ENJOYING ORNITHOLOGY

By David Lack

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Research is merely a term for finding out something, or to put it more accurately, something previously unknown. It may be something very simple, for instance that the Rock Pipit is a regular passage migrant at the local sewage farm, or that the Yellowhammer tends to lay a smaller clutch in the autumn than the summer, or it may be the propounding of an elaborate theory based on twenty years' observations and masses of statistics and tables. In any event, it is a delightful pastime, one of the most delightful of all pastimes. Further, this pleasure is within the reach of all ornithologists, being easier technically, though harder morally, than most people think. Do not suppose that it is something which should nowadays be left to the professional, for in this field the amateur has as many advantages as the professional, though they are different advantages.

Almost always research starts with the simple and often it ends there too. If in your garden, you happen to see a Spotted Flycatcher displaying in a way that you have not seen before, you record the event as accurately as you can, and as soon as possible after you have seen it, but do not worry too much about recording while it is happening, for if you try to do this, you may easily miss what happens next. It is not hard to train oneself to remember facts for long enough to record them afterwards.

The next step, of course, is to try to interpret the behavior. Was a second bird present? If so, was it likely to have been a male (which suggests threat display) or a female (which suggests courtship), or was the bird merely alarmed at your presence? Interpretation may be hard on the basis of one observation, and further, as small birds move fast and you were not expecting the occurrence, your description of it was probably not very accurate. The next step is to consult The Handbook of British Birds or some equivalent work to see whether the display has been recorded before. It probably has, but it may not have been, or it may have been wrongly described or interpreted (even in the 'Handbook', which, after all, is merely a summary of all previous observations such as yours). If it is undescribed, look under related species. Try, for instance, the Pied Flycatcher.

If your observation really seems new, the next step is not to write straight off to an ornithological journal with a note for publication, but to try to see the Spotted Flycatcher do it again. Next time you will probably see it much better and will have a clearer idea of the circumstances in which it occurs. The need for repetition is one of the essentials of research, and this warning is needed as much for the advanced worker as for the beginner....

'HOW CAN I DO RESEARCH?'

What such questioners evidently want is a subject suggested for them. But this is the one question about research which is almost impossible to answer. That is because research is such a personal and individual matter. What fascinates one person bores another. It is absolutely essential that research should remain a pastime, even if it becomes a profession. The dullest, and saddest, of all papers are those by the professional scientist who has lost his enthusiasm. But this problem does not afflict the amateur since if he ceases to be excited by birds, he simply turns to something else. It is important to remain excited by research if only because, as already mentioned, repetition is essential, and you cannot, or at least will not, repeat observations if you are bored. So even if you follow a research topic suggested by someone else, your heart will probably not be in it; it will remain his problem, not yours. Further, particularly if the problem is at all difficult, it should live with you all the time, just turning quietly over in your mind, whether you are catching the morning train to the City or bathing the children. The proverbial absence of mind of the Victorian professor was due to this absorption in his problem.

The choice of a subject for research is also personal in that it must suit your own limitations, of both person and place, and only you really know what these are. The problem is different for the town and the country dweller, for one who likes climbing trees, for one who is somewhat deaf, for one with a taste for gadgets, and so on. The problem also depends on whether you get your free time in the early mornings, or at week-ends, or on holidays, and on whether you have a car or bicycle.

Actually, most of those doing research on birds, both amateur and professional, were never troubled by how to start. They were so busy just watching and enjoying birds, and in recording what they saw, that their watching became research before they realized it. For if you are the kind of person who likes research, your observations will themselves suggest problems to follow further. Advice is valuable, but in the later stages rather than the first....

Nearly all other ornithologists that I have asked started their research by accident, i.e. by bumping into an unexpected detail which puzzled or excited them. It is, of course, important to recognize that the detail is unexpected, and for this one needs some knowledge based on reading and also, once again, to repeat the observation to find out more about it.

It may be worth adding that the greatest of all biological discoveries came by accident. Darwin did not think out the theory of evolution from first principles, nor did he set off on the 'Beagle' in order to discover this or any other biological theory. He was simply a naturalist-collector, but when he found a unique group of finches in the Galapagos, he wondered about their origin. Years later, when T. H. Huxley first read the Origin of Species, he remarked 'How extremely stupid not to have thought of that!' Quite so, but no one did 'think of that' until a naturalist saw some drab but unexpected finches....

