Mortality and weights of Fieldfares in Anglesey in January 1962

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FIELDFARES (*Turdus pilaris*) are regular winter visitors to Anglesey as a whole, and in mid-October 1961 large numbers of these and other thrushes arrived in the county. Sightings of Fieldfares on Newborough Warren National Nature Reserve and in the adjacent Newborough Forest, both in the south of the island, are relatively infrequent, however, and, apart from a few flocks in October, only three individuals were noted in those areas in the 1961–62 winter until the very cold spell in early January.

The relatively heavy snowfall of 30th/31st December had been preceded by several days and nights of very hard frost, and conditions were particularly severe for most land birds; there were several local reports of dying thrushes—Redwings (*T. musicus*) in particular—and finches. On 2nd January numerous thrushes were seen on the edge of the Cefni Estuary salt marsh, which lies between Malltraeth and Newborough Warren, and the following morning an attempt was made to catch some. It was found that a flock of about 150 Fieldfares, accompanied by a few Redwings, Song Thrushes (*T. philomelos*) and Mistle Thrushes (*T. viscivorus*), was feeding on the berries of sea buckthorn (*Hippophae rhamnoides*). These buckthorn bushes had been cut down in late November, and the birds were having to feed on or very near the ground. As a result, they were relatively easy to trap in mist-nets, and twenty-nine were soon weighed, ringed and released. Several were apparently so weak that they were unable to fly and these were caught by hand, weighed and released without being ringed. Only a few freshly-dead individuals could be found, but small patches of feathers in the snow told their own story. Doubtless many dead and dying Fieldfares were eaten by the attendant Carrion Crows (*Corvus corone*), and possibly some were taken by other predators—it was known, for example, that a Merlin (*Falco columbarius*) and a Hen Harrier (*Circus cyaneus*) frequented that locality. From the warmed patches and droppings, it was evident that many Fieldfares had been roosting under clumps of marram grass (*Ammophila arenaria*) in the adjacent sand dunes, and here too were the familiar patches of feathers showing the activity of predators. Many more birds could have been caught, but netting was discontinued to minimise disturbance.
A thaw began on 4th January, and was well under way by the following day when another short session with the nets produced a further eleven birds. By this time they were able to feed over much of the salt marsh and the flock had dispersed to a large extent. Again a few weak individuals were found; five of these apparently starving birds were picked up, warmed and fed, but all except one died within three days. The site was visited again on 7th January, but by this time all the Fieldfares had disappeared from the area.

A pointer to the amount of subcutaneous fat on a Passerine can be obtained by inspection of the bird's tracheal pit. In none of the dead Fieldfares, and in only one of the weakened ones, was any fat visible at all. Of those trapped, roughly half were without any trace of subcutaneous fat in the tracheal pit and all were very emaciated.

From unpublished observations I made in the Camargue, southern France, it seems that in the presence of a good food supply the weights of wintering Reed Bunting (Emberiza schoeniclus) tend to rise with falls in temperature; similarly, from North American data, Helms and Drury (1960) concluded that winter weight changes in American Tree Sparrows (Spizella arborea) and Slate-coloured Juncos (Junco hyemalis) were temperature dependent. This tendency appeared to hold good in the Blue Tits (Parus caeruleus) and Robins (Erithacus rubecula) which frequented the houses at Malltraeth during the cold spell: six Robins and sixteen Blue Tits trapped between 1st and 7th January all showed thick deposits of fat in the tracheal pit and around the belly, and were relatively heavy. The average weights of the Fieldfares might also have been expected to rise during the cold spell, but the weight change was, in fact, reversed because of the great scarcity of food. From the corpses and feather patches counted, it is thought that the actual mortality in this particular flock was between 10% and 20%, and there is every reason to believe that, had the cold weather and snow cover continued, many more would have died.

The series of fifty-eight weights of birds in this flock showed an interesting picture. Four groups were readily distinguishable and the average for each is shown in Table 1.

<table>
<thead>
<tr>
<th>Number</th>
<th>Average weight</th>
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<tbody>
<tr>
<td>Freshly dead</td>
<td>4, 58.2 gm.*</td>
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<tr>
<td>Too weak to fly</td>
<td>14, 63.4 gm.</td>
</tr>
<tr>
<td>Stronger (3rd January)</td>
<td>29, 78.0 gm.</td>
</tr>
<tr>
<td>Stronger (5th January)</td>
<td>11, 84.5 gm.</td>
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*In the light of the picture presented by all the other weights, it is considered that one dead bird which scaled 82.7 gm. probably died from causes other than starvation and this record has therefore been omitted from this calculation.
There seems to be very little information available on normal weights of Fieldfares in Britain, but the average of five autumn birds on Great Saltee (Co. Wexford) was 96.24 gm. and a longer series from Fair Isle gives some idea of the range which can be expected. In the latter case, the distribution of weights of thirty-seven birds identified as males did not differ significantly from that of thirty-two identified as females ($p > 0.10$) and the combined mean was 98.26 gm. ($s = 9.97$). It would seem, therefore, that an average of between 90 gm. and 110 gm. might reasonably be expected for autumn migrant Fieldfares. The mean weights of the Anglesey birds compare very unfavourably with these figures: those trapped were in general about one-fifth less, and the weak and dying as much as a third. One very interesting Fair Isle record (not included in the above calculations) was that of an adult male noted as “dying of starvation” at 58.7 gm.—very near the Malltraeth average of dying birds. The weights given by Ash (1957) for eleven Fieldfares found dead in the cold spells of 1954 and 1956 averaged 55.9 gm. and more recently, during this same January, Harris (1962) found that twenty-five corpses on Skomer Island, Pembrokeshire, averaged 58.4 gm. When these figures are taken in conjunction with the Malltraeth average of 58.2 gm. and the single Fair Isle weight of 58.7 gm., it seems probable that the minimal weight for this species may be just under 60 gm.

The increase in the mean weights of the Malltraeth birds from 78.0 gm. on 3rd January to 84.5 gm. on 5th January is significant ($p < 0.01$) and was almost certainly a result of the amelioration in the weather, which allowed the birds to feed over a much bigger area and on a wider variety of foods on 4th and 5th January.

Of four Fieldfare corpses examined for endoparasites, only one was found to be infected and that by a single Nematode, probably *Ascaridia galli*.

Acknowledgements

I am indebted to Peter Davis and Kenneth Williamson for providing weight data from Fair Isle and Great Saltee respectively, and to I. Herbert and W. Threlfall for their examination of the Fieldfare corpses.

Summary

1. Observations were made on a flock of 150 Fieldfares (*Turdus pilaris*) near Malltraeth, Anglesey, during hard weather in early January 1962.
2. All the birds handled were very emaciated, and there was a mortality of between 10% and 20%.
3. The weights of the trapped birds averaged about one-fifth, and the weak and dying about one-third, lighter than the average of sixty-nine autumn migrant Fieldfares at Fair Isle.
4. A significant increase in the average weight of trapped birds was noted after the thaw had made more food available.
FIELDFARE WEIGHTS IN ANGLESEY IN JANUARY 1962

REFERENCES

Ash, J. S. (1957): "Post-mortem examinations of birds found dead during the cold
cspells of 1954 and 1956". Bird Study, 4: 159-166.
Harris, M. P. (1962): "Weights from five hundred birds found dead on Skomer