

TAXONOMIC AND NOMENCLATURAL NOTES ON THE BRITISH FLORA

The following notes have been prepared to validate new names and combinations of taxa to appear in the forthcoming *Critical Supplement* to the *Atlas of the British Flora*. At the same time some taxonomical notes on taxa not dealt with in the current British literature have been included. Each of the notes should be attributed to the authors whose names appear at the end of each account, unless it is otherwise stated in the text. I am extremely grateful to those authors who have so kindly contributed, and especially to J. E. Dandy for help with the nomenclature. I am also indebted to H. Gilbert Carter for help with the latin descriptions and to W. T. Stearn for checking them.

P. D. SELL

ATHYRIUM DISTENTIFOLIUM Tausch ex Opiz, *Tent. Fl. Crypt. Boem.* 1, 14 (1820).

var. *flexile* (Newm.) Jermy, comb. nov.
Basionym: *Pseudathyrium flexile* Newm., *Phytol.* 4, 974 (1853).
Athyrium alpestre var. *flexile* (Newm.) Milde, *Fil. Eur.*, 53 (1867).
Athyrium flexile (Newm.) Druce, *Brit. Pl. List*, ed. 2, 137 (1928).

This plant requires further study; it appears to have a wider ecological range than var. *distentifolium* and is likely to be more common than at present thought. The much-branched rhizome gives rise to narrow fronds of a delicate texture mostly growing prostrate along the ground, even in sheltered situations. The lower pinnae are characteristically reflexed or drooping.

A. C. JERMY

POLYPODIUM VULGARE L.

subsp. *SERRATULUM* Arcangeli, *Comp. Fl. Ital.*, 809 (1894).
P. vulgare var. *serratum* Willd., *Sp. Pl.* 5 (1), 173 (1810).
P. australe Fée, *Mém. Fam. Foug.* 5, 236 (1852).
P. serratum (Willd.) Sauter in A. Kerner, *Sched. Fl. Exsicc. Austr.-Hung.* 2, 150 (1882), non Aublet, *Hist. Pl. Guiane*, 2, 962 (1775).
P. vulgare subsp. *serratum* (Willd.) H. Christ, *Foug. Alp. Marit.* 2 (1900).
subsp. *VULGARE*.
P. vulgare L., *Sp. Pl.*, 1085 (1753).
subsp. *PRIONODES* Rothm., *Mitt. Thur. Bot. Ver.*, 38, 106 (1929).
P. interjectum Shivas, *J. Linn. Soc. (Bot.)* 58, 28 (1961).

In Clapham, Tutin & Warburg, *Fl. Brit. Isles*, ed. 2, 40 (1962) three species are recognized within the *Polypodium vulgare* aggregate. Elsewhere the three possible hybrids between these species have also been recognized on morphological characters, and inferred from the presence of the parents growing together where the intermediates occur. As the occurrence of such intermediates makes field identification of material impossible with certainty, it seems better to treat them as subspecies. The correct nomenclature is as above.

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P. D. SELL

CERASTIUM FONTANUM Baumg., *Enum. Stirp. Transs.* 1, 425 (1816).

Usually a short-lived perennial, rarely annual herb up to 60 cm high, with short basal non-flowering shoots. Leaves oblanceolate, lanceolate, elliptical or ovate-oblong, subacute, sessile. At least the upper bracts with scarious margins. Petals equalling or somewhat exceeding the sepals. Capsule usually curved. Seeds 0·4–1·3 mm, tuberculate.

subsp. *scoticum* Jalas & Sell, subsp. nov.

Holotype: Little Kilmarnock, Forfarshire, 1 August 1872, J. Sadler (CGE).

[*C. triviale* var. *alpinum* auct., non Mert. & Koch (1831), nec *C. vulgatum* **alpinum* Hartm. (1849).]

Planta ut videtur perennis, 3–12 cm alta; ramuli steriles breves, apice parvorusulati, vix vel raro radicantes; caules floriferi adscendentis, internodiis plerumque 1·5–2·5 cm longis, ubique pubescentes vel interdum lineis duabus exceptis et praecipue basin versus fere glabri; pili glanduliferi omnino desunt. Folia caulina sessilia, parva, lanceolata, (6–) 7–8 (–10) mm longa, 2–3 mm lata, plerumque 3–3·5-plo longiora quam latiora, apice obtusa vel subacuta, utrimque sparse pilosa vel subglabra, marginibus pilosis nervis medianisque subtus prominentibus. Bractae herbaceae vel superiores apicem versus scarioso-marginatae. Inflorescentia confertim (1–) 3 (–5) flora, pedicellis tenuibus calyce subduplo longioribus. Calyx basi truncatus, (4·5–) 5·5 (–6·5) mm longus, sepals lanceolatis acutis margine scariosis, parce pilosis; basis sepalarum nervo mediano distincte carinata. Petala calyce c. 1·4 plo (usque ad 1·7 plo) longiora. Capsula leviter curvata vel fere recta, calycem vix superans vel usque ad 10 mm longa, dentibus rectis margine revolutis. Semina 0·8–1·0 mm longa, verrucosa, verrucis c. 50 μ altis et 125 μ longis.

Habitat in partibus alpinis montis scotici 'Clova' dicti, c. 970 m supra mare, ubi ut videtur endemica est.

- subsp. *TRIVIALE* (Murb.) Jalas, *Arch. Soc. Zool.-Bot. Fenn. Vanamo* **18** (1), 63 (1963).
C. viscosum L., *Sp. Pl.*, 437 (1753), nom. ambig.
C. vulgatum L., *Amoen. Acad.* **4**, 101 (1759); non *Fl. Suec.*, ed. 2, 158 (1755).
C. holosteoides Fries, *Nov. Fl. Suec.* **4**, 52 (1817).
C. triviale Link, *Enum. Hort. Berol. Alt.* **1**, 433 (1821), nom. superfl. illegit. pro *C. viscosum* L.
C. vulgare subsp. *triviale* Murb., *Bot. Not.* **1898**, 252 (1898).
C. caespitosum subsp. *eucaespitosum* Graebner in Ascherson & Graebner, *Syn. Mitteleur. Fl.* **5** (1), 638 (1918).
C. holosteoides subsp. *glabrescens* (G. F. W. Meyer) Möschl, *Bot. Not.* **1948**, 375 (1948).
C. holosteoides subsp. *pseudoholosteoides* Möschl, *Bot. Not.* **1948**, 364 (1948).

Flowering stems up to 50 cm high, pubescent to nearly glabrous, with or without glandular hairs. Leaves normally 10–25 \times 3–10 mm, hairy. Sepals 3–7 mm long. Petals shorter than to slightly longer than sepals. Capsule up to 12 mm long. Seeds 0·4–0·9 mm, tubercles 15–40 \times 15–40 μ .

Throughout the British Isles. In much of Continental Europe, but often replaced by other subspecies in mountainous districts.

C. fontanum subsp. *scoticum* clearly differs from all the subspecies recognized within *C. fontanum* by Jalas (*Arch. Soc. Zool.-Bot. Fenn. Vanamo* **18** (1), 61–64 (1963); *Fl. Eur.* **1**, 142 (1964)). From subsp. *triviale* (Murb.) Jalas it can be distinguished by its longer petals and larger seeds which have larger tubercles, and by the basal part of the sepals which seem to be more prominently keeled. In its seed and petal characters it is much closer to subsp. *scandicum* Gartner from Fennoscandia, and to subsp. *fontanum* from the Alps and Carpathians, but they are much taller plants with larger sepals and capsules and even larger seeds (up to 1·3 mm). Subsp. *hispanicum* Gartner from the Pyrenees and S. Spain has seeds of the same size, but it also is a taller plant and the tubercles of the seed are flattened and look quite different. In general appearance subsp. *scoticum* somewhat resembles small individuals of *C. alpinum*, but the long, soft, entangled 'alpinum-hairs' are lacking and the flowers are conspicuously smaller in all their parts. In addition to the numerous specimens in herbaria of subsp. *scoticum* from the mountains of the Clova region, specimens collected on coastal rocks at Strathy Point, W. Sutherland on the 30 July 1915 by E. S. Marshall (No. 4076), differ only in having the tubercles of the seeds 70–100 μ \times 50–100 μ , and are best placed in this subspecies.

Subsp. *triviale* is a most variable plant which tends to form local recognizable races which are geographical and/or ecological. This type of variation, is, no doubt, mainly due

to the predominance of autogamy, and the utmost care is needed before new subordinate taxa are described. Var. *triviale* (*C. holosteoides* sensu Clapham, non Fries) is the common plant of the lowlands both in the British Isles and on the Continent of Europe. In the British Isles var. *holosteoides* (Fries) Jalas (*C. holosteoides* Fries; *C. holosteoides* var. *glabrescens* (G. W. F. Meyer) Hylander) seems to be a plant of wet places and riversides of the north. It also occurs in southern Sweden and Denmark and has been recorded from the Alps. A plant collected by W. H. Beeby (No. 404) in wet meadows by the Thames at Putney in 1887 differs only in having obtuse, not acuminate hairs (*C. holosteoides* subsp. *pseudoholosteoides* Möschl). A variable group of rather dwarf plants with medium sized seeds from alpine and coastal localities may perhaps be referred to *C. triviale* var. *serpentinum* Syme. They somewhat resemble var. *serpentinicola* (Domin) Jalas and var. *kajanense* (Kot. & Salmi) Jalas from Fennoscandia. Plants from a number of widespread localities in wet places in the British Isles which are like var. *triviale*, but have larger flowers and seeds, seem to merit recognition as a distinct variety. *C. triviale* var. *pentandrum* Syme is a curious annual plant that warrants further research. A full account of these varieties will be published at a later date.

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ARENARIA SERPYLLIFOLIA L.

subsp. *LEPTOCLADOS* (Reichenb.) Nyman, *Consp.* 115 (1878).

A. serpyllifolia var. *tenuior* Mert. & Koch in Röhling, *Deutschl Fl.*, ed. 3, 3, 266 (1831).

A. serpyllifolia var. *leptoclados* Reichenb. in Reichenb. & Reichenb. fil., *Icon. Fl. Germ.* 5, 32 (1842).

A. leptoclados (Reichenb.) Guss., *Fl. Sic. Syn.* 2, 824 (1845).

A. serpyllifolia subsp. *tenuior* (Mert. & Koch) Arcangeli, *Comp. Fl. Ital.*, 101 (1882).

Inflorescence lax. Capsule straight-sided, less than 3 mm long and 1·5 mm wide, possible to indent without fracture when mature. Pedicel slender, about 0·3 mm wide, upturned towards the tip, longer than sepals. Ripe seeds c. 0·4 × 0·4 mm. 2n = 20.

South, west and central Europe extending locally north and east.

subsp. *SERPYLLIFOLIA*

A. serpyllifolia L., *Sp. Pl.*, 423 (1753).

Inflorescence lax. Capsule distinctly swollen at base, exceeding 3 mm long, 1·5–2 mm wide, possible to fracture when pressed at maturity. Pedicels stout, about 0·5 mm wide, straight, longer than sepals. Ripe seeds reniform, 0·5 × 0·4 mm. 2n = 40.

Almost throughout Europe.

subsp. *macrocarpa* (Lloyd) Perring & Sell, stat. nov.

A. serpyllifolia var. *macrocarpa* Lloyd, *Fl. Loire-Inf.*, 42 (1844).

Inflorescence usually very dense. Capsule slightly swollen at base, exceeding 3 mm long and 2 mm wide, possible to fracture at maturity when pressed. Pedicels stout, about 0·5 mm wide, straight, often shorter than sepals. Ripe seeds reniform, exceeding 0·6 × 0·4 mm.

Dunes on coasts of west Europe.

