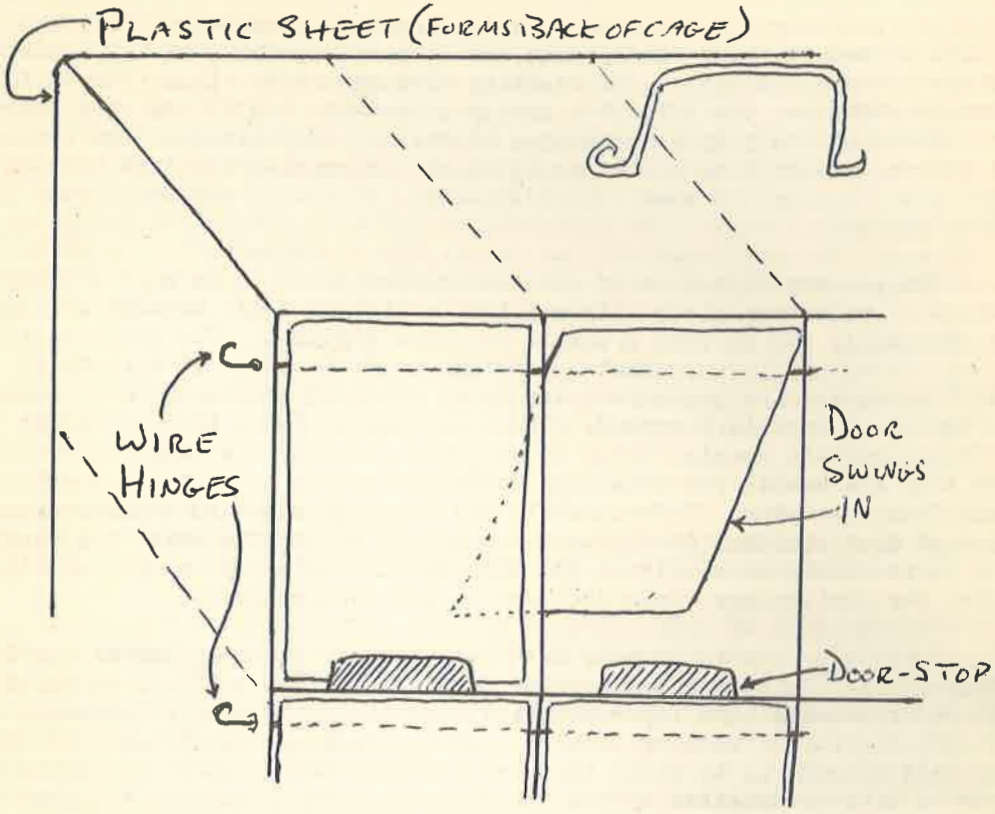


HOW A BRITISH BIRD OBSERVATORY WORKS
By Peter Davis

(Ed. note - The following is reprinted from "THE RING" for May, 1959)

There are now some sixteen Bird Observatories on the coasts of the British Isles, and their methods of trapping and observation are adapted to local conditions and interests. Obviously the discussion of these local variations is outside the scope of the present article; but before describing the work of my own station at Fair Isle, I may summarize the background, and the methods that are common to all or most.

Nearly all the observatories were founded by local groups of amateurs, and with the exception of one station where the Warden's salary is paid from a Ministry of Education grant, financial support is derived

from private subscriptions and occasional grants from scientific, educational or benevolent institutions; and from the profits, if any, gained by providing accomodation for visiting bird-watchers. Less than half of the observatories can afford to employ a resident staff; the remainder are manned entirely by a succession of amateur enthusiasts. The periods of coverage range from a minimum of about five months (divided between spring and autumn) at some island stations, to almost the whole year at other places.

