

# A REVISION OF THE BRITISH SPECIES OF *HIERACIUM* SECTION *ALPESTRIA* [FRIES] F. N. WILLIAMS

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For the following account we have attempted to examine all the available herbarium material of the British species of the Section *Alpestris* and to consult all the relevant literature.

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Section *ALPESTRIA* [Fries] F. N. Williams (1902) 82; F. J. Hanb. in Bab. (1904) 263; W. R. Linton (1905) 71; Pugsley (1948) 219 (includ. Series *Dovrensis*, Series *Protracta* pro parte exclud. type, Series *Subfoliosa* and Series *Spectabilia*); A. R. Clapham in A. R. Clapham, T. G. Tutin and E. F. Warburg (1952) 1144; ed. 2 (1962) 907 (Lectotype species *H. dovrense* Fries).

*Hieracium*—*Archhieracium*—*Pulmonaria*—*Alpestris* Fries (1862) 102.

Section *Prenanθοidea* group species *H. carpathicum* Besser in Zahn (1921) 809.

Plants without basal leaves, with basal leaves withered at the time of flowering, or rarely with basal leaves at the time of flowering. Cauline leaves usually fairly numerous, 2–19, rarely thickened at the margins, at least the upper ± rounded at the base and *semi-amplexicaul*. Inflorescence cymose-paniculate. Capitulas *dark*, with *broad*, ± *obtuse* phyllaries, which are usually almost without stellate hairs. Cypselas dark. Flowering in July and August.

The species of the Section *Alpestris* are most closely allied to those of the Sections *Prenanθοidea* and *Foliosa*. They can be distinguished from the former by their darker cypselas and usually fewer leaves, and from the latter by their fewer cauline leaves, longer internodes and by the leaves having less thickened margins.

About 200 species have been described in this Section, five from Greenland, 22 from Iceland, three from the Faeroes, 18 from the British Isles (one of which also occurs in the Tatra Mountains) and the remainder from Scandinavia. At least another five species from the mountains of Central Europe should also be included in this Section, but in that region the distinction between the species of the Section *Alpestris* and the Section *Prenanθοidea* is not clear.

In the British Isles all except five of the eighteen species are confined to the Shetland Isles, where they are endemic. Of the remainder, *H. dovrense* is locally abundant in Scandinavia and occurs in one isolated locality in Sutherland; *H. carpathicum* is locally distributed in the Tatra Mountains and also occurs in a few isolated localities in Perth and

Forfar; *H. dewarii* is an endemic species, rather widespread in central and southern Scotland; *H. solum* is endemic to a single locality in Kintyre; while *H. mirandum* is endemic to a single locality in mid-west Yorkshire.

In the Shetlands they are, with one exception, restricted to coastal localities inaccessible to sheep. From the field experience of several botanists the one exception, *H. vinicaule*, occurs, sometimes in quantity, in places easily reached by grazing sheep. This probably accounts for the fact that this species is the most widespread of the Section *Alpestris* in the Shetland Isles. In Scandinavia they are apparently widespread and often abundant in grassland and under trees in mountainous regions.

Pugsley (1948) divided the British species of the Section *Alpestris* into four Series, all of which are *nomina nuda*. These Series are almost entirely artificial, and we fail to understand why the species were so grouped. In our opinion no useful purpose is served by subdividing the Section, although some species are much more closely allied than others. *H. attenuatifolium*, *dilectum*, *hethlandiae*, *northroense*, *pugsleyi*, *subtruncatum* and *vinicaule* have many characters in common. *H. carpathicum*, *dewarii* and *mirandum* are also closely allied and are very distinct from the rest; in fact they closely approach the Section *Foliosa*. *H. australis* and *dovrense* have several characters in common, but the six remaining species, *H. breve*, *gratum*, *praethulense*, *difficile*, *solum* and *zetlandicum* have no close allies in the British Isles.

Until recently the study of the Shetland species of the Section *Alpestris* was based mainly on the collections made by W. H. Beeby and by G. C. Druce. The definition of the species and varieties made by Beeby is clear and precise, and the identification of his specimens consistent. On the other hand, an examination of the specimens in Druce's herbarium suggests that he did not understand the taxonomy of the group. Moreover, some of the species, according to the labels attached to the specimens, are recorded from localities where they have never been seen by other botanists. Also, Druce (1928) 71, no. 419: 1635d, published without a diagnosis and without annotating a specimen the name *H. crocatum* var. *ronasii* from 'Zetland', which presumably refers to a taxon in this Section. One cannot even guess to which taxon he is referring since all the taxa described at that time are covered by names in his List, and no new taxon from Ronas Voe (assuming he is describing a plant from that locality, i.e. *ronasii*) is represented in his herbarium.

Pugsley (1948) based his account of the Section on that of Beeby; we have followed the same course.

In the interests of the conservation of our native flora we should like to point out that the species of this Section, which are very local and in small numbers, should not be collected without good scientific reason. They are well represented in public herbaria, and anyone wishing to become familiar with them should examine the specimens to be found there. The collection at the University of Cambridge (CGE) is the most complete, every British species being represented. Here are deposited all the authors' specimens, including material cultivated in the Botanic Garden at Cambridge.

The descriptions in this paper are based on a more precise terminology than is usual, a key to which will be published at a later date; for example, short, medium and long, when applied to hairs, refer to a definite range of length. As the terminology is that used in general practice, the terms having been only more clearly defined, it has been decided not to hold up the paper until the definitions are published. In all the descriptions the most important characters have been put in italic so that they can be read off to give a precise diagnosis.

#### KEY TO THE SPECIES

- |  |                        |
|--|------------------------|
| 1. Leaves up to four times as long as broad                                      | 2                      |
| Leaves more than four times as long as broad                                     | 16                     |
| 2. Ligules strongly pilose-tipped  | 3                      |
| Ligules glabrous   | 4                      |
| 3. Phyllaries 7-9 mm. long, with few stellate hairs at base                      | <i>17. dewarii</i>     |
| Phyllaries 9-11 mm. long, with numerous stellate hairs especially on the margins | <i>18. carpathicum</i> |

- |  |                            |
|--|----------------------------|
| 4. Cauline leaves up to five   | 5                          |
| Cauline leaves more than five  | 10                         |
| 5. Phyllaries 11–13 mm. long   | 3. <i>solum</i>            |
| Phyllaries 8–11 mm. long   | 6                          |
| 6. Styles yellow when fresh  | 1. <i>zetlandicum</i>      |
| Styles discoloured   | 7                          |
| 7. Leaves less than 2·5 times as long as broad   | 2. <i>breve</i>            |
| Leaves more than 2·5 times as long as broad  | 8                          |
| 8. Leaves dentate; phyllaries densely hairy  | 7. <i>dovrense</i>         |
| Leaves entire or remotely denticulate; phyllaries sparingly hairy  | 9                          |
| 9. Cauline leaves 2–4 (–7), about three times as long as broad   | 4. <i>gratum</i>           |
| Cauline leaves 4–8, about four times as long as broad  | 5. <i>difficile</i>        |
| 10. Leaves never more than 18 mm. broad  | 9. <i>hethlandiae</i>      |
| Leaves more than 18 mm. broad  | 11                         |
| 11. Styles yellow when fresh   | 12                         |
| Styles discoloured   | 13                         |
| 12. Peduncles usually glabrous   | 8. <i>praethulense</i>     |
| Peduncles usually hairy  | 13. <i>subtruncatum</i>    |
| 13. Leaves not more than 2·5 times longer than broad   | 2. <i>breve</i>            |
| Leaves more than 2·5 (usually more than 3) times as long as broad  | 14                         |
| 14. Leaves ovate, abruptly contracted at the base  | 16. <i>mirandum</i>        |
| Leaves elliptic, gradually narrowed at the base  | 15                         |
| 15. Leaves dentate   | 7. <i>dovrense</i>         |
| Leaves finely denticulate or subentire   | 6. <i>australius</i>       |
| 16. Plant very hairy; phyllaries 1·5–2 mm. wide  | 6. <i>australius</i>       |
| Plant less hairy; phyllaries 1–1·5 mm. wide  | 5. <i>difficile</i>        |
| 17. Phyllaries with many unequal glandular and few simple hairs  | 18                         |
| Phyllaries with few glandular and without or with few to numerous simple hairs   | 20                         |
| 18. Leaves under 20 mm. broad  | 10. <i>attenuatifolium</i> |
| Leaves over 20 mm. broad   | 19                         |
| 19. Plant usually under 35 cm. high; leaves usually closely spaced and regularly denticulate, abruptly decreasing in size half-way up the stem | 14. <i>northroense</i>     |
| Plant usually over 35 cm. high; leaves usually less closely spaced and less denticulate, gradually decreasing in size up the stem              | 15. <i>vinicaule</i>       |
| 20. Phyllaries with numerous simple hairs  | 11. <i>pugsleyi</i>        |
| Phyllaries with few or no simple hairs   | 21                         |
| 21. Styles yellow when fresh   | 22                         |
| Styles discoloured   | 23                         |
| 22. Leaves gradually narrowed at both ends, with an acute apex; peduncles glabrous or with an occasional simple hair                           | 12. <i>dilectum</i>        |
| Leaves usually abruptly narrowed at base, with an obtuse to subacute apex; peduncles with few simple hairs                                     | 13. <i>subtruncatum</i>    |
| 23. Cauline leaves 9–16  | 24                         |
| Cauline leaves 5–9   | 25                         |
| 24. Leaves with long acute apex  | 12. <i>dilectum</i>        |
| Leaves with obtuse or subacute apex  | 14. <i>northroense</i>     |
| 25. Phyllaries 9–10 mm. long   | 5. <i>difficile</i>        |
| Phyllaries 10·5–13 mm. long  | 26                         |
| 26. Leaves usually broadest in the middle and gradually tapering at both ends  | 9. <i>hethlandiae</i>      |
| Leaves usually broadest below the middle and with a broader base   | 3. <i>solum</i>            |
1. *HIERACIUM ZETLANDICUM* Beeby (1891) 243 (Lectotype: Sand Voe, Northmaven, Shetlands, 4 July 1889, W. H. Beeby no. 1044 (BM)); (1892) 54; F. N. Williams (1902) 126 (exclud. Roeness Voe\* et Sutherland loc.); Edmondston (1903) 71; F. J. Hanb. in Bab. (1904) 263 (exclud. Sutherland loc.); W. R. Linton (1905) 73; Beeby (1908) 113; Druce (1922) 499; (1925) 646; Roffey (1925) 29, no. 1199 (but one v.c. only (v.c.112));

\* The modern official spelling is 'Ronas Voe'. In this paper we have always given the spelling used by the author in question.

Druce (1928) 70, no. 201 (1619) (but one v.c. only (v.c. 112)); Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 222; P. D. Sell & C. West in Dandy (1958) 127, no. 558: 1 : 170. PLATE 3a.

*H. demissum* subsp. *zetlandicum* (Beeby) Zahn (1921) 855.

*Phyllopodous*, or rarely with basal leaves withering at the time of flowering. Stem to 40 (–50 cult.) cm. high, slender, flexuous, often purplish, with numerous, medium to long, soft simple hairs at the base, which become gradually fewer upwards, the uppermost sometimes dark-based, usually stellate-hairy throughout, but sometimes sparingly so or not at all near the base, some plants with an occasional, very short, blackish glandular hair near the inflorescence. *Leaves deep green*, often suffused with purple; the *radical* 3–6; primordial small, subrotund, finely denticulate; the later variable, usually *broadly elliptic*, obtuse-mucronate to acute, narrowed below, *denticulate to shallowly but sharply serrate*, or ovate, obtuse-mucronate, cuneate-based and denticulate, or in large specimens nearly rhomboidal, acute, cuneate-based and irregularly serrate, the teeth interspersed with denticulations, all with numerous, unequal, short to long, subsetiform simple hairs on both surfaces and on the margins, petioles winged, with few to many long simple hairs; *cauline* 2–4 (–6 cult.); the *lower elliptic to elliptic-lanceolate* or sometimes ovate, acute (occasionally obtuse-mucronate), cuneate-based with a winged petiole, *denticulate to sharply serrate*; the *median ovate to ovate-lanceolate*, acute to acuminate, cuneate- or rounded-based and semiamplexicaul, denticulate (sometimes finely serrate); the upper linear-lanceolate, linear or bractlike; all cauline glabrous or with a few, medium simple hairs above, with medium simple hairs beneath and on the margins, sometimes with sparse stellate hairs on one or both surfaces. *Inflorescence* compactly cymose, with 1–7 (–30 cult.), *often geminate capitula*; *peduncles* short to medium, suberect, with numerous stellate hairs, *numerous short, black glandular hairs* and a few, medium, usually dark-based simple hairs. *Capitula cylindrical in bud. Phyllaries* 8–9 (–10 cult.) mm. long, 1–2 mm. wide, incumbent in bud, linear-lanceolate, inner ± acute, sometimes abruptly narrowed near the apex, pale green, sometimes with darker centre, outer shorter, less acute, blackish-green; all *with* scattered stellate hairs, *numerous, black, unequal, very short to short glandular hairs* and sometimes an occasional, pale, short, dark-based simple hair. *Ligules* glabrous-tipped, *deep yellow*. *Styles yellow*, becoming discoloured in dried specimens. Margins of the receptacle-pits sharply dentate. Cypselas dark, 3·5–4 mm. long.

*H. zetlandicum* was originally discovered by W. H. Beeby on fine pasture above Sand Voe, Northmaven, in 1889. Two years later he found it in North Roe in the same parish. In 1908 he remarks that 'it is confined to a tract near North Roe about two by one miles, extending from Burga Taing northwards to Benegarth, but plentiful in many places within this area'. Beeby's records are represented by his exsiccatae nos. 1044, 1082, 1083, 1084, 1649 and 1660, which are to be found in several of the larger herbaria. It has since been collected in this area by R. J. Burdon and by M. L. Wedgwood (1921), G. C. Druce (1921 and 1924), J. E. Lousley (1950), C. West no. 53/10 (1953), N. D. Simpson no. 53/760 and A. H. G. Alston (1954), W. Scott (1956) and by C. J. Cadbury and by W. Scott (1961). All the above gatherings have been made in grassy fields near North Roe. C. West noted that much of the area is now cultivated and the distribution of the species may be very restricted. In 1963, W. Scott found it in an entirely new locality, on the west side of Snarra Ness, Mainland.

In 1898 E. S. Marshall identified plants from Farr Bay, Kirtomy and Roeness Voe (Beeby no. 1092) as *H. zetlandicum*. This treatment was followed by F. N. Williams (1902) and F. J. Hanbury (1904). W. R. Linton (1905) pointed out that the Sutherland plant was in his opinion a form of *H. caledonicum* F. J. Hanb., and Beeby (1908) described the Roeness Voe plant as a new species, *H. breve*. K. H. Zahn (1921) considered that the Sutherland plant was intermediate between *H. caledonicum* and *H. scoticum* F. J. Hanb., and J. Roffey (1925) described it as a new species, *H. pseudozetlandicum*. H. W. Pugsley (1948) placed it as a variety under *H. caledonicum*. In our opinion some of the specimens can be referred to *H. scoticum*, others to *H. caledonicum*. It is difficult to understand how this Sutherland plant could ever have been referred to *H. zetlandicum* or even compared with the specimens later described as *H. breve*. As the differences between *H. zetlandicum* and the Sutherland plants had been clearly pointed out by W. R. Linton in 1905, the reason for recording *H. zetlandicum* for two vice-counties by Roffey (1925) and by Druce (1928) is not clear.

