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978-1-107-53687-6 - The Birds of Britain: Their Distribution and Habits

A. H. Evans

Excerpt

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INTRODUCTION

ON THE CLASS *AVES*, OR BIRDS IN GENERAL

Birds are distinguished from all other living creatures by their covering of feathers. They are moreover bipeds, and have beaks, wings, and tails; but these features are not peculiar to them, while the power of song and the method of reproduction by eggs are also held in common with other animals. Again, ability to fly, in the true sense of the term, is a possession of most species at the present day, but Palæontology teaches us that of old there were flying Lizards, and even now we have flying mammals in the shape of Bats. None of these points therefore, with the exception of the first, are unfailing characteristics of the Class *Aves*.

There is no doubt that the ancestors of our birds bore a remarkable resemblance to reptiles, and that, if they did not actually spring from them, as is now the orthodox belief, both must have certainly arisen from a common origin, that is, from some creatures combining in themselves those points which the two classes have in common. This is the more evident when we consider the earliest known fossil bird, now termed *Archæopteryx lithographica*, which was discovered at Solenhofen in the kingdom of Bavaria. It was about the size of a Rook, and was in all probability a tree-loving species.

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Archæopteryx lithographica

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It had teeth in both jaws of the short blunt beak, a long lizard-like tail with twelve big feathers on each side, wings with both primary and secondary quills, and perhaps a weak keel to the breast-bone. The first two of these points, with other features of the skeleton, distinguish it so sharply from all other birds that it has been placed in a Subclass by itself, termed *Archæornithes* (ancient birds).

Certain of the latter-day birds have no keel to the breast-bone and therefore no attachment for the flight-muscles—for instance Ostriches, Emus, and Cassowaries; these have been separated from the others and termed *Ratitæ*, as opposed to forms with more or less of a keel, which are known as *Carinatae*, the latter including all our British species, as will be seen below.

We cannot here deal with osteology or anatomy, but the subjoined figure will explain the technical terms used for the feathers on different parts of a bird by scientific writers. They do not grow on all parts of the body alike, but on certain tracts called *pterylæ*, while the unfeathered parts are named *apteria*. It may be of interest to our readers to learn that the sprouting feather consists of a “barrel” or quill which bears a tuft of rays called barbs, and that these again by splitting ordinarily produce “barbules.” The earliest and softest feathers are those which are collectively called “down,” while below each down-feather is formed a contour or webbed feather, so that eventually the latter protrudes with the former at its tip. Subsequently this falls off, as may easily be observed in the young of any down-clad species. Many nestlings, however, have little or no down at all; on the other hand many down-feathers remain continually in their

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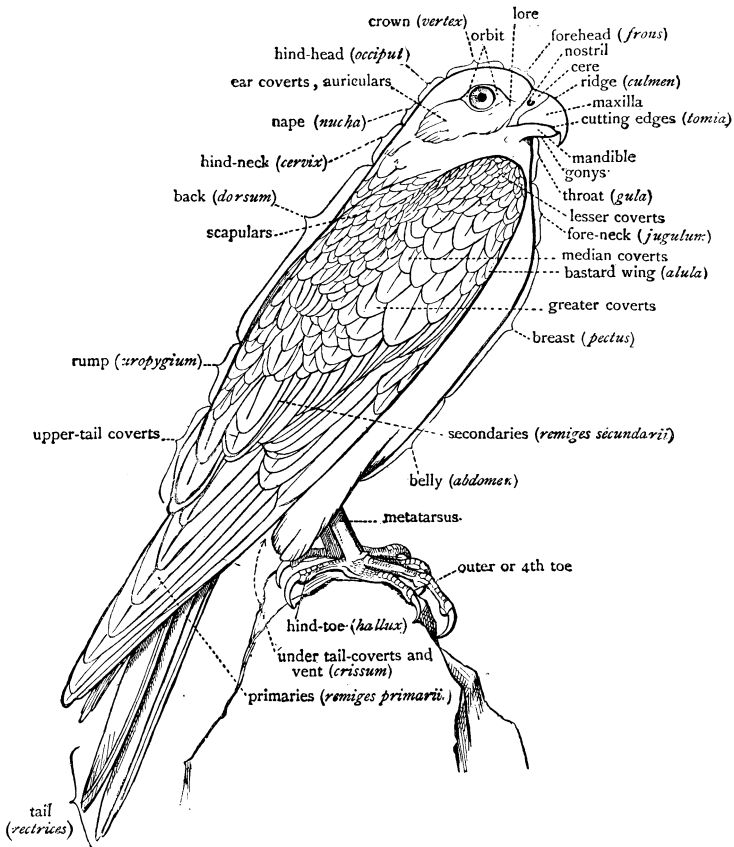
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original state. In contour-feathers the barbules give rise to “barbicels” which regularly end in little hooks

**A Falcon**

To shew the nomenclature of the external parts

that catch in the folded margins of the next row and serve to produce a firm surface or “web” on each side

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of the shaft. If barbicels, or even barbules, are absent, the feather is called decomposed ; if the barbs also are wanting, we have bare quills, wires or bristles.

Birds do not, however, perpetually keep the same coat of feathers, but have periodical “moult,” or annual changes. The young do not always lose their main quills in their first year ; on the other hand certain groups of birds not only pass through a regular autumnal moult, but have a second change of the smaller feathers in the following spring. These processes account for the difference between the summer and winter plumages, while some species are known to have three moults, and therefore a distinct summer, autumn, and winter coloration. Decorative plumes are generally assumed in the spring, and are chiefly to be found among the males, which are in the great majority of cases brighter—and larger—than the females. The young are generally similar to the female in colour before they moult.

There are curious exceptions to the above rules, for instance in the Phalaropes and Hemipodes the female is the larger and brighter bird—and there the male takes her place in courtship and incubation ; in Penguins the feathers flake off, instead of moulting properly ; Gannets take some six years to attain their full adult plumage ; most of the Duck tribe lose all their wing-quills at once and then become flightless, while the males temporarily assume the plumage of the females and are said to suffer “eclipse.”

The colour of a bird's plumage varies with the seasonal moults, for the most part by new feathers taking the place of the old, but also by the partial or entire wearing away of the edges, whereas change of the

actual colouring matter, if indeed it occurs at all, must be most exceptional. Gloss and iridescence are due to the structure of the feathers, which may be polished or shew little ridges under the microscope.

Newly hatched birds often run from the shell, and are therefore called “nidifugous” or “nest-deserting,” but the majority are “nidicolous” or “nest-inhabiting,” and fly only when fully fledged; some again of those which run from the shell can only move to short distances for a considerable time. These habits are naturally related to the position of the nest.

With the exceptions already mentioned, and excluding the time of moult, birds have extraordinary powers of flight, though these powers are in constant use only in the case of certain forms, and in others are put forth periodically; speed, endurance, and like factors here come to be considered, while the style of movement, including the amount of wing-action or oarage, and tail-action or steerage power, varies to an enormous extent. The greatest example of un-tiring flight is that of an Albatros, which will follow a ship for days together; but the same habit, to a less extent, must to most people be familiar in the Gull tribe, which also follow vessels for long periods, and remain on the wing for hours, when looking out for food. These birds are not always flapping their wings, but glide or skim along with intervals of muscular action; while it is evident that they are greatly indebted to the supporting power of the air and its force against the flight-feathers. Vultures, Eagles and Buzzards, Falcons and Hawks have a different kind of flight; they either cleave the air at a great pace or move along slowly but powerfully; and even if they

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soar and circle round in the sky, or hover, as in the case of the Kestrel, their wings are for the most part in a state of constant motion. Many of this family are noted for the swiftness with which they dash upon their prey, so different, for instance, from the soft noiseless progress of an Owl. Storks and Cranes on migration fly for huge distances at great elevations; Swans, Geese, and Ducks, heavy creatures though they are, move at a pace that is readily admitted by the gunner who misses them; Pheasants, Partridges, and Grouse can travel at great rates, and the first-named rise with amazing suddenness from the ground; among the Plovers the Lapwing is noted for its noisy "winnowing" flight, partly due to the wide expanse of its wings; Woodpeckers follow an undulating course, Kingfishers dart from place to place, Larks soar, and almost every group of birds has different methods, of which these are but a few striking examples.

Again, the smallest species traverse incredible distances on migration. This is not perhaps so marvellous in the case of the Swallow, which careers through the air in untiring fashion at any time, and only alights at intervals, nor in the case of the more powerful Swift, which seems to be able to remain aloft indefinitely, and is rarely seen to perch except at the nest or when roosting; but it is astonishing beyond measure in birds of apparently limited flight, such as Thrushes, Wagtails, Pipits, and dozens of others. Of these the Golden-crested Wren is perhaps the most wonderful, for though the weight to be supported is here inconsiderable, the delicate structure appears to be little fitted to cope with the stormy weather that is often prevalent at the seasons of passage.

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The mechanics of flight are, of course, far beyond our scope, nor will we attempt to account for all the different modes of progression, but we may call attention to the fact that the power of locomotion does not depend on length or strength of wing alone, while the shape of a bird's body, which is often provided with air-sacs, and the more or less hollow bones, are well calculated to make progress in the air as easy as possible.

Consideration of flight naturally leads us to the subject of Migration, which, indeed, we have already been obliged to mention. From ancient times it has been one of the marvels of bird-life, being referred to in the book of Job, by Homer, and the later Greek and Latin poets, as well as by countless subsequent writers. Yet we seem to understand the phenomenon only slightly better than of old, though great efforts have been made of late years to gain more definite knowledge of the magnitude and direction of the movements.

In the first place it is necessary to mention three classes of birds which are often confounded under the name of migrants. The true or summer migrants, as regards Britain, are those which, after breeding in our country, leave it for the winter and return again in spring, the times of their arrival and departure being more or less variable quantities. The partial migrants on the other hand are those which may be said to be more or less resident in Britain as species, though many individuals leave us on migration, and many that have not bred with us visit us at the colder seasons. The birds of passage are those which are only seen for a shorter or longer period in autumn, pass on to more genial

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climates, and are frequently again in evidence for similar periods in spring. The term resident is applied not only to species which never or very exceptionally leave us, but also to those which are for the greater part non-migratory or only share in limited movements within the kingdom. The word "resident" in fact is often used in a comparative sense, and many birds of this description are really partial migrants; this must necessarily be the case as long as we cannot safely assert that the individuals met with in winter are the same as those breeding with us in summer.

Many attempts have been made to ascertain the distances travelled on migration and the direction followed by the flocks, as well as their numbers, the altitude of flight, the pace in the several cases, the most favourable weather, and so forth. Much has been discovered with regard to the four last points by continued observations at Lighthouses and Observatories, coupled with those made on the rate of flight of individual birds; but much less success has attended the constant efforts to determine the two first points. Mr Eagle Clarke in particular has spent an immense amount of time at the seasons of migration at Lighthouses, or on Lightships; the keepers of the Lighthouses have aided by transmitting specimens that have been killed at the Lights from many quarters, while Mr Clarke has prepared an abstract of such reports; marked rings have been fastened to birds' legs at the nesting places by ornithologists in different countries with a view to ascertaining where they occur at later periods; and finally watchers have noted the arrival and departure of the different species and filled lengthy lists with their observations. Yet all this good work has but resulted in confirming

what was already pretty well understood—that is, the great distances traversed by certain birds, and the general direction of their movements. On the other hand a mass of the most valuable information has been accumulated with regard to the methods of migration. Species which ordinarily travel in flocks can be separated from those which are apt to do so singly or in pairs; the numbers in the flocks have been proved often to be incalculable; the altitude has been reckoned in certain cases and found to be so great that it is clear that only the lower flocks are really brought within our ken; bad weather has not proved to be in all cases an obstacle to migration, though the direction of the wind has always to be considered.

Apart from the distances traversed, the direction of migration, that is, the broad lines in which different species travel, is a question of great moment. Birds which breed to the south of the equator certainly tend to migrate northwards; but so little is known of the habits of these southern forms that we must follow the course, usual at present, of confining our remarks to those that breed in the northern hemisphere, while noting that the movements are of much less extent in the southern half of the globe.

On migration the young usually start before the parents, though in exceptional cases, such as that of the Cuckoo, which is reared more often than not by one of our resident species, they linger till a later date. Once started, the direction is distinctly influenced by the conformation of the land; coasts, river-valleys, and so forth making for ease of travel, high mountain ranges for difficulty; but even the last-named are not uncommonly surmounted, and the old idea that straight