The primary objective of all the observatories is to make a daily census of migrating birds within a fairly limited area, usually an island or peninsula, and to ring a sample of these migrants. The trapping is firmly based on the permanent Heligoland trap, but a great variety of other permanent and portable traps is in use, and mist-nets have become an important ancillary method. These nets have proved invaluable for catching certain species which do not readily enter the large wire traps; and they are useful for obtaining coveted rarities or critical species, away from the traps. Unfortunately the windy climate and exposed situation at most stations prohibits the constant use of the nets, and they are never likely to challenge the Heligoland trap's supremacy. British Trust for Ornithology rings are used by all observatories.

Methods of record-keeping have been largely standardized at the instigation of the Bird Observatories Committee of the B. T. O. on which all observatories have representation, and of Mr. Kenneth Williamson, the Trust's Migration Research Officer. This office was established in 1957. Its main purpose is to bring together and make available on microfilm the mass of data accumulated by the observatories, and to publish analyses of some of the more interesting movements observed. The most important records maintained are a loose-leaf Daily Census Book, in which the number of birds of each species are recorded (master-sheets list the species on horizontal lines, and smaller leaves have thirty-one vertical data-columns); a Migration Journal or Log which expands these figures, and gives details of new arrivals, diurnal movements, etc.; and a Ringing Register which has columns for weights, measurements, etc., one species per page. Some observatories keep a register in ring-sequence order also, or retain duplicates of the B. T. O. schedules on which the annual reports are made. Away-recovery and local-retrap data is usually preserved separately, in a register or, more convenient, a card index. Most stations also have registers or special forms for plumage descriptions, notes on behaviour, a local status-book or index, etc.

The Observatory at Fair Isle, between Shetland and Orkney, was founded in 1948 by a group of Scottish ornithologists, headed by Mr. George Waterston, then owner of the islands. The isle had become famous as a migration station, through the pioneer work of Eagle Clarke and Stonehouse, early in



the century, and this was obviously one of the best potential sites in Britain for a permanent station. This promise was soon realised when the observatory was placed in the able hands of Mr. Williamson, as Director. The station was staffed and equipped on a comparatively generous scale, so that the ornithological work could go forward with the minimum of distractions from domestic chores and maintenance tasks; an almost unique position so far as the British observatories are concerned. To say this is in no way to detract from Mr. Williamson's well-known achievements in the study of bird migration, but rather to illustrate how the value of many observatories' work could be enhanced, given the funds to provide the right men and the right working conditions.

Unfortunately, the financial position of the Fair Isle Bird Observatory Trust deteriorated, until by 1956 a period of retrenchment was unavoidable, and the staff now consists only of myself as Warden, my wife, a field assistant, and a cook.

Accomodation is provided for up to 14 visitors, most of whom take part in the trapping and observation. The day's bird-records are collected at an evening "roll-call" and discussion in the hostel common-room.

There is a little diurnal passage at Fair Isle, so that the main work in the migration season is searching for halted night-migrants and catching them. Eleven Heligoland traps, three of them double-ended (i.e. two traps combined in a Z-shaped structure) are groups in a trapping area in the northeast of the island, and a twelfth is situated in the south, some two miles away. Owing to the exposed situation, there is little growth of tall vegetation to attract cover-loving migrants to the traps, so most are situated in gullies, ditches, or astride stone walls which serve as shelter or miniature "leading lines" for the birds. The traps are driven at least every two hours during daylight. Mist-nets are used chiefly in the crops of oats, cabbage, etc. grown by the crofters on the southern half of the isle. A permanent "crow-trap" baited with household scraps catches many of the local Pipits, Wheatears and Starlings. At midsummer considerable numbers of the breeding seabirds, particularly the Fulmars, Shags, Puffins, and Skuas are ringed at the nest, and these now form about a quarter of the year's catch. Some 26,000 birds of 155 species have been ringed since 1948. The annual total first exceeded 3,000 in 1956, and reached 4,500 in 1958, when 101 species were taken. The approximate totals for the leading species in 1948-58 are: Wheatear 5,000, Blackbird 3,800, Starling 2,600, Meadow and Rock Pipit 2,000 each, Redwing 1,300, Twite 1,100, and Puffin 1,000. The highest individual scores for a single season were 1,016 Blackbirds in 1958, and 896 Wheatears in 1956. About 250 sway-recoveries have been reported; among the more spectacular were a Great Skua in Greenland, two Arctic Skuas in Angola, a Meadow Pipit and a Crossbill in Italy and a White Wagtail in Mauretania.