Although wandering vaguely about one's environment rarely leads to new ideas, wandering discursively about the bird literature can do so. One should read extensively, in the bird journals rather than the bird-books, and always for enjoyment, not out of a sense of duty. New ideas are far more likely to come when one is reading with enjoyment than when one is ploughing studiously through a laborious tome recommended by a well-meaning acquaintance (a true friend would not suggest such a thing). Either the tome really isn't worth reading, or you are not ready for it, and so are spoiling it for later....

For research at home, it is essential to have your problem close at hand, preferably within a few minutes of the house, because otherwise far too much time is wasted in getting to and from the place of observation. While some people have tried to study all the birds in a particular habitat, this is rarely productive, and good home-research has usually entailed either the study of one species, or the study of a particular activity in a group of species.

If you decide to take up a particular species, and this is one of the most enjoyable of all studies, you must love your bird. After all, you will probably live with it for years, and if you don't love it, you may soon get bored with it, as few of us can maintain a purely intellectual interest. Some men could be made happy by almost any woman, but others are extremely choosy, and the same applies to bird-watchers. Most of us, I suspect, are choosy. Needless to say, the excitement of rarity soon palls, and there is everything to be said for studying a common species, for then one nest-failure does not mean disaster, and there is plenty of opportunity to study variations in behaviour. It is also valuable to have a resident species, which one can watch throughout the year. If it can be trapped and colour-ringed, so much the better, and mist-netting has made this possible for most birds now. There is a special pleasure, as well as scientific value, in recognizing particular individuals. Having said this, a wide choice remains, and it is up to you whether your love is quiet and mousy or gay and bedizened, whether she possesses a graceful neck or powerful claws, whether she utters wild cries or social chatter.

On one further point, which often causes worry, I think there is no need to fear, and that is that you may have chosen a bird that is already being studied by someone else. One is, of course, frightened that the someone else may come first to one's choicest discoveries, but each person's

interests, way of work, and surroundings are so different that this doesn't seem to happen in practice. Such, at least, has been my experience, and I have found, on the other hand, that at a later stage, the other worker's knowledge added to mine has produced discoveries which would not otherwise have been made by either of us....

The other good home-subject is to study a particular activity in many species. The obvious one is migration, perhaps at the local reservoir or sewage farm, in which case do study all the members of a group, for instance all the waders or all the ducks, and not just the rare ones. And don't be afraid of the blank day. In a series of regular visits, the day with no birds can be just as significant as the day with many, that is, if you are interested in research. Remember, too, that there are many other subjects than migration. P. H. T. Hartley's pioneer studies on the places where birds feed began as a spare-time occupation round his home, and after a happy interlude doing the same as a professio he is now once more continuing them as an amateur....

While research is possible for anyone interested in birds, it is a discipline, and certain sacrifices have to be made, especially in time, for the cost in money can be negligible. Further, certain qualities have to be developed. The first, perhaps, is enthusiasm, which may be taken for granted in all bird-watchers, but it has to be sufficiently sustained to carry one through the blank days and much repetition. Persistence is essential. Humility is equally to be stressed, the more so as it is out of fashion; indeed, when has it not been out of fashion? The old word for research, and perhaps a better one, is 'learning.' As T. H. Huxley said: 'Sit down before fact as a little child, be prepared to give up every preconceived notion, follow humbly wherever...nature leads, or you shall learn nothing.'

Next there is courage. We are ready enough to go out in all weather to scale a steep cliff or to cross a turbulent sea, but are we equally ready to learn simple statistics, or to read German, or to make a gadget? Let us not be put off by any surmountable difficulty, though at the same time recognizing our unavoidable limitations and conforming our research to them.

Finally, and perhaps most important, there is integrity, which is as essential for the simplest as for the most difficult research. Probably all scientists start as the servants of truth, but not all end there. The desire to be the first to publish a new theory, or to complete a book by the contracted date, or to come in from the cold, or to fill in more Nest Record Cards than anyone else, can easily lead to hurried, unchecked and slipshod observations, though none of them need do so. A particularly difficult phase comes when one has enough observations to think one's idea is right but twice as many are needed to prove it. At this stage it is often best to try to catch oneself out rather than to confirm one's idea. Charles Darwin always noted with special care the observations pointing

against his views, because he found it was these that he tended to forget. Faulty observations may, of course, be detected by a later worker, but the real reason for accuracy is not that you may be found out, but that you may not. Your paper may remain the last work on its subject for many years and be constantly quoted. Even a careless mistake in writing down one ring-number may result in a recovery being reported from the wrong species, and so may lead to distortion in another worker's views on migration. One further temptation, the desire to see the unusual, does not afflict the research worker nearly so much as it does the rarity-hunter, who is always biassed against the probable. For in research a 'new' observation has normally to be repeated before it is of value....

