

## Notes

### *JUNCUS EFFUSUS* VAR. *SPIRALIS* J. McNAB IN THE INNER HEBRIDES

Henderson (1992) drew attention to the occurrence in N.W. Scotland (W. Ross, Outer Hebrides and Orkney) of a variant of *Juncus effusus* L. with suberect, gently spiral stems; he named this var. *suberectus* Henderson, with a type from Big Sand, Gairloch, W. Ross. Nelson (1993) reviewed the taxonomy of this plant in relation to the cultivated plants of *J. effusus* with spiral stems and concluded that they were all referable to one taxon, for which the correct name is var. *spiralis* J. McNab or forma *spiralis* (J. McNab) Hegi. He also cited additional herbarium specimens. In this note I accept Nelson's conclusion that var. *suberectus* should be regarded as a synonym of var. *spiralis*, but I prefer to treat the plant at varietal rank rather than as a form.

I have been familiar with the plant described by Henderson since 1987, when it was first pointed out to me by N. F. Stewart. As Henderson (1992) stated, the most striking feature of the plant is its open habit, with the stems prostrate to ascending but never erect. The stems are straight or slightly spirally coiled, but I have never seen plants in the wild with stems tightly coiled like a corkscrew. At first I thought that it might be a phenotype resulting from exposure or heavy grazing. Subsequent field observations have led me to the conclusion that it is genetically distinct. Plants of var. *spiralis* can be found in ungrazed grassland (e.g. the roadside verge along the street at Arinagour, Coll); furthermore, there is no reason to believe that grazing pressure is more intensive in N.W. Scotland than in other areas where only erect plants of *Juncus effusus* occur. I have also seen at least one population where var. *spiralis* grew amongst dense upright tussocks of *J. effusus*, in a pasture (S. of Loch an Duin, Coll) where both varieties would be subject to a similar degree of exposure and grazing. Henderson (1992) reported mixed populations, and he also made direct observations on seedling plants which demonstrated that the variant has a genetic basis.

Unfortunately I did not make a note of the locality in the Outer Hebrides (v.c. 110) where I first saw var. *spiralis*. Since 1989 I have noted the sites where I have seen 'Hebridean *Juncus effusus*', as I called the plant. These records, all of which are from the Inner Hebrides, are listed below. Most were seen when I was looking for aquatic plants, which explains why they are from pastures near lochs. I have never seen it growing close to water, however, as upright plants often do.

South Ebudes, v.c. 102: Noted as occasional on both Islay and Jura by N. F. Stewart from 1981 onwards, but no specific localities recorded.

Mid Ebudes, v.c. 103: N. of Loch an Eilein, Tiree, NL/98.43, 8 July 1989. Pasture on N. side of Loch Riaghain, Tiree, NM/03.47, 9 July 1989. Pasture near sea-shore, Lon Fhadamuill, Tiree, NM/073.493, 22 June 1990. Pasture, Vaul, Tiree, NM/04.48, 26 June 1990. Damp area in pasture, Urvaig, Tiree, NM/07.50, 26 June 1990. S.E. coast of Gunna, NM/10.50, 6 July 1989. Pasture between Crossapol and Caoles, Coll, NM/12.52, 5 July 1989. Near pool at Cnoc na h'Osnaiche, N.E. of Loch Fada, Coll, NM/198.587, 29 June 1990. Verge by village street, Arinagour, Coll, NM/22.57, 5 July 1989. Rough pasture S. of Loch an Duin, Coll, NM/21.57, 7 July 1989.

North Ebudes, v.c. 104: Bank of stream by outflow at S. end of Loch Mhor, Waterstein, Skye, NG/142.480, 13 July 1989, CGE (Preston 89/202).

*J. effusus* var. *spiralis* is occasional on Coll and Tiree, but much less frequent than the erect variant. I have done too little fieldwork on Skye to comment on its frequency there.