Except for Blackbirds and Starlings, which are ringed in the field, all trapped birds are carried to the laboratory in individual cotton bags. The following information is recorded: trap and time of capture, age, sex, weight, length of the flattened wing (the chord measurement formerly used having been found unreliable), bill-length (from skull, except in a few species), "tarsus" length, tail length, and, where appropriate, the wing formula. Geographical races and critical species are evaluated with the aid of substantial collection of bird-skins loaned by the Royal Scottish Museum - this evaluation is of particular interest on an island which almost annually receives migrants from most parts of Europe, as well as Asia and America. Details of plumage, moult, etc. are recorded for some species. Ectoparasites are collected from many birds by the "Fair Isle" chloroform delouser. All this information is entered on laboratory chits, white for new birds and green for recaptures, and is copied later into the ringing registers, or in the case of recaptures, onto a card. The recap cards, each of which contains all the relevant information on one individual are filed under species, in ring sequence.

The main summer work, between migrations, is a population study of the Arctic Skua colony, now entering its twelfth year. From 1958 it has been combined with Mr. P. O'Donald's study of the genetics of the colour-phases of this bird. The skua work depends greatly on the ringing technique, and nearly all the adults and chicks are ringed, the former with P. V. C. colour bands in addition to the numbered ring. The adults are caught on the nest, in clap-nets operated from hide-tents, dummy eggs being used as temporary replacements for the clutch. This technique was evolved by Kenneth Williamson in 1954, and by 1958, 115 of the 120 breeders were marked. The oldest individuals have been breeding since at least 1948, in fact one pair has remained unaltered since that year.

The Fair Isle Bird Observatory Trust publishes periodical Bulletins and an Annual Report, in which some of the results of each season's work are described. These publications are sent to "Friends of Fair Isle" (annual subscription 21 shillings).

★★★

## IDENTIFICATION OF IMMATURE CUCKOOS

By Joseph R. Jehl, Jr.

The highly distinctive adults of the Yellow-billed and Black-billed Cuckoos with their bright orbital rings and obvious tail patterns pose no identification problem for the bander, but the plainer immatures are sometimes confusing. Young of both species show rufous in the wings, light lower mandibles, and yellowish eye-rings. However, the following key should enable the bander to identify with certainty any young cuckoo.



| | Yellow-billed | Black-billed |
|---|---|---|
| Bill: | Lower mandible, at least basally, is light and often yellowish. | Dark, with basal half of lower mandible light -- usually bluish. |
| Wings: | Considerable rufous on bases of primaries and outermost secondaries. | Much rufous, but duller than in Yellow-billed. |
| Eyering: | Pale lemon yellow. | Deep chrome yellow. |
| Underparts: | Usually grayish. | Usually with buffy tinge. |
| Tail: | Outer retrices broadly tipped with white; central retrices dark to tip. | All retrices narrowly tipped with white which may, infrequently, wear off. |
| Back: | Warm brown. | Brown, with olive gloss. Feathers often tipped with white. |

Clifton, New Jersey

★★★

AIDS TO IDENTIFICATION FROM THE BANDING OFFICE

Shortly before the fall migration season this year, the Banding Office distributed a number of separate sheets giving details on plumage and other characteristics to aid banders in the identification, age and sexing of difficult species. They are on the same lines as the above article, although this is an independent work and has no connection with the Banding Office's data sheets. If you have not already received a set of these sheets, they may be had upon request from the Banding Office.