom hunt before dusk (for example, B’s mate). To complicate the matter further, abrupt changes of behaviour can occur for no apparent reason, as in the case of B in November 1970.

Despite statements (for example, in Hosking and Newberry 1945) that the Barn Owl can foresee bad weather and will hunt (if necessary in daylight) before its arrival, my records do not support this. The times of emergence in the afternoon varied and I could never correlate these either with the weather conditions at the time or with any subsequent weather changes. Probably the exact time the birds emerged in the late afternoon depended simply on how hungry they were. The only weather which kept them from hunting was continuous rain.

According to Davis (1933), the Short-tailed Vole has a two- to four-hour rhythm of feeding and a longer 24-hour rhythm with peaks following sunset and sunrise and a higher average of activity at night. This would certainly explain the Barn Owls’ burst of activity at daybreak, but does nothing to account for their second diurnal emergence some one to two hours before sunset. The only other conceivable reason that might explain so much daylight hunting, bearing in mind the fact that Barn Owls are quite nocturnal in other respects (territorial defence and courtship), seems likely to be their apparently inefficient eyesight. I have more than ample evidence of this from my own studies: suffice it to say that, provided one does not move and is not too conspicuously placed, Barn Owls can usually be watched at close quarters without a hide. The eyes of this species are small compared with those of other primarily nocturnal owls and, though in experimental conditions it is capable of catching mice using the sense of hearing alone (Payne 1961), its poorer eyesight may be a significant factor when it is searching for quarry in its natural habitat, with the distractions of other noises. This suggestion was supported by the poor hunting success, in the winter of 1970/71, of an owl which was blind in one eye. It seldom caught prey, despite hunting most persistently throughout many of my vigils. Assuming that its hearing was not affected, the loss of one eye was sufficient to make it hunt over the entire valley in all the Barn Owl territories and for much longer
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periods than is normal, apparently in a desperate attempt to satisfy its hunger. I suspect that sensitivity to light has been increased at the expense of visual acuity, so it may be that the Barn Owl can see better in the daytime than at night. I have noticed no such visual defects in the sight of the Tawny Owl Strix aluco, which, of course, has much larger eyes.

As experience outside my study area suggests that Barn Owls are quite nocturnal most of the time, I would welcome any reports of regular diurnal hunting, and indeed of any other interesting observations that may help me in a monograph on this species that I am preparing.

REFERENCES

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