These records add to those already published by Henderson (1992) from v.cc. 105, 110 and 111 and Nelson (1993) from v.cc. 17, 44, 111, 112, H27, H28 and H34. The fact that *J. effusus* var. *spiralis* has a distinct habit and a geographical range which differs from the widespread varieties has led me to prefer to treat it as a variety rather than a form. This is similar to the taxonomic treatment of coastal ecotypes, which differ from the type in their dwarf or prostrate habit and are usually treated as varieties or subspecies.

## ACKNOWLEDGMENTS

I am grateful to N. F. Stewart for drawing my attention to this variant of *Juncus effusus*, and for providing the records from Islay and Jura. Many of the above records were made with Nick Stewart and other friends on memorable B.S.B.I. meetings to Coll (1989) and Tiree (1990) organised by Dr A. Walker.

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# DISTRIBUTION OF LADY ORCHID (*ORCHIS PURPUREA* HUDSON) IN AN EAST KENT WOOD

In a strip of mixed woodland in East Kent, *Orchis purpurea* Hudson lies in a band roughly along the middle. This distribution invited explanation.

The wood clothes the west-facing slopes of a north-south dry valley on the upper and middle chalk. The higher ground is capped with clay-with-flints, an acid brown earth of the Winchester series, whereas the lower part directly over the chalk is covered by brown calcareous earth of Coombe and Upton series. Maps show that the upper slopes have been wooded since the 1840s (mostly coppice) and probably since the 1760s or before, whereas the lower ground has only become woodland since the 1880s. The canopy is now fairly continuous overall but here and there gives way to scrub; there are also small areas kept open as turf, and places where coppicing and scrub cutting are maintained.

In the absence of a soil survey the extent of the acid cap was approximately gauged by mapping the distribution of bluebell (*Hyacinthoides non-scripta* (L.) Rothm.) (Fig. 1). Fig. 2 gives the areas shown as wooded in the Waltham Parish Tythe Map of c. 1840; the remainder of the area, at present wooded, was shown as arable. Both figures also show the distribution of the flowering spikes of *O. purpurea* counted in the plentiful year of 1986. Fig. 1 confirms that the orchid is confined to the calcareous soil, and in Fig. 2 the orchid spikes are seen to follow more or less the boundary of the old woodland. We infer that this was the plant's original distribution, the old wood itself being probably too acidic (cf. Fig. 1: Summerhayes 1968), and that it has been gradually colonising more recently wooded chalky areas as they achieved the appropriate degree of partial shade.

The wood is an S.S.S.I. and a nature reserve belonging to the Kent Trust for Nature Conservation; it is the site of the two abnormal forms of *O. purpurea* described by Ettlinger (1987) and Ingram & Dunster (1991).

## ACKNOWLEDGMENTS

We are indebted to the Librarian of the Cathedral Library, Canterbury for giving us access to the Waltham Parish Tythe Map; to the Librarian of the Local Studies Library, Springfield (Kent County Council) for access to other maps; to Dr S. G. McRae for laboratory measurements of soil pH; and to the Kent Trust for Nature Conservation for permission to publish.

