

A NEW SUBSPECIES OF *PEDICULARIS SYLVATICA* L.

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PEDICULARIS SYLVATICA subsp. *HIBERNICA*, subsp. nov. A typo (subsp. *sylvatica*) *discedit calycibus pedicellisque ubique pilis albis crispis longiusculis indutis*. A subspecies *lusitanica* (Hoffmanns. & Link) *Fic. discedit calyce tota superficie, non solum secus angulos, villosa, et habitu minore, cum caule centrali infra spicam brevissimo*.

Differs from the type (subsp. *sylvatica*) in the calyx and pedicels, which are uniformly clothed with rather long white curled hairs. Differs from subsp. *lusitanica* (Hoffmanns. & Link) *Fic.* in that the calyx is hairy all over and not merely on the angles, and in its lower stature, with the main stem almost entirely occupied by the terminal spike.

Type in Herb. British Museum : Ireland, Kerry, among heather on Mt. Carrantuohill, August 22, 1883, H. N. Ridley.

In every European flora which I have been able to consult, except those of Portugal, the calyx of *Pedicularis sylvatica* is described as glabrous, and frequently this is used as a key character to separate the species from *P. palustris*. This is, indeed, very natural, for the curiously smooth and polished surface of the accrescent fruiting calyx is one of the most conspicuous and characteristic features of normal *P. sylvatica*. In 1952 I noticed, however, first in Kerry and later in Donegal, that a large proportion of the plants in these regions stand out equally conspicuously (especially after mist or rain) by virtue of a loose but fairly abundant indumentum of curled white hairs, which covers the calyx, the pedicels, and indeed much of the upper part of the plant.

A difference of this kind, confined apparently to a single character, would scarcely be worth taxonomic recognition (any more than, say, albinism, which is not uncommon in this species), were it not for the fact that the hairy forms occur only in a well-defined geographical area. A search through the material at Kew, the British Museum, Oxford, Cambridge, Dublin, Brussels and Madrid, showed that plants with a hairy calyx are confined to the British Isles, Portugal, S. Spain, Morocco and Algeria. All hairy specimens from the last four countries are, however, referable to *P. lusitanica* Hoffmanns. & Link,* which is usually regarded now by Portuguese authors as a variety or subspecies of *P. sylvatica*. In this plant the hairs on the calyx are confined to the angles, and there are few or none on the pedicels; moreover it is taller, with an erect main stem usually 15-25 cm. high with several more or less elongated internodes below the inflorescence. Nothing like this has been seen in the British Isles.

Within the British Isles, it would appear that the hairy form is very nearly confined to those areas of western Ireland in which blanket-bog is a prominent feature of the landscape. In Kerry and West Cork, in Connemara and West Mayo, and in West Donegal it is common and ubiquitous, and it occurs also, though over less extensive areas, on the bogs or moorlands of Clare, Sligo and Fermanagh. The pattern of distribution, shown on the accompanying map, is certainly incomplete, for only Co. Galway has been at all systematically searched: it is almost certain that most of the gaps in Kerry, West Cork, northwest Mayo and West Donegal can be filled, and it is probable that there are a few stations still to be found further east - in mid Cork, E. Clare, Tyrone and perhaps Derry and Antrim. Still, the general pattern is clear, and there is no doubt

* A beautiful plate accompanies the original description in the *Flore Portugaise*.