The above three taxa have been variously treated. Sometimes *A. serpyllifolia* and *A. leptoclados* are regarded as species, with *macrocarpa* as a variety of *serpyllifolia*. Sometimes *leptoclados* is made a subspecies of *serpyllifolia* with *macrocarpa* a variety of subsp. *serpyllifolia*. Sometimes capsule shape is regarded as the most important, sometimes the seed size. When all characters are considered, as in *Fl. Eur.* 1, 121 (1964), the descriptions make it very difficult to place many of the specimens. For this reason we think that the taxa are best regarded as subspecies, with the three main seed types as the primary character and the remaining characters subsidiary. *A. marschlinsii* Koch, *Flora (Regensb.)* 24, 509 (1841), (*A. serpyllifolia* subsp. *marschlinsii* (Koch) Nyman, *Consp.*, 115 (1878)), from above 1,900 m in the Alps, is closely allied to subsp. *leptoclados*, and is probably best placed as a montane subspecies of *A. serpyllifolia*. It differs from subsp. *leptoclados* in being often perennial, with fewer-flowered, dense inflorescences, and narrow scarious margins to the inner sepals.

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GENISTA TINCTORIA L.

subsp. TINCTORIA

G. tinctoria L., *Sp. Pl.*, 710 (1753).

Plant more or less erect. Leaves 4–6 times as long as broad. Pods glabrous.

subsp. LITTORALIS (Corb.) Rothm., *Feddes Repert.* 67, 5 (1963).*G. tinctoria* var. *prostrata* Bab., *Man. Brit. Bot.*, 70 (1843) (Lectotype: Between Kynance and the Soap rock, Lizard, Cornwall, 23 July 1839 (CGE)).[*G. humifusa* Dickson ex Bab., loc. cit. (1843), nom. in syn.]*G. tinctoria* var. *humifusa* Bab., *Man. Brit. Bot.* ed 2, 73 (1847), nom. superfl. illegit. pro *G. tinctoria* var. *prostrata* Bab.*G. tinctoria* var. *littoralis* Corb., *Nouv. Fl. Normand.*, 144 (1893).Plant prostrate. Leaves 2–4 times as long as broad. Flowers more handsome. Pods hairy on the back of the valves. *Coasts of Cornwall (England), Pembroke (Wales) and Normandy (France)*.

The British populations of subsp. *littoralis*, at least, are geographically isolated from those of subsp. *tinctoria*. Prostrate forms with glabrous pods and broad leaves are recorded from the coasts of Cornwall and north Devon and may show hybridization or gradation between the two subspecies. No specimens of subsp. *littoralis* have been seen from Normandy, but Corbière's description seems to fit the British plants and it is a likely habitat and locality for it. The exact distribution of subsp. *tinctoria* is not known, but as several other subspecies have been described in central and east Europe, it may be confined to western Europe.

The nomenclature of subsp. *littoralis* has been somewhat confused in that Druce, *Brit. Pl. List*, ed. 2, 2, 24 (1928), recognized each of the three synonyms given above as distinct varieties. *G. humifusa* Dickson (non L.) seems only to have been used as a name on herbarium sheets and never to have been validly published. Babington when describing var. *prostrata* presumably used a specimen in Herb. Dickson (not seen) and one in his own herbarium at Cambridge which is selected as the lectotype. In the second edition of his *Manual* Babington replaces the epithet *prostrata* with *humifusa*, using exactly the same diagnosis and citing the same manuscript name. Var. *humifusa* is thus a superfluous illegitimate name for var. *prostrata*.

A plant of subsp. *littoralis* collected above Pentreath Beach, Lizard, Cornwall, by L. C. Frost in 1956, and grown in the Botanic Garden at Cambridge, has retained all its characters.

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ANTHYLLIS VULNERARIA L.

subsp. *corbierei* (Salmon & Travis) Cullen, comb. et stat. nov.*A. maritima* var. *corbierei* Salmon & Travis, *J. Bot., Lond.* 55, 320 (1917).

J. CULLEN

RUBUS ECHINATUS Lindley, *Syn. Brit. Fl.*, 94 (1829) (Holotype: Hale End, no date, Forster in Herb. Lindley no. 43 (CGE)); Focke, *J. Bot., Lond.* 28, 132 (1890); Rogers, *J. Bot., Lond.* 30, 301 (1892); Rogers, *Handb. Brit. Rubi*, 64 (1900); E. S. Marshall, *J. Bot., Lond.* 43, 76 (1905); Rogers & E. F. Linton, *J. Bot., Lond.* 43, 203 (1905); Riddelsdell, *J. Bot., Lond.* 76, 311 (1938); non *R. echinatus* P. J. Muell., *Flora (Regensb.)* 41, 171 (1858).

R. rufa var. *attenuatus* Bab., *Ann. Mag. Nat. Hist.*, ser. 1, 17, 245 (1846) (Lectotype: Twycross, Leicestershire, 1845, A. Bloxham in Herb. C. C. Babington no. 792 (CGE)).

R. fuscoaster var. *echinatus* (Lindley) Bab., *Ann. Mag. Nat. Hist.*, ser. 1, 17, 314 (1846).

R. disceptus P. J. Muell., *Pollichia*, 16, 146 (1859); Focke in Ascherson & Graebner, *Syn. Mitteleur. Fl.* 6 (1), 565 (1903); Sudre, *Bull. Soc. Étud. Sci. Angers* 33, 115 (1904); Sudre, *Rubi Eur.* 132 (1908-13); W. C. R. Watson, *Rep. Bot. Exch. Club Brit. Is.* 8, 86 (1929 for 1928); W. C. R. Watson, *Rep. Bot. Exch. Club Brit. Is.* 11, 568 (1938 for 1937); W. C. R. Watson, *Handb. Rubi Brit. Ireland*, 132 (1958).

[*R. rудis* sensu Bab., *Brit. Rubi*, 189 (1869), et auct. angl. plur. ante 1890; non Weihe & Nees in Bluff & Fingerh., *Comp. Fl. Germ.* 1, 687 (1825).]

Watson (1938, p. 566) states that *R. echinatus* Lindl. = *R. histrix* Weihe & Nees, basing this judgement on specimens identified for Leighton by Lindley several years after the publication of *R. echinatus*. Watson also states that there is no specimen of *R. echinatus* in Herb. Lindley (CGE). As Riddelsdell (1938, p. 311) points out, there is an excellent specimen of *R. echinatus* in Herb. Lindley, and this must be the holotype of the species. The holotype shows that *R. echinatus* Lindl. = *R. discerptus* P. J. Muell. It is very distinct from both *R. histrix* and *R. rудis*, the latter being the name given to it by most British botanists before 1890.

Focke (1902, p. 566) rejects *R. echinatus* in favour of *R. discerptus* as he regards *R. echinatus* as a 'nomen seminudum'.

The name *R. echinatus* Lindl. is the oldest legitimate name of the species and must replace the later synonym *R. discerptus* P. J. Muell.

B. A. MILES

Sorbus wilmottiana E. F. Warburg, sp. nov.

[*S. wilmottiana* E. F. Warburg in Clapham, Tutin & Warburg, *Fl. Brit. Is.* ed. 2, 432 (1962), anglice, sine diagn. lat.]

Holotype: Clifton, edge of the greensward at the top of the Avon Gorge cliffs, v.c. 34 W. Glos., 4 October 1958, R. A. Graham, R. M. Harley, D. H. Lewis & E. F. Warburg, 5841 B (OXF).

Arbuscula vel arbor parva. Rami hornotini brunneo-rubri, annotini nigri, glabri; gemmae 5–6 mm longae, subglabrae, apice tantum pilis lanatis instructae. Folia petiolata; lamina elliptica vel obovata, 7–12 cm longa, 1·6–2 (–2·7)-plo longiora quam latiora, apice acuta basi cuneata, duplicato-serrata marginibus per partem quintam basalem folii integris, dentibus acutiusculis plerumque ascendentibus apicale eisque nervos primarios terminantibus vix prominentibus, supra laete viridia nitidiuscula, subtus cinereo-tomentosa, nervis utrinque 6–9 supra vix elevatis; petiolus 1–2 cm longus. Inflorescentia pauciflora, glabra, c. 5 cm longa, 4 cm lata. Fructus subglobosus, 10–13 mm longus, latior quam longior, coccineus, lenticellis paucis magnis praeditus.

This member of the *Sorbus aria* aggregate is named in memory of Alfred James Wilmott (1888–1950).

E. F. WARBURG†

LYTHRUM PORTULA (L.) D. A. Webb, *Feddes Report.* 74, 13 (1967).

subsp. **PORTULA**

Peplis portula L. *Sp. Pl.*, 332 (1753).

subsp. **longidentata** (Gay) Sell comb. nov.

P. portula var. *longidentata* Gay, *Notic. Endress*, 38 (1832).

P. portula subsp. *longidentata* (Gay) Nyman, *Consp.*, 252 (1879).

P. fradini Pomel, *Mat. Fl. Atl.*, 156 (1860).

P. longidentata (Gay) Batt. in Batt. & Trabut, *Fl. Alger. (Dicot.)*, 320 (1889).

Subsp. *portula* with the epicalyx segments about 0·5 mm long occurs throughout Europe. Subsp. *longidentata* with the epicalyx segments 1·5–2 mm long is found only in France, Spain, Portugal, Algeria and the Azores. Intermediates occur where the two subspecies meet and in the British Isles there is an east-west cline (cf. D. E. Allen, *Watsonia* 3, 85–91 (1954)).

P. D. SELL

ERICA PRAEGERI Ostenfeld and E. STUARTII E. F. Linton

The earliest binomial deliberately given to a plant believed to be a hybrid between *E. mackaiana* and *E. tetralix* is *E. × praegeri* Ostenfeld, *New Phytol.* 11, 120 (1912). Dandy (*List. Brit. Vasc. Pl.*, 85 (1958)) listed this hybrid as *E. × stuartii* E. F. Linton, citing *E. praegeri* Ostenfeld as a later synonym. The name *E. stuartii* was given by Linton

(*Ann. Scot. Nat. Hist.* **1902**, 177 (1902)) to a curious plant collected in Connemara by Stuart in 1890 and never found again, though it has been propagated by cuttings; all stocks of it in cultivation and all herbarium specimens are fragments of the same clone. For long it was regarded as *E. mediterranea* auct. (more correctly *E. hibernica* (Hook. & Arn.) Syme) \times *E. tetralix*, but some years ago (Webb, *Irish Nat. Jour.* **11**, 190 (1954)) I pointed out that there were serious objections to this explanation of it and concluded by saying that 'if I am forced to choose, I prefer to regard it as a very peculiar mutant of *E. mackiana*'. A little later I came to the conclusion that it was more like a mutant of *E. × praegeri*, and I mentioned this to Mr. Dandy. Unfortunately he took this rather casual *obiter dictum* as a firm taxonomic opinion, with the result that this unique plant and the common and familiar hybrid are now regarded as two nothomorphs which must share the name *E. × stuartii*.

I now wish to retract my opinion to the extent of saying that I do not know what *E. stuartii* is, and that I do not believe that anyone else does either. I think that it has some claim to be regarded as a 'monstrosity', in view of its very curious corolla, in which case it cannot stand as a nomenclatural type. Unfortunately our grandfathers had a much clearer concept of 'monstrosity' than their more sophisticated descendants, and a recent attempt to give more precision to the term by defining it as a non-hereditable structural abnormality is not very helpful in the numerous cases of monstrosities or near-monstrosities which are (like *E. stuartii*) completely sterile. But even if this plant is not a monstrosity it is likely, in my opinion, to remain permanently *incertae sedis*. That it is a mutant of *E. × praegeri* is a plausible guess and no more, for the evidence is conflicting. I do not think that a name whose application represents a rather desperate guess should, even if it is published earlier with a different application, take priority over one whose application was based originally on strong circumstantial evidence and has since been confirmed by experiment. A name whose type is inexplicable can be rejected as a *nomen dubium* (in so far as it designates a taxon of definite rank or a hybrid of specified parentage) just as legitimately as one whose type cannot be ascertained; and I believe that the continued application of the name *E. stuartii* to the hybrid is likely to be a source of permanent confusion. In my opinion the hybrid *E. mackiana* \times *tetralix* should be called *E. × praegeri* Ostenfeld.

