

Birds of High-level woodlands

Title

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Description and Summary of Results

For most of England and Wales the tree line is between 1000 and 1500 ft asl (300-450m), and in the Central Highlands of Scotland it is rather higher. This survey was designed to find out what were the birds which occurred in the fragments of woodland which remain at or near this altitude. These fragments were not necessarily 'natural', in the sense of being remnants of the former continuous primeval forest, although some of them had generally been considered to be so by botanists. Under natural conditions the woods would have been grazed by both Red and Roe Deer, and perhaps cattle and, although sheep prefer the open hills, most were open to grazing sheep. Most of the woods were too exposed to hold many rabbits.

It was remarkable that most of the highland woods investigated were very pure, with no more than 10% of trees being of species other than the dominant. Woods in England and Wales fell fairly naturally into seven classes dependent on the dominant tree species: 1) Pedunculate oak, the dominant tree of most of lowland Britain, is relatively rare in the west, but was the dominant tree of three woods on Dartmoor; 2) Sessile oak, the chief tree of Exmoor, Mid- and North Wales, and the Lake District, sometimes with Rowan, and many containing birches, very seldom any shrubs, and the field layer mainly heathy; 3) Birch, not found any higher than the oaks, except in Scotland, rarely any shrubs, and the field layer usually dominated by bracken and grasses; 4) Alder, the normal climax vegetation of the valley bottoms in most mountain regions, with very wet ground and the field layer dominated by rushes; 5) Ash, the climax vegetation of the older limestones, but occurred at the required altitude only in the Yorkshire Pennines, with several in and around Wharfedale; 6) Scots Pine, only natural in Scotland, but with a few neglected plantations on Exmoor and the Pennines; and 7) Others, probably all to a greater or lesser degree unnatural, including small woods of Rowan, willows and Sycamore and some old conifer plantations.

Twenty four breeding bird species were considered to be characteristic of these high-level woods, but in the five main types (1-5 above) only three, Chaffinch *Fringilla coelebs*, Tree Pipit *Anthus trivialis* and Wren *Troglodytes troglodytes* occurred in half or more of each. The Willow Warbler *Phylloscopus trochilus* would have been added to this list by excluding the peculiar Dartmoor woods, and the Redstart *Phoenicurus phoenicurus* occurred in only just under half. There were a few geographical differences, eg Woodpigeon *Columba palumbus* was absent from Scottish woods, and Redpoll *Carduelis flammea* from almost all English and Welsh woods. About half were catholic birds found in most types and in many woodland ecotones, some were characteristic of sessile oakwoods, one (Redpoll) almost exclusively a bird of the birchwoods, and the remainder were tree-heath birds which have invaded the woods. The common woodland species which were missing were chiefly those which need shelter and a thick shrub layer, and many appeared to be recent immigrants to the north and west. The density was highest in Ash woods and in English and Welsh

birchwoods, and lowest in firwoods. Altitude as such appeared to have little effect on the density. There were clear differences between the birds of the various plant associations with the lists for sessile oakwoods and English and Welsh birchwoods the longest and very similar.

The density was much the same in the winter as in summer, but the species composition was different. Absentees from most or all the woods included the 7 recognised summer migrants, Yellowhammer *Emberiza citrinella* and Chaffinch, but there were also reductions in Robins *Erithacus rubecula* and Song Thrushes *Turdus philomelos*. The loss of these was balanced by the winter migrant thrushes and by an increase in the number of tits, especially Coal Tits *Periparus ater*. The Cumberland oakwoods were peculiar in having a greatly reduced winter population.

Methods of Data Capture

Line transects were used to sample the woods. Observers were asked to walk at a steady speed, ideally around 2mph (3kph), and to record every bird seen or heard. (In a few of the woods, such as those on block scree, this speed could not be maintained, and allowance was made for this in analyses.) It was believed that the number of contacts (seen and heard) between observer and birds per unit time was proportional to the density of the birds, and to the observer's speed.

The object of the survey was to cover as many woods as possible during the breeding season, and so time was not spent in searching for nests. Most of the contacts recorded were singing males. No counts were made very early in the breeding season to ensure that birds recorded were breeding at the site.

It was realised that nesting success might be very different in these high-level woods from that in other places, but this could not be determined from the methods used. Some of the males heard may have been unpaired, but there was no reason to think that these were a large proportion of the whole. If they were, and if the difference from one species to another were large, an appreciable error would be introduced into the calculated densities but not into the frequencies.

Purpose of Data Capture

To determine the breeding and winter density and species composition of woodlands above about 1000 feet (300m) asl in Britain.

Geographic Coverage

Woodlands all over Britain above about 1000 feet (300m) asl. In practice therefore the highland regions west and north of a line drawn from the South Devon coast to the Humber.

Temporal Coverage

Visits were made from late October to February (winter season) and in the breeding season although avoiding the earliest part of this. Fieldwork was carried out by volunteers in 1952,

with the organiser continuing in a private capacity through 1953. In addition a few data from 1949-1951 were incorporated into the analyses.

Other Interested parties

The survey was organised by W B Yapp with help and support of the BTO. The Nature Conservancy granted some funds towards the expenses of the organiser.

Organiser(s)

W B Yapp.

Current Staff Contact

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Publications

The main reports of the survey are:

Yapp, W.B. 1956. The birds of high-level woodlands. The breeding community. *Bird Study* 3: 191-204; and

Yapp, W.B. 1959. The birds of high-level woodlands. The winter population. *Bird Study* 6: 136-140.

A short report appeared in *BTO Annual report* number 19 and requests for co-operation were in *BTO Bulletin* numbers 42-45 and 47.

Available from NBN?

No.

Computer data -- location

None.

Computer data -- outline contents

N/A.

Computer data -- description of contents

N/A.

Information held in BTO Archives

Nothing found. A note in the publication states that full tables of the results were deposited with the Nature Conservancy.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis