

Calendar of Nature Topics

April Showers

In England, April is proverbially showery. It is the spring month *par excellence*, in which the air is still cool but the sun is already fairly strong. The worst storms of winter are past, and moderate breezes prevail, but the land surface is much warmer than the sea, and the air which crosses our coasts is warmed rapidly by contact with the ground. On a typical April day ascending currents are formed, giving rise to detached cumulus clouds from which showers may fall, but the clouds rarely coalesce to form cumulo-nimbus, for the amount of moisture in the air is insufficient for the development of the more severe thunderstorms which occur under similar conditions in summer. Sometimes in April, showers may be seen to fall from a cloud but evaporate before reaching the ground.

Tornadoes in the United States

April 7.—Tornadoes are violent whirls of air of small diameter; in the United States they are most frequent and most destructive over the great lowlands of the central and upper Mississippi and lower Missouri valleys, where they sometimes cause considerable loss of life. They may occur in any month and at almost any hour, but are most frequent in the afternoons of spring and early summer. Most tornadoes form in the current of warm moist air which blows from the south in front of a cyclonic depression advancing across the continent from the west. Above this warm southerly wind there is often a cool wind from the north, giving an unstable distribution of the air layers. When, in addition, the ground is heated by sunshine, conditions become very favourable for the occurrence of violent readjustments, which are generally associated with severe thunderstorms and in extreme cases take the form of tornadoes.

Immigration of Summer Visiting Birds

An occasional early bird arrives in Britain in February; the chiffchaff, ring-ouzel, wheat-ear, swallow, sand-martin, and garganey duck are all credited with dates in the latter part of the month, although mid-March is their usual time of arrival. Generally speaking, the tide of normal immigration begins with first arrivals in the second week of March, led by the ring-ouzel and the wheat-ear, and in all about fourteen species of summer visitors have put in an appearance before the month is over. But April is the great month of first arrivals and in the third week of the month the greatest number of species appears, about twelve out of the month's total of thirty. The advance guards are followed within a few days by the general immigration of the species, but often a month or more may elapse before the general movement is completed. Amongst the laggards in reaching their breeding haunts in Britain are the red-necked phalarope, which nests in a few localities in Scotland, where it arrives in the third week of May from its winter haunts in the seas of south-western Europe; and the marsh-warbler, which seldom reaches its nesting sites in the southern counties of England until the early days of June.

The mass arrival of the summer visitors amongst birds is associated with the increase of temperature, for it is in April that the great spring change takes place, and the winter type of temperature distribu-

tion, in which inland temperatures are relatively low compared with coastal temperatures, is replaced by the summer distribution of high inland and low coastal temperatures, which continues until the autumn.

Order of the Coming of Summer Visitors.

When Dr. Eagle Clarke summarised the vast mass of data on migration accumulated for the British Association Committee of 1896, he found that the great majority of British summer birds appeared on the west coast of England some days in advance of their arrival in their eastern haunts. These observations have been amply confirmed, and it has been found, as Dr. Clarke also has pointed out, that the same rule applies to Scotland, where the Solway and Clyde areas receive their first spring migrants some days earlier than the areas of Tweed and Forth. The records and maps of spring migrant isophenes (or lines of equal arrival dates) published in recent years in the Phenological Report of the Royal Meteorological Society, make still more striking the order of the arrival of the summer birds. From south to north the progress is remarkably steady each year. Within a week of the first arrivals in Kent, the birds are at the Humber, three days later they have reached the Tweed, and in approximately three more days they appear in the neighbourhood of Aberdeen.

Another fact, often referred to, is the regularity with which the individuals of a species arrive at the same place year after year, a testimony to the stability of the seasonal impulse of migration the more striking when the enormous distances traversed between the points of setting out and of arrival are kept in mind. A recent example may be quoted from a paper by Witmer Stone in the Year Book of the Academy of Natural Sciences of Philadelphia for 1931 (1932). For many years the Delaware Valley Ornithological Club has recorded the time of arrival of birds at various places within ten miles of Philadelphia; two examples of their records will illustrate the point—in eight consecutive years the wood-thrush has arrived on April 28, May 2, April 30, April 28, April 29, May 1, April 26 and May 1; and the black-and-white warbler on April 27, 26, 25, 27, 27, 25 and 27. Both birds are easily recognisable, one by its song the other by its coloration, so that there is little chance of either being overlooked or mistaken for another species.

The 'March Brown' of the Angler

The 'March brown', now appearing in great quantity in a number of rivers, is widely distributed in Britain. Well known to the angler for more than a century by its common name of 'March brown' and by other names since the middle of the seventeenth century, it is extremely probable that the 'March brown' is referred to in a well-known description in the "Boke of St. Albans" (1496). It is curious that such a familiar insect should so long have remained unknown to the entomologist, and only recently have found its rightful place in the list of British Ephemeroptera. Eaton (1883) identified it with *Ecdyurus venosus*, an ephemerid different in habits, appearing from mid-May to October, the subimago of which closely resembles the March brown. Moseley (*Ann. Mag. Nat. Hist.*, Jan., 1932) showed the 'March brown' of the early spring months to be *Rhithrogena haarupi*, Esb.-Peters., an insect first described from Denmark (Esb.-Petersen, 1909).