D. A. WEBB

ANAGALLIS ARVENSIS L.

subsp. **ARVENSIS**

forma **ARVENSIS**

A. arvensis L., *Sp. Pl.*, 148 (1753).

A. phoenicea Scop., *Fl. Carn.* ed. 2, **1**, 139 (1772).

A. arvensis subsp. *phoenicea* (Scop.) Vollman, *Ber. Bayer. Bot. Ges.* **9**, 44 (1904).

forma **CARNEA** (Schrantz) Hyland., *Uppsala Univ. Årsskr.* **7**, 256 (1945).

A. coerulea var. *carnea* Schrantz, *Baier. Fl.* **1**, 461 (1789).

forma **PALLIDA** (Hook. fil.) Hyland., *Uppsala Univ. Årsskr.* **7**, 256, (1945).

A. arvensis var. *pallida* Hook. fil., *Stud. Fl. Brit. Islands*, 265 (1870).

forma **AZUREA** Hyland., *Uppsala Univ. Årsskr.* **7**, 256 (1945).

A. latifolia L., *Sp. Pl.*, 149 (1753).

A. arvensis var. *azurea* Wilmott, *Rep. Bot. Exch. Club Brit. Is.* **14**, 664 (1946).

forma **LILACINA** Alefeld (quando ?) Hylander, *Uppsala Univ. Årsskr.* **7**, 256 (1945).

A. arvensis var. *lilacina* (Alefeld) Marsden-Jones & Weiss, *Proc. Linn. Soc. Lond.* **150**, 147 (1938).

A. arvensis subsp. *phoenicea* forma *lilacina* (Alefeld) Schinz & R. Keller, *Fl. Schweiz*, ed. 2, **2**, 173 (1905).

subsp. **FOEMINA** (Mill.) Schinz & Thell. in Schinz & R. Keller, *Fl. Schweiz*, ed. 3, **1**, 419 (1909).

A. foemina Mill., *Gard. Dict.* ed. 8, (1768).

The taxonomy of this species is that recommended by E. M. Marsden-Jones and F. E. Weiss, *Proc. Linn. Soc. London* **150**, 146–155 (1938). The five flower-colour forms of subsp. *arvensis* breed true for colour. Any one of them can be crossed with any of the remainder and the offspring produces fertile seed. Subsp. *foemina* can be crossed with any of the colour forms of subsp. *arvensis*, but only the cross with forma *carnea* produces fertile offspring.

P. D. SELL

CALYSTEGIA SEPIUM (L.) R. Br. subsp. *roseata* Brummitt, subsp. nov.

A subspecie typica corolla rosea, caulis saepius pubescentibus et foliis apice acutioribus differt; a subsp. *americana* (Sims) Brummitt floribus minoribus (corolla plerumque 19–25 mm longa, staminibus plerumque 19–25 mm longis) differt.

Holotype: Wales, Merionethshire, near Towyn, overlooking Afon Dysynni estuary, Grid Ref. 23/5703, 24 September 1959, J. A. Ratter, J. Cullen & R. K. Brummitt 59.815 (LIVU; isotypes in GB, K, NY).

This subspecies is found on the Atlantic coasts of Europe (Norway, Sweden, Netherlands, British Isles, probably also Spain and Portugal, perhaps also France), and the Pacific and perhaps Atlantic coasts of temperate South America, Easter Island, New Zealand and south-eastern Australia.

The type specimen of *C. sepium* subsp. *baltica* Rothmaler in *Feddes Report.* **67**, 10 (1963), from the Baltic coast of northern Germany, has been examined by the author through the courtesy of the curator of the herbarium of the University of Greifswald. It is best referred to *C. sepium* subsp. *sepium* forma *colorata* (Lange) Dörfler, a pink-flowered variant of the typical subspecies occurring frequently in lowland areas of many parts of Europe.

R. K. BRUMMITT

RHINANTHUS L., Sp. Pl., 603 (1753); Gen. Pl., ed. 2, 263 (1754) (Type: *R. crista-galli* L. nom. ambig. = *R. serotinus* (Schönh.) Oborny).

Alectorolophus Zinn, *Cat. Pl.* 288 (1757), nom. superfl. illegit. pro *Rhinanthus* L.

RHINANTHUS SEROTINUS (Schönh.) Oborny, Verhandh. Naturforsch. Ver. Brünn. **22 (2), 435 (1884).**

R. crista-galli L., *Sp. Pl.*, 603 (1753), nom. ambig.

R. major Ehrh., *Beitr. Naturk.* **6**, 144 (1791), non L., *Amoen. Acad.* **3**, 53 (1756).

Alectorolophus serotinus Schönh., *Flora (Regensb.)* **15**, 601 (1832).

subsp. *APTERUS* (Fries) Hyland., *Uppsala Univ. Årsskr.* **1945**, 292 (1945).

R. major var. *apterus* Fries, *Nov. Fl. Suec.*, *Mantissa* **3**, 60 (1842).

R. apterus (Fries) Ostenf., *Bot. Not.* **1904**, 83 (1904).

R. major subsp. *apterus* (Fries) Schinz & Thell. in Schinz & R. Keller, *Fl. Schweiz*, ed. 3, **2**, 314 (1914).

R. major subsp. *vernalis* Zinger, *Herb. Fl. Ross.*, no. 2530a.

R. serotinus subsp. *vernalis* (Zinger) Hyland., *Uppsala Univ. Årsskr.* **1945**, 292 (1945).

[*R. borbasii* et *R. polycladus* auct. brit.]

I agree with E. F. Warburg (Clapham, Tutin & E. F. Warburg, *Fl. Brit. Isles*, ed. 2, 699 (1962)) that all British material of this species is referable to subsp. *apterus*.

RHINANTHUS MINOR L.

subsp. **MINOR**

R. minor L., *Amoen. Acad.* **3**, 54 (1756).

R. drummond-Hayi subsp. *salmonii* Soó, *Feddes Rep.* **26**, 182 (1929). (Holotype: rocks foot of Craig Maid, Clova, Forfar v.c. 90, 16 July 1912, C. E. Salmon (BM)).

Usually with only very short flowerless branches, but sometimes with longer suberect flowering branches from the middle and upper part of the stem. Internodes (except the lowest) more or less equal. Leaves of main stem (10–) 20–40 (–50) × (3–) 5–7 mm, usually

oblong and parallel-sided for the greater part of their length. Intercalary leaves 0 (-1) pairs. Calyx hairy only on the margins. Lowest flowers usually from the 6th-9th node. Corolla yellow with a violet (or rarely white) tooth. Flowers May to July.

*Grassy places on dry basic soils, common in England, rarer in Scotland where it often grades into subsp. *stenophyllus*. Throughout Europe extending to Caucasus and W. Siberia; S. Greenland, Newfoundland.*

subsp. *calcareus* (Wilmott) E. F. Warburg, comb. et stat. nov.

[*R. minor* subsp. *calcareus* (Wilmott) E. F. Warburg in Clapham, Tutin & E. F. Warburg, *Fl. Brit. Is.*, ed. 2, 700 (1962) sine ref. ad basionymum.]

R. calcareus Wilmott, *J. Bot., Lond.* **78**, 202 (1940) (Holotype: Grassy chalk down above Sutton, W. Sussex v.c. 13, 3 August 1901, E. S. Marshall, no. 2584 (BM)).

Usually with long arcuate-ascending flowering branches from about the middle of the stem. Lower internodes short, upper very long. Leaves of main stems 10-25 × 1.5-3 mm, linear, more or less spreading. Intercalary leaves usually (2-) 3-6 pairs. Calyx hairy only on the margins. Lowest flowers usually from 14th-19th node. Corolla yellow; tooth violet.

*Local on chalk and limestone downs from Dorset and Sussex to Gloucester and Northants. ? Endemic. Plants from Ireland which somewhat resemble it are probably best placed in subsp. *stenophyllus*.*

subsp. *STENOPHYLLUS* (Schur) O. Schwarz, *Feddes Repert.* **46**, 56 (1939).

R. minus var. *stenophyllus* Schur, *Enum. Pl. Transs.*, 511 (1866).

R. crista-galli subsp. *stenophyllus* (Schur) Soó, *Feddes Repert.* **26**, 186 (1929).

R. stenophyllus (Schur) Druce, *Ann. Scot. Nat. Hist.* **1901**, 178 (1901); *J. Bot., Lond.* **41**, 360 (1903).

Usually with long arcuate-ascending flowering branches and shorter flowerless branches from the lower and middle part of the stem. Lower internodes usually short, equalling or shorter than the leaves, upper much longer. Leaves of main stems 15-45 × 2-5 (-7) mm, narrowly lanceolate or linear-lanceolate, more or less tapering from near the base. Intercalary leaves (0-) 1-2 (-4) pairs. Calyx hairy only on the margins. Lowest flowers usually from (8th-) 10th-13th (-15th) node. Corolla yellow with violet tooth, sometimes becoming brown. Flowers July to September.

Damp grassland and fens. Common in Scotland, north and west England, Wales and probably Ireland, rare (mainly in fens) in south-east England. Throughout much of Europe particularly in upland regions.

subsp. *MONTICOLA* (Sterneck) O. Schwarz, *Feddes Repert.* **46**, 56 (1939).

R. minor var. *monticola* Lamotte, *Mém. Acad. Clermont.* **22**, 880 et 166 (1881), nom. superfl. illegit. pro *R. minor* var. *angustifolius* Gren. & Godron.

Alecturolophus monticola Sterneck, *Abh. Zool.-Bot. Ges. Wien* **1** (2), 111 (1901).

R. monticola (Sterneck) Druce, *Ann. Scot. Nat. Hist.* **1901**, 178 (1901); *Ann. Scot. Nat. Hist.* **1903**, 171 (1903); *J. Bot., Lond.* **41**, 360 (1903).

R. crista-galli subsp. *monticola* (Sterneck) Soó, *Feddes Repert.* **26**, 187 (1929).

R. spadiceus Wilmott, *J. Bot., Lond.* **78**, 203 (1940). (Holotype: Glen Dee near Braemar, S. Aberdeen v.c. 92, 30 July 1906, E. S. Marshall no. 2947 (BM)).

R. spadiceus subsp. *orcadensis* Wilmott, *J. Bot., Lond.* **78**, 207 (1940) (Holotype: Grassy and healthy pasture, Point of Onston, Stenness, Mainland, Orkney, v.c. 111, 21 July 1922, H. H. Johnston no. 1879 (BM)).

Usually with short or moderate flowerless branches from near the base, sometimes with 1-3 longer flowering branches in addition. Lower internodes usually very short, upper much longer. Leaves of main stems 10-20 (-25) × 2-4 mm, linear-lanceolate, more or less tapering from near the base, tending to be more erect than in subsp. *stenophyllus*. Intercalary leaves usually 1-2 (-3) pairs. Calyx hairy only on the margins. Lowest flowers usually from the (7th-) 8th-11th (-12th) node. Corolla dull yellow becoming treacle brown or treacle-brown throughout, with a violet tooth. Flowers July and August.

Grassy places in mountainous regions from Yorks to Shetland, rare in Ireland. Also in the Alps.

subsp. *lintonii* (Wilmott) Sell, comb. et stat. nov.

R. drummond-Hayi sensu Sterneck, *Abh. Zool.-Bot. Ges. Wien* **1** (2), 115 (1901) quoad descript.; et sensu auct. brit.

R. gardineri Druce, *Rep. Bot. Exch. Club Brit. Is.* **4**, 205 (1915).

R. lintonii Wilmott, *J. Bot., Lond.* **78**, 209 (1940) (Holotype: Glen Fiagh, Forfar, 13 July 1889, E. F. Linton (BM)).

R. lochabrensis Wilmott, *J. Bot., Lond.* **78**, 211 (1904). (Holotype: near Meall Cumhaun, Glen Nevis, Inverness, 19 August 1902, C. E. Salmon (BM)).

R. vachelliae Wilmott, *Watsonia* (1948), 1, 85 (Holotype: Glen Cannich, near the north-east end of Loch Mullardoch, E. Inverness, v.c. 96, 16 July 1947, E. Vachell (BM)).