While, as I have stressed, advice from others rarely helps for the start of research, it is invaluable for research in progress. It is then that it pays to seek out the experts, and also to talk to anyone else prepared to listen. For not only does one receive valuable advice from others, but in telling others of our discoveries, we often find new ideas forming that we did not know we had, and which might not have come to the fore but for the stimulus of a listener. Inquire into both the theoretical and practical aspects of your subject, read extensively, and do not be afraid of trying new techniques, or tackling a paper written in German, or of looking at a bird in new ways. If you are studying a particular species, try to enter as much as possible into its way of life, and if your friends start saying that you are becoming very like a Rook, or a Grebe, or whatever species it is, you are progressing.

It is also valuable to have definite views, a bias if you like to call it that, or better, a hunch. The person with vague views rarely comes to definite or important conclusions. But there is also the opposite danger, of sticking too long to a view because it is your dream-child, in the teeth of contrary evidence; we have all seen examples of this--in other people of course.

For many, but not all, aspects of research, numerical data are a great help, whether it be the number of waders each day at a sewage farm, or the number of visits paid to a nest by the parent birds in three hours...

In some types of field work, experiments can also be valuable, but only at a late stage. It is no good trying to change the circumstances of a bird's life until you know thoroughly what its normal circumstances are, and if you try to do so, the experiments may be extremely hard to interpret properly. So do not experiment for the sake of experiment, but in order to find a better answer to some question suggested by previous observations on the natural life of the bird.

When counts or experiments have been made, their interpretation is greatly helped by simple statistical analysis. As most bird-watchers seem both ignorant and afraid of statistics, let me stress two points. First, statistical analysis is not a magic way of converting bad observations into good; it should be used only for sound observations. Secondly, statistical

analysis is not difficult in the forms in which most bird-watchers need it, not nearly so difficult as learning to type, or to speak French, or to climb trees. It involves merely simple addition and multiplication and knowledge of what formula to use, the last, of course, being the tricky point, but there are several simple books written for those with no previous knowledge of statistics and with no special ability in mathematics. Just as you can switch on the light without any knowledge of electricity, so you can use statistical tests without knowing why they work; but you must know the right switch. . . .

BANDING SEASIDE SPARROWS IN SOUTH CAROLINA

By Oliver L. Austin, Jr.

Bay Point Island and adjoining St. Phillips Island are typical coastal salt-marsh islets some 15 square miles in extent lying due south of Beaufort and across Port Royal Sound from Hilton Head, South Carolina. Their vegetative cover of Spartina, Juncus, Paspalum, and Sporobolus supports a scattered and apparently resident population of Seaside Sparrow Ammospiza maritima macgillivraii.

The spring tides at the full of the moon sometimes completely flood these marshy islands, except for one little "hammock" off Morse Island Creek, on which my friend Beekman L. Webb, Jr. of Beaufort has a small fishing camp. The hammock contains about 3 acres of sandy upland covered thickly with groundsel and wax myrtle, among which stand 6 palmettos, 4 scrub oaks, 3 little red cedars, and 2 stunted pines. And here for the short time the surrounding marshes are inundated, all the Seaside Sparrows in the area take refuge.

Beek took me out there in his outboard whaler during the spring tides of November 21, 1964. During an exceedingly busy hour at high tide we caught with six mist nets and banded 120 Seasides, all typical macgillivrai. I was unable to return to Beaufort and the islands again until almost a year later, on the tides of November 6, 1965. The tide was not so high that morning as it had been the previous year, and it did not force so many birds in. Likewise a stiff northwest wind made netting difficult. Nevertheless during the half hour the tide was at its fullest, Beek and I managed to net 34 Seasides. To our delight 10 of these, or almost one-third, were birds we had banded there the year before. To the best of my knowledge these are the first returns on record for this population.

Seaside Sparrows are so easy to net in quantity when spring tides force them to congregate in such islet refuges, I am surprised that no bander within easier reach than I am of their coastal habitat has turned his attention to them. So little is known of the seasonal movements of the various Seaside populations that studying them through intensive banding would certainly produce rewarding results in a comparatively short time.