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Reprint from

PROCEEDINGS

of the

Xth International Ornithological Congress

Uppsala June 1950

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UPPSALA · STOCKHOLM

ALMQVIST & WIKSELLS BOKTRYCKERI AB

1951

Swift (Apus apus L.) Movements in Summer

Ottenby Bird Station Report No. 10

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Ottenby Bird Station, situated on the southernmost point of Öland in the Baltic, gives very favourable possibilities for the study of swift movements. No swifts are breeding there and practically all swifts observed are moving birds, apart from a few which breed in a small village 5 kilometers from the point.

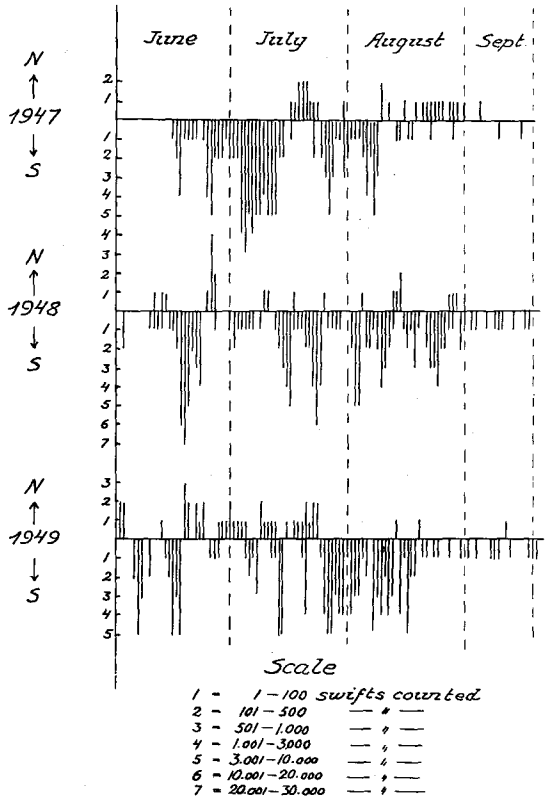
At Ottenby all passing birds are counted during the entire day. Furthermore this activity lasts from the beginning of June to November 1st.

During the season passing swifts are seen almost every day. In the years 1947–1949 the July-months have provided 93 observation days, on which passing swifts have been observed and noted on 87 days. That means only two July-days per annum were free from moving swifts.

The details of three years' study of swift movements are given in figure 1. The number of swifts counted has been roughly grouped in a 7-degree scale, where the highest figure means that between 20 000 and 30 000 swifts have been seen passing the station during the day. North- and south-flying birds have been marked by different lines drawn up or down from the zero-axis.

The great majority is always flying south, i. a. WSW-S-ESE, irrespective of season. This most probably depends on the fact that the isle of Öland serves as a guiding line for south-moving birds only. It may also be possible that north-moving birds on the average fly in better weather when they might move higher, out of sight from the ground.

It is a remarkable fact that north- as well as south-moving birds may be observed in every month. It may be added here that thousands of swifts have been noted on south-flight in May 1950. As can be easily seen from the diagram there is no obvious concentration of days when the birds fly north in spring or south in autumn. So we must conclude that the movement called "ordinary migration" is not recorded for swifts on the south point of Öland, though that of other birds are.



Note: In 1947 the observations started June 15th.

Fig. 1. The passage at Ottenby Bird Station of swifts during three summers.

Quite recently the Finnish ornithologist Koskimies has pointed out in a comprehensive paper that the swift flights in high summer are no true migration but weather-flight movements. By these movements the birds avoid the unfavourable weather of a cyclone. This leads to a transfer of birds to regions with a better food supply. According to Koskimies (Koskimies 1950) the birds fly around the cyclone by means of the typical swift reaction to fly against the wind.

From the field books of Ottenby Bird Station 1947–1949 all days with more than one thousand moving swifts have been extracted and submitted to a weather map analysis. Such "top-days" have occured 11 times in June, 24 times in July and 12 times in August. All but one concern south-moving birds.

The analysis has shown that all but 4 of these "top-days" occurred during the passage of a cyclone over the Baltic area. In the great majority of cases strong flights of swifts have been seen at Ottenby the day after heavy rainfall on the Swedish mainland. In some cases, however, the rain has fallen over southern Finland or the east coast of the Baltic. The correlation between rainfall and swift flights seems to be quite certain.

The remaining 4 top-days were all of very moderate magnitude and all came in the first week of August. These swift-movements might thus have been caused by some other agent than the weather, i. a. by spontaneous migration to the south in the autumn. It is known that most swifts disappear from their breeding places in Sweden during the first week of August.

The 39 top-days, which must be ranked as weather-flights, thus in the main confirm that at Ottenby practically all swift movements are weather-reactions, by means of which the birds fly away from an area, where their feeding is hampered. Since the great majority of the cyclones move NE this means that swifts on the Swedish mainland will often first experience a SE-wind at the front of the cyclone, i. a. when the wind increases and the sky is progressively more clouded and rain begins to fall. In this way, supposing they fly against the wind, as is always seen in the field, a lot of swifts will accumulate on the Baltic coast, moving south along it. Also when the wind is turning SW or W they are still seen following the coast of Öland southwards. Perhaps the coast will act as an important guiding line. But they may also come from south Finland or the east coast of the Baltic, going right over the sea. A very instructive, though unusual, case was observed 25. 6. 48, when more than one thousand swifts were passing northwards at Ottenby; the only top-day of this kind so far recorded. A cyclone over Poland caused rain over the southeast corner of the Baltic and the land area of Poland. The cyclone moved, as is very seldom the case, NW out over the Baltic and a strong NW-wind was blowing at Ottenby. The swifts were again driven in front of the cyclone and passed Ottenby before the rain began to fall.

The swift observations at Ottenby thus strikingly confirm Koskimies's statements (op. cit.), but indicate that weather-flights do occur during the whole summer and not only in high summer as stated by him.

Several questions arise regarding the swifts movements, i. a.

i) is the normal wandering of swifts from Europe to Africa built up by a number of separate weather-flights or is it only in summer the bird displays this striking mobility?

ii) What birds participate in the summer weather-flights? Only immature birds from last summer or breeding birds too?

Regarding the first question some evidence may come from the observations of swift behaviour in the breeding territories when a sudden rain occurs. In the Stockholm area I have seen the swifts aggregate very rapidly to flocks of 80 or more, all flying together against the rain and wind until they disappear. Even if this was only a very local flight, it indicates that the swift has instinctive reactions which are released by "bad" weather. This may indicate that weather flights occur throughout the year. In the Belgian Congo, enormous flocks of swifts have been seen in connection with the passing of tropical cyclones (A. de Bart, pers. communication) which also speaks in favour of weather-flights. Finally, in the last half of October, occassional swifts have occurred in southern Sweden in connection with northern winds. In one case a bird was observed at Ottenby flying in from the sea going northwards.

Koskimies (op. cit.) assumes that mainly immature birds participate in the summer weather-flights. This may be true but, sometimes at least, breeding birds probably take part as well. In July 1947 a lot of breeding swifts disappeared from their nests at Hasselfors in middle Sweden (Magnusson and Svärdson 1948) and an enormous passage was noted at Ottenby. When the movement assumes greater dimensions, caused by long periods of bad weather, breeding birds probably move as well. In 1947 more than 400 passing swifts were ringed at Ottenby and in the two consecutive summers 6 were reported from probable breeding areas. They came from middle Sweden and Norway (from Stockholm to Kongsvinger) which means that a bad weather escape may be a flight of roughly 1 000 to 2 000 kilometers, until they are back home again.

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