*H. zetlandicum* is quite unlike any other British species, but it is closely allied to the Faeroese *H. ostensfeldii* Dahlst. and *H. hartzianum* Dahlst., and to the Icelandic *H. arrostoecephalum* Omang. *H. ostensfeldii* has a less hairy stem, no simple hairs on the peduncles and phyllaries, and larger, broader and less sharply toothed leaves; *H. hartzianum* has longer petioles, broader and usually more sharply toothed basal leaves, no simple hairs on the peduncles, and more stellate hairs on the phyllaries; and *H. arrostoecephalum* has leaves with more stellate hairs and almost without simple hairs, and more stellate and simple hairs on its narrower, more acute phyllaries. These differences are small, and it would be interesting to bring the four species under cultivation in the same environment. In cultivation *H. zetlandicum* becomes much

larger and more robust, its leaves more numerous and more deeply toothed and the petioles longer. The inflorescence is more ample and the peduncles usually have more simple hairs. It may be noted that Beeby (1891) remarks: "The taller plants mentioned occurred towards the bottom of the hillside; and one specimen found quite at the bottom reached the height of 16 inches and bore 10 flowers; this was growing on a patch of waste ground and was evidently abnormal." Thus it seems that the dwarf, slender plant found in the typical habitat could be rather different if found in a more favourable situation. It should be noted, however, that the majority of its characters are constant and that it is sharply demarcated from all except the three species mentioned above.

2. *HIERACIUM BREVE* Beeby (1908) 112 (Lectotype: rocks, north side of Roeness Voe, Mainland, Shetlands, 9 July 1889, W. H. Beeby no. 1043 (BM)); Druce (1922) 499; Roffey (1925) 29 no. 1194; Druce (1928) 70 no. 196; Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 226; P. D. Sell & C. West in Dandy (1958) 127 no. 558: 1: 174. PLATE 3b. [*H. zetlandicum* sensu E. S. Marshall & Shoolbred (1898) *J. Bot. (Lond.)* 36, 172 (quoad Beeby no. 1092); sensu F. N. Williams (1902) 126 (quoad Beeby no. 1092).]

Phyllopodous or with basal leaves withering at the time of flowering.\* Stem 15–33 (–40 cult.) cm. high, robust or slender, markedly striate, with dense, long simple hairs especially below, those of the upper part dark-based, with a few stellate hairs above, without glandular hairs. *Leaves deep green*, sometimes becoming copper-coloured with age; the radical usually few, or occasionally up to 9; the primordial subrotund, subentire, cuneate-based to a broad, winged petiole; the *later* more or less *broadly elliptic to elliptic-rhomboidal*, obtuse-mucronulate to acute, *remotely denticulate or occasionally with a few, shallow, acute, patent teeth*, abruptly contracted to a rounded or cuneate base, petioles broadly winged; the *cauline* 4–11 (–13 cult.), the *lower ovate-lanceolate to ovate*, rarely ovate-rhomboidal, obtuse to acute, *denticulate or with 2–3, short, acute, patent teeth on each side*, cuneate-based, subpetiolate or sessile, the upper smaller, ovate-lanceolate, acute, toothed as lower, the base rounded and semi-amplexicaul; *all with straight, medium, bulbous-based, subsetiform simple hairs on both surfaces and the margins* (in cult. specimens sometimes very few), and on the petioles where they are similar but longer. Inflorescence compactly cymose (in cultivated specimens the branches more elongate), with 2–6 (–13 cult.) capitula, acladium with medium peduncle; peduncles medium, suberect, with few stellate hairs, fairly numerous, short, patent simple hairs and occasionally a few, very short glandular hairs. *Phyllaries* 8–10 mm. long, 1.75–2 mm. wide, incumbent in bud, blackish-green, inner with paler margins, linear-lanceolate, obtuse, rarely with a few stellate hairs at base, *with numerous, very short, glandular hairs*, sometimes with a few, short simple hairs. Ligules yellow, glabrous tipped. *Styles discoloured*. Margins of the receptacle pits long-dentate. Cypsela dark, 3–3.5 mm. long.

*H. breve* was first collected by W. H. Beeby (nos. 1043 and 1092) on the north side of the Roeness Voe, Shetland, in 1889 and was referred by E. S. Marshall and F. N. Williams to *H. zetlandicum* Beeby. Beeby, however, realized it was not his *H. zetlandicum*, and described it as a new species. It was seen in 1920, in the same locality, by G. C. Druce who states that he saw two plants. There is a single specimen in Herb. Druce which is, however, atypical in having a nearly glabrous upper surface to the leaves and a long branching inflorescence. It matches well a cultivated specimen of Beeby's, and it is possible that Druce brought back a root and cultivated it. In general appearance these cultivated specimens resemble *H. zetlandicum*, but in detail they are very different. It was rediscovered after a long search by W. Scott in 1963. No species that at all resembles *H. breve* has been seen.

### 3. *Hieracium solum* P. D. Sell & C. West, sp. nov. PLATE 4a.

Holotype: Loch an Dughail, Kintyre, v.c. 101, Grid Ref. 16/805806, 11 July 1962, A. G. Kenneth (CGE).

In Sectione Alpestribus nulli speciei valde affinis.

Planta pseudophyllopada. Caulis ad 50 cm. altus, flexuosus, fere purpureus, basi pilis paucis mediocribus vel longis pallidis interdum nigribasibus simplicibus, superne stellatis dispersis, glanduliferis nullis vestitus. *Folia caesia*, interdum purpureo-tincta; basalia late elliptica, anguste elliptica vel oblonga, obtusa, subintegra, basi cuneata, sessilia, semiamplexicaulia; *caulina* 3–8, *interdum ramos abortivos ex axillis emittentia, lanceolata, acuta, subintegra, basi rotundata sessilia semiamplexicaulia; omnia in marginibus et raro in pagina pilis dispersis, pallidis, mediocribus vel longis, simplicibus vestita, et subtus secus costam et raro in pagina pilis dispersis, pallidis, mediocribus vel longis simplicibus vestita, interdum pilis simplicibus carentia*, interdum marginibus puberulis, interdum supra vel utrinque pilis stellatis dispersis induta. Anthela compacta

\* Rarely phyllopodous.

cymosa, nonnunquam ramos ex axillis foliorum caulinarum superiorum emittens, capitulis 3-7 (-11), aclado pedunculo mediocri usque brevi praedito; pedunculi suberecti, mediocres vel longi, pilis stellatis, raro simplicibus vel glanduliferis brevissimis solitariis vestiti. *Squamae 11-13 mm. longae*, 1.5-2 mm. latae, in gemmis incumbentes, atro-virides, interiores marginibus pallidioribus, lineari-lanceolatae, obtusae, pilis stellatis paucis dispersis, *aliis simplicibus dispersis obscuris mediocribus, aliis glanduliferis brevissimis nigris dispersis vestitae*. Ligulae luteae, glabrae. Styli obscuri. Cypselam non vidimus.

Pseudophyllopodous. Stem to 50 cm. high, flexuous, usually purplish, with a few, medium to long, pale, sometimes dark-based simple hairs at the very base, with scattered stellate hairs above, without glandular hairs. *Leaves caesious*, sometimes purple-tinged; the basal broadly elliptic, narrowly elliptic or oblong, obtuse, subentire, cuneate to a sessile, semiamplexicaul base; the *cauline 3-8, often with abortive branches in the axil of the leaves, lanceolate, gradually tapering from a rounded, sessile, semiamplexicaul base to a long acute apex, subentire, with scattered pale, medium to long simple hairs on the margins and midrib, rarely beneath, sometimes without simple hairs*, sometimes with puberulous margins, sometimes with scattered stellate hairs on one or both surfaces. Inflorescence compactly cymose, often with branches from the axils of the upper cauline leaves, with 3-7 (-11) capitula, acladium with short or medium peduncle; peduncles suberect, medium to long, with stellate hairs, occasionally with a solitary, very short simple or glandular hair. *Phyllaries 11-13 mm. long, 1.5-2 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse, with a few scattered stellate hairs, with scattered dark, medium simple hairs and scattered, very short, black glandular hairs*. Ligules yellow, glabrous. Styles discoloured. Cypselas not seen.

This very distinct species, which has no close allies, is known only from the type locality and Cruach Lusach nearby. In both localities it is very scarce. Although it is placed between *H. breve* and *H. gratum*, the only character it has in common with these two species is its few cauline leaves.

The epithet *solum* is applicable in two senses, first because this species has no close allies, secondly because its only known localities are isolated ones for a species belonging to the Section *Alpestris*.

4. *HIERACIUM GRATUM* P. D. Sell & C. West (1955) 236 (Based on *H. demissum* var. *pulchelliforme* W. R. Linton); in Dandy (1958) 127 no. 558: 1 : 169. PLATE 4b.  
 [*H. pulchellum* sensu Beeby (1889-1890) 35; sensu F. N. Williams (1902) 162; sensu Edmondston (1903) 72; sensu F. J. Hanb. in Bab. (1904) 263.]  
*H. demissum* var. *pulchelliforme* W. R. Linton (1905) 73 (Lectotype: Unst, Shetland, 16 August 1886, W. R. Linton in Herb. W. R. Linton (LIVU)); Druce (1922) 499; Roffey (1925) 29 no. 1198b; Druce (1928) 70 no. 200b.  
*H. dovrense* subsp. *demissum* var. *pulchelliforme* (W. R. Linton) Beeby (1908) 114.  
*H. demissum* subsp. *demissum* var. *pulchelliforme* (W. R. Linton) Zahn (1921) 855.  
*H. pulchelliforme* (W. R. Linton) Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 221; non *H. pulchelliforme* Dahlst. ex Omang (1944) *Nytt. Mag. Naturvidensk* (Oslo), **84**, 151.  
 [*H. pulchellum* var. *vestitum* Lindeb., nomen in Herb.]

*Phyllopodous or with basal leaves withering at time of flowering*. Stem 15-35 (-40) cm. high, slender, flexuous, markedly striate, usually purple below, with long, pale, wavy simple hairs below, becoming nearly glabrous upwards, but usually with some simple hairs at the nodes, with scattered stellate hairs throughout, without glandular hairs. *Leaves* pale green, often suffused beneath and tinged above with purple; the *radical* few, soon dying off; the primordial when present broadly elliptic, obtuse-mucronulate, with a small denticulation on each side, cuneate to a winged petiole; the *l.ter* narrowly to broadly elliptic or ovate-lanceolate with an obtuse-mucronulate to subacute apex, with up to 4 sharp, patent denticulations on each side;  $\pm$ attenuate to winged petioles; the *cauline 2-4 (-7), rapidly decreasing in size, the lower elliptic to lanceolate, obtuse-mucronulate to acute, toothed as basal, narrowed to winged, semiamplexicaul petioles; the median ovate-lanceolate or lanceolate, obtuse to acute, the apex sometimes tapering from near the middle, abruptly contracted to a narrow, sessile, semiamplexicaul base, toothed as lower; the upper lanceolate or ovate-lanceolate, acute, apex tapering from the middle, entire or with up to 3 denticulations on each side; all with long, pale, subsetiform simple hairs on both surfaces and on the margins, the upper cauline sometimes only sparingly so, and sometimes sparsely stellately hairy beneath*. Inflorescence compactly cymose, with 1-6 capitula, sometimes with one or two branches from the upper leaf-axils; peduncles usually long, slender and suberect, sometimes with several bracts, with stellate hairs, with or without a very occasional short simple hair or very short glandular hair. *Phyllaries 9-11 mm. long, c. 1.5 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse or occasionally acute, with a few stellate hairs*

near the base, usually sparingly covered with short to medium, pale, dark-based simple hairs, and slender, very short, dark glandular hairs, sometimes, however, the simple hairs are numerous, sometimes nearly absent. Ligules yellow, glabrous. Styles discoloured. Margins of the receptacle pits fimbriate-dentate. *Cypsela* dark, 2.5–3 mm. long.

*H. gratum* was first found by W. H. Beeby (no. 608) and W. R. Linton near Burrafirth, Unst, Shetlands, in 1886. It was sent to Lindeberg, who referred it to *H. pulchellum* Lindeb. var. *vestitum* Lindeb. The varietal name does not seem to have been published and is only to be found on herbarium sheets. H. Dahlstedt was of the opinion that it was not *H. pulchellum* Lindeb., but a form very closely allied to *H. demissum* (Strömfelt) Dahlst. In 1905, W. R. Linton described it as a new variety, *pulchelliforme*, of *H. demissum*, which was raised to specific rank by H. W. Pugsley in 1946. As this name was a homonym we were forced to give it a new one, *H. gratum*, chosen because of the pleasing appearance of the plant.

This species has been re-collected by W. A. Shoolbred (1892), F. J. Hanbury (1894), G. C. Druce (1920), R. J. Burdon (1921), J. E. Lousley (1950), C. West no. 53/13 (1953), R. C. Palmer (1956), C. J. Cadbury (1960) and W. Scott (1962).

In our opinion this species bears little resemblance to either *H. pulchellum* or *H. demissum*. It shows no close affinity to any British species, but is closely allied to the Icelandic *H. elegantiforme* Dahlst. It differs from that species, however, in having nearly glabrous, not hairy, peduncles and larger flowers.

In 1953 it was sparingly distributed on steep, grassy slopes on both sides of the Burrafirth.

### 5. *Hieracium difficile* P. D. Sell & C. West, sp. nov. PLATE 5a.

Holotype: Bank of stream above the Bay of Okraquoy, Mainland, Shetlands, v.c. 112, Grid. Ref. 41/4431, 17 July 1964, R. C. Palmer, N. D. Simpson and C. West (CGE).

Ab *H. australiore* (Beeby) Pugsl. pilis paucioribus vestitis squamisque angustioribus differt.