Simple or with 1–2 pairs of branches from the lower or middle part of the stem. Internodes more or less equal in length, or the lower shorter. Leaves of main stem (8–) 10–20 (–30) × 1·5–3 (–4) mm, very narrow linear-lanceolate, more or less tapering from the base. Intercalary leaves 0–3 pairs. Calyx hairy all over. Flowering from the 7th–10th node. Corolla ? yellow or orange-yellow. Flowers July (or August).

Grassy places in Scottish mountains. Apparently originating from hybridization between subspecies borealis, monticola and stenophyllus, but now often occupying a zone (where it is uniform) between borealis (higher up) and monticola and stenophyllus (lower down). ?Endemic.

subsp. *borealis* (Sterneck) Sell, comb. et stat. nov.

R. crista-galli var. *drummond-hayi* F. B. White, *Ann. Scot. Nat. Hist.* **8**, 324 (1886). (Type: Ben Lawers, Breadalbane, F. Buchanan White (BM)).

Alectorocephalus borealis Sterneck, *Annu. Cons. Jard. Bot. Genève* **1889**, 25 (1889).

Alectorocephalus drummond-hayi (F. B. White) Sterneck, *Abh. Zool.-Bot. Ges. Wien* **1** (2), 115 (1901) quoad basionymum exclud. descript.

R. drummond-hayi (F. B. White) Druce, *Ann. Scot. Nat. Hist.* **1903**, 171 (1903); *J. Bot., Lond.* **41**, 360 (1903).

R. borealis (Sterneck) Druce, *Ann. Scot. Nat. Hist.* **1901**, 178 (1901); *J. Bot., Lond.* **41**, 361 (1903).

R. borealis var. *calvescens* Wilmott, *J. Bot., Lond.* **78**, 209 (1940). (Holotype: Ben Nevis, v.c. 97, July 1903, H. J. Riddelsdell (BM)).

Usually unbranched, but occasionally with short flowerless (very rarely flowering) branches, and then intercalary leaves 0. Internodes more or less equal. Leaves 10–30 × 3–7 mm, oblong or oblong-linear, more or less parallel-sided. Calyx hairy all over. Lowest flowers from the 5th–7th (–8th) node. Corolla bright yellow with violet or white teeth. Flowers July and August.

Local in grassy places on mountains up to 3,200 ft in Scotland, Caernarvon and Kerry. Also in Alaska, Greenland, Iceland and ?Scandinavia.

Extensive work on *Rhinanthus* has been carried out on the Continent by A. Chabert, *Bull. Herb. Boiss.* **7**, 497–517 (1899), R. V. Soó, *Feddes Repert.* **26**, 179–219 (1929), and J. V. Sterneck, *Abh. Zool.-Bot. Ges. Wien*, **1** (2), 1–150 (1901). E. S. Marshall, *J. Bot., Lond.* **41**, 291–300 (1901) and G. C. Druce, *J. Bot., Lond.* **41**, 359–361 (1903) published the identifications of their material by Sterneck, but not until A. J. Wilmott's paper in *J. Bot., Lond.* **78**, 201–213 (1940) was any serious work published on the British species of the genus. D. J. Hambler, *Watsonia*, **4**, 101–116 (1958) reports on a series of investigations he carried out on the genus *Rhinanthus*, in which he concludes that only two species, *R. minor* and *R. serotinus* (Schönh.) Oborny, distinguished on corolla characters, are found in the British Isles. With this conclusion I agree. Although he points out that populations of *R. minor* are often distinct he gives no infraspecific categories, a situation hardly tolerable to a botanist who has examined the species in the field. The account by E. F. Warburg in Clapham, Tutin & E. F. Warburg, *Fl. Brit. Isles*, ed. 2, 699–701

(1962) is much more realistic, though I do not think that *R. borealis* should be distinguished as a distinct species, and I think that the supposed hybrid, *R. × gardineri*, which produces uniform populations, is better regarded as a separate taxon. Examples comparable to this last plant are seen in *Euphrasia vigursii* Davy (formed from a cross between *E. micrantha* Reichb. and *E. anglica* Pugs.) and *Montia fontana* subsp. *variabilis* Walters (a variable intermediate between subsp. *fontana* and subsp. *amporitana* Sennen which may be of hybrid origin).

The nomenclature of the group is not difficult once the mass of synonyms have been sorted out. *R. crista-galli* L. is rejected as a nomen ambiguum. Sterneck was the first author to use most of the names of our taxa at the rank of species, but under the generic name *Alectorocephalus*. They were transferred to *Rhinanthus* by Druce in *Ann. Scot. Nat. Hist.* (1901 and 1903), and *J. Bot., Lond.* (1903). Wilmott's plants have good descriptions and holotypes. E. F. Warburg supplied the data for subsp. *calcareus* and is responsible for that combination.

P. D. SELL

EUPHRASIA L.

EUPHRASIA MICRANTHA Reichb., *Fl. Germ. Excurs.*, 358 (1831) (Lectotype: In via qui iter verram Lauram, legi Jul. 1830 [Reich. p.] (W)).

The type specimen is white-flowered.

EUPHRASIA FRIGIDA Pugsley, *J. Linn. Soc. (Bot.)* **48**, 490 (1930) (Lectotype: Ujaragsuit, Godthaabs Fjord, W. Greenland, 13 August 1885, S. Hansen (C)).

[*E. latifolia* auct., non L., *Sp. Pl.*, 604 (1753).]

[*E. arctica* auct. amer., non Lange ex Rostrup, *Bot. Tidsskr.* **1** (4), 47 (1870-71).]

EUPHRASIA TETRAQUETRA (Brébisson) Arrondeau, *Bull. Soc. Polymath. Morbihan* **1862**, 96 (1863).

E. officinalis var. *tetraqueta* Brébisson, *Fl. Normand.* ed. 2, 183 (1849).

E. occidentalis Wettst., *Mon. Gatt. Euphrasia*, 135 (1896).

E. canadensis Towns., *J. Bot., Lond.* **36**, 1 (1898).

The types of none of these names have been traced, but in each case a good original diagnosis was given.

EUPHRASIA NEMOROSA (Pers.) Wallr., *Ann. Bot.*, 82 (1815).

E. officinalis var. *nemorosa* Pers., *Syn. Pl.* **2**, 149 (1807).

As there are no specimens in the Persoon herbarium at Leiden, we have typified the name by Plate 233 in Bulliard, *Herbier de la France*, 4 (1785), which was cited with the original diagnosis.

EUPHRASIA ARCTICA Lange ex Rostrup, *Bot. Tidsskr.* **1** (4), 47 (1870-71) (Lectotype: Sandyford, Stromo, 31 August 1867, E. Rostrup (C)).

[*E. borealis* auct. mult. incl. Wettst. pro parte.]

E. borealis var. *zetlandica* Pugs. et var. *speciosa* Pugs., *J. Linn. Soc. (Bot.)* **48**, 516 (1930).

P. D. SELL
P. F. YEO

ODONTITES Verna (Bellardi) Dumort.

subsp. *PUMILA* (Nordst.) A. Pedersen, *Bot. Tidsskr.* **58**, 291 (1963).

Odontites serotina forma *pumila* Nordst., *Bot. Not.* **1898**, 220 (1898).

[*Odontites litoralis* sensu F. N. Williams, *Prod. Fl. Brit.*, 316 (1909).]

[*Bartsia odontites* var. *litoralis* auct. brit.]

Plant up to 17 (-21) cm high, often unbranched but sometimes with one or two pairs

of short branches. Internodes short, giving the plant a condensed habit. Leaves lanceolate to ovate-lanceolate and distinctly toothed. Bracts longer than the flowers. Flowers apparently darker red than in other subspecies. Flowers July–August (September).

Grassy places by the sea. N. & W. Scotland (Sutherland, Caithness and Hebrides), Netherlands, Denmark and S. Sweden.

subsp. *VERNA*

Euphrasia verna Bellardi, *Mem. Acad. Sci. Turin*, ser. 1, **1790-91**, 239 (1793).

Odontites verna (Bellardi) Dumort., *Fl. Belg.*, 32 (1827).

Odontites verna subsp. *longifolia* Corbière, *Nouv. Fl. Normand.*, 436 (1894).

Bartsia odontites var. *verna* (Bellardi) Druce, *List Br. Pl.*, 54 (1908).

Bartsia odontites var. *longifolia* (Corbière) Druce, *List Br. Pl.*, 54 (1908).

[*Bartsia odontites* var. *rotundata* auct. brit.]

Plant 10–30 cm high, with branches coming off at an angle of less than 45° and more or less straight. Internodes longer giving the plant a more open habit. Leaves lanceolate, distinctly toothed. Bracts longer than the flowers. Flowers June and July. $2n = 40$.

Cultivated, waste and grassy places. In the British Isles commoner in the north than the south. In Europe as a whole more common in the north and mountainous regions, perhaps absent from some areas in the south.

subsp. *SEROTINA* Corbière, *Nouv. Fl. Normand.*, 437 (1894).

Euphrasia odontites L., *Sp. Pl.*, 604 (1753).

Euphrasia serotina Lam., *Fl. Fr.* 2, 350 (1778) nom. superfl. illegit. pro *E. odontites* L.

[*Odontites rubra* Gilib., *Fl. Lith.* 1, 126 (1781) nom. non rite publ.]

Euphrasia rubra Baumg. in Hoffm., *Deutschl. Fl.*, 215 (1791).

Odontites vulgaris Moench, *Meth.*, 439 (1794) nom. nov. pro *Euphrasia odontites* L.

Odontites serotina Dumort., *Fl. Belg.*, 32 (1827), nom. superfl. illegit. pro *Euphrasia odontites* L.

Euphrasia divergens Jord. in F. W. Schultz, *Arch. Fl. Fr. Allem.*, 191 (1851).

Odontites rubra subsp. *serotina* Wettst., *Denkschr. Akad. Wiss. Math.-Nat. Kl. (Wien)* 70, 321 (1901).

Bartsia odontites var. *serotina* auct. mult. includ. Druce, *List Brit. Pl.*, 54 (1908).

Bartsia odontites var. *divergens* (Jord.) Druce, *Brit. Pl. List*, 54 (1908).

Plant 20–50 cm high, with branches spreading at a wide angle, sometimes nearly at right angles, their tips often upcurved. Internodes long, giving the plant an open habit. Leaves linear-lanceolate, somewhat narrowed at the base, obscurely toothed. Bracts shorter than or equaling the flowers. Flowers July and August. $2n = 20$.

*Similar habitats to subsp. *verna*. Common in S. England, rarer farther north and in hilly regions. Common in the lowlands of continental Europe, but rare in the north and sometimes the only subspecies in the south. ? East Europe.*

The genus *Odontites* seems to be represented in the British Isles by the above three subspecies. Subsp. *verna* and subsp. *serotina* are said to have different chromosome numbers, but their morphological characters (particularly in the British Isles) overlap so greatly, and there are so many intermediates, that it seems impossible to distinguish them as species. In continental Europe subsp. *verna* seems to be predominantly a northern or montane plant, while subsp. *serotina* is more lowland, with a distribution which goes much farther south. In the south and the north they seem to be much more distinct than in a zone running across central Europe and including the British Isles. Subsp. *pumila* is a dwarf coastal race most nearly allied to subsp. *verna*, with which it intergrades in the Hebrides. Round the Baltic occurs another dwarf coastal race which is usually unbranched, has long lower internodes, much longer than the leaves, and bracts longer than the flowers. It would seem to be most nearly allied to subsp. *pumila*. Its correct name seems to be *O. VERNA* subsp. *LITORALIS* (Fries) Nyman, *Consp.*, 551 (1881) (*Euphrasia odontites* var. *litoralis* Fries, *Fl. Scan.*, 40 (1835)). G. Marklund (*Acta Soc. Fauna Fl. Fenn.* 72, 1–18 (1955)) when dealing with the Finnish plants of the genus, has described *O. litoralis* subsp. *fennica*

and *O. litoralis* subsp. *litoralis* var. *baltica*. I have not seen material of these plants, but from their descriptions they seem to be very close to *O. verna* subsp. *litoralis*, and may form connecting links between it and subsp. *verna*. Subsp. *verna*, subsp. *pumila*, subsp. *litoralis* and *O. litoralis* subsp. *fennica* thus form the northern elements of the *O. verna* complex. In the south, subsp. *serotina* is the dominant plant, but in Sicily plants with linear or linear-lanceolate, markedly dentate leaves and yellowish-pink flowers seem to be distinct. I call them *O. verna* subsp. *sicula* (Guss.) Sell, comb. et stat. nov. (*Euphrasia serotina* var. *sicula* Guss., *Fl. Sic. Prodr.* 2, 149 (1828)). In eastern Europe the plants most resemble subsp. *serotina*, but they become increasingly pubescent eastwards and another subspecies may have to be distinguished there.

