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The role of the amateur in bird research in Britain and Ireland

By Robert Spencer

In the 18th and 19th Centuries Britain produced a number of very fine amateur ornithologists whose writing did much to make bird watching popular. Even in the present century, when there are many professional ornithologists, some of the most influential books and papers have been produced by amateurs.

It was characteristic of the early amateur ornithologists that they worked alone, or with one or two companions; very much the reverse of the present day position in which the main amateur contribution to ornithology is through co-operative studies. One of the earliest attempts at co-operation was an ambitious migration study, promoted by the British Association for the Advancement of Science during the years 1880—1890. Although a co-operative study, it differed from modern surveys in that it relied heavily on the help of people who did not claim to be bird watchers — the keepers of Light-houses. Nevertheless the study was valuable and laid the foundations of our knowledge of bird migration throughout Britain and Ireland. Another, later study which made much use of help from non-ornithologists was the enquiry into the Woodcock (*Scolopax rusticola*), organised by W. B. ALEXANDER in 1934—35. Land owners, estate agents and hunters were all asked to supply information and rings were distributed to game keepers so that as many chicks as possible could be ringed.

Much more typical of amateur research is the annual census of the Grey Heron (*Ardea cinerea*), which was started as long ago as 1928 and has continued uninterrupted to the present day. This is a sample census which does not seek to include all known heronries every year, but rather to provide comparative figures year by year. The subject is well suited to amateur study as heronries are often occupied for many decades and in spring it is easy to count the occupied nests. Few European species have been censused for so long a period and the results have been helpful in demonstrating the ability of a bird population to make good in three or four years the losses caused by a very cold winter.

One of the most important steps in the development of amateur ornithology in Britain was the founding in 1933 of The British Trust for Ornithology (B. T. O.). Similar organisations exist in other countries, but the B. T. O. is particularly fortunate in that it brings together under one roof a wide range of study techniques including a bird ringing centre, a population census department and nest recording and moult schemes. The Trust is also fortunate in that since 1954 it has received government financial support. Today much of the work is carried out under service contracts to the Nature Conservancy Council, though about half the total budget is still raised by the Trust's 7,500 members.

The running of the bird ringing centre is an important activity of the B. T. O. Each year the 1,500 qualified ringers, nearly all of whom are amateurs, ring over half a million birds and these provide about 12,000 recoveries per annum. Other papers in this symposium discuss the value of bird ringing to ornithology but it should be said that in the years to come many of the important developments in bird ringing are likely to result from international co-operation through EURING, to which organisation Vogelwarte Radolfzell has given such valuable support.

Of the remaining amateur ornithological studies in Britain, mainly organised by the B. T. O., one may recognise five classes.

1. **Distribution and habitat studies.** Distribution surveys, because they are extensive rather than intensive, are well suited to amateur participation. The most simple may be limited to recording presence or absence, but usually an indication of numbers is attempted. For such studies the Trust has tended to choose species with a limited distribution — often those whose ranges in Britain are thought to be extending e. g. Fulmar (*Fulmarus glacialis*), Pied Flycatcher (*Ficedula hypoleuca*), Little Ringed Plover (*Charadrius dubius*), or contracting e. g. Wryneck (*Jynx torquilla*) and Red-backed Shrike (*Lanius collurio*). If the changes are thought to be occurring rapidly the survey may be repeated at intervals. Most such surveys are of breeding distribution but need not be so. For example there have been surveys of the numbers of gulls wintering inland.

By far the largest of the B. T. O.'s distribution surveys was that undertaken in the summers 1968—1972, the results of which were published in a book called *The Atlas of Breeding Birds in Britain and Ireland*. For this survey the B. T. O. used more than 10,000 observers to survey the whole country, the unit of area being the 10 km. national grid square, and distribution was recorded in three categories: presence, presence with breeding suspected, and proved breeding. The Trust believes that this Atlas will provide the basis for many future studies.

2. **Census work.** B. T. O. census work has fallen into two different classes. One type of enquiry attempts an accurate census over the whole or selected parts of a species' range. This was the case, for example, with the study of seabirds, named „Operation Seafarer“ and organised by the Seabird Group, with the support of several ornithological bodies. Because they are big and colonial, for many seabirds it is possible to make a reasonably accurate census though when there are high cliffs or when nests are underground (e. g. *Fratercula arctica*) counts may be very difficult.

In recent years the large estuaries and the coasts of Britain have attracted increased attention from planners, whether for possible land reclamation, water storage or industrial development. It was to evaluate the importance of each estuary to birds that a special Estuaries Enquiry was started in 1969, the counts undertaken being very similar to those of wildfowl, organised by the International Waterfowl Research Bureau. This is a co-operative study involving the Royal Society for the Protection of Birds (R. S. P. B.) and the Wildfowl Trust as well as the B. T. O. and it is planned to publish the results, as was the case with „Operation Seafarer“, in book form.