*Folia basalia florendi tempore marcescentia vel delapsa.* Caulis ad 70 cm. altus, flexuosus, purpureus praesertim subtus, pilis vestitus aliis simplicibus longis flexuosis interdum nigribasibus ubique sed supra tantum dispersis, aliis stellatis ubique, glanduliferis nullis. *Folia* mediocriter viridita, interdum purpureo-tincta; *basalia late elliptica*, obtuso-mucronulata, *subintegra*, e basi ad petiolum brevem alatum attenuata, utrinque et in marginibus pilis simplicibus densis, mediocribus, pallidis, subsetiformibus vestita; *caulina 4–8, remota, a basi caulis sursum gradatim minora*, interdum ramos abortivos ex axillis emittentia; *inferiora elliptica, acuta vel longe acuta, remote et leviter denticulata, sensim ad basem sessilem semiamplexicaulem attenuata* vel petiolo alato semiamplexicaule, ut folia basalia vestita sed pagina superiore pilis simplicibus paucioribus induta; *superiora lanceolata, longe acuta*, e basi rotundata, sessilia semiamplexicaulia, utrinque pilis simplicibus mediocribus dispersis et interdum aliis stellatis vestita. Anthela anguste et compacte cymosa, capitulis 3–12, acladio pedunculo mediocri praedito; pedunculi suberecti, pilis stellatis, interdum pilo unico simplici brevi nigribasi et nonnunquam pilis glanduliferis brevissimis perpauca obscuris vestiti. *Squamae* 9–10 mm. longae, 1–1.5 mm. latae, in gemmis incumbentes, atro-virides, interiores marginibus pallidioribus, lineari-lanceolatae, obtusae vel subacutae, basi pilis stellatis dispersis, *alioquin pilis glanduliferis brevibus vel brevissimis obscuris dispersis et nonnunquam aliis simplicibus solitariis brevibus nigribasibus vestitae*. Ligulae luteae, glabrae. Styli obscuri. *Cypsela* obscura, circa 4 mm. longa.

*Basal leaves withering before or at the time of flowering.* Stem to 70 cm. high, flexuous, purplish especially below, with long, wavy, pale, sometimes dark-based simple hairs throughout, but only scattered above, with scattered stellate hairs throughout, without glandular hairs. *Leaves* medium green, sometimes purplish tinged; the *basal broadly elliptic*, obtuse-mucronulate, *subentire*, attenuate to a short winged petiole, with dense medium, pale, subsetiform simple hairs on both surfaces and the margins; the *cauline 4–8, widely spaced and gradually decreasing in size*, sometimes with abortive branches in the axils of the leaves; the *lower elliptic, acute to long acute, remotely and shallowly denticulate, gradually narrowed to a broad, sessile semiamplexicaul base* or with a winged, semiamplexicaul petiole, hairs as on basal but fewer in number on the upper surface; the *upper lanceolate, gradually tapering from a rounded, sessile, semiamplexicaul base to a long acute apex*, with scattered, medium simple hairs and sometimes with stellate hairs on both surfaces. Inflorescence narrowly and compactly cymose, with 3–12 capitula, acladium with medium peduncle, peduncles suberect, with stellate hairs, sometimes with an occasional, short, dark-based simple hair and a very short, dark glandular hair. *Phyllaries* 9–10 mm. long, 1–1.5 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse to subacute, with scattered stellate hairs at the base, *with scattered short and/or very short, dark glandular hairs, and an occasional, short, dark-based simple hair*. Ligules yellow, glabrous. Styles discoloured. *Cypsela* dark, about 4 mm. long.

This species was discovered by W. Scott in 1962, and collected later that year by R. C. Palmer. In 1964 R. C. Palmer, N. D. Simpson and C. West examined the colony and obtained additional material. We have given it the specific epithet *difficile*, not only because of the difficulty in placing it in its correct

position in the Section *Alpestris*, but also because the variation in hair clothing, even on the same plant, makes it difficult to provide a precise diagnosis. For example, the leaves of the holotype have stellate hairs on both surfaces whereas the leaves of the other specimens have not.

Normal plants of *H. difficile* closely resemble *H. australius*, but differ by being less hairy and having narrow phyllaries. A plant from this population, which seems to us to be conspecific, has a basal rosette and closely resembles *H. gratum* in appearance, but it is immediately distinguishable by its more numerous, less denticulate cauline leaves.

6. *HIERACIUM AUSTRALIUS* (Beeby) Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 224. PLATE 5b.

[? *H. crocatum* sensu Tate (1866) 6.]

[*H. dovrense* sensu Beeby (1889–1890) 35; sensu F. N. Williams (quoad Shetland loc. exclud. Beeby no. 1151) (1902) 161; sensu Edmondston (1903) 72; sensu F. J. Hanb. in Bab. (1904) 264; sensu W. R. Linton (quoad Shetland loc.) (1905) 72.]

*H. dovrense* subsp. *demissum* var. *australius* Beeby (1908) 114 (Lectotype: Rocks, Loch of Cliff, Unst, Shetlands, 27 July 1886, W. H. Beeby no. 609 (BM)).

*H. demissum* var. *australius* (*australe*) (Beeby) Druce (1922) 499; Roffey (1925) 29 no. 1198c; Druce (1928) 70 no. 200 c [1621].

[*H. polycomum* sensu Dahlst. (quoad Ronas Voe loc.) (1926 for 1925) *Rep. Bot. Soc. & Exch. Cl. Brit. Isles*, 7, 997.]

[*H. polycomatum* sensu Druce (quoad Ronas Voe et Cliva Hill loc.) (1928) 71 no. 236.]

Aphyllipodous or with basal leaves withering at the time of flowering. Stem to 65 cm. high, usually robust, markedly striate, purplish below, usually with long, pale simple hairs below, sometimes throughout, the hairs often deciduous above, with a few stellate hairs just below the inflorescence, without glandular hairs. Leaves pale green, sometimes with purplish spots; the *radical* soon drying up and dropping off, *elliptic to broadly elliptic*, obtuse-mucronate to acute, *denticulate*, narrowed below to winged petioles, with pale, medium, subsetiform, bulbous-based hairs on both surfaces, the margins and petioles; *cauline* 5–12 (–21 cult.), *gradually decreasing in size*, the *lower more or less elliptic*, obtuse-mucronate to acute, *subentire or sharply denticulate*, attenuate to a winged petiole, clothed as basal, the *median very variable, elliptic, lanceolate or oblong-lanceolate* (sometimes curved in the shape of a crescent), acute, sometimes gradually narrowed from the middle, *usually with sharp denticulations*, gradually narrowed to a semiamplexicaul base, hair-clothing as on lower, but sparser, *some specimens with abortive branches growing in the axils of the leaves*, the upper ovate-lanceolate, gradually narrowed from a rounded base to an acute apex, denticulate or sometimes with a few sharp teeth, usually semiamplexicaul, nearly glabrous above otherwise as lower, the uppermost sometimes with scattered stellate hairs beneath. Inflorescence compactly cymose, in cultivation laxer and cymose-corymbose, with 2–10 (–80 cult.) capitula, the median acladium subtended by the branches; *peduncles* suberect, stellately hairy, *with an occasional, short, dark-based simple hair*. Phyllaries 9–10.5 mm. long, 1.5–2 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse, with a few stellate hairs near the base, *with many, very short, pale and dark, glandular hairs, and few to many, usually short, rarely medium, pale, dark-based simple hairs, sometimes without simple hairs*. Ligules yellow, glabrous. Styles discoloured. Margins of the receptacle pits long-dentate. Cypselas dark, 3–3.5 mm. long.

The first record of this species was probably that of Tate (1866), who recorded as *H. crocatum* plants from Burrafirch and Loch-a-Cliff\* which were almost certainly this species. The earliest specimens we have seen, however, are those collected in 1886 at Loch-a-Cliff by W. H. Beeby (no. 609), who named them *H. dovrense*. In 1908, however, it was recognized as being distinct from that species, and was described by W. H. Beeby as a new variety, *australius*, of *H. dovrense* subsp. *demissum*. It has subsequently been found in that area by W. H. Beeby no. 859 and 861 (1887), E. F. Linton set no. 156 (1891), F. J. Hanbury (1894), R. J. Burdon and G. C. Druce (1920 and 1921), J. E. Lousley (1950), C. West no. 53/12 (1953) and R. C. Palmer and W. Scott (1962). There are specimens of this species from Ronas Voe collected by G. C. Druce (OXF) labelled *H. polycomum*, and from Cliva Hill in 1920 and 1921 (BM) by the same collector labelled *H. polycomatum* var. *thulense*.

*H. australius* is quite distinct from *H. dovrense* Fries, *H. demissum* (Strömfelt) Dahlst., and *H. polycomum* Dahlst. (*H. polycomatum* (Zahn) Druce) with which it has been confused. The only species closely allied to *H. australius* is *H. difficile*.

\* The modern official spelling is Loch of Cliff.



7. *HIERACIUM DOVRENSE* Fries (1848) 128 (Provisional lectotype: Norveg. centr. a Dovre in Finmarkiarn copiose, M. N. Blytt, sent out as *H. cydonaeifolium* in Fries Set 11 no. 12 (BM)); E. S. Marshall & Shoolbred (1898) 172; F. N. Williams (1902) 161 (quoad Ben Loyal\* loc.); W. R. Linton (1905) 72 (quoad Ben Laoghal\* loc.); Roffey (1925) 29 no. 1190 (one v.c. only); Druce (1928) 70 no. 192 (1617) (one v.c. only); Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 221; P. D. Sell & C. West in Dandy (1958) 127 no. 558: 1: 168. PLATE 6a.
- H. boreale*  $\beta$  *latifolium* Blytt (1838) 304 (Lectotype: Lierne ved Drivstuen, 1835, M. Blytt no. 110 (O)).
- H. dovrense* var. *vulgare* Lindeb. in Blytt (1874) 668.
- H. dovrense* subsp. *eudovrense* Omang in Blytt (1906) 760.
- H. carpathicum* subsp. *dovrense* (Fries) Zahn (1921) 810 (exclud. all Brit. loc. except Ben Laoghal).

Aphyllopodous or with basal leaves withering at the time of flowering. Stem to 50 cm. high, robust, flexuous, slightly purple tinted below, with long, pale simple hairs throughout, sometimes sparsely, sometimes densely, sometimes the hairs deciduous, sometimes with a few stellate hairs above, with an occasional, very small glandular hair. *Leaves* pale green, radical few (in British specimens seen, soon disappearing); primordial elliptic, obtuse-mucronulate, slightly denticulate, attenuate to the petiole; the later (from Scandinavian specimens) elliptic, obtuse-mucronulate, remotely denticulate to coarsely dentate, attenuate to winged petioles which are broadened below, midrib very prominent, nearly glabrous above, with a few, pale, medium simple hairs below, margins and petioles with medium, pale simple hairs; *cauline* 4–8, slowly decreasing in size upwards, the lower and median elliptic, obtuse-mucronulate to acute, denticulate to sharply and irregularly dentate, the teeth ascending mammilliform, the lower attenuate below to winged semi-amplexicaul petioles, the median to a sessile or abruptly contracted semiamplexicaul base, clothing as radical, the upper lanceolate, acute to acuminate, denticulate or shallowly dentate, cuneate to a sessile, semiamplexicaul base, glabrous except on the midrib below. Inflorescence rather compactly cymose, usually with 3–9 (–12) capitula, *acladium* geminate, *peduncles* medium, suberect, slender, stellately hairy, otherwise variable in clothing with few to numerous, short to medium, dark-based simple and very short, black glandular hairs. *Phyllaries* 9–11 mm. long, 2–2.5 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse, sparingly stellately hairy with a tuft at the apex, with many, short to medium, dark-based simple and very short, black glandular hairs. Ligules yellow, glabrous. Styles discoloured. Margins of the receptacle pits long-dentate. Cypselas dark, 2–2.5 mm. long in Scandinavian specimens, cypselas from British plants not seen.

*H. dovrense* was described by E. Fries in 1848 from several alpine localities in Norway, particularly in the Dovre area. He states that he has seen a specimen of this species from Scotland, but the specimen has not been traced. In 1896 E. S. Marshall and W. A. Shoolbred gathered specimens at Glen Roy, Inverness, which were identified as *H. dovrense*. These were later sent out in Linton's Set no. 46 under that name. They are, however, *H. dewarii* Syme. The following year Marshall and Shoolbred collected the true plant on Ben Loyal, which is its only known British locality. It has subsequently been seen by J. E. Raven in 1952 and by C. West in 1953. Specimens collected by W. H. Beeby and F. J. Hanbury in Unst, Shetland, were identified as *H. dovrense*, but they belong to a different species, *H. australis* (Beeby) Pugsley. Specimens collected by E. S. Marshall at Tain in 1890 and labelled *H. dovrense* are *H. subrude* (A.T.) A.T.

The typification of *H. dovrense* Fries is rather complicated. There is no specimen that can be regarded as a type in Fries' own herbarium at Uppsala. At Oslo there are four syntypes of *H. boreale* ? var. *latifolium* Blytt, which is cited in the synonymy of Fries' original account. Although these specimens are all typical *H. dovrense*, there is no evidence on the sheets that they were seen by Fries. Fries' *Exsiccatae* *Herb. Norm.* XI: 12 sent out as *H. cydonaeifolium* is cited by him in his original account of *H. dovrense*, and can be regarded as type material. All the specimens we have seen of this set number are badly damaged, but they are in our opinion certainly referable to the taxon regarded as *H. dovrense*. We provisionally select the sheet in the British Museum (Nat. Hist.) as the lectotype, but recommend that should a better specimen be found, a fresh designation should be made.

K. H. Zahn (1921) describes seven subspecies of his *Grex H. dovrense*, all of which come from Scandinavia. We have not seen specimens of these, but from the descriptions they seem to differ little from *H. dovrense* Fries in its typical form. No British species is closely allied to *H. dovrense*.

\* Ben Loyal, not Ben Laoghal, appears to be the correct modern spelling for the name of this mountain.

8. *HIERACIUM PRAETHULENSE* Pugsley (1948) 226 (Holotype: rocks on north side of Roeness (Ronas) Voe, Mainland, Shetlands, 3 August 1891, W. H. Beeby no. 1115 in Herb. F. J. Hanbury (BM)); P. D. Sell & C. West in Dandy (1958) 127, no. 558:1:175. PLATE 6b.

[*H. auratum* sensu Beeby (1892) 55.]

*H. auratum* var. *thulense* F. J. Hanb. (1894) 232 (Lectotype: rocks on north side of Roeness Voe, Mainland, Shetlands, 3 August 1891, W. H. Beeby no. 1115 in Herb. F. J. Hanbury (BM)); F. J. Hanb. in Bab. (1904) 267; W. R. Linton (1905) 89; Beeby (1908) 115.

[*H. aestivum* subsp. *crocatum* sensu Zahn (quoad Shetland loc.) (1922) 922.]

*H. crocatum* var. *thulense* (F. J. Hanb.) Druce (1928) 71, no. 245e (cf. *Rep. Bot. Exch. Cl. Brit. Isles* 8, 879 and 880 (1929 for 1928)).

[*H. praethulense* Pugsley in A. R. Clapham (1946) 346 nom. nud.]