The large number of small taxa of various ranks, and their combinations in *Euphrasia*, *Bartsia* and *Odontites*, plus a superfluity of names, have made the nomenclature of the group very difficult. I have done my best here to establish the correct names of the British taxa, and to show where synonyms or misapplied names belong, but only an exhaustive study of all the European literature could possibly establish the correct authors of the various combinations.

P. D. SELL

VALERIANELLA LOCUSTA (L.) Betcke

subsp. *dunensis* (D. E. Allen) Sell, stat. nov.

V. locusta var. *dunensis* D. E. Allen, *Watsonia* 5, 45 (1961).

I have discussed this taxon with Allen. He tells me that he uses the rank of subspecies for geographical variation and that of variety for ecological variation. I see no clear difference between geographical, ecological or even altitudinal isolation of populations, all three factors sometimes applying to the same taxon. I have thus elevated Allen's variety to the rank of subspecies.

P. D. SELL

SENECIO VULGARIS L.

subsp. *denticulatus* (O. F. Muell.) Sell, comb. et stat. nov.

S. denticulatus O. F. Muell., *Fl. Dan.* 5 (14), 4 et t. 791 (1780).

This taxon appears to constitute a distinct ecological race, which in view of its wide geographical range seems to me to merit subspecific rank. For a discussion of the radiate forms of *S. vulgaris* see D. E. Allen, *Watsonia* 6, 280-282 (1967).

P. D. SELL

HIERACIUM L.

We are here publishing only what is necessary to validate the new names and combinations of species being mapped in the Appendix to the Atlas of British Plants. A more detailed paper, bringing up to date the revision by Pugsley, *J. Linn. Soc. (Bot.)* 54 (1948), will follow.

In Sectione ALPINA F. N. Williams

Hieracium tenuifrons Sell & C. West, sp. nov.

Ab *H. alpino* L. squamis involucri angustioribus, stylis obscuris et ligulorum pilis paucioribus differt, praeterea ab *H. pseudopetiolato* (Zahn) Roffey squamis longioribus angustioribus et capitulis latioribus distinguitur.

Holotype: Fionn Ghleann, Glen Etive, v.c. 98, Argyll, July 1954, C. West (CGE).

Planta phyllopoda. Caulis 13-25 (-36) cm altus, valde striatus, flexuosus, pilis aliis simplicibus pallidis nonnunquam basi nigris longis vel longissimis (ad 5 mm), aliis stellatis numerosis, aliis glanduliferis numerosis brevissimis flaviusculo-brunneis vel atriusculis vestitus. Folia medio-viridia; basalia numerosa; primigenia obovata, obtusa, denticulata, basi cuneata; cetera oblanceolata vel obovata; obtusa, denticulata vel leviter dentata, basi attenuata, petiolis mediocribus vel longis; caulina 1-3 (-7), anguste oblanceolata

vel linearia, obtusa vel subacuta, integra vel raro denticulata, basi attenuata, sessilia vel breviter petiolata; omnia utrinque et margine pilis simplicibus longis pallidis basi nigris, et margine pilis glanduliferis numerosis brevissimis vestita. Anthela capitulo unico. Involucri squamae 14–16 mm longae, 1·0–1·25 mm latae, atriusculo-virides, lineares, plus minusve acutae, pilis aliis simplicibus densissimis longis vel longissimis (ad 5 mm) pallidis, aliis glanduliferis numerosis brevissimis obscuris, aliis stellatis nullis obsitae. Ligulae saturate flavae, apice pilis brevibus vel brevissimis vestitae. Styli obscuri. Receptaculi alveoli margine breviter dentati. Cypsela obscura, 3–3·5 mm longa.

Hieracium notabile Sell & C. West, sp. nov.

H. eximium Backh., *H. marginatum* Sell & C. West, *H. memorabile* Sell & C. West et *H. backhousei* F. J. Hanb. quoad faciem simulat. Ab *H. memorabile* et *H. backhousei* foliis obtusis integris vel denticulatis differt, praeterea ab *H. eximio* et *H. marginato* squamis involucris latioribus obtusioribus distinguitur.

Holotype: Ben More, v.c. 88, Mid-Perth, 16 July 1910, E. S. Marshall no. 3489 (CGE).

Planta phyllopoda. Caulis 17–26 cm altus, valde striatus, flexuosus, parte basali interdum purpureo-tincta, pilis aliis stellatis paucis, aliis simplicibus numerosis inaequalibus brevibus mediocribus longisque basi nigris patentibus, aliis glanduliferis brevissimis paucis obscuris vestitus. Folia pallide viridia; basalia pauca; primigena late elliptica, mucronulata, integra, basi attenuata; cetera anguste elliptica vel elliptica, raro late elliptica, obtuso-mucronata vel subacuta, integra vel dentibus parvis paucis vel interdum dentibus tenuibus cuspidatis muniter, basi gradatim attenuata, petiolis alatis; caulinis 2–3, inferioribus basaliibus similibus, superioribus bracteiformibus; omnia utrinque et margine pilis simplicibus numerosis longis saepe fere setiformibus, et margine pilis glanduliferis numerosis brevissimis vestita. Anthela capitulo unico. Involucri squamae 12–16 mm longae, 1–1·5 mm latae, atriusculo-virides, lineares, obtusae vel subacutae, raro acutae, pilis simplicibus densis inaequalibus longis pallidis, pilis glanduliferis nullis, apice pilis stellatis paucis obsitae. Ligulae saturate flavae, apice et nonnunquam in parte aversa pilis simplicibus brevibus vel brevissimis vestitae. Styli obscuri. Cypselae obscurae, circa 4 mm longae.

Hieracium marginatum Sell & C. West, stat. et nom. nov.

Basionym: *H. globosiflorum* var. *lancifolium* Pugsley, *J. Linn. Soc. (Bot.)* 54, 47 (1948)

(Holotype: Ben Laoghal, v.c. 108, W. Sutherland, 2,300 ft, 2 August 1897, E. S. Marshall no. 2042 (BM)).

Hieracium memorabile Sell & C. West, sp. nov.

H. notabile Sell & C. West, *H. eximium* Backh., *H. marginatum* Sell & C. West et *H. backhousei* F. J. Hanb. quoad faciem simulat. Ab *H. notabile* squamis involucri angustioribus acutis, ab *H. eximio* squamis ligulisque pilis brevioribus, ab *H. backhousei* foliis pilosioribus stylisque obscuris distinguitur.

Holotype: Beinn an Sochaich, 2,500–3,000 ft, v.c. 97, W. Inverness, July 1896, E. S. Marshall and W. A. Shoolbred in Linton, *Set of Brit. Hierac.* no. 55 (CGE).

Planta phyllopoda. Caulis 15–24 cm altus, valde striatus, in parte basali nonnumquam purpureus, pilis aliis simplicibus longis vel longissimis (ad 6 mm longis) pallidis basi nigris, aliis stellatis inferne sparsis superne numerosioribus, aliis glanduliferis paucis vel numerosis brevissimis brevibus vel raro mediocribus obscuris vestitus. Folia saturate viridia; basalia plerumque numerosa; primigena suborbicularia, mucronulata, leviter dentata, basi abrupte contracta, petiolis brevibus; cetera dimorpha, exteriora late elliptica, mucronulata, dentata vel inciso-dentata, dentibus nonnunquam cuspidatis vel mammiformibus, basi cuneata, interiora anguste elliptica vel elliptica, plus minusve acuta, dentata vel inciso-dentata, dentibus saepe inaequalibus nonnunquam cuspidatis, basi attenuata; caulinis 1–2 bracteiformia; omnia utrinque et margine pilis simplicibus plus minusve numerosis mediocribus et longis gracilibus, et margine pilis glanduliferis plus minusve numerosis brevissimis flaviusculis vestita. Anthela capitulo unico, nonnunquam furcata, utroque ramo capitulo

unico. Involucri squamae 13–16 mm longae, 1–1·5 mm latae, ante anthesin incumbentes, atriusculo-virides, linear-lanceolatae, acutae, pilis aliis simplicibus inaequalibus longis pallidis basi nigris, aliis glanduliferis paucis brevissimis vel brevibus obscuris gracilibus obsitae. Ligulae saturate flavae, apice et in parte aversa pilis simplicibus numerosis brevissimis vel brevibus vestitae. Styli obscuri. Cypselae obscurae, circa 3·5 mm longae.

Hieracium atraticeps (Pugsl.) Sell & C. West, stat. sp. nov.

H. chrysanthum var. *microcephalum* Backh., *Mon. Brit. Hieracia*, 34 (1856) (Lectotype: Lochnagar, 1855, J. Backhouse, jun. (BM)).

H. hanburyi var. *microcephalum* (Backh.) Pugsl., *J. Linn. Soc. (Bot.)* 54, 51 (1948) quoad basionym exclud. descript.

H. hanburyi var. *atraticeps* Pugsl., *J. Linn. Soc. (Bot.)* 54, 51 (1948) (Holotype: Lochnagar, 1887, E. F. Linton (BM)).

H. chrysanthum var. *microcephalum* Backh. was based on specimens collected from Lochnagar (Aberdeen), Clova (Angus), and Striding Edge and Glaramara (Cumberland). Plants in the Backhouse herbarium from Lochnagar are *H. atraticeps* and those from Cumberland *H. subgracilentipes* (Zahn) Roffey. No Backhouse specimens from Clova have been traced, but *H. atraticeps* occurs there. It is thus safe to assume that Backhouse included within his taxon two of ours. The original diagnosis applies almost equally well to both, with perhaps a slight tendency to fit *H. atraticeps* better. In the discussion that follows the diagnosis, there is also a slight tendency to suggest that the Cumberland form is slightly aberrant. We have therefore chosen a Lochnagar plant as the lectotype. Pugsley (1948) cited as a type of *H. chrysanthum* var. *microcephalum* an E. F. Linton specimen collected at Clova in 1890. This of course is impossible by the International Code. The plant he described is a slight variation of *H. hanburyi* Pugsl. On the same page he described *H. hanburyi* var. *atraticeps* giving as its type an E. F. Linton specimen collected at Lochnagar in 1887, and citing also the specimen we have now selected as the lectotype of *H. chrysanthum* var. *microcephalum*.

In Sectione SUBALPINA Pugsl.

Hieracium diversidens Sell & C. West, sp. nov.

Ab *H. submuroro* Lindeb. squamis capitulorum brevioribus pilis glanduliferis paucioribus distinguitur.

Holotype: rocks at 1,700 ft, Allt Odhar, near Fortingal, v.c. 88, Mid-Perth, 18 July 1913, E. S. Marshall no. 3831 (CGE).

