DECLINE IN THE CONDITION OF REDSHANK DURING THE WINTER

by N.C.Davidson

During studies of the body composition of waders during winter at Teesmouth and Lindisfarne on the NE coast of England, I have found that Redshank Tringa totanus do not conform to the pattern shown by other species. The 'normal' pattern is an increase to a peak fat level in December, during the period of shortest days rather than lowest temperatures (which occur in late January or early February), followed by a gradual decline through February or March (Evans & Smith 1975, N.C.Davidson in prep.). Whilst Redshank reach a similar peak fat level (14.5%) to other species that can feed by touch, this peak occurs in November and is followed by a rapid decline to very low levels (2.5% fat) in January and February (Figure 1). Pectoral muscle protein reserves also declined (by 33%) between November and February. As the protein reserve is mainly used to balance Nitrogen excretion when prey intake is insufficient to supply these needs (Evans & Smith 1975), it seems that Redshanks are unable to achieve either their energy or their protein requirements from feeding during much of the winter and so need to draw on their reserves. The observation that the fat and protein reserves are small during January and February, when birds might be expected to have most difficulty feeding due to cold weather, implies that Redshanks should be less able to cope with a cold spell at this time of year than other waders. This is supported by observations of higher mortality in Redshanks than most other species during cold weather (Pilcher 1964, S. Baillie and P.R.Evans pers.comms.). I am now examining how extensively this phenomenon occurs and would welcome information on weights of Redshanks during the winter (see Requests for Information in this issue).

References

Evans P.R. & Smith,P. 1975. Studies of shorebirds at Lindisfarne, Northumberland. 2. Fat and pectoral muscle as indicators of body condition in the Bar-tailed Godwit. Wildfowl 26: 64-76

Pilcher,R.E.M. 1964. Effect of the cold weather in 1962-63 on birds of the north coast of the Wash. Wildfowl Trust Ann. Rep. 15:23-26

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(N.C.Davidson is examining data on Redshank weights already in WSG files. Ideally further data should be submitted on WSG forms available from the Administrative Secretary (address inside Bulletin cover). Use of data for publication will be requested and acknowledged - Eds.)

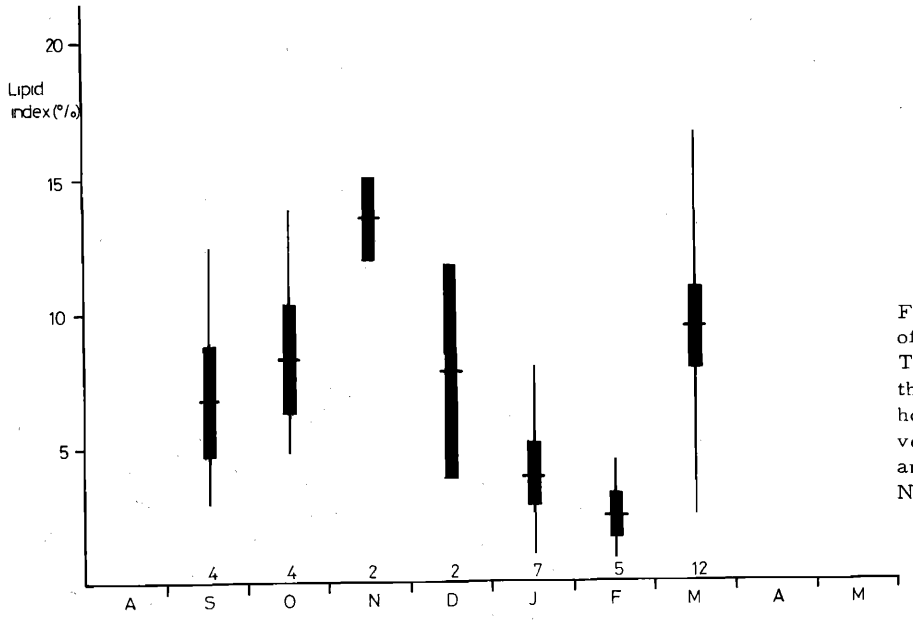

Figure 1. Lipid index (fat as a % of fresh weight) of Redshank from Teesmouth and Lindisfarne during the winter. For each point, the horizontal line is the mean, the vertical bar is $\pm$ 1 standard error, and the vertical line is the range. Numerals give the sample sizes.