Hypophyllopodous or aphyllopodous or with basal leaves withering at the time of flowering. Stem to 60 cm. high, usually rather slender but some large plants robust, flexuous, markedly striate, purplish below, sometimes throughout, with long, pale simple hairs throughout, but decreasing in density upwards, sometimes without simple hairs except at the very base, with scattered stellate hairs in the upper half, without glandular hairs. *Leaves* pale green, often suffused with purple; the *radical* few or absent, usually broadly elliptic and sometimes almost subrotund, apex rounded or obtuse, remotely denticulate, narrowed (sometimes abruptly) to winged petioles, with scattered, medium simple hairs or glabrous above, with long simple hairs beneath and on the margins; the *cauline* 7-12 (-16) (in cultivation with numerous other leaves on the branches), the *lower* variable, elliptic, ovate or oblong-lanceolate, obtuse-mucronulate to acute, remotely denticulate, attenuate to a winged petiole or abruptly narrowed to a sessile, semiamplexicaul base, clothed as basal, the *median* elliptic or lanceolate, acute, remotely denticulate, with a rounded or subcordate semiamplexicaul base, glabrous above, with few simple hairs beneath, the margins with simple hairs or scaberulous; the upper ovate-lanceolate to lanceolate, gradually narrowed to an acute apex, entire or with an occasional denticulation, base rounded or subcordate, semiamplexicaul, glabrous above, with few simple and stellate hairs beneath, margins ciliate or scaberulous. *Inflorescence* compactly cymose (in cultivation cymose-corymbose), with 2-9 (-100 cult.) capitula, with medium acladium; the *peduncles* slender, suberect, medium to long, sparingly stellately hairy and sometimes with a few, pale, short simple hairs, without glandular hairs. *Phyllaries* 9-10 mm. long, (1-) 1.5-2 mm. wide, incumbent in bud, blackish-green, inner with paler margins, linear-lanceolate, obtuse, with scattered stellate hairs, few to many, very short to short glandular hairs and occasionally a few, short simple hairs intermixed. *Ligules* yellow, glabrous. *Styles* yellow, sometimes discoloured when dry. Margins of the receptacle pits shortly and irregularly dentate. *Cypselas* dark, 4-4.5 mm. long.

*H. praethulense* was first found by W. H. Beeby in 1889 (nos. 1041 and 1042), and re-collected by him in 1891 (nos. 1108, 1109, 1111, 1112, 1114, 1115 and 1116). It has since been collected by G. C. Druce (1920), J. E. Lousley (1950), C. West no. 53/8 (1953), C. J. Cadbury (1960 and 1961) and W. Scott (1961 and 1963). It is a frequent plant on the north side of Ronas Voe and near Mavisgrind.

In 1892 Beeby called it *H. auratum* Fries; two years later F. J. Hanbury described it as a new variety, *thulense*, of that species. It was included under *H. aestivum* subsp. *crocatum* by Zahn, and both Roffey and Druce transferred the varietal name *thulense* to *H. crocatum* Fries. Pugsley quite rightly gave the plant specific status.

In general appearance it resembles the Icelandic *H. phrixoclonum* Omang, but that species differs in having fewer cauline leaves, more glandular hairs on the peduncles, dark styles and smaller achenes. It is also closely allied to the Icelandic *H. halfdanii* Oskarss. from which it differs in being more hairy throughout and in having numerous fine glandular hairs on the peduncles.

In cultivation, *H. praethulense* often becomes a very large plant with a widely spreading inflorescence with many capitula. It then has a superficial resemblance to *H. latobrigorum* (Zahn) Roffey (*H. auratum* auct.), which is perhaps the reason why Beeby and Hanbury originally placed it under that species. The shape and clothing of its phyllaries, however, are very different. The leaves in cultivated plants are far less amplexicaul than in the wild plant, a point which suggests that one of the characters on which the Section *Alpestris* is based may be artificial.

The plants which Druce recorded as *H. polycomum* Dahlst., and which Pugsley referred to *H. praethulense*, are in fact *H. australis* (Beeby) Pugsley.

9. *HIERACIUM HETHLANDIAE* (F. J. Hanb.) Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 224; P. D. Sell & C. West in Dandy (1958) 127 no. 558: 1: 171. PLATE 7a.

[*H. truncatum* sensu Beeby (1892) 55.]

*H. dovrense* var. *Hethlandiae* F. J. Hanb. (1894) 232 (Lectotype: rocks at the foot of Cliva Hill, near Brae, Mainland, Shetlands, 14 August 1891, W. H. Beeby no. 1107 in Herb. F. J. Hanbury (BM)); F. J. Hanb. in Bab. (1904) 264; W. R. Linton (1905) 72; Druce (1922) 499 (exclud. Burn of Quoys loc.).

[*H. dovrense* sensu F. N. Williams (1902) 162 (quoad W. H. Beeby no. 1151).]

*H. dovrense* subsp. *humidorum* var. *Hethlandiae* (F. J. Hanb.) Beeby (1908) 114.

*H. aestivum* subsp. *crocatum* subvar. *Hethlandiae* (F. J. Hanb.) Zahn (1922) 923.

*H. crocatum* forma *Hethlandiae* (F. J. Hanb.) Roffey (1925) 29, no. 1243.

*H. crocatum* var. *Hethlandiae* (F. J. Hanb.) Druce (1928) 71, no. 245c. (1635).

*Aphyllopodous* or with basal leaves withering at the time of flowering. Stem to 40 cm. high, slender, flexuous, purplish below, often throughout, with long, pale simple hairs only at the very base and then often only sparingly, with  $\pm$  numerous stellate hairs especially above, without glandular hairs. *Leaves* 5–9, *caesious medium green*, often purple-tinted especially beneath and on the margins, the *upper rapidly decreasing in size*; the *lowest broadly elliptic*,  $\pm$  obtuse, *subentire*, attenuate to short, winged, semiamplexicaul petioles, glabrous or with pale, medium, subsetiform, bulbous-based simple hairs above and on the margins, petioles with medium, pale, simple hairs; the *lower cauline narrow-elliptic, gradually narrowed at both ends, apex acute, denticulate*, with short winged petioles, or sessile and semiamplexicaul, glabrous or with pale, medium simple hairs on both surfaces and the margins; the *median as lower, but sometimes broader and more rounded at the base with a long acute apex*, sessile, glabrous or nearly so on both sides, margins puberulous, or with a few, short simple hairs; the *upper gradually narrowed to an acute, apiculate tip from a broad, rounded, semiamplexicaul base*, glabrous except for a few stellate hairs below. *Inflorescence* compactly cymose, with 2–4 capitula, acladium with medium peduncle; *peduncles* medium, suberect, slender, stellately hairy, *usually without simple hairs, without glandular hairs*. *Phyllaries* 10·5–12 mm. long, 1·5–1·75 mm. wide, incumbent in bud, blackish-green, inner with paler margins, linear-lanceolate, obtuse, with stellate hairs scattered over the whole surface, *with very short to medium, dark glandular and some short to medium, dark simple hairs*. Ligules yellow, glabrous. Styles discoloured. Margins of the receptacle pits long-dentate. Cypsela dark, 3–5 mm. long.

This species was first described as a variety of *H. dovrense* Fries by F. J. Hanbury (1894), from material collected by W. H. Beeby (no. 1107) at Cliva Hill. It was later placed by some authors under *H. crocatum* Fries. It is a rare plant, and has only been collected since by W. H. Beeby no. 1151 (1896), R. J. Burdon (1920), G. C. Druce (1920 and 1921), J. E. Lousley (1950), C. West no. 53/4 (1953) and C. J. Cadbury and W. Scott (1960). A sheet in Herb. Mus. Brit. (BM), collected by R. J. Burdon at Roeness Voe on the 28 July 1920, contains a mixed gathering of two plants of this species and one of *H. vinicaule*. *H. hethlandiae* needs to be re-found at this locality. Both W. H. Beeby (1908) and G. C. Druce (1922) remark that it grows in some plenty on Cliva Hill rocks, but C. West (1953) found that much of the cliff had been blasted away for road repair, and that the plant might be in danger of extinction. In 1960 Cadbury and Scott saw eight plants. Druce (1922) identified plants from the Burn of Quoys as *H. hethlandiae*, but we consider these plants to be a distinct species, *H. dilectum*.

*H. hethlandiae* does not seem to be closely allied to any of the British species of the Section *Alpestris*. It was likened to the Scandinavian *H. dovrense* subsp. *humidorum* Alm. ex Elfstrand by Elfstrand, but that taxon, although closely allied to *H. hethlandiae*, differs in its long-petioled lower leaves, smaller capitula and markedly pale-edged phyllaries. *H. hethlandiae* has a superficial resemblance to *H. sparsifolium* Lindeb. (*H. pseudoprotractum* Pugsley), which grows with it; it can easily be separated, however, by its broad-based, semi-amplexicaul leaves and different clothing of the inflorescence.

#### 10. *Hieracium attenuatifolium* P. D. Sell & C. West, sp. nov. PLATE 7b.

Holotype: Laxo Burn, Mainland, Shetlands, August 1953, C. West no. 53/1 (CGE)

[*H. demissum* var. *pulchelliforme* sensu Druce (1925) 646.]

Ab *H. dilecto* P. D. Sell & C. West, *H. pugsleyi* P. D. Sell & C. West et *H. subtruncato* Beeby squamis capitulorum pilis glanduliferis densis indutis distinguitur.

Planta aphyllopoda. Caulis ad 90 cm. altus, flexuosus,  $\pm$  purpureus, pilis simplicibus longis pallidis superne saepe deciduis, per bases pilorum deciduorum trunciformes tandem scaberulus, alis stellatis paucis, glanduliferis nullis. *Folia caulina* 6–15, saturate vel pallide viridia, saepe purpureo-tincta; *ima late elliptica, rotundo-obtuso-mucronulata, subintegra vel remote denticulata, basi cuneata vel in petiolum attenuata; inferiora elliptica, interdum late elliptica, obtuso-mucronulata vel subacuta, remote denticulata vel raro dente levi acuto solitario praedita, basi gradatim in petiolum late alatum angustata; media anguste ad late elliptica,*

±acuta, remote denticulata vel raro dentibus levibus acutis paucis praedita, basi angustata vel abrupte contracta, sessilia, semiamplexicaulia; superiora lanceolata vel lineari-lanceolata, acuta, subintegra vel bracteiformia; inferiora et media utrinque et in marginibus pilis simplicibus mediocribus pallidis, praeterea media raro subtus pilis stellatis paucis, superiora raro pilis simplicibus paucis et utrinque pilis stellatis dispersis vestita cum marginibus costisque puberulis. Anthela laxa cymosa, capitulis 2-7 (ad 13 cult.), acladio pedunculo longo praedito; pedunculi vulgo longi, pilis stellatis dispersis, saepe aliis simplicibus numerosis mediocribus nigribasibus, aliis glanduliferis paucis brevissimis atris vestiti. Squamae 10-12 mm. longae, 1.5-2 mm. latae, in gemmis incumbentes, exteriores atro-virides, brevissimae, triangulari-ovatae, mediae marginibus pallidioribus, lanceolatae, interiores valde pallidae et angustiores, omnes obtusae, pilis stellatis paucissimis, aliis glanduliferis inaequalibus brevissimis usque mediocribus nigris, aliis simplicibus paucis mediocribus obscuris vestitae. Ligulae pallide luteae, glabrae. Styli lutei, in sicco obscuri. Alveoli receptaculi margine breviter dentati. Cypsela obscura, 4.5-5 mm. longa.

*Aphyllopodous*. Stem to 90 cm. high, flexuous, ±purple, with long, pale simple hairs above, often becoming scaberulous from the bases of the deciduous hairs, with a few stellate hairs, without glandular hairs. *Cauline leaves* 6-15, deep or pale green, often suffused with purple; the lowest broadly elliptic, rounded-obtuse-mucronulate, subentire to remotely denticulate, cuneate- or attenuate-based to winged petioles; the lower elliptic, sometimes broadly, obtuse-mucronate to subacute, distantly denticulate or occasionally with one or more sharp teeth, gradually narrowed below to broad winged petioles; the median narrow to broadly elliptic, ±acute, distantly denticulate or rarely with a few, sharp, shallow teeth, narrowed or abruptly contracted to a sessile, semiamplexicaul base; the upper lanceolate to linear-lanceolate, acute, subentire or bractlike; the lower and median with medium, pale simple hairs on both surfaces and the margins, the median occasionally with a few stellate hairs beneath, the upper with or without an occasional simple hair, with scattered stellate hairs on both surfaces, margins and veins puberulous. Inflorescence loosely cymose, with 2-7 (-13 cult.) capitula, acladium with a long peduncle; peduncles mostly long, with scattered stellate hairs, usually with numerous, medium, dark-based simple hairs and an occasional very short to short, dark glandular hair. *Phyllaries* 10-12 mm. long, 1.5-2 mm. wide, incumbent in bud, the outer blackish green, very short, triangular-ovate, the median with paler margins, lanceolate, the inner similar to the median but paler and rather narrower, all obtuse, with very few stellate hairs, numerous, unequal, very short to medium, dark glandular and a few, medium, dark simple hairs. Ligules pale yellow, glabrous. Styles yellow, darkening when dry. Margins of receptacle pits shortly dentate. Cypsela dark, 4.5-5 mm. long.

G. C. Druce was the first person to mention this species from the Laxo Burn, after his third visit to the Shetlands in 1924, and we have seen three sheets containing eight very poor specimens which he gathered. In his *Additions to the Flora Zetlandica* (1925), Druce refers this plant to *H. demissum* var. *pulchelliforme* W. R. Linton, and his specimens are so labelled. This species bears not the slightest resemblance to *H. gratum* P. D. Sell and C. West (= *H. demissum* var. *pulchelliforme* W. R. Linton).

In 1953, C. West no. 53/1, found it growing in abundance on the grassy banks of the Laxo Burn, where it has since been collected by N. D. Simpson no. 53/762 (1954), W. Scott (1956) and C. J. Cadbury (1962).

In 1954 Simpson (no. 54/291) gathered it from sea cliffs at West Burrafirth, Sandsting, where it was collected again by W. Scott in 1963. The plants from Sandsting differ from those of the Laxo Burn in having slightly narrower phyllaries clothed with slightly longer glands, but these differences are negligible. Plants collected by W. Scott at Boust, Sandness, 29 July 1962, seem to belong to this species, but they have fewer leaves and apparently darker styles.

*H. attenuatifolium* is closely allied to *H. subtruncatum* Beeby, *H. pugsleyi* P. D. Sell & C. West and *H. dilectum* P. D. Sell & C. West. From these three species it can be distinguished by the dense glandular hairs on its phyllaries, on which there are only a few simple hairs.

We have called it *attenuatifolium* because it can readily be distinguished from *H. subtruncatum* Beeby, which it strongly resembles in appearance, by the narrower more attenuate bases of the leaves.

## 11. *Hieracium pugsleyi* P. D. Sell & C. West, sp. nov. PLATE 8a.

Holotype: grassy banks of burn, Weisdale, Mainland, Shetlands, August 1953, C. West no. 53/14 (CGE).

Ab *H. subtruncato* Beeby squamis capitulorum pilis simplicibus numerosis vestitis, ab *H. attenuatifolio* P. D. Sell et C. West capitulis minoribus, squamis capitulorum pilis glanduliferis sparsis et forma foliorum basali differt, praeterea ab *H. dilecto* P. D. Sell et C. West caulibus pedunculisque pilis simplicibus praeditis et internodiis longioribus distinguitur.