Planta phyllopoda. Caulis ad 50 cm altus, valde striatus, sparse stellato-pilosus, inferne pilis simplicibus sparsis pallidis, superne raro pilis glanduliferis paucis brevissimis vel brevibus obscuris vestitus. Folia pallide viridia; basalia pauca; primigenia suborbicularia, mucronulata, denticulata, basi abrupte contracta; cetera dimorpha, exteriora late elliptica, mucronulata, denticulata vel leviter dentata, basi abrupte contracta, interiora elliptica vel late elliptica, obtusa vel acuta, denticulata vel irregulariter dentata, dentibus nonnunquam anguste mammiformibus, basi breve cuneata vel subtruncata; caulinis 0–1, bracteiformia; omnia utrinque glabra vel pilis simplicibus paucis mediocribus, margine pilis aliis simplicibus numerosis brevibus et interdum aliis glanduliferis brevissimis flaviusculis vestita; petioli pilis simplicibus densis longis flexuosis obsiti. Anthela laxa cymosa, capitulis 1–4; pedunculi suberecti, mediocres, pilis aliis stellatis numerosis, aliis simplicibus paucis brevibus vel mediocribus obscuris, aliis glanduliferis sparsis brevissimis vel brevibus obscuris obsiti. Involucri squamae 9–10 mm longae, 1 (–1·25) mm latae, ante anthesin porrectae, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, plus minusve acutae, pilis aliis stellatis sparsis, aliis simplicibus numerosis brevibus vel mediocribus obscuris, aliis glanduliferis paucioribus brevissimis vel brevibus obscuris vestitae. Ligulae saturate flavae, apice pilis simplicibus numerosis brevissimis vestitae. Styli obscuri. Cypselae obscurae, circa 3 mm longae.

Hieracium hastiforme Sell & C. West, sp. nov.

Holotype: Cliffs, Glas Carnoch Burn [near Altguish Inn], v.c. 106, E. Ross, 24 July 1909, W. A. Shoolbred no. 716 (CGE).

Planta phyllopoda. Caulis ad 45 cm altus, gracilis, valde striatus, e basi nonnunquam purpureus, pilosus, pilis simplicibus plus minusve numerosis longis pallidis (superne basi nigris), pilis stellatis paucis, et superne pilis glanduliferis sparsis brevibus vel brevissimis obscuris vestitus. Folia pallide viridia; basalia pauca; primigena nobis ignota; plurima lanceolata, raro elliptica, plurima acuta, raro obtusa, denticulata vel dentata, dentibus saepe anguste mammiformibus, basi plus minusve cuneata, petiolis longis; caulina 1-2, inferius basalibus simile, superiorius bracteiforme; omnia superne glabra vel pilis simplicibus paucis mediocribus, inferne pilis simplicibus paucis mediocribus, caulina inferne praecipue pilis stellatis plus minusve numerosis omnia in marginibus scaberulis vel pilis simplicibus numerosis brevibus vel mediocribus vestita; petioli pilis simplicibus numerosis mediocribus longisque obsiti. Anthela cymosa, capitulis 1-3; pedunculi longi, suberecti, pilis stellatis numerosis, pilis glanduliferis numerosis brevibus brevissimisque obscuris, pilis simplicibus paucioribus brevibus mediocribusque obscuris vel basi nigris obsiti. Involuci squamae 12-13 mm longae, 1-1.5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores margine pallidae, lineares, obtusae vel subacutae, pilis aliis stellatis sparsis, aliis simplicibus valde numerosis brevissimis obscuris vestitae. Ligulae saturate luteae (fide E. S. Marshall), apice glabrae vel puberulae. Styli obscuri. Cypselae non visae.

Hieracium cuspidens Sell & C. West, sp. nov.

Ab omnibus speciebus affinibus foliis alte irregulariter dentatis distinguitur.

Holotype: Rocky gorge above a subalpine streamlet (1,400 ft), west of the road from Fortingal to Fearnan, v.c. 88, Mid-Perth, 3 July 1913, E. S. Marshall no. 3867 (CGE).

Planta phyllopoda. Caulis ad 50 (ad 60) cm altus, valde striatus, parte basali plerumque purpure, pilis aliis simplicibus numerosis mediocribus longisque pallidis (superioribus basi nigris), aliis glanduliferis subnumerosis brevissimis obscuris, superne pilis stellatis subnumerosis vestitus. Folia pallide viridia, nonnunquam purpureo-tincta; basalia pauca; primigenia suborbicularia, mucronulata, subintegra, basi rotundata; cetera plurima lanceolata, nonnunquam elliptica vel anguste elliptica, subacuta vel acuta, dentata vel inciso-dentata, dentibus inaequalibus plurimis mammiformibus vel anguste mammiformibus et saepe cuspidatis, nonnunquam ad basim dentibus longis angustis et interdum cum eis in petiolis longis descendantibus, basi cuneata; caulina 0-1, basalibus similes vel bracteiformia; omnia superne glabra vel pilis simplicibus paucis brevibus et mediocribus, inferne pilis simplicibus paucis vel subnumerosis brevibus mediocribusque, margine puberula vel pilis simplicibus plus minusve numerosis brevibus mediocribusque vestita; petioli pilis simplicibus densis mediocribus longisque obsiti. Anthela compacte cymosa, capitulis 1-3 (-9 in specim. cult.); pedunculi mediocres, suberecti, pilis aliis stellatis numerosis, aliis simplicibus plus minusve numerosis brevibus mediocribusque basi nigris, aliis glanduliferis brevissimis vel brevibus obscuris obsiti. Involuci squamae 11-13 mm longae, 1-1.5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linearilanceolatae, obtusae, pilis stellatis numerosis margine et apice, pilis aliis simplicibus plus minusve numerosis brevibus mediocribusque basi nigris et aliis glanduliferis brevissimis brevibusque vestitae. Ligulae saturate flavae (fide E. S. Marshall), apice puberulae. Styli obscuri. Cypselae obscurae, circa 3 mm longae.

Hieracium glandulidens Sell & C. West, sp. nov.

Ab *H. hyparcticoide* Pugsl. squamis involuci brevioribus, plerumque foliis latioribus cypselisque brevioribus differt.

Holotype: near Inchnadamph, v.c. 108, W. Sutherland, 18 July 1908, E. S. Marshall no. 3295 (CGE).

Planta phyllopoda. Caulis 30-60 cm altus, valde striatus, parte basali nonnunquam leviter purpureo, pilis simplicibus paucis pallidis mediocribus longisque, superne pilis

stellatis paucis et pilis glanduliferis subnumerosis brevissimis brevibusque obscuris vestitus. Folia saturata viridia; basalia plerumque pauca; primigena suborbicularia, mucronulata, subintegra, basi rotunda; cetera variabilia, late elliptica, ovata vel lanceolata, obtusa, acuta vel acuminata, glanduloso-denticulata, nonnunquam dentibus paucis mammiformibus cuspidatis, basi cuneata; caulinum 0–1, basalibus simile; omnia superne glabra vel pilis aliis simplicibus paucis mediocribus, inferne margineque et in petiolis longis pilis subnumerosis brevibus mediocribus longisque vestita. Anthela compacte cymosa, capitulis 1–5; pedunculi longi, suberecti, pilis aliis stellatis numerosis, aliis glanduliferis numerosis brevissimis brevibusque obscuris, aliis simplicibus paucis vel numerosis, brevibus basi nigris obsiti. Involucri squamae 10–12 mm longae, 1–1·5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, subacutae vel acutae, pilis stellatis margine sparsis et e apice numerosis, pilis aliis simplicibus numerosis, brevibus mediocribusque, basi nigris et aliis glanduliferis numerosis brevissimis brevibusque obscuris vestitae. Ligulae saturatae flavae, apice pilis simplicibus brevissimis paucis obsitae. Styli obscuri. Alveolae receptaculi margine longidentatae. Cypselae obscurae, circa 3 mm longae.

Hieracium chrysolorum Sell & C. West, sp. nov.

Ab *H. clovense* E. F. Linton foliis majoribus saepe ellipticioribus obtusioribus emarginatis et capitulis majoribus differt.

Holotype: Midlaw Burn, Moffat, v.c. 72, Dumfries, July 1951, C. West (CGE).

Planta phyllopoda. Caulis 18–30 cm altus, valde striatus, parte basali nonnunquam leviter purpureo-tincto, pilis aliis simplicibus subnumerosis longis pallidis (superne basi nigris), aliis stellatis paucis, superne aliis glanduliferis paucis vel numerosis brevissimis brevibusque obscuris vestitus. Folia caesio-viridia; basalia plerumque numerosa; primigena suborbicularia, mucronulata, subintegra, basi rotundata; cetera suborbicularia, ovato-elliptica vel elliptica, plurima obtusa vel subacuta, raro acuta, denticulata vel grosse dentata, dentibus obtusis vel acutis mammiformibus, basi cuneata vel abrupte contracta, raro rotundata; caulinum 0–1, lanceolatum vel anguste ellipticum, acuminatum, acute dentatum, basi abrupte contractum vel cuneatum, petiolo brevi; omnia utrinque glabra vel pilis simplicibus paucis mediocribus longisque, in marginibus petiolisque pilis simplicibus numerosis mediocribus longisque, caulina subtus pilis stellatis numerosis vestita. Anthela corymboso-cymosa, capitulis 2–6; pedunculi mediocres vel longi, suberecti, pilis aliis stellatis numerosis, aliis glanduliferis numerosis brevissimis vel brevibus obscuris, nonnunquam pilo simplice interdum mediocre basi nigro obsiti. Involucri squamae 11–13 mm longae, 1–1·5 mm latae, ante anthesin incumbentes, interiora marginibus pallidioribus, linear-lanceolatae, obtusae vel subacutae, pilis aliis stellatis paucis, aliis glanduliferis numerosis inaequalibus brevissimis brevibusque mediocribusque obscuris, pilis simplicibus aliquando mediocribus basi nigris vestitae. Ligulae flavae, glabrae. Styli flavi. Cypselae non visae.

Hieracium nigrisquamum Sell & C. West, sp. nov.

Ab *H. dasythrice* (E. F. Linton) Pugsl. squamis involucri longioribus pilis aliis simplicibus paucioribus obscurioribus aliis stellatis paucioribus, aliis glanduliferis numerosioribus vestitis differt.

Holotype: On rocks, at about 2,500 ft, Coire nan Gall, north of Loch Laggan, v.c. 97, W. Inverness, 7 August 1916, E. S. Marshall no. 4308 (CGE).

Planta phyllopoda. Caulis 30–55 cm altus, valde striatus, parte basali plerumque leviter purpureo, pilis aliis stellatis sparsis, aliis simplicibus paucis mediocribus vel longis pallidis (superne basi nigris) et superne aliis glanduliferis paucissimis brevibus vel brevissimis obscuris vestitus. Folia medio-viridia, nonnunquam purpureo-tincta; basalia pauca vel numerosa; primigena suborbicularia, mucronulata, subintegra, basi rotunda; cetera plerumque elliptica vel late elliptica, raro lanceolata, plurima subacuta, interdum obtuso-mucronulata vel acuta; plerumque denticulata, nonnunquam integra vel ad basim dentibus paucis parvis, basi cuneata vel abrupte contracta, petiolis longis; caulinum 0–1 (–2), plerumque

bracteiformia, sed nonnunquam basalibus similia; omnia superne glabra vel pilis simplicibus paucis brevibus vel mediocribus, inferne et margine pilis simplicibus numerosioribus mediocribus vel longis, margine pilis glanduliferis paucis brevissimis flaviusculis, nonnunquam utrinque pilis stellatis paucis vestita; petioli pilis simplicibus longis obsiti. Anthela laxe cymosa, capitulis 2–8, nonnunquam ramum ex axilla folii caulinis superioris emittens; pedunculi plerumque longi, pilis aliis stellatis numerosis vel densis, aliis simplicibus numerosis brevibus vel mediocribus obscuris et aliis glanduliferis paucis vel numerosis brevibus vel brevissimis obscuris obsiti. Involuci squamae 10–12 mm longae, 1–1.25 mm latae, ante anthesin porrectae vel incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, obtusae vel acutae, pilis aliis stellatis paucis, aliis simplicibus numerosis mediocribus vel longis obscuris, aliis glanduliferis plus minusve numerosis brevibus vel mediocribus obscuris vestitae. Ligulae pallide flavae, apice pilis simplicibus numerosis brevissimis obsitae. Styli obscuri. Cypselae obscurae, 4–4.25 mm longae.

Hieracium pseudanglicoides J. E. Raven, Sell & C. West, sp. nov.

Ab *H. pseudanglico* Pugsl. squamis involucri brevioribus foliisque angustioribus pilis stellatis vestitis differt, praeterea ab plantis parvis *H. flocculosi* Backh. squamis involucri plerumque brevioribus pilis aliis glanduliferis numerosioribus et aliis simplicibus pallidioribus vestitis, plerumque foliis angustioribus cypselisque longioribus distinguitur.