The B. T. O.'s main census programme is the Common Bird Census, started in 1961. In the 1950's along with the research workers in other countries, the Trust became aware of the serious effects of toxic farm chemicals on birds and other wild animals, and the government body, The Nature Conservancy, alarmed by the big decline in numbers of species such as Peregrine Falcon (*Falco peregrinus*) and Sparrowhawk (*Accipiter nisus*), asked the B. T. O. to develop a method of detecting change in the numbers of common farmland birds. As total census was impossible it was necessary to find a way of obtaining an index of population. The technique chosen, of mapping territories, was based on pioneer work done by Professor ANDERS ENEMAR in Sweden, and has since been adopted, in modified form by the International Bird Census Committee. Apart from producing an index of population the Common Bird Census has provided much valuable information about habitat preference and about the effects on bird life when man modifies the habitat. From the simple objective of detecting change the census workers are now also trying to understand the causes of the changes they observed.

3. **Impact of man.** Under this heading it is possible to draw together a series of quite separate enquiries carried out in Britain and Ireland, sometimes by the B. T. O. but also by organisations such as the R. S. P. B. For example one enquiry collected data about the species and numbers of birds killed by traffic on different kinds of road. Owls especially the Barn Owl (*Tyto alba*) appear to be very vulnerable to fast moving traffic on the motorways. An attempt has been made to assess the numbers of birds killed by flying into the overhead wires of the electricity supply system. As in other maritime countries, long stretches of coastline are searched at regular intervals for oiled seabirds. Amateurs have played a very important role in locating and reporting birds killed by farm chemicals, especially the chlorinated hydrocarbons used to protect seed corn.

4. **Breeding Biology.** The chief way in which amateur ornithologists contribute to breeding biology studies is by completing nest record cards. The B. T. O. cards were first introduced in 1939, and at present over 25,000 cards are completed each year by more than 500 contributors.

Nest record cards are now used in many countries and their value as a research tool is well appreciated. New methods of analysing the data listed on the cards are still being developed, but most of them relate to one or other of the five types: (a) details of breeding biotope and nest site (b) the timing of the breeding season (c) clutch and brood size (d) family size (e) nesting success. The last category, nesting success, is an important element in any population monitoring programme, and the intake of nest cards is now large enough to allow the breeding success of twelve „marker“ species to be measured annually.

5. Biometrics. This heading is used for convenience to include moult studies as well as weights and measurements. The Moulting enquiry of the B. T. O., supported mainly but not exclusively by bird ringers, receives an annual intake of about 4,000 moulting cards, and the collection of about 100,000 cards is being increasingly used for analytical purposes. The B. T. O. is particularly interested in the timing and the duration of moult in relation to the timing of the breeding and migration seasons. The wing lengths of birds are regularly recorded by ringers with the object of establishing differences associated with age, sex and population. Equally there is much interest in bird weights, especially for the study of annual weight cycles and for the migratory preparedness of individual birds.

Experience in Britain and Ireland during the last twenty-five years shows that there is a very big pool of amateur ornithologists who are willing and competent to co-operate in field studies, especially if they can feel (as is so often the case) that the data they collect are of value to the cause of conservation. The great contribution which amateurs are able to make is the collection of extensive data and large samples: work which would usually be too expensive to carry out professionally.

The projects chosen for amateur study should be carefully planned and the instructions clear. For this purpose it is helpful to have the help of professional ornithologists who are used to working with amateurs. It is important to explain the object of the study, and very important that there should be adequate feed-back to the helpers, both by informal progress reports and published results.

Zusammenfassung

Die Bedeutung von Amateuren in der ornithologischen Forschung Großbritanniens und Irlands

Nach einem kurzen geschichtlichen Rückblick auf die Entwicklung der Amateur-Ornithologie in Großbritannien wird die Rolle des British Trust for Ornithology (B. T. O.) beschrieben, der 1933 gegründet wurde, um ornithologische Forschung durch Amateure zu fördern und zu koordinieren. Neben der Beringungszentrale, in deren Rahmen 1 500 Beringer jährlich über 500 000 Vögel beringen und damit etwa 12 000 Wiederfunde erzielen, werden folgende Projekte in der Hauptsache vom B. T. O. organisiert:

1. Verbreitungs- und Lebensraum-Untersuchungen an einzelnen Arten und für den inzwischen erschienenen „Atlas of Breeding Birds in Britain and Ireland“.
2. Bestandszählungen, die Unterlagen über den Gesamtbestand einzelner Vogelarten und über Bestandsbewegungen sammeln.
3. Verlust durch menschliche Tätigkeiten. Zu diesem Thema gehören Untersuchungen über Verkehrsoffer, Verlust an Drahtleitungen, Ölopfer an den Küsten und Verluste durch Pflanzenschutzmittel.
4. Brutbiologie. Jährlich werden etwa 25 000 Nestkarten gesammelt, die u. a. Daten über Gelegegröße und Bruterfolg und ihre jährlichen, regionalen oder höhenabhängigen Unterschiede liefern.
5. Biometrische Untersuchungen und Sammlung von Mauserdaten in der Regel als Nebenprodukt der Beringertätigkeit.

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