*Planta aphyllopoda*. Caulis ad 60 cm. altus, gracilis, flexuosus, purpureus, perpilosus, pilis longis pallidis simplicibus, superioribus nigribasibus, superne pilis stellatis paucis, nonnunquam glanduliferis sparsis brevissimis vestitus. *Folia caulina* 8-12 (-15), pallide viridia, praecipue infra purpureo-tincta; *inferiora*

*elliptico-oblonga ad oblonga*, obtuso-mucronata ad subacuta, *subintegra ad minute denticulata*, *basi in petiolum brevem alatum attenuata*; *media elliptico-oblonga ad oblonga*, ±acuta, *subintegra ad regulariter denticulata*, *basi rotundata*, sessilia, *semiamplexicaulia*; superiora lanceolata ad ovato-lanceolata, acuta, subintegra, basi rotundata, sessilia; omnia utrinque et in marginibus pilis pallidis mediocribus simplicibus vestita, superiora inferne pilis stellatis paucissimis vestita. *Anthela cymosa*, nonnunquam ramos longos foliosos ex axillis foliorum caulino-remittens, capitulis 3-9 (-22), acladio pedunculo brevi usque mediocri praedito, ramis gracilibus suberectis; pedunculi breves usque mediocres, nonnunquam geminati, pilis aliis stellatis paucis, aliis simplicibus numerosis mediocribus basi obscuris, aliis glanduliferis raris brevissimis obsiti. *Squamae* 9-10 mm. longae, 1.5-1.75 mm. latae, in gemmis incumbentes, atro-virides, nonnunquam apicibus rubescentibus, interiores marginibus pallidioribus, lanceolatae, obtusae, pilis aliis stellatis rarissimis, aliis simplicibus numerosis mediocribus basi obscuris, aliis glanduliferis paucis vel multis brevissimis obscuris vestitae. Ligulae luteae, glabrae. *Styli lutei*. Alveoli receptaculi margine breviter dentati. Cypselae obscurae, 3-3.5 mm. longae.

*Aphyllopodous*. Stem to 60 cm. high, slender, flexuous, purple, with dense, long, pale simple hairs throughout, those of the upper half with dark bases, with few, scattered stellate hairs, sometimes with a few very short glandular hairs. *Cauline leaves* 8-12 (-15), pale green suffused with purple especially on the lower surface; the *lower elliptic-oblong to oblong*, obtuse-mucronate to subacute, *subentire to minutely denticulate*, *base attenuate to a short, winged petiole*; the *median elliptic-oblong to oblong*, ±acute, *subentire to regularly denticulate*, *base rounded, sessile, semiamplexicaul*; the upper lanceolate to ovate-lanceolate, acute, subentire, with a rounded, sessile base; all with pale, medium simple hairs on both surfaces and the margins, the uppermost with very few stellate hairs beneath. Inflorescence cymose, sometimes with long leafy branches in the leaf-axils, with 3-9 (-22) capitula; acladium with short to medium peduncle, with slender, suberect branches; peduncles short to medium, sometimes geminate, with scattered stellate hairs, numerous, medium, dark-based simple hairs and a few, very short glandular hairs. *Phyllaries* 9-10 mm. long, 1.5-1.75 mm. wide, incumbent in bud, blackish green, sometimes reddish at the tip, the inner with paler margins, linear-lanceolate, obtuse, with very few stellate hairs, numerous, medium, dark-based simple hairs and few or many, very short, dark glandular hairs. Ligules yellow, glabrous. *Styles yellow*. Receptacle pits shortly dentate. Cypselae dark, 3-3.5 mm. long.

This species was discovered by C. West (no. 53/14) in 1953 on grassy banks by the Weisdale Burn, Mainland, Shetlands, where it was re-collected in 1961 by C. J. Cadbury and in 1962 by W. Scott. It has also been collected at the Laxo Burn, Lunnasting by N. D. Simpson (no. 54.762) in 1954, and near Otters Wick, Yell, by C. J. Cadbury and by R. C. Palmer in 1961. In 1963, W. Scott collected it at the Burn of Laxdale near Cunningsburgh and at Tumblin, Sandsting.

It is closely allied to *H. subtruncatum* Beeby, *H. attenuatifolium* P. D. Sell & C. West and *H. dilectum* P. D. Sell & C. West. From *H. subtruncatum* it differs in having numerous simple hairs on the phyllaries, from *H. attenuatifolium* by its smaller heads, less glandular hairy phyllaries, and differently shaped basal leaves, and from *H. dilectum* by its hairy stems and peduncles and its longer internodes.

It is thought appropriate to dedicate this plant to the late Mr. H. W. Pugsley, whose contributions to our knowledge of the British species of *Hieracium* are outstanding.

## 12. *Hieracium dilectum* P. D. Sell & C. West, sp. nov. PLATE 8b.

Holotype: Burn of Quoys, Catfirth, Mainland, Shetlands, August 1953, C. West no. 53/2 (CGE).

[*H. dovrense* var. *hethlandiae* sensu Druce (quoad Burn of Quoys loc.) (1922) 499.]

Ab *H. attenuatifolio* P. D. Sell et C. West et *H. pugsleyi* P. D. Sell et C. West squamis capitulorum sparsius vestitis differt, praeterea ab *H. subtruncato* Beeby foliis longioribus angustioribus acutioribus distinguitur.

*Planta aphyllopoda*. *Caulis* ad 55 cm. altus, flexuosus purpureusque, raro glaber, plerumque pilis simplicibus paucis (raro numerosis) mediocribus pallidis praesertim in nodis, aliis stellatis dispersis, superne pilis glanduliferis brevissimis paucis vestitus. *Folia caulina* 9-16 (-20), pallide viridia, saepe purpureo-tincta praesertim inferne; inferiora longa anguste elliptica vel interdum linearia, obtuso-mucronulata vel subacuta, regulariter remoteque denticulata, basi in petiolum brevem late alatum attenuata, semi-amplexicaulia; media longa, anguste elliptica vel interdum linearia, acuta, remote denticulata, interdum dente acuto parvo praedita, basi breviter angustata vel cuneata vel rotundata, semiamplexicaulia, sessilia; superiora longe lanceolata, longe acuta, remote denticulata vel integra, sessilia, basi rotundata, semiamplexicaulia; omnia glabra vel utrinque et in marginibus pilis simplicibus paucis usque nullis pallidis, mediocribus vestita, interdum costa subtus dense pilosa, media atque superiora saepe pilis stellatis utrinque dispersis induta. *Anthela* laxa cymosa, capitulis 1-10, acladio pedunculo mediocri usque longo praedito; pedunculi mediocres usque longi, suberecti, pilis stellatis dispersis, interdum scaberuli et raro pilo simplici pallido mediocri vestiti. *Squamae*

9–11 mm. longae, 1.25–1.5 mm. latae, in gemmis incumbentes, atro-virides, mediae et interiores marginibus pallidioribus, lineari-lanceolatae, obtusae, *pilis* stellatis dispersis, *aliis simplicibus brevibus vel brevissimis obscuris dispersis, aliis glanduliferis brevibus vel brevissimis obscuris dispersis vestitae*. Ligulae luteae, glabrae. *Styli lutei vel obscuri*. Alveoli receptaculi margine dentato-fimbriati. *Cypsela* obscura, 4–4.5 mm. longa.

*Aphyllipodous*. Stem to 55 cm. high, flexuous, purple, rarely glabrous, usually with a few (rarely more numerous), pale, medium simple hairs especially at the nodes, with scattered stellate hairs and a few very short glandular hairs above. *Cauline leaves* 9–16 (–20), pale green, usually suffused with purple, especially below; the lower narrowly elliptic or sometimes linear, obtuse-mucronulate to subacute, regularly and remotely denticulate, attenuate below to short, broad-winged, semi-amplexicaul petioles; the median narrowly elliptic or sometimes linear, acute, remotely denticulate with an occasional small sharp dentation, shortly narrowed to a cuneate or rounded, semiamplexicaul, sessile base; the upper long-lanceolate, long-acute, remotely denticulate or entire, sessile with a rounded, semiamplexicaul base; all glabrous or with few to many, pale, medium simple hairs on both surfaces and the margins, sometimes with very numerous simple hairs on the midrib beneath, the median and upper often with scattered stellate hairs on both surfaces. *Inflorescence* loosely cymose with 1–10 capitula, acladium with medium to long peduncle, peduncles medium to long, suberect, with scattered stellate hairs, sometimes scaberulous and occasionally with a solitary, pale, medium simple hair. *Phyllaries* 9–11 mm. long, 1.25–1.5 mm. broad, incumbent in bud, blackish-green, the median and inner with paler margins, linear-lanceolate, obtuse, with scattered stellate hairs, scattered short or very short, dark simple hairs, and scattered very short or short, dark glandular hairs. Ligules yellow, glabrous. *Styles* yellow to discoloured. Margins of the receptacle pits fimbriate-dentate. *Cypsela* dark, 4–4.5 mm. long.

This species was first collected in 1908 in the ravine of the Burn of Quoys, Catfirth, Mainland, Shetlands, by W. H. Beeby (no. 1664). Although Beeby does not mention this plant in any of his papers on the Shetland *Hieracia*, a specimen in his herbarium is labelled *H. dovrense* var. *hethlandiae* F. J. Hanb. A plant of this same gathering in Herb. E. S. Marshall (CGE) is similarly labelled, and the Burn of Quoys is given as a locality for *H. hethlandiae* in Druce's *Flora Zetlandica*.

In 1953 C. West (no. 53/2) collected a series of specimens from this locality, as did W. Scott in 1956, and these were identical with Beeby's plant. The same plant was collected by C. West (no. 53/15) from the Laxo Burn in 1953. In 1959 W. Scott found it on rocks one-and-a-half miles north-east of West Burrafrith, Sandsting, where it was re-collected by C. J. Cadbury in 1960. Cadbury also collected it in two other localities, the Burn of Crookadale, Catfirth, Mainland, in 1960 and 1961, and near the South Wick of Sound, near Setter, Yell, in 1961. In 1962 W. Scott found it on rocks above the Bay of Brenwell, near Sandness, and in 1963 at Channer Wick in south Mainland. A plant collected on 29 July 1961 by R. C. Palmer from sea cliffs at the West side of Whale Firth, near Grimister, Yell, differs only in having few (six), widely spaced cauline leaves. The plants from Crookadale have narrower (almost linear) leaves than those from the other localities; this character is retained in cultivation.

*H. dilectum* is very different from *H. hethlandiae* (F. J. Hanb.) Pugsley and has a closer affinity with *H. subtruncatum* Beeby, *H. attenuatifolium* P. D. Sell & C. West and *H. pugsleyi* P. D. Sell & C. West. It can be distinguished from *H. pugsleyi* and *H. attenuatifolium* by the sparse indumentum of its phyllaries, and from *H. subtruncatum* by its longer, narrower and more pointed leaves.

The use of the epithet *dilectum* for this beautiful plant needs no explanation.

13. *HIERACIUM SUBTRUNCATUM* Beeby (1908) 114 (Lectotype: near the sea, Hamar Voe, Northmaven, Shetlands v.c. 112, 10 August 1891, W. H. Beeby no. 1105 in Herb. F. J. Hanbury (BM)); Druce (1922) 500; Roffey (1925) 29, no. 1192; Druce (1928) 70, no. 194; Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 225; P. D. Sell & C. West in Dandy (1958) 127, no. 558:1:173. PLATE 9a.
- [*H. friesii* sensu Beeby (1892) 55 (exclud. Loch of Cliff loc.); sensu Roffey (1925) 29, no. 1224 (quoad Shetland loc.); sensu Druce (1928) 71, no. 226 (quoad Shetland loc.).]
- [*H. truncatum* sensu F. J. Hanb. in Bab. (1904) 264; sensu W. R. Linton (1905) 75 (quoad Shetland loc.).]
- [*H. rigidum* var. *friesii* sensu W. R. Linton (1905) 82 (quoad W. H. Beeby no. 1040); sensu Beeby (1908) 115; sensu Druce (1922) 500 (exclud. Loch of Cliff loc.).]
- [*H. carpathicum* subsp. *truncatum* sensu Zahn (1921) 811 (quoad Shetland loc.).]
- [*H. levigatum* subsp. *friesii* sensu Zahn (1922) 887 (quoad Shetland loc.).]
- H. subtruncatum* var. *glussburnense* Pugsley (1948) 225 (Holotype: Banks by the Gluss Burn, near Ollaberry, Mainland, Shetlands v.c. 112, 5 July 1889, W. H. Beeby no. 1040 (BM)).

*Aphyllipodous*. Stem to 75 cm. high, flexuous, usually purplish below, sometimes throughout, usually with pale, medium to long simple hairs throughout, those above dark-based, often densely so below, sometimes only sparingly so or scaberulous, with scattered stellate hairs throughout, sometimes more dense near the inflorescence, without glandular hairs. *Cauline leaves* 8–20, gradually decreasing in size, pale to medium green, often suffused with purple; the lowest broadly elliptic or oblong, obtuse, subentire or denticulate, narrowed (sometimes abruptly) to a sessile base or occasionally shortly petiolate, with numerous, pale, subsetiform, bulbous-based, medium simple hairs on both surfaces and the margins; the median lanceolate to oblong, subacute, denticulate or with a few shallow teeth intermixed, contracted to a rounded, semi-amplexicaul base, clothed as lower except that the hairs are fewer, the upper surface is sometimes glabrous, and the lower surface sometimes has scattered stellate hairs; the upper lanceolate to ovate-lanceolate, often gradually narrowed from the middle to an acute apex, denticulate, sometimes with a simple shallow tooth, base broad, rounded and semiamplexicaul, clothed like the median. Inflorescence narrowly and laxly cymose with 1–13 capitula, a cladium with a long peduncle, peduncles long and slender, suberect, with few to numerous stellate hairs, few to numerous, usually dark-based, medium simple hairs, sometimes only the dark bases remaining, and occasionally a few, very short, dark glandular hairs. *Phyllaries* 9–11 mm. long, c. 1.5 mm. wide, incumbent in bud, blackish-green, inner with paler margins and often reddish tipped, linear-lanceolate, obtuse, without stellate hairs, usually with a few, very short, dark glandular hairs and solitary, dark, very short simple hairs. Ligules yellow, glabrous. *Styles* yellow. Margins of the receptacle pits shortly dentate. Cypselas dark, 3.5–4 mm. long.

This species was originally collected on the banks of the Eala Water,\* Northmaven, by W. H. Beeby in 1891 and 1896, and is represented by his exsiccatae nos. 1105, 1106, 1153 and 1154. It was referred by M. Elfstrand and E. F. Linton to the Scandinavian *H. truncatum* Lindeb. In 1908, however, Beeby, on the advice of W. R. Linton, described it as a new species, *H. subtruncatum*. It is indeed very different from *H. truncatum*, which has a nearly glabrous stem and foliage, petiolate basal leaves and a more spreading inflorescence. Later gatherings from this locality have been made by G. C. Druce (1920 and 1921), M. L. Wedgwood (1921), J. E. Lousley (1950), C. West no. 53/6 (1953), A. H. G. Alston, and N. D. Simpson no. 54/745 (1954), and W. Scott (1956). In 1953 C. West found this species on the banks of a stream on the north side of Ronas Voe, and W. Scott sent us a specimen from the same locality in 1957. There is a sheet in the Oxford herbarium from Cliva Hill, collected by G. C. Druce in 1921; and W. Scott found it near there at Islesburgh in 1963. Beeby (1902) quotes Hanbury as having identified a plant from Cliva Hill as *H. truncatum*, but the Beeby specimen in *Herb. Mus. Brit.* is *H. hethlandiae*. W. Scott collected a specimen in 1959 along the NE arm of the Mangaster Voe, which is probably this species, and another collected nearby in 1963 which is certainly it. In 1963 W. Scott found it at Channer Wick, which extends its range to the southern part of Mainland, and in the same year collected it at Hamna Dale, near Lunning, Lunnasting.

