

EURING Autumn Swallow Roosts

Title

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Description and Summary of Results

Unlike many other long-distance migrant passerines, (Barn) Swallows *Hirundo rustica* are able to forage during migration, therefore theoretically removing the need to build up large fat reserves prior to departure, or at stopover sites. EURING (European Union for Bird Ringing) ran a Swallow Project from 1997 to 2002 which had a particular focus on their strategies for fattening. It was found that the amount of fat stored prior to autumn migration varied and depended on the width of the ecological barriers that the different populations have to cross shortly afterwards, and that the amount of fat accumulated could reach 30-40% of lean body mass.

The general patterns of pre-migratory fuelling of Swallows breeding in Britain and Ireland and how these compared with populations in other parts of Europe remained poorly understood. In addition to native-bred birds some birds pass through Britain and Ireland and it was not clear how they might or might not put on fat during their passage.

The BTO Swallow Roost Project ran from 2002 to 2006 as an extension of the EURING project. Ringers in Britain and Ireland concentrated on the pre-migratory phase of the Swallow's life, counting and ringing Swallows at pre-migratory roost sites from shortly after formation of a roost until its abandonment. Ringing took place every 7-10 days.

Over 53000 juvenile and 6600 adult Swallows were ringed at 41 roosts over 543 separate catches. Results showed that the pattern of fuelling in British and Irish Swallows paralleled that of Swallows caught at roosts in Italy and Spain. The mean body mass of both adult and juvenile Swallows increased prior to migration, with adults more than juveniles. There was strong evidence that the increase was a result of birds building up fat reserves in preparation for migration. Swallows caught at more southerly roosts developed larger fuel reserves than those caught in the north, suggesting that British and Irish Swallows may stage in southern Britain, to gain sufficient reserves to allow them to travel to the Continent, where further fattening is likely to occur. Also British and Irish Swallows began fattening earlier than in southern Europe, around the middle of August, and put on less mass. There was also evidence that juveniles from late broods gained less mass than those fledging earlier in the season.

Methods of Data Capture

Swallows were sound-lured and caught in mist nets at 41 roost sites located in Britain and Ireland. Observers aimed to start catching about a week after formation of the roost, and then repeated this every seven to ten days until abandonment of the site. In addition the birds using the roost were counted during every catching session. To make the data comparable across Europe ringers caught and accurately measured up to a hundred birds each visit with a requested minimum of 30 birds. To allow the catchment areas of roosts to be identified, all ringers (and not just those participating in the roost project) were also

encouraged to ring Swallow nestlings during the breeding season. For individual birds, data recorded included: date and time of ringing, age (juvenile or adult), wing length (maximum chord) to the nearest 0.5 mm, body mass to the nearest 0.1 g, fat score (on a 0-8 scale in increments of 0.5), and state of moult especially of the primaries. Primary moult is known to affect fat stores and body mass, so birds recorded as being in active primary moult were excluded from the main analyses. Geographical position and habitat type (reeds or maize) were recorded for each catch site.

Purpose of Data Capture

To determine the pre-migratory fattening strategies of Swallows across Britain and Ireland, and to compare these with information from southern Europe notably Italy and Spain.

Geographic Coverage

Sites were located across all of Britain and Ireland.

Temporal Coverage

July to October in 2002-2006 with ringing activity at each site starting about a week after formation of the roost, and repeated every seven to ten days until abandonment of the site.

Other Interested parties

The British project was part of a Europe-wide one organised by EURING, the European Union of Bird Ringing. Funding for the British part came from the BTO's Swallow Appeal.

Organiser(s)

Bridget Griffin

Current Staff Contact

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Publications

The main report of the survey is:

Coiffait, L., Robinson, R.A., Clark, J.A. & Griffin, B.M. 2011. Fattening strategies of British & Irish Barn Swallows *Hirundo rustica* prior to autumn migration. *Ringing & Migration* 26: 15-23.

Four newsletters were produced and are available to download from:

<http://btoweb01.bto.org/volunteer-surveys/ringing/surveys/swallow-roost-project>

The survey was also noticed in *BTO News* numbers 240 and 260.

Available from NBN?

No.

Computer data -- location

All details of birds ringed are in the Oracle ringing database. Summary forms pertaining to specific sites for the project are stored in the BTO Windows network central area.

Computer data -- outline contents

Computer data -- description of contents

Information held in BTO Archives

1 box containing paper forms.

Notes on Access and Use

Other information needed

Notes on Survey Design

Specific Issues for Analysis