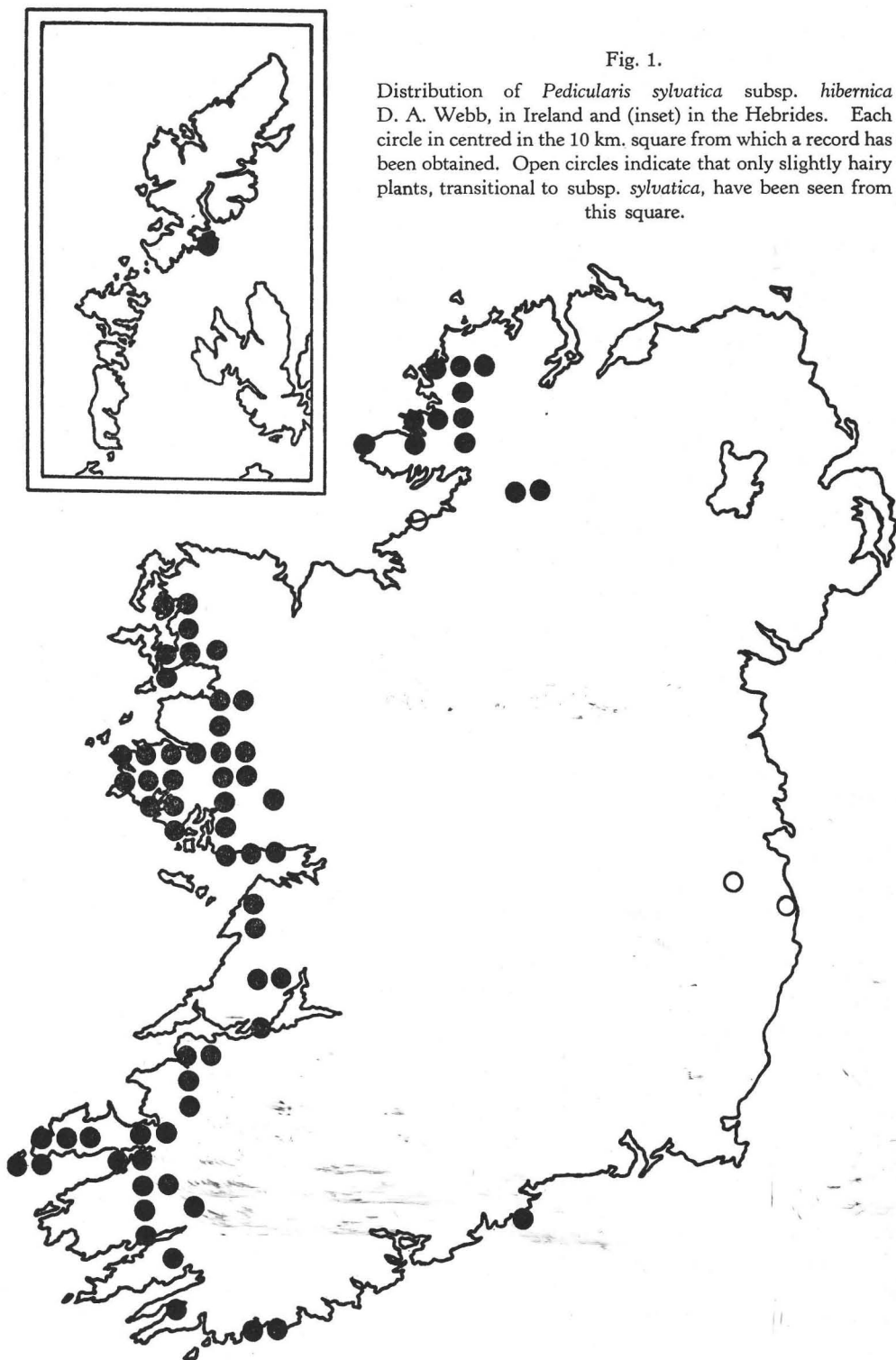


Fig. 1.

Distribution of *Pedicularis sylvatica* subsp. *hibernica* D. A. Webb, in Ireland and (inset) in the Hebrides. Each circle is centred in the 10 km. square from which a record has been obtained. Open circles indicate that only slightly hairy plants, transitional to subsp. *sylvatica*, have been seen from this square.

that the plant is very common in most of the West of Ireland and distinctly rare in the East and Centre.

The few outlying stations, somewhat cut off from the main areas of distribution, are as follows :

- Co. WATERFORD : Exposed moorland at 550 ft. between Ardmore and Dungarvan, 02/1149, D. A. Webb and W. A. Watts, Sept. 1954.
 Co. WICKLOW : Calary Bog, R. L. Praeger, 1895 (Herb. Nat. Mus. Ireland).
 Kilbride Camp, R. L. Praeger, 1904 (Herb. Nat. Mus. Ireland).
 Co. SLIGO : Bog near Cliffony, E. J. Archer, July 1950 (Herb. T.C.D.).
 Co. TYRONE : Near Omagh, M. C. Knowles, 1896 (Herb. Nat. Mus. Ireland).
 Co. FERMANAGH : Tappaghan Mt., N. of Lack, 05/43, R. D. Meikle, May 1955.

It will be noticed that in three of these stations the plant is of an intermediate type – i.e. only slightly hairy.

Outside Ireland this subspecies is known with certainty only from a single locality in the Hebrides – the islet of Scalpay which lies off the east coast of Harris. Two separate gatherings from this station, both in the British Museum, are exactly similar to plants from the West of Ireland; one was collected by J. W. Campbell, the other by A. J. Wilmott, M. S. Campbell and E. B. Bangerter. There are, in the same herbarium, fourteen other gatherings from the Outer Hebrides (Scalpay, Barra, Benbecula, Harris, Lewis), and they are all typical subsp. *sylvatica*. There is one other Scottish plant apparently of subsp. *hibernica* in the British Museum herbarium, collected by Pugsley in Glen Callater, Aberdeenshire, on 30 July, 1923. But as it is labelled "*fl. albis*" and the specimen has indubitably pink flowers, it would appear that a transposition of labels may have taken place, and it cannot be accepted as it stands. But the occurrence of the subspecies in a few localities in the Highlands is by no means improbable.

On a vice-comital basis its distribution as at present known is : 110; H 1, 2, 3, 6, 8, 9, 16, 20, 27, 28, 33, 35, 36.

In almost all localities in the West of Ireland in which hairy plants are found it is possible to find normal glabrous ones as well. The ratio of hairy to glabrous is roughly proportional to the longitude : in the extreme west it rises to something like 20 to 1, and as one approaches the eastern boundary of the continuous distribution of subsp. *hibernica* it falls to unity or less. Plants of an intermediate (only slightly hairy) character are not very common, and they seem to occur chiefly near the eastern limit of subsp. *hibernica*.

This hairy form seems, therefore, undoubtedly to deserve subspecific rank; it is morphologically discriminable although intermediates exist, and it has a well-defined geographical area, with a fairly narrow zone of overlap. I should be grateful for any reports of its occurrence in regions other than those which are here set out in the map.

Three possible hypotheses as to its history can be entertained. (1) It could be endemic to the British Isles, dating from interglacial or pre-glacial times, and have survived one or more glaciations in refuges on the western seaboard, more successfully in Ireland than in Scotland. (2) It could be of post-glacial origin in Ireland, and have spread to Scotland by a chance of long-range dispersal. (3) It could have survived the last glaciation in south-west England or western France, spread to Ireland and Scotland early in the post-glacial, and subsequently undergone fragmentation, including extinction in all its original territory. None of the hypotheses seems thoroughly plausible; on the whole I prefer the first. It must be remembered, however, that typical *P. sylvatica* seems less hardy than one might imagine : it is not found north of 64°N. in Scandinavia, nor above 1,110 m. in the Alps.