In 1889 and 1891 Beeby collected specimens from the banks of the Gluss Burn, near Ollaberry, Mainland (nos. 1040 and 1104) which, together with the Eala Water plant, were referred by Hanbury to *H. friesii* Hartm. When Beeby described *H. subtruncatum*, however, the Gluss Burn plant, on the advice of W. R. Linton, was left under *H. friesii*. Here it remained until Pugsley (1948) pointed out its affinities with *H. subtruncatum*, and described it as variety *glussburnense* of that species. It has more recently been gathered by C. West no. 53/16 (1953), and by A. H. G. Alston and N. D. Simpson no. 53/746, and from their fine series of specimens we consider that it is distinguishable from the type only in the insignificant character of having fewer and shorter simple hairs on the stem and peduncles. The amount of purplish colouring is very variable in plants from all populations of *H. subtruncatum*.

In 1892 (*J. Bot. (Lond.)* 47, 51) A. Ley recorded a plant from the Mellte Glen, Brecon as *H. truncatum* forma. This plant was brought to Ley in an undeveloped state and grown by him in his garden. No specimens gathered in the wild state exist, but we have seen the cultivated specimens. They are certainly neither *H. subtruncatum*, Beeby nor *H. truncatum* Lindeb., and do not match any described British species. Until wild material is available it is difficult to say whether it is, in fact, a new species. *H. truncatum* sensu F. B. W. White (1898) 203 according to his specimen in BM is *H. subcrocatum* (E. F. Linton) Roffey.

*H. subtruncatum* is closely allied to *H. pugsleyi* P. D. Sell & C. West, *H. attenuatifolium* P. D. Sell & C. West and *H. dilectum* P. D. Sell & C. West. From *H. pugsleyi* and *H. attenuatifolium* it differs by the sparser indumentum of its phyllaries, and from *H. dilectum* by its shorter, broader and less pointed leaves.

No extra-British species that is closely allied to *H. subtruncatum* has been seen, *H. truncatum* Lindeb. being easily distinguishable, as mentioned above, while *H. friesii* Hartm. which is quite different, is perhaps best placed in the Section *Tridentata*.

\* The modern official spelling is Eela, not Eala.

14. *HIERACIUM NORTHTROENSE* Pugsley (1948) 228 (Holotype: hillside, North Roe, Northmaven, Shetlands, 30 July 1891, W. H. Beeby no. 1085 (SLBI) (the label also contains the date 11 August 1891 and no. 1086)); P. D. Sell & C. West in Dandy (1958) 127, no. 558:1:177. PLATE 9b.

[*H. crocatum* sensu Beeby (quoad North Roe loc.) (1892) 55.]

*H. crocatum* var. *congestum* Beeby (exclud. no. 1634) (1908) 115 (Lectotype: hillside, North Roe, Northmaven, Shetlands, 30 July 1891, W. H. Beeby no. 1085 (SLBI); Druce (exclud. Holm in Burga Water loc.) (1922) 500; Druce (1928) 71 no. 245e.

*H. congestum* (Beeby) Roffey (1925) 29, no. 1246, non Freyn (1891) *Oest. Bot. Zeit.*, **41**, 56.

[*H. northroense* Pugsley in A. R. Clapham (1946) 34 nom. nud.]

*Aphyllopodous* or with basal leaves withering at the time of flowering. Stem 17–35 (–45) cm. high, flexuous, with numerous, pale, medium simple hairs at the base, usually less numerous above or scaberulous, with scattered stellate hairs, without glandular hairs. Leaves pale to medium green, often reddish-purple on the margins and veins; the basal elliptic, obtuse, regularly denticulate, attenuate to a short, winged petiole; the cauline (7–) 9–15, suddenly decreasing in size about half-way up the stem; the lower lanceolate to broadly elliptic, obtuse to acute, with numerous, fine, closely placed denticulations, narrowed to a semiamplexicaul base; the upper linear-lanceolate to lanceolate (to ovate-lanceolate in cultivation), subacute to acute, denticulate as the lower, base sessile, rounded and semiamplexicaul; all with short to medium, pale simple hairs below and on the margins, the lower sometimes have them above, all with numerous stellate hairs on the lower surface, the upper with stellate hairs on both surfaces. Inflorescence cymose, laxly so in cultivation, with 2–9 (–20 cult.) capitula, acaudium with a medium peduncle; peduncles medium to long, suberect, with scattered stellate hairs, with a few, very short, dark glandular hairs and occasionally a few, pale, medium simple hairs. Phyllaries 9–11 mm. long, 1.5–2.0 mm. wide, incumbent in bud, green with a dark centre, lanceolate, obtuse, with scattered stellate hairs, with a few, very short or short, dark glandular hairs and sometimes a few pale, medium simple hairs in a row down the centre and at the base. Ligules yellow, glabrous. Styles discoloured. Margins of the receptacle pits shortly dentate. Cypsela dark, about 3.5 mm. long.

*H. northroense* was discovered by W. H. Beeby in 1891 (nos. 1085 and 1086). There is no specimen to prove that Druce saw it on his visits to the Shetlands, even though he states (1922, p. 466) that he had re-gathered all Beeby's critical plants. In the last few years several botanists have searched carefully for it without success. In 1959, however, C. J. Cadbury collected seeds from a plant growing at North Roe which he sent to us to cultivate. The plants cultivated from this seed in the Botanic Garden at Cambridge flowered freely in 1961, 1962 and 1963. They were *H. northroense*. The colony found by C. J. Cadbury has since been examined by R. C. Palmer, W. Scott, N. D. Simpson and C. West, and additional material obtained.

It is very closely allied to *H. vinicaule*, but differs in its more dwarf, compact habit, more numerous denticulate shorter leaves, which are less drawn out at the apex, and in its paler, less densely clothed phyllaries. The specimens cultivated by Beeby in 1894 and by us in 1961 and 1962 were taller, the leaves even broader in proportion to their length, and the denticulations more pronounced. Our cultivated specimens in 1963, however, exactly matched Beeby's original wild material.

15. *HIERACIUM VINICAULE* P. D. Sell & C. West (1955) 236 (based on *H. vinaceum* (Beeby) Pugsley, non Johansson & Samuelsson); in Dandy (1958) 127, no. 558:1:176. PLATE 10a.

[*H. crocatum* sensu Beeby (quoad 3 loc. north shore Roeness Voe) (1892) 55.]

[*H. strictum* sensu W. R. Linton (quoad W. H. Beeby no. 1156) (1905) 85.]

*H. crocatum* var. *vinaceum* Beeby (1908) 115 (Lectotype: Roeness Voe, Northmaven, Shetlands, 1891, W. H. Beeby no. 1087 (BM)); Druce (1922) 500; (1928) 71, no. 245f.

*H. strictum* var. *humilius* Beeby (1908) 115 (Lectotype: Gelli Burn, Hillswick, Northmaven, 13 August 1896, W. H. Beeby no. 1156 (SLBI)); Druce (1922) 500; Roffey (1925) 29 no. 1237b; Druce (1928) 71 no. 239b.

*H. congestum* forma *vinaceum* (Beeby) Roffey (1925) 29 no. 1246.

[*H. platylepium* sensu Druce (1928) 71, no. 246.]

*H. vinaceum* (Beeby) Pugsley in A. R. Clapham (1946) 346; (1948) 227; non Johansson & Samuelsson (1923) *Dalarnes Hieracia Silvaticiformia* 90.

*Aphyllopodous*. Stem to 70 cm. high, flexuous, purple below, sometimes throughout, usually with scattered, pale, medium simple hairs throughout, with few stellate hairs especially above, sometimes with a few, very short, dark glandular hairs near the inflorescence. Leaves all cauline, 10–19 (–30 cult.), medium or



dark green, slowly decreasing in size upwards; the lower narrow-elliptic to elliptic-oblong,  $\pm$ acute, obscurely denticulate or with an occasional shallow tooth, attenuate below to short or medium, narrowly winged petioles, with sparse, pale, short to medium simple hairs on both surfaces, the margins and the petioles; the median and upper lanceolate, linear-oblong or narrow elliptic, subacute to acute, subentire to shallowly and remotely denticulate or occasionally dentate, abruptly or gradually narrowed below to a semiamplexicaul base, clothed like the lower except that simple hairs are sometimes absent on the upper surface, and stellate hairs are frequent below and rare above, and the margins are sometimes only scaberulous. Inflorescence narrowly and laxly cymose, with 2–42 (–350 cult.) capitula, with long, slender, suberect branches exceeding the medium peduncled acladium; peduncles medium to long, suberect, with scattered stellate hairs, and with dark-based, short to medium simple hairs and very short, dark glandular hairs in varying proportions, one or the other type of hair sometimes absent. Phyllaries 9–10.5 mm. long, 1.25–1.5 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, sometimes narrowed above but always obtuse, with few scattered stellate hairs, with  $\pm$ numerous, very short to short, dark glandular hairs and usually a few, medium, dark-based simple hairs. Ligules yellow, glabrous. Styles discoloured. Margins of the receptacle pits shortly dentate. Achenes dark, 4–4.5 mm. long.

*H. vinicaule* was first found in 1891 by W. H. Beeby (nos. 1087, 1088 and 1089) at Roeness (Ronas) Voe, Northmaven, and referred to *H. crocatum* Fries. A sheet of no. 1088, now in Herb. Hanbury (BM), was sent to Elfstrand, who identified it as *H. angustum* var. *platylepium* Dahlst. In 1908 Beeby described it as a variety, *vinaceum*, of *H. crocatum* Fries, and Druce accepted this treatment. Roffey considered it to be a form of *H. congestum* (Beeby) Roffey. It has since been collected in this locality by R. J. Burdon and G. C. Druce (1920), J. E. Lousley (1950), C. West no. 53/5 (1953), A. H. G. Alston and N. D. Simpson no. 54/731 (1954), R. Palmer (1955), W. Scott (1956) and C. J. Cadbury (1961).

In 1896 Beeby collected specimens (no. 1156) around Hillswick, and yet others (no. 1633) by the Hamari Water, which Dahlstedt suggested were a form or variety of *H. strictum* Fries. Beeby then named the plants *H. strictum* var. *humilius*, this treatment being accepted by both Druce and Roffey. Further material has been collected from these localities by C. West no. 53/17 (1953), R. Palmer (1956) and W. Scott (1956).

Pugsley (1948), after examining all the available material of *H. crocatum* var. *vinaceum* and *H. strictum* var. *humilius*, united them under the specific name, *H. vinaceum*. On comparing material from these localities we found that it could be separated into two groups, but that no clear-cut characters could be found that would distinguish them. The leaves, even in dried specimens, seemed to be a slightly different colour, while var. *humilius* had a more strict stem and more regularly denticulate leaves; however, a series of specimens from the two areas must be consulted before these small differences can be appreciated. In the few cultivated specimens we have seen, the var. *humilius* retains its characters while var. *vinaceum* looks much more like var. *humilius*. In view of this, and of the fact that the characters they have in common are much greater than their differences, we have followed Pugsley in uniting them as one species. We have given the plant a new name because *vinaceum* had already been used for another species belonging to an entirely different Section. The epithet *vinicaule* was chosen because of the wine-coloured stems of many of the plants.

The range of *H. vinicaule* has recently been greatly extended. In 1958 W. Scott found this species near Muckle Roe Bridge, in 1960 R. C. Palmer found it at Swining Burn, Lunnasting, in 1961 W. Scott found it in Yell at the lower end of North Burn, in 1961 C. J. Cadbury found it at North Roe, Mainland, and in 1963 W. Scott found it at Kels Wick, Lunnasting. Specimens collected by R. C. Palmer in 1960 on a holm in the Loch of Lumbister, Yell, probably belong to this species, but show slight differences in leaf shape and type of inflorescence.

This is the tallest of the Shetland species of *Alpestris*, and although Pugsley gives the number of capitula as 2–4 (–9), C. West found that this number is often exceeded. In fact, a plant seen by the roadside near Hillswick, had 19 cauline leaves and 42 capitula. In cultivation at Cambridge, plants were produced with 30 cauline leaves and over 350 capitula.

In its natural habitats *H. vinicaule* grows on steep grassy slopes of burns and sometimes near roadsides.

The only closely allied species is *H. northroense*, from which it can be distinguished by its taller habit, less denticulate, longer leaves, and by its darker, more hairy phyllaries.

## 16. *Hieracium mirandum* P. D. Sell & C. West, sp. nov. PLATE 10b.

Holotype: By aqueduct near Well House, Stean, Mid-W. Yorks., v.c. 64. Grid. Ref. 44/0774, 29 July 1962, Miss C. M. Rob (CGE).

Ab *H. dewarii* Syme ligulis glabris, foliis ovatis, pedunculis pilis glanduliferis carentibus differt.

*Planta foliis basalibus florendi tempore marcescentibus.* Caulis ad 38 cm. altus, flexuosus, inferne purpureus, ubique pilis simplicibus longis pallidis, superne paucioribus nigribasibus pilosus, pilis stellatis

glanduliferisque nullis. *Folia* mediocriter viridia, inferne caesia; *basalia elliptica vel ovata*, subacuta, *denticulata*, *basi in petiolum mediocrum anguste alatum attenuata*, utrinque et in marginibus pilis simplicibus mediocribus pallidis dispersis vestita; *caulina* 6–7, *ovata*, subacuta vel acuta, *denticulata vel dentibus paucis brevibus praedita*, *inferiora basi cuneata petiolis brevibus*, *superiora basi rotundata*, *sessilia*, *semiamplexicaulia*, superne glabra, inferne et in marginibus pilis simplicibus mediocribus pallidis paucis vestita. Anthela compacte cymosa, capitulis 3–5, acladio pedunculo mediocri praedito; *pedunculi* suberecti, mediocres, *pilis stellatis densis*, aliis simplicibus numerosis nigribasibus mediocribus, *glanduliferis nullis vestiti*. *Squamae* 9–10 mm. longae, 1.5–2 mm. latae, in gemmis incumbentes, atrovirides, interiores marginibus pallidioribus, lineari-lanceolatae, obtusae, *praecipue basi pilis stellatis paucis*, aliis *glanduliferis brevibus et brevissimis atris*, necnon aliis simplicibus paucis brevibus nigribasibus vestitae. *Ligulae* luteae, *glabrae*. Styli obscuri. Cypselam non vidimus.

