

## SPIRANTHES SPIRALIS (L.) CHEVALL. IN BRITAIN, 1955

By F. H. PERRING

On 6th September 1955 a letter was published in "The Times" from Canon Barker of Ellisfield, nr. Basingstoke, commenting on the fact that 'Lady Tresses' had appeared in masses on a south-facing lawn in north Hampshire. In the previous year there had been but a few specimens and the plant had not been known there in earlier years. A few days later "The Times" printed nine more letters which reported similar occurrences from places as far apart as Groombridge in Kent, Kingwood, Henley-on-Thames, Oxon, and Braunton, North Devon. Following this Dr. Walters and I wrote to "The Times" asking other readers for information on the extraordinarily profuse flowering of this species in southern England this season. As a result we received over 50 letters, nearly all of which confirmed the general impression that either the species had occurred in new localities or was much more abundant than usual in old ones. The majority of records were for lawns which correspondents explained had not been cut for some weeks during the unusually long hot dry spell in mid-summer. This agrees well with V. S. Summerhayes' remark in *Wild Orchids of Britain* that at one locality in Somerset the species used to flower regularly on a tennis court immediately under the net, where the mowing was not quite so vigorous as elsewhere.

In addition to "The Times" records I have received reports from some county referees and I have extracted data from literature and herbaria. Records already acquired by the Maps Scheme have also been incorporated. The map (Fig. 1) shows the distribution of *Spiranthes spiralis* for three periods of time:

1. Solid dot. 10 kilometre grid squares in which the species was reported as flowering in 1955.
2. Cross. Squares from which the species has been recorded since 1930 but not in 1955.
3. Circle. Squares from which the species was recorded before 1930 but not subsequently.

The map shows an interesting apparent change in the range of the species in the last 25 years. If Ireland is excluded (as "The Times" survey surely did not operate there) then of the 72 records for 1955 only 5 (7%) fall to the north and east of a line drawn from the Thames Estuary to Anglesey, whilst 67 fall to the west.



Over the period 1930-54, of 100 records 10 (10%) are to the east and 90 to the west. Of the records before 1930 no fewer than 121 (27.5%) are to the east and 318 to the west. Is this a real change of range, however? *Spiranthes spiralis* is much more frequent in the south and west and occurs every year in some coastal localities; for example, a lady living near St. Catherine's Point, Isle of Wight, writes that she has noticed it on her lawn every year for 73 years. It may be that in favourable seasons the plant extends its range to the north and east where it establishes itself in new localities for a number of years before dying out. If these localities are noted over a period of 200 years, records would accumulate for many parts of the north and east though in no one year need there have been a greater percentage of occurrences than there have been in 1955.

This situation raises a special problem in the mapping of species which are sporadic over part of their range, where they are rare not only in space but in time. A map using symbols to indicate records in a particular age group as has been done in Fig. 1 would, with these results, normally suggest that a species is being reduced in range, but as we now see it may be due to the accumulation of old sporadic records and it may be impossible to distinguish between the two.

Nevertheless it seems unlikely that this effect can wholly account for the differences in past and present distribution patterns of *Spiranthes*. The almost complete absence of records from the whole of East Anglia in the last 25 years, from the Midland counties and the Yorkshire limestone, leads to the belief that the plant was at one time more frequent. This belief can to a certain extent be supported by figures. If we assume that effective recording started about 1780 then between that date and 1930 the 121 records from the north and east would accumulate at the rate of 0.8 records per year. If the plant were as frequent in the period between 1930 and 1954 inclusive, 20 records would be expected. In fact there were only 10. From the south and west there are records from 318 squares over the 150 years 1780-1930, i.e. 2.12 records per year. Therefore in the 25 years since 1930, 53 records would be expected. The actual figure is 90. (1955 records are excluded as a special effort has been made to acquire records for this year). These figures suggest that the species is at least as frequent as formerly in the south and west but only about half as frequent in the north and east.

It would be too simple to suggest that the difference is related entirely to macro-climatic changes. There are other factors which are probably equally responsible. The absence in the London area is certainly in part due to population pressure and the same may be said of the Yorkshire limestone where its disappearance is paralleled by that of *Anemone pulsatilla*. Where habitats are given in nineteenth century floras of East Anglia several records

are from 'Moors'; for example, in Babington's *Flora of Cambridge* (1860) 'Sawston Moor', 'Moor at Snailwell', and in the herbarium at Cambridge there is a specimen collected by F. Robinson in 1915 labelled 'damp heathland, Foulden' (W. Norfolk). These moors are not of acid peat but are wet base-rich meadows. As was pointed out in a recent paper\* the extensive drainage of the fens has caused the disappearance or serious reduction of many species of fen and marsh in Cambridgeshire. Damp meadows may have dried out at the same time and the general level of relative humidity must certainly have fallen, creating a drier micro-climate and conditions less suitable for the growth of *Spiranthes*. 'Moors' however are not the only localities mentioned for East Anglia and there were at one time records from lawns in Suffolk which have not been confirmed in recent years.

If in East Anglia, the most continental part of Britain, *Spiranthes* used to occur in damp meadows it is not surprising that it should be most abundant on the coast of England in the south and west, where the rainfall is higher, and that inland it is most frequent around the two large estuaries, the Bristol Channel and Southampton Water, where the effect of the higher relative humidity is experienced furthest from the sea.

From the survey of literature and herbaria the vice-comital distribution of *Spiranthes spiralis* is: 62(1), H.21(1), S.: 1-30, 32-41, 44-46, 48-60, 62-65, 69, 71, (47); H. 1-9, 11-13, 15-18, 20, 21, 25, 26, 28, (10). There is no further confirmation of the record for Montgomeryshire. The original record in *Topographical Botany* gives no locality. No locality is known for the record from N. Tipperary.

The vice-counties from which *Spiranthes spiralis* was recorded in 1955 are: 1-6, 9-19, 23, 24, 30, 34, 36, 41, 46, 48, 49, 52, 63, 69. H. 3, 9, 12, 21, 26, S.

More information, particularly of records since 1930, would be welcomed.

\*Notes on the flora of Cambridge (v.c. 29), Perring, F. H., Walters, S. M., and Sell, P. D., *Proceedings of the Bot. Soc. Br. Isles*, 1, 471 (1955).