Holotype: Rock ledges, corry of Ben Dourain, v.c. 98, Argyll, G.R. 27/330382, July 1953, M. C. F. Proctor & K. M. Goodway no. G3/94 (CGE).

Planta phyllopoda. Caulis 10–50 cm altus, valde striatus, plerumque parte basali leviter purpureo, pilis aliis simplicibus paucis mediocribus vel longis pallidis, aliis stellatis paucis, et superne nonnunquam aliis glanduliferis brevibus vel brevissimis vestitus. Folia pallide viridia, raro purpureo-tincta; basalia pauca vel numerosa; primigena late elliptica, obtuso-mucronulata, integra, basi rotundata; cetera plerumque anguste elliptica, nonnunquam elliptica, obtusa, subacuta vel nonnunquam acuta, plerumque integra, raro dentibus parvis paucis, basi cuneata; caulinis 1–2 (–3), basalibus similia vel bracteiformia; omnia superne pilis simplicibus nullis vel utrinque pilis simplicibus plus minusve numerosis mediocribus vel longis et pilis stellatis numerosis, in marginibus petiolisque pilis simplicibus numerosis mediocribus vel longis vestita. Anthela laxe cymosa, capitulis 1–2 (–10), raro ramum longum ex axillo folii caulinis superioris emittens; pedunculi longi, erecti, pilis aliis stellatis subnumerosis, aliis glanduliferis numerosis brevissimis vel brevibus obscuris, aliis simplicibus subnumerosis brevibus mediocribus longisque obscuris obsiti. Squamae 10–13 mm longae, circa 1 mm latae, ante anthesin porrectae, atriusculo-virides, nonnunquam interiores marginibus pallidioribus, apice pilis aliis stellatis densis et ad basim aliis stellatis paucis, pilis aliis simplicibus numerosis brevibus mediocribusque obscuris, aliis glanduliferis numerosis brevissimis vel brevibus obscuris vestitae. Ligulae pallide flavae, apice glabro vel puberulo. Styli obscuro. Cypselae obscurae, circa 5 mm longae.

This species was first recognized as new, and the epithet suggested by J. E. Raven, who has joined us as a co-author in describing it.

In Sectione CERINTHOIDEA Koch

Hieracium magniceps Sell & C. West, sp. nov.

Ab *H. trico* Fries pilis paucioribus foliis late illippticis differt; praeterea ab *H. langwelense* F. J. Hanb. in patibus omnibus majoribus distinguitur.

Holotype: Grassy bank of the Shee Water, near the Spittal of Glen Shee, E. Perth, v.c. 89, 19 July 1959, N. D. Simpson, P. D. Sell & C. West (CGE).

Planta phyllopoda. Caulis ad 60 cm altus, robustus, plerumque parte basali purpureo, pilis aliis simplicibus paucis vel subnumerosis longis pallidis nonnunquam basi nigris, aliis stellatis rarissimis vestitus; pili glanduliferi nulli. Folia medio-viridia; basalia pauca; primigena non visa; cetera magna, late elliptica, obtusa vel acuta, leviter undulato-dentata, basi

attenuata; caulina 2–4, magna, basalibus similia; omnia utrinque et margine pilis simplicibus dispersis nonnunquam fere setiformibus pallidis mediocribus vestita; petioli longi alati pilis simplicibus pallidis mediocribus vel longis obsiti. Anthela furcato-cymosa, capitulis 5–6; pedunculi plerumque longi, suberecti, pilis aliis stellatis numerosis, aliis simplicibus brevibus mediocribus vel longis pallidis basi nigris, aliis glanduliferis paucis brevissimis vel brevibus obscuris obsiti. Involuci squamae 12–15 mm longae, circa 1·5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, subacutae vel acutae, pilis aliis stellatis numerosis praecipue in marginibus, aliis simplicibus numerosis pallidis basi nigris brevibus mediocribus vel longis, aliis glanduliferis paucis brevissimis obscuris vestitae. Ligulae saturate flavae, apice pilis simplicibus numerosis brevissimis obsitae. Styli obscuri. Cypselae non visae.

In Sectione OREADEA Zahn

Hieracium praetermissum Sell & C. West, sp. nov.

Ab *H. ebudico* Pugsl., *H. sarcophylloide* Dahlst. et *H. caledonico* F. J. Hanb. facie simile squamis capitularum pilis stellatis numerosioribus vestitis differt.

Holotype: Limestone cliffs, 3–4 miles east of Durness, v.c. 108, W. Sutherland, 7 June 1900, E. S. Marshall no. 2336 (CGE).

Planta phyllopoda. Caulis ad 40 cm altus, plerumque parte basale purpureo, pilis aliis simplicibus dispersis (raro numerosis) pallidis longis, aliis stellatis dispersis vestitus. Folia medio-caesio-viridia, plerumque superne maculis brunneo-purpureis magnis et parvis ornata, inferne purpureo-tincta; basalia numerosa; primigena suborbicularia, mucronulata, subintegra, basi rotundata, cetera ovata vel elliptica, nonnunquam lanceolata, plerumque obtuso-mucronata, nonnunquam acuta, raro cuspidata, plerumque dentata, raro denticulata, dentibus inaequalibus ascendentibus acutis apiculatis plerumque basi cuneata, sed in paucis locis basi subtruncata, nonnunquam dentibus in petiolis descendebus; caulinum plerumque –1, in caule inferno basalibus simile petiolatum, raro 0; omnia superne glabra vel pilis simplicibus dispersis pallidis mediocribus raro fere setiformibus, inferne et margine pilis simplicibus plus minusve numerosis pallidis mediocribus vestita, petioli pilis simplicibus densis longis obsiti. Anthela anguste cymosa, capitulis 2–9; pedunculi mediocres vel longi, suberecti, pilis aliis stellatis numerosis, aliis glanduliferis paucis brevissimis obscuris, aliis simplicibus paucis pallidis interdum basi nigris brevibus, pilis glanduliferis simplicibusque raro numerosioribus. Involuci squamae 12–14 mm longae, 1–1·5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, plerumque obtusae, raro subacutae, pilis aliis stellatis numerosis praecipue ad margines et apicem, aliis simplicibus plus minusve densis pallidis basi nigris mediocribus vel longis, aliis glanduliferis paucis brevissimis vel brevibus obscuris vestitae. Ligulae saturate flavae, apice pilis simplicibus brevissimis obsitae. Styli obscuri. Receptaculi alveoli margine longe dentati. Cypselae obscurae, circa 4 mm longae.

In Sectione VULGATA F. N. Williams

Hieracium pruinale (Zahn) Sell & C. West, stat. sp. nov.

H. murorum subsp. *pruinale* Zahn in Engler, *Pflanzenreich* 76 (IV, 280), 328 (1921).

H. euprepes var. *pruiniferum* W. R. Linton, *Brit. Hieracia*, 57 (1905).

Hieracium discophyllum Sell & C. West, sp. nov.

Ab *H. asteridiophyllum* Sell & C. West foliis suborbiculariis pilis stellatis nullis differt, praeterea ab *H. pellucido* Laest. simili squamis capitularum longioribus pilis simplicibus glanduliferisque vestitis distinguitur.

Holotype: Pwll Byfre, v.c. 42, Brecon, 10 July 1929, H. J. Riddelsdell (CGE).

Planta phyllopoda. Caulis ad 40 cm altus, robustus, plerumque parte basale purpureo, pilis aliis simplicibus interdum pallidis mediocribus vel longis, aliis stellatis dispersis

vestitus. Folia flaviusculo-viridia, supra maculis minutis brunneo-purpureis ornata, subter purpureo-tincta; basalia pauca vel numerosa; primigena suborbicularia, mucronulata, integra vel denticulata, basi rotundata; cetera suborbicularia, ovata vel late elliptica, obtuse-mucronulata, regulariter denticulata e basi dentibus leviter altis apiculatis, dentibus nonnunquam in petiolis descendantibus; basi rotundata vel subtruncata; caulinis 1 (–2), basalibus similes, petiolata; omnia superne glabra, inferne pilis simplicibus dispersis brevibus vel mediocribus pallidis vestita; petioli pilis simplicibus numerosis longis pallidis obsiti. Anthela late cymoso-corymbosa, capitulis 3–23; pedunculi mediocres, suberecti, pilis aliis stellatis densis, aliis glanduliferis dispersis brevissimis obscuris, aliis simplicibus paucis brevibus pallidis obsiti. Involuci squamae 9–11 mm longae, 1·25–1·5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linearilanceolatae, abrupte angustatae ad apices obtusae vel subacutae, pilis aliis stellatis numerosis praecipue in marginibus apicibusque, aliis glanduliferis numerosis brevibus vel brevissimis obscuris, aliis simplicibus paucioribus brevibus vel mediocribus vestitae. Ligulae saturate flavae, glabrae. Styli obscuri. Receptaculi alveoli margine longe dentati. Cypselae obscurae, 3·5–4 mm longae.

Hieracium piligerum (Pugsley) Sell & C. West, stat. sp. nov.

H. variicolor var. *piligerum* Pugsley, *J. Linn. Soc. (Bot.)* 54, 156 (1948).

Hieracium mucronellum Sell & C. West, sp. nov.

Ab *H. maculoso* (Stenström) Omang caulibus pilis simplicibus destitutis, foliis pedunculisque pilis paucioribus vestitis, et foliis praecipue obtusioribus distinguitur.

Holotype: Near Bettyhill, v.c. 108, W. Sutherland, 6 July 1951, J. E. Raven (CGE).

Planta phyllopoda. Caulis ad 50 cm altus, gracilis, flexuosus, valde striatus, parte basali saepe leviter purpureo, superne pilis stellatis dispersis, pilis simplicibus glanduliferis que nullus. Folia medio- vel obscure viridia, superne maculis minutis brunneo-purpureis conspersa, inferne purpureo-tincta; basalia numerosa; primigena ovata, obtuso-mucronata, subintegra, basi rotundata; cetera variabilia, elliptica, late elliptica, ovata, oblonga vel lanceolata, obtuso-mucronulata vel acuta, leviter apiculato-dentata vel mammiforme-dentata, basi subtruncata, dentibus in petiolis nonnunquam descendantibus; caulinis 0–1, in parte basali caulis divaricatum, lanceolatum, longe acutum, petiolatum, dentatum omnia plerumque superne glabra, inferne et in marginibus pilis simplicibus dispersis mediocribus vel longis pallidis vestita; petioli pilis simplicibus densis longis obsiti. Anthela compacte cymosa, capitulis 2–8; pedunculi mediocres vel longi, suberecti, pilis aliis stellatis densis, aliis glanduliferis dispersis brevissimis obscuris, aliis simplicibus nullis. Involuci squamae 9–10 mm longae, 0·75–1 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, anguste linearilanceolatae, subacutae vel acutae, pilis aliis stellatis dispersis, aliis glanduliferis numerosis brevissimis obscuris, aliis simplicibus numerosis brevibus obscuris vestitae. Ligulae pallide flavae, glabrae. Styli obscuri. Receptaculi alveoli margine breviter dentati. Cypselae obscurae, 2·5–3 mm longae.

Hieracium pauculidens Sell & C. West, sp. nov.

Holotype: Abundant on grassy slopes of the coast, Skerray, W. Sutherland, v.c. 108, 23 June 1900, E. S. Marshall, no. 2327 (CGE).