*Basal leaves withering at the time of flowering.* Stem to 38 cm. high, flexuous, purplish below, with pale, long simple hairs throughout, those above fewer and dark-based, without stellate or glandular hairs. *Leaves* medium green, caesious below; *the basal elliptic or ovate*, subacute, *denticulate*, *attenuate to a medium*, *narrowly winged petiole*, with scattered, pale, medium simple hairs on both surfaces and margins; *the cauline* 6–7, *ovate*, subacute to acute, *denticulate or with a few shallow teeth*, *the lower cuneate with a short petiole*, *the upper rounded*, *sessile*, *semiamplexicaul*, glabrous above with few, pale, medium simple hairs below and on the margins. Inflorescence compactly cymose, with 3–5 capitula, acladium with medium peduncle; *peduncles* suberect, medium, *with dense stellate hairs and numerous*, *dark-based*, *medium simple hairs*, *without glandular hairs*. *Phyllaries* 9–10 mm. long, 1.5–2.0 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse, *with occasional stellate hairs mainly at the base*, *with very short to short*, *dark glandular hairs and a few*, *short*, *dark-based simple hairs*. *Ligules* yellow, *glabrous*. Styles discoloured. Cypselas not seen.

This species is known only from two plants taken from the type locality, which is so remote from any other locality for an Alpestrian species that the specific epithet *mirandum* has been used. It was searched for in 1963 and 1964 without success. However, in view of the distinctness of the plant, and of the remoteness of the locality from that of any other species of the Section *Alpestris*, we have described it from what we should otherwise have considered to be insufficient material.

It is most closely allied to *H. dewarii*, from which it can be distinguished by its glabrous ligules, ovate leaves, and peduncles without glandular hairs.

17. *HIERACIUM DEWARI* Syme (1878 for 1876) 23 (Lectotype: Linmill, Clackmannan, July 1876, J. T. Boswell-Syme in Herb. Boswell-Syme (BM)); (1879) 211; F. B. W. White (1898) 203; F. N. Williams (1902) 162; F. J. Hanb. in Bab. (1904) 265; W. R. Linton (1905) 73; Druce (1928) 70 no. 197 (1620); Roffey (1925) 29 no. 1195; W. Young (1936) 92; Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 229; A. R. Clapham in A. R. Clapham, Tutin, T. G. & E. F. Warburg (1952) 1145; ed. 2 (1962) 907; P. D. Sell & C. West in Dandy (1958) 128, no. 558:1:178. PLATE 11a.

[*H. dovrense* sensu F. N. Williams (quoad Glen Roy loc.) (1902) 161; sensu W. R. Linton (quoad Glen Roy loc.) (1905) 72.]

*H. carpathicum* subsp. *dewarii* (Syme) Zahn (1921) 812.

*Basal leaves withering before or at the time of flowering.* Stem to 110 cm. high, flexuous, occasionally purplish below, with long, pale simple hairs throughout, less densely so above, the upper sometimes dark-based, with scattered stellate hairs above, usually without glandular hairs, but occasionally with a very short glandular hair near the inflorescence. *Leaves* 6–20, *all except the lowermost widely spaced*, *gradually decreasing in size*, medium green, midrib prominent; *the lowermost broadly elliptic or obovate*, obtuse-mucronulate to acute, *entire or remotely denticulate*, *attenuate to winged petioles*; *the lower and median similar to the lowermost but never obovate*, *and the petioles are either short or absent*; the upper ovate or ovate-lanceolate, acute to long acute, entire or denticulate, with a rounded, sessile, semiamplexicaul base; indumentum variable, usually very hairy on both surfaces and the margins with pale, subsetiform, medium simple hairs, but sometimes the hairs are fewer or nearly absent. Inflorescence narrowly and compactly cymose, with –17 (–35 cult.) capitula, acladium with a short to medium peduncle; *peduncles* medium, suberect, with dense stellate hairs, *with more or less numerous dark-based*, *short simple hairs and ± numerous*, *very short*, *dark*, *fine glandular hairs*, the number of simple and glandular hairs, and the proportions of one to the other, varying greatly. *Phyllaries* 9–10 mm. long, usually c. 1.0 mm. wide, incumbent in bud, blackish-green, the inner with paler margins, linear-lanceolate, obtuse or rarely subacute, *with scattered stellate hairs towards*

the base and on the margins, and with a tuft at the apex, with numerous short or very short, dark glandular hairs and few to many, short to medium, dark-based simple hairs. Ligules yellow, with very short simple hairs at the apex. Styles discoloured. Margins of the receptacle pits fimbriate-dentate. Cypsela dark, 3.5–4 mm. long.

*Distribution:*

- V.c. 87. W. PERTH: 26/89, Menstrie Glen, 8 August 1882, J. Groves (BM); 26/99, Linmill, 1875, T. Drummond (CGE), 1876, J. B. Syme (BM, CGE), 1876, T. Drummond (BM, OXF), Glen of Sorrow near Dollar, 1876, J. B. Syme (BM) and 1877 (K); 27/42, Am Binnein, 1889, F. J. Hanbury (BM); 27/90, Glen Devon, 1876, J. B. Syme (herb. J. C. Melvill) and 1881 (BM), 1876, T. Drummond (CGE, K), Glen Quay, 1876, J. B. Syme (BM, CGE, OXF) and 1881 (BM, CGE), 1949, J. E. Lousley (K), 1959, P. D. Sell nos. 59/218 and 59/224 (CGE), N. D. Simpson no. 59/086 (herb. Simpson) and C. West (CGE). Lethensdene, Clackmannan, 26 August 1875, T. Drummond.
- V.c. 88. MID-PERTH: 27/32, Strath Fillan, 1891, E. S. Marshall (CGE and herb. J. C. Melvill), 1917, R. J. Burdon (CGE, K, OXF, herb. Univ. Sheffield, YRK), Crianlarich, 1889, E. S. Marshall (CGE), 1891, E. S. Marshall (BM), Glen Falloch, 1889, E. S. Marshall (BM, SLBI), 1914, E. S. Marshall no. 3996 (CGE, E), 1915, H. W. Pugsley (BM); 27/43, Ben Heasgarnich, June 1952, D. McClintock (herb. J. E. Lousley); 27/52, Lochearnhead, 1891, F. Buchanan-White (BM), By the Dochart, 1935, H. W. Pugsley (BM); 27/53, Killin, 1844, C. C. Babington (CGE), 1848, I. B. Balfour (BM), 1888, F. J. Hanbury (BM), 1891, E. S. Marshall (CGE), 1891, E. F. Linton (Set of British Hieracia no. 47) (BM, CGE, K), 1891, W. R. Linton (OXF), 1929, H. W. Pugsley (BM); 27/64, Glen Lyon, 1913, E. S. Marshall (BM, CGE, E), Ben Lawers, 1887, E. S. Marshall (CGE, SLBI), 1888, F. J. Hanbury (BM, OXF), 1900, F. R. Tennant (CGE), 1951, T. G. Tutin (herb. Univ. Leicester); 27/74, Fortingall, 1891, W. R. Linton (LIVU), 1913, E. S. Marshall (CGE), 1913, C. E. Moss (CGE); 27/75, Keltney Burn, 1913, E. S. Marshall (CGE).
- V.c. 89. E. PERTH: 27/55, Loch Rannoch, C. E. Palmer (OXF).
- V.c. 96. E. INVERNESS: 28/70, By the River Spey, Kingussie, coll. unknown (BM).
- V.c. 97. W. INVERNESS: 27/06, Corran near Onich, 1913, N. D. Simpson no. 13/188 (herb. Simpson); 27/17, Glen Nevis, 1887, E. S. Marshall (CGE); 27/27, Choire Coille, 1896, E. S. Marshall and W. A. Shoolbred (as Linton's Set of British Hieracia no. 47) (BM, CGE, herb. Leicester, herb. J. C. Melvill, OXF); 27/28, Glen Roy, 1896, E. S. Marshall and W. A. Shoolbred (as Linton's Set of British Hieracia no. 46) (BM, CGE, E, K, OXF).
- V.c. 98. ARGYLL: 27/12, Dalnally, 1888, G. C. Druce (OXF), 1910, E. S. Marshall (BM, CGE), Loch Awe, 1898, H. J. Riddelsdell (BM); 27/15, west side of Buchaille Etive Beag, 1893, E. S. Marshall (BM, CGE, SLBI); 27/20, Ben Donich, 27 June 1962, A. G. Kenneth; 27/24, Clach Leathad, 1889, F. J. Hanbury (BM); 27/25, near Kingshouse, 1889, E. S. Marshall (BM, CGE), Cam Glen, 1899, C. Bucknall (K).
- V.c. 99. DUNBARTON: 27/20, Arrochar, Loch Long, 1842, C. C. Babington (CGE).

*H. dewarii* was described in 1878 by J. T. Boswell-Syme from specimens gathered in Perth, Clackmannan, Dunbarton and Stirling. The description is a good one, and all the original specimens belong to the same taxon. A lectotype has been selected from the many syntypes in the Boswell-Syme herbarium. *H. dewarii* seems to have caused little trouble taxonomically, and the great majority of the specimens we have examined have been correctly identified. Before it was described as a new species in 1878 it had been incorrectly referred by J. Backhouse and others to *H. strictum* Fries.

Ley's record (loc. cit.) of *H. dewarii* from an old lime kiln above Chapel-le-Dale, Yorks, is based on weak specimens of *H. latobrigorum* (Zahn) Roffey.

Zahn (1921) considered *H. dewarii* to be a subspecies of *H. carpathicum* grex *H. truncatum* Lindeb., but it is much more closely allied to grex *carpathicum* Besser.

Its usual habitat is on the banks of streams, but occasionally it occurs on rocky ledges.

18. *HIERACIUM CARPATHICUM* Besser (1809) 154 (typification by original description and by constant application of the name to the same taxon. No original specimens traced).  
PLATE 11b.

*H. dovrense* var. *spectabile* E. S. Marshall (1894) 215 (Lectotype: Bank above the Lochsie Burn, in upper Glen Shee, E. Perth, c. 1250 ft, 28 July 1892, E. S. Marshall no. 896 (CGE); F. J. Hanb. in Bab. (1904) 264; F. B. W. White (1898) 203.

*H. perthense* F. N. Williams (1902) 163 (there is no evidence that Williams ever saw any material, and it is best regarded as a new name for *H. dovrense* var. *spectabile* E. S. Marshall, with the same type); W. R. Linton (1905) 75; Roffey (1925) 29, no. 1196; Druce (1928) 70 no. 198 (1624); Pugsley in A. R. Clapham (1946) 346; Pugsley (1948) 230; P. D. Sell & C. West in Dandy (1958) 128 no. 558:1:179.

*H. carpathicum* subsp. *perthense* (F. N. Williams) Zahn (1921) 815.

*Basal leaves withering before or at the time of flowering.* Stem to 90 cm. high, flexuous, sometimes purplish at the very base, with long, pale simple hairs throughout but less dense above, the upper sometimes dark-based, with numerous stellate hairs above, without glandular hairs. *Leaves 6-17, gradually decreasing in size, dark green, with a prominent midrib; the lowermost broadly elliptic or obovate, rounded-obtusumucronulate, entire or remotely and minutely denticulate, attenuate below to short, broadly winged petioles; the lower and median broadly elliptic, elliptic or ovate-lanceolate, obtuse to acute, denticulate to finely, sharply and remotely dentate, sessile, semiamplexicaul; the upper ovate-lanceolate or ovate, acute to long-acute, denticulate or finely and sharply dentate, with a rounded, sessile, semiamplexicaul base; all glabrous or nearly glabrous above, with medium, pale simple hairs on the lower surface and margins, the upper sometimes with scattered stellate hairs on the lower surface. Inflorescence narrowly and compactly cymose, with 3-12 (-20 cult.) capitula, acladium with medium to long peduncle; peduncles medium to long, suberect, densely stellately hairy, usually with a few, short to medium, pale, dark-based simple hairs, rarely with a very short dark glandular hair. Phyllaries 10-13 mm. long, 1-1.5 mm. wide, incumbent in bud, blackish-green, inner with paler margins, linear-lanceolate, obtuse, stellately hairy, densely so on the margins, sometimes with a slight tuft at the apex, with dense, short to medium, pale, dark-based simple hairs and numerous, very short to short, dark, slender glandular hairs. Ligules yellow, with dense, very short hairs at the apex. Styles discoloured. Margins of the receptacle-pits fimbriate-dentate. Cypsela dark, 4-4.5 mm. long.*

In 1894 E. S. Marshall described a new taxon, *H. dovrense* var. *spectabile*, from specimens collected in 1892 from two places near Glen Shee, E. Perth. It has since been found there only by J. E. Raven (1953) and P. D. Sell no. 56/38 (1956). On both occasions only a few plants were found.

In 1889 E. F. Linton had collected specimens from Clova which proved to be the same species. It has not been recorded again from that locality.

Cultivated specimens of the original gatherings from both localities were distributed as Linton's Set of British Hieracia no. 72. One of these cultivated gatherings was presumably seen by Williams (1902) when he raised the variety *spectabile* to specific rank, but we can trace no specimen annotated by him. The new epithet *perthense* was used owing to the earlier use of *spectabile* for another species. We have regarded *H. dovrense* var. *spectabile* as the basionym of *H. perthense*, the lectotype of the variety therefore being the lectotype of the new epithet.

All gatherings have been from grassy riversides.

Zahn (1921) placed *H. perthense* under *H. carpathicum* as a subspecies, but we are unable to distinguish it from his subsp. *carpathicum*. The type of *H. carpathicum* cannot be traced, but all material identified as that species which we have examined belongs to the same taxon, and agrees with the description published by Besser.

*H. carpathicum* is at present known only in a few localities in the Tatra Mountains of east central Europe and at the above-mentioned localities in central Scotland. Such a distribution suggests that morphologically similar plants may have arisen independently in different localities. No closely allied species in the Section is found on the main land-mass of Continental Europe, its closest allies being in Scandinavia. In Scotland it is closely allied to *H. dewari*, from which it can be distinguished by its more dentate leaves, longer capitula and stellately hairy phyllaries.

