

Falls of Autumn Migrants: 7—9.76

M. A. THAKE

Weather analysis

An anticyclone centred over south central Europe brought an influx of cool continental polar air over the east central Mediterranean. Cyclonic curvature over Tripolitania mixed

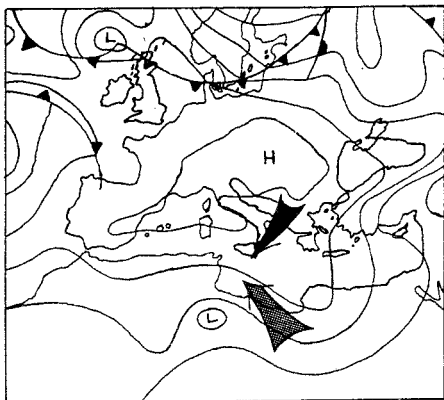


Fig.1. Surface synoptic chart at 0000 GMT, 8th September 1976. The black arrow represents cool continental polar air while the dotted arrow represents warm, humid, modified continental tropical air. (Drawn from the European Meteorological Bulletin, Deutscher Wetterdienst).

this air with modified (humid) continental tropical air over the central Mediterranean (see Figure 1). The cooler air descended below the warmer more humid air, which was thereby trapped between two shallow layers of relatively cool air. Slow ascent of the warm air produced layers of middle cloud which gave rain over Malta on the 7th and especially the 8th September, with overcast conditions extending over a wide area from Sardinia to the east central Mediterranean. Anticyclonic conditions prevailed over the Italian peninsula, giving clear skies and tail winds further north. The situation broke down on the 9th when pressure over Italy fell.

Species notes

Most of the data in Table 1 refer to birds seen at Buskett in the course of systematic watches made there in autumn. The only exceptions are the data for the wheatear which were obtained by counting on the Dingli cliffs. The migrants seen are grouped in categories in Table 1.

TABLE 1

Migrant species grouping	6th	7th	8th	9th	10th
Turtle Dove	14	56	125	10	9
Hirundinidae	18	5	9	48	250
Motacillidae	1	22	6	1	18
Golden Oriole	1	3	4	4	4
Nocturnal migrants	2	15	17	19	7
Wheatear	1	25	30	no data	6

Discussion

The number of Hirundinidae observed was clearly lower during the period in question. These birds form large feeding flocks over Buskett during the day and numbers refer to counts or estimates of these flocks. The birds feed on suspended insects carried aloft by thermals over Buskett. It is therefore reasonable to suppose that numbers at Buskett are subject to variation with weather conditions due to interference with normal migration. The low temperatures and few hours of sunlight recorded on the days in question suggest that thermal activity on these days was reduced. The observed low numbers could thus be due to either bad migration conditions or bad feeding conditions over Buskett or both.

The data for small nocturnal passerine migrants, including Wheatears, are readily interpretable in terms of a fall, with some birds remaining on the islands until the 10th.

Falls of nocturnal migrants are frequently recorded during overcast conditions, especially if such conditions are accompanied by rain (Richardson 1978). Such conditions are likely to represent convergence on the islands in extreme cases, such as occurred in late September 1969 (Sultana and Gauci 1969, Rushforth 1970). The well lit islands are visible from a considerable distance at night and must appear quite attractive to migrants in difficulty (Thake in press). In the case of small falls, such as the one reported here, the higher numbers may simply be due to a greater proportion of the birds flying overhead being induced to interrupt their flight.

The data for the Turtle Dove present a somewhat different picture. The numbers sighted on the 7th and 8th were clearly higher than usual. The birds were however noted on migration, in flocks which kept a definite heading between south east and south west. The birds may have converged on the islands over the period in question. Such an event would have resulted in birds approaching the watch point mainly from the west and not principally from the north as was observed. The simplest interpretation is that migration on these days was more subject to leading line effects, resulting in greater concentrations than usual. This could be due to slight disorientation or to a reluctance to leave the islands, as has been suggested elsewhere in relation to Honey Buzzard migration (Thake 1981). Another interpretation is that the observed meteorological conditions induced high flying birds to fly lower where they could be sighted more readily. Birds often show reluctance to fly through cloud and the Turtle Doves may have been forced to fly below the cloud layer at heights where they could be seen more readily. Both interpretations are tenable on the available data.

While there can be little doubt that migration conditions were unfavourable over the period in question, it is by no means clear which environmental variables were being reacted to. Thus winds at low levels were generally tail winds over the Italian peninsula, while cross winds prevailed over Malta and the central Mediterranean. Birds might thus have reacted to the change in wind direction by interrupting their flight. This interpretation is not applicable to the Turtle Doves, most of which did not attempt to roost. Upper winds were cross winds with a southerly component for most of the period in question and over a large area of the central Mediterranean and the Italian peninsula, and are unlikely to have caused the falls. The extensive layers of cloud might have resulted in slight disorientation of the nocturnal migrants with some birds opting to stop over in the islands. Lastly, the birds might have reacted to the presence of extensive areas of rainfall by interrupting their flight.

References

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