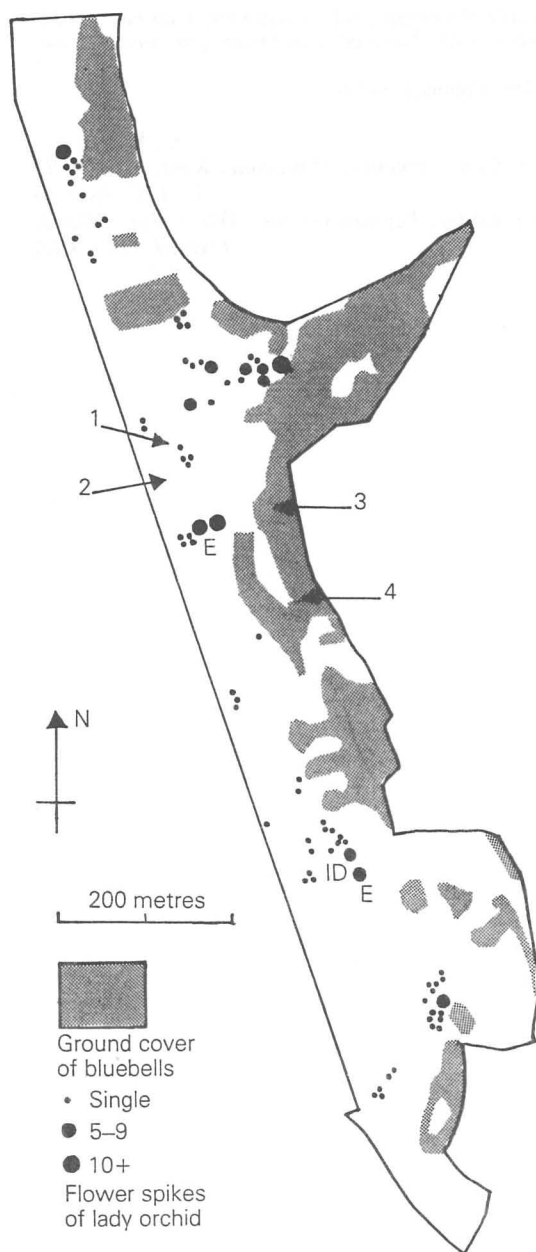


FIGURE 1. Bluebell areas (*Hyacinthoides non-scripta*) in 1988. Numerals indicate sites where pH measurements were made in 1990 (top soil - A horizon): 1, pH 7.7; 2, pH 7.8; 3, pH 4.3; 4, pH 4.0.

Dots show *O. purpurea* flowering spikes in 1986. Sites of abnormal flower forms described by Ettlinger (1987), E, E; by Ingram & Dunster (1991), ID.

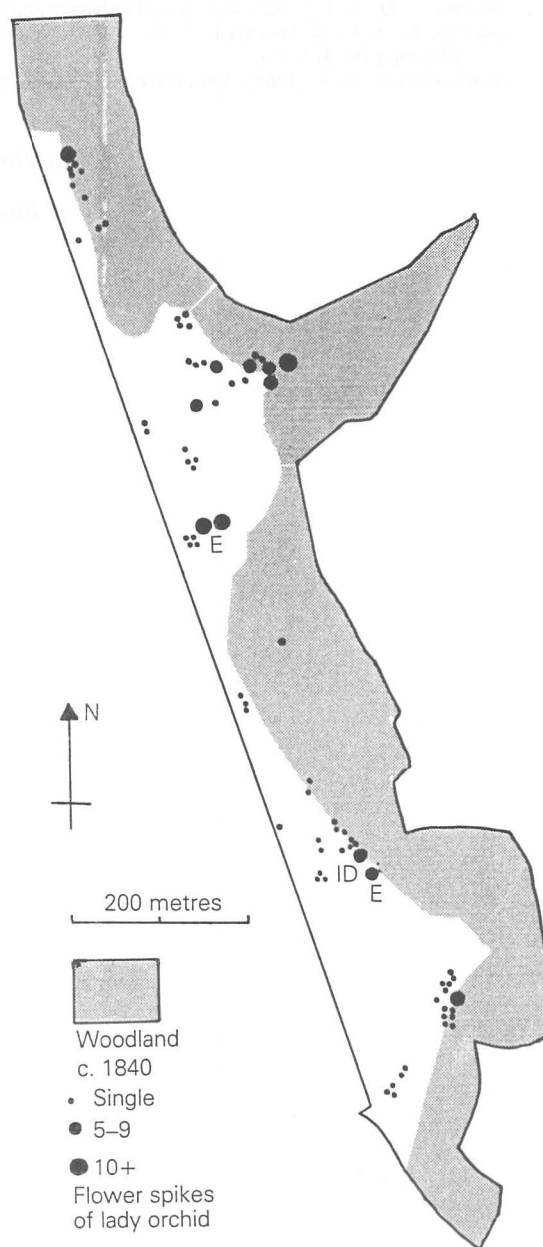


FIGURE 2. Woodland as shown on the Waltham Parish Tythe Map c. 1840 superimposed on the modern outline of the Reserve; the remainder was shown as arable.

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