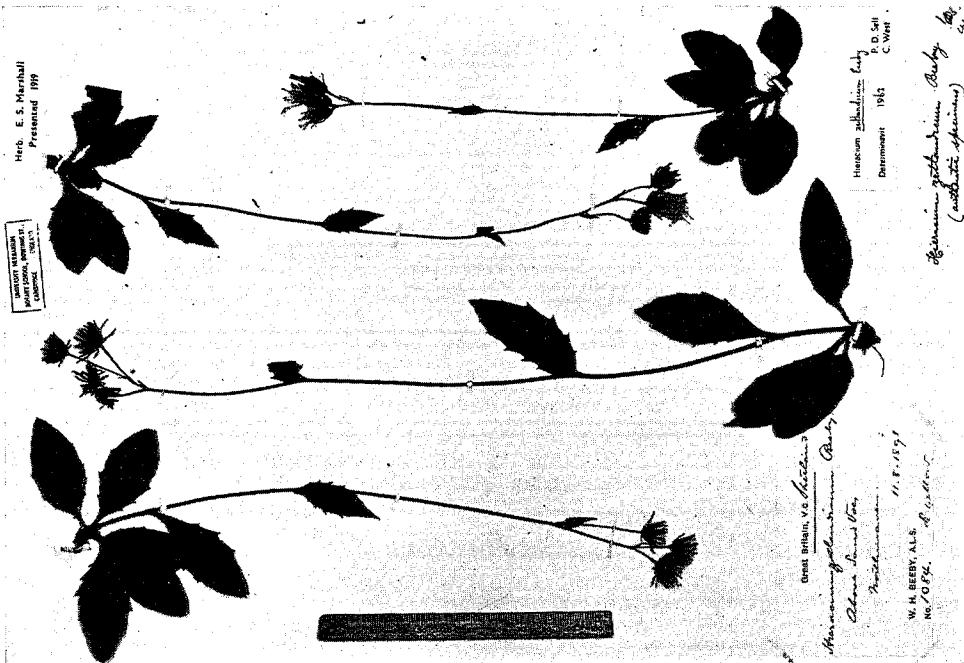
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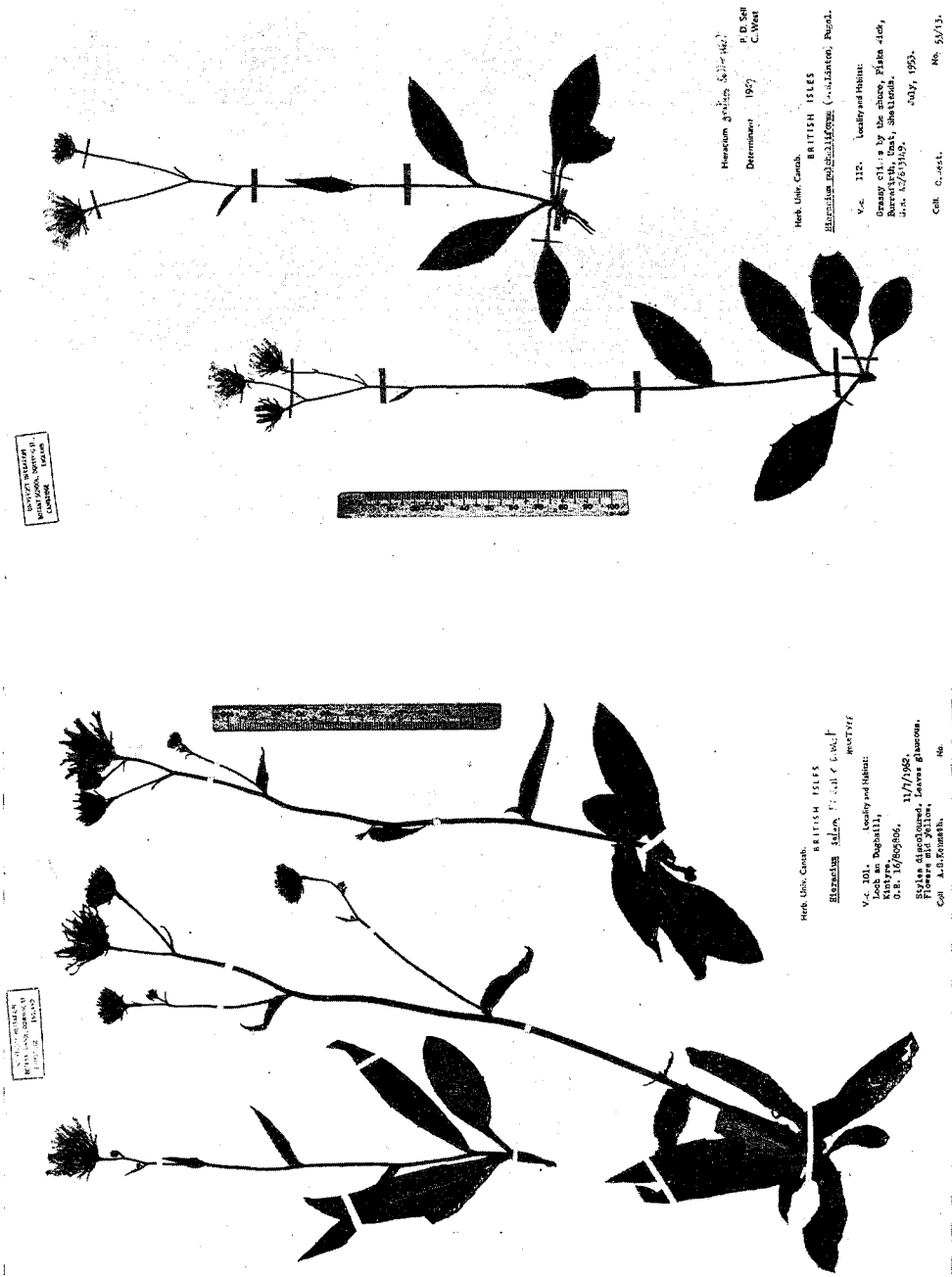


(b) *Hieracium breve* Beeby.



(a) *Hieracium zetlandicum* Beeby.

PLATE 4



HIERACIUM solum  
P. D. SELL & C. WEST.  
1957. CANADA.  
QUEBEC. TROIS-RIVIÈRES.

HIERACIUM gratum  
P. D. SELL & C. WEST.  
1957. CANADA.  
QUEBEC. TROIS-RIVIÈRES.

Herb. Univ. Canada. BRITISH ISLES  
*Hieracium solum* P. D. SELL & C. WEST.  
 var. 201. Locality and habitat:  
 Loch an Dughall,  
 G.R. 16/80906, 11/7/1955  
 Slight Alnus/Betula, Sphagnum glaucum.  
 Col. A. G. F. Smith. No.

Herb. Univ. Canada. BRITISH ISLES  
*Hieracium gratum* P. D. SELL & C. WEST.  
 var. 112. Locality and habitat:  
 Grassy cliffs by the shore, Fiska 416,  
 Barroch, Dist., Shetlands,  
 Jan. 14/8/1957, July, 1957.  
 Col. C. West. No. 55/13.

(a) *Hieracium solum* P. D. Sell & C. West. Holotype.

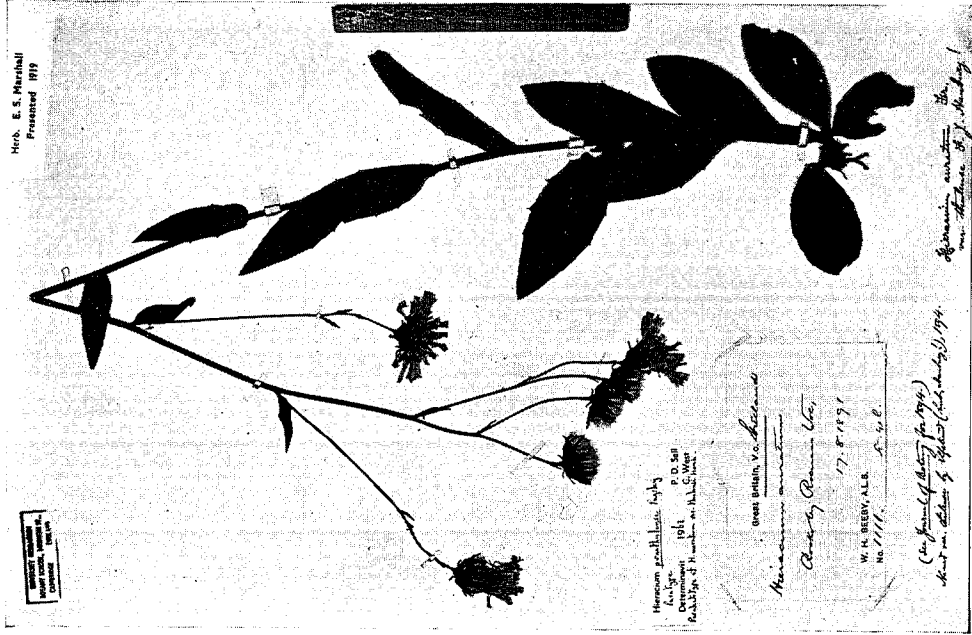
(b) *Hieracium gratum* P. D. Sell & C. West.







(a) *Hieracium dovreense* Fries.



(b) *Hieracium praetense* Pugsley.



(a) *Hieracium hethlandiae* (F. J. Hamb. Pugsley. Lectotype.



(b) *Hieracium attenuatifolium* P. D. Sell & C. West. Holotype.

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Herb. Univ. Cantab. **HOLOTYPE**  
BRITISH ISLES  
*Hieracium pugsleyi* P. D. Sell & C. West  
V. n. 112 . Locality and Habitat:  
Grassy banks of the Weldeale Burn,  
Mainland, Shetlands. GR. 41/394527  
Aug., 1953. Styles yellow.  
Coll. C. West No. 53/14

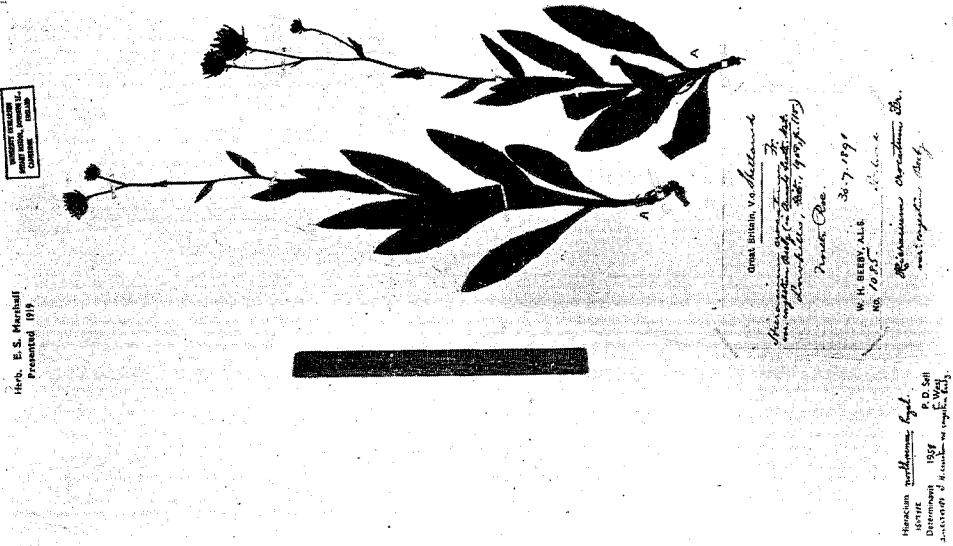
(a) *Hieracium pugsleyi* P. D. Sell & C. West. Holotype.

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CAMBRIDGE, ENGLAND

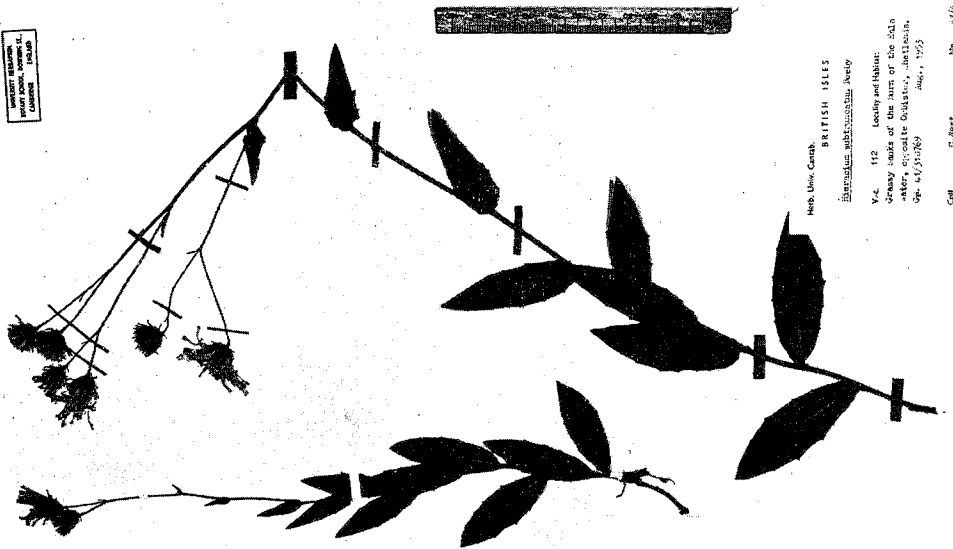


Herb. Univ. Cantab. **HOLOTYPE**  
BRITISH ISLES  
*Hieracium dilectum* P. D. Sell & C. West  
V. n. 112 . Locality and Habitat:  
Grassy banks of the Burn of Quoys,  
Outfirth, Shetlands. G.A. 41/444543  
Aug., 1953  
Coll. C. West No. 53/2

(b) *Hieracium dilectum* P. D. Sell & C. West. Holotype.



(b) *Hieracium northroense* Pugsley.



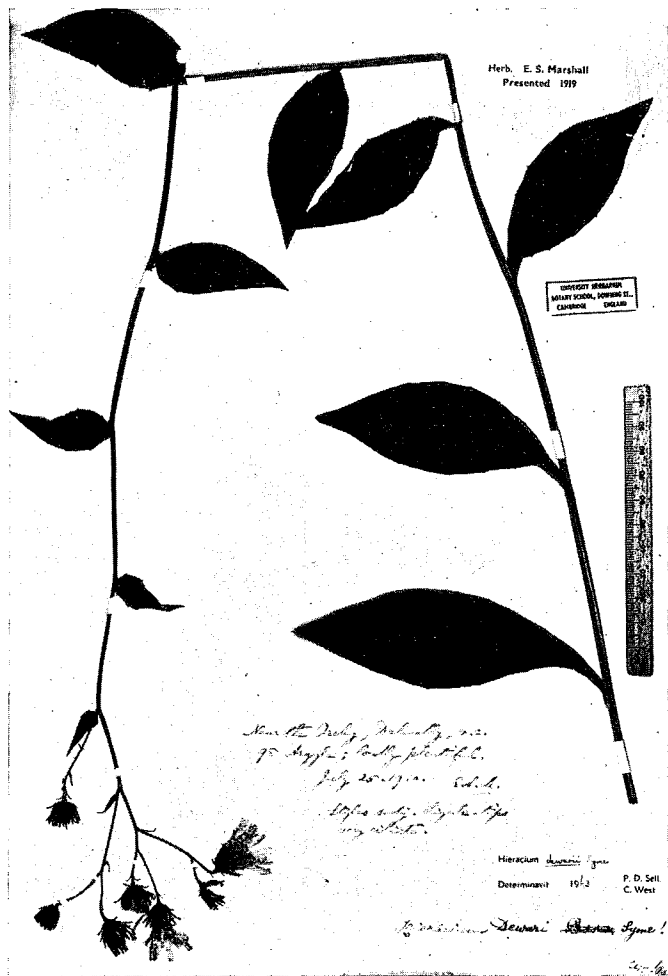
(a) *Hieracium subtruncatum* Beeby.



(a) *Hieracium vinicaule* P. D. Sell & C. West.



(b) *Hieracium mirandum* P. D. Sell & C. West. Holotype.



(a) *Hieracium dewarii* Syme.



(b) *Hieracium carpathicum* Besser.