Planta phyllopoda. Caulis ad 55 cm altus, valde striatus, parte basali leviter purpureo, pilis aliis simplicibus paucis pallidis brevibus vel mediocribus, aliis stellatis paucis vel numerosis, superne aliis glanduliferis paucis brevibus obscuris vestitus. Folia medio-viridia, saepe purpureo-tincta; basalia plerumque pauca; primigena suborbicularia, mucronulata, subintegra, basi plus minusve rotundata; cetera ovata vel late elliptica, obtuso-mucronulata vel cuspidata, subintegra, minute denticulata vel raro dentibus paucis, basi inaequaliter rotundata vel subtruncata; caulinis 0 vel raro 1, lanceolata, longe acuta, subintegra, basi cuneata, petiolata; omnia utrinque et in marginibus pilis simplicibus plus minusve numerosis mediocribus pallidis vestita, petioli pilis simplicibus densis mediocribus vel longis obsiti;

caulina inferne pilis stellatis dispersis vestita. Anthela compacte cymosa, capitulis 2–6; pedunculi breves vel mediocres, pilis aliis stellatis numerosis, aliis glanduliferis numerosis brevibus obscuris, aliis simplicibus paucioribus basi nigris obsiti. Involuci squamae 9–10·5 mm longae, circa 1 mm latae, ante anthesin plus minusve incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, obtusae vel acutae, pilis aliis stellatis dispersis praecipue ad marginem, aliis glanduliferis numerosis brevibus vel brevissimis, aliis simplicibus numerosis pallidis basi nigris brevibus vel mediocribus vestitae. Ligulae pallide luteae, glabrae. Styli flavi. Receptaculi alveoli margine breviter dentati. Cypselae obscurae, circa 3·5 mm longae.

Hieracium variifolium Sell & C. West, sp. nov.

Ab *H. anguino* (W. R. Linton) Roffey foliis latioribus magis dentatis capitulis numerosioribus squamis involucri vestitis differt; praeterea ab *H. prolico* Nörrl. (facie simili) pedunculis pilis simplicibus numerosioribus vestitis, squamis involucri longioribus et capitulis angustioribus distinguitur.

Holotype: Rocks just above the road at Coldbackie, v.c. 108, W. Sutherland, G.R. 29/ 612599, 8 June 1965, J. N. Mills & C. West (CGE).

Planta phyllopoda. Caulis ad 40 cm altus, inferne nonnunquam leviter purpureus pilis aliis simplicibus paucis mediocribus vel longis, pallidis, aliis stellatis paucis, aliis glanduliferis paucis brevissimis obscuris vestitus. Folia medio-viridia, superne plerumque maculis magnis et parvis purpureo-brunneis ornata, inferne purpureo-tincta; basalia numerosa; primigenia subrotunda, mucronulata, minute denticulata, basi rotundata; cetera variabilia, ovata vel late elliptica, obtuso-mucronulata vel acuta, saepe cuspidata, denticulata vel dentata, dentibus saepe anguste vel late mammiformibus, inferioribus saepe unguiculato-mammiformibus, basi inaequaliter subtruncata vel rotundata, dentibus nonnunquam in petiolis descendantibus; caulinum 0 (vel 1), lanceolatum, longe acutum, leviter dentatum, petiolatum; omnia superne glabra, inferne et margine pilis simplicibus pallidis mediocribus vestita; petioli pilis simplicibus densis longis obsiti, caulina pilis stellatis paucis vestita. Anthela anguste cymosa, capitulis 2–5 (–8); pedunculi mediocres vel longi, suberecti, praecipue accladio brevi, pilis aliis stellatis plus minusve numerosis, aliis glanduliferis numerosis brevibus obscuris, aliis simplicibus numerosis pallidibus nigribasibus brevibus vel mediocribus obsiti. Involuci squamae 12–15 mm longae, circa 1 mm latae, ante anthesin porrectae ad apicem incurvatae, atriusculo-virides, interiores marginibus pallidioribus vel viridiunculae, anguste linear-lanceolatae, subacutae vel acutae, pilis aliis stellatis sparsis, aliis glanduliferis numerosis brevissimis vel brevibus obscuris, aliis simplicibus numerosis obscuris vel basi nigris brevibus vel mediocribus vestitae. Ligulae saturate flavae, apice puberulae. Styli obscuri. Receptaculi alveoli breviter dentati. Cypselae obscurae, circa 4 mm longae.

Hieracium maculoides Sell & C. West, sp. nov.

H. maculosum (Stenstrom) Omang, *H. maculatum* Sm. et *H. glanduliceps* Sell & C. West quoad faciem simulat. Ab *H. maculoso* ambitu et dentibus foliorum et squamis longioribus differt; praeterea ab *H. maculato* et *H. glandulicipite* squamis capitulorum pilis simplicibus numerosis vestitis distinguitur.

Holotype: Scaurs above Dale Beck, Ingleborough, v.c. 64, M.W. Yorks, 7 July 1902, A. Ley (CGE).

Planta phyllopoda. Caulis ad 35 cm altus, nonnunquam parte basali leviter purpureo, pilis aliis simplicibus paucis vel numerosis mediocribus vel longis pallidis, aliis stellatis dispersis vestitus; pili glanduliferi nulli. Folia pallide viridia, superne maculis magnis parvisque purpureo-brunneis ornata, inferne saepe purpureo-tincta; basalia plerumque pauca; primigenia suborbicularia, mucronulata, subintegra, basi rotundata; cetera ovata, lanceolata, elliptica vel late elliptica, obtusa vel acuta, basi cuneata, denticulata vel dentata, dentibus saepe apiculatis; caulina 0–2 (–3), inferiora basalibus similia, superiora linearia vel bracteiformia; omnia utrinque et margine pilis simplicibus paucis vel numerosis pallidis

mediocribus vestita, petioli mediocres pilis simplicibus densis pallidis longis obsiti. Anthela anguste compacteque cymosa, capitulis 1–6; pedunculi mediocres vel longi, suberecti, pilis aliis stellatis densis, aliis simplicibus paucis vel numerosis pallidis nonnunquam basi nigris brevibus vel mediocribus, aliis glanduliferis paucioribus brevissimis vel brevibus obscuris obsiti. Involuci squamae 10–12 mm longae, circa 1 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, linear-lanceolatae, subacutae vel acutae, pilis aliis stellatis dispersis, aliis simplicibus numerosis mediocribus vel longis pallidis basi nigris raro aliis glanduliferis paucis brevissimis obscuris vestitae. Ligulae flavae, apice puberulae. Styli obscuri. Receptaculi alveoli margine longe dentati. Cypselae obscurae, circa 4 mm longae.

Hieracium glanduliceps Sell & C. West, sp. nov.

Ab *H. maculato* Sm. foliis basi abrupte contractis vel subtruncatis et squamis involuci pilis glanduliferis inaequalibus differt, praeterea ab *H. maculoso* (Stenström) Omang et *H. maculoides* Sell & C. West facie simile praecipue foliis caulinis et squamis capitulorum pilis glanduliferis inaequalibus vestitis distinguitur.

Holotype: Keld Head Scaur, Ingleton, v.c. 64, M.W. Yorks, 2 July 1903, A Ley (CGE).

Planta phyllopora. Caulis ad 40 cm altus, valde striatus, flexuous, pilis aliis simplicibus numerosis mediocribus vel longis pallidis, aliis stellatis dispersis, aliis glanduliferis nullis. Folia obscure viridia, superne maculis magnis parvisque purpureis ornata, utrinque purpureo-tincta; basalia pauca vel numerosa; primigena subrotundata, mucronulata, basi rotunda; cetera ovata, ovato-lanceolata, vel raro oblonga, obtuse mucronulata vel acuta, denticulata vel dentata, dentibus unguiculato-mammiformibus vel mammiformibus, basi abrupte contracta vel subtruncata; caulina 1–3, infima basalibus similia petiolataque, superiora lanceolata vel linearia, acuta, dentata ut in foliis basalibus, sessilia; omnia superne glabra vel utrinque et margine pilis simplicibus paucis vel numerosis pallidis mediocribus vestita; petioli pilis simplicibus densis mediocribus vel longis pallidis obsiti. Anthela anguste cymosa, nonnunquam ramum longum ex axilla folii caulinis superioris emittens; capitulis 1–8 (–10); pedunculi mediocres vel longi, suberecti, pilis aliis stellatis numerosis, aliis glanduliferis numerosis brevissimis obscuris, aliis simplicibus paucis vel numerosis brevibus obscuris vestiti. Involuci squamae 10–11 mm longae, circa 1 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, anguste linear-lanceolatae, subacutae vel acutae, pilis aliis stellatis dispersis, aliis glanduliferis numerosis brevissimis brevibus et mediocribus obscuris, aliis simplicibus paucis mediocribus obscuris vestitae. Ligulae flavae, glabrae. Styli obscuri. Receptaculi alveoli margine breviter dentati. Cypselae obscurae, 3–3.5 mm longae.

In Sectione TRIDENTATA F. N. Williams

Hieracium sparsifrons Sell & C. West, nom. nov.

H. sparsifolium var. *oligodon* E. F. Linton ex W. R. Linton, *Brit. Hieracia*, 78 (1905).

H. oligodon (E. F. Linton ex W. R. Linton) Pugsl., *J. Ecol.* 33, 346 (1946), non Naeg. & Peter, *Hier. Mittel-Eur.* 2, 51 (1886).

Hieracium ornatilorum Sell & C. West, sp. nov.

Ab *H. eboracense* Pugsl. squamis involuci alio modo vestitis distinguitur.

Holotype: Great Scar Limestone, Grassington, v.c. 64, M.W. Yorks, 570 ft alt., 11 August 1909, J. Cryer (CGE).

Planta aphyllopoda. Caulis ad 110 cm altus, nonnunquam leviter purpureus, pilis aliis simplicibus sparsis brevibus mediocribus vel longis pallidis, aliis stellatis paucis vestitus. Folia ?obscure viridia; omnia caulinis, 10–17, inferiora mediaque elliptica, obtusa vel subacuta, dentata, basi cuneata, plerumque sessilia, raro breviter petiolata; superiora ovata vel lanceolata, acuta, acute alteque dentata, basi rotundata, sessilia; omnia

utrinque glabra vel pilis simplicibus paucis pallidis mediocribus, margine pilis simplicibus subnumerosis pallidis mediocribus vestita. Anthela divaricata cymosa, capitulis 2–12; pedunculi mediocres vel raro longi, divaricati, pilis aliis stellatis densis, aliis simplicibus paucis brevibus vel mediocribus pallidis, raro aliis glanduliferis brevissimis obscuris obsiti. Involucri squamae 11–13 mm longae, circa 1·5 mm latae, ante anthesin incumbentes, atriusculo-virides, interiores marginibus pallidioribus, sublineares, obtusae, pilis aliis simplicibus paucis brevibus vel mediocribus obscuris, aliis glanduliferis paucioribus brevissimis bel brevibus obscuris vestitae. Ligulae ? saturate flavae, glabrae. Styli obscuri. Receptaculi alveoli margine ? breviter dentati. Cypselae obscurae, circa 3·5 mm longae.

In Sectione UMBELLATA F. N. Williams

HIERACIUM UMBELLATUM L., *Sp. Pl.*, 804 (1753).

subsp. *bichlorophyllum* (Druce & Zahn) Sell & C. West, comb. nov.

H. laevigatum subsp. *bichlorophyllum* Druce & Zahn, *Rep. Bot. Exch. Club Brit. Isl.* 9, 561 (1932 for 1931).

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PILOSELLA Hill, *Brit. Herb.*, 441 (1756).

The reasons for recognizing *Pilosella* as a distinct genus will be given in a later paper.

PILOSELLA PELETERANA (Mérat) C. H. & F. W. Schultz

subsp. *PELETERANA*

Hieracium peleterianum Mérat, *Nouv. Fl. Env. Par.*, 305 (1812).

P. peleteriana (Mérat) C. H. & F. W. Schultz, *Flora (Regensb.)* 45, 421 (1862).

subsp. *tenuiscapa* (Pugsl.) Sell & C. West, comb. et stat. nov.

Hieracium peleterianum var. *tenuiscapum* Pugsl., *J. Linn. Soc. (Bot.)* 54, 313 (1948).

PILOSELLA OFFICINARUM C. H. & F. W. Schultz

subsp. *concinnata* (F. J. Hanb.) Sell & C. West, comb. et stat. nov.

Hieracium pilosella var. *concinnatum* F. J. Hanb., *Ill. Mon. Brit. Hier.*, 6 (1889).

subsp. *OFFICINARUM*

Hieracium pilosella L., *Sp. Pl.*, 800 (1753).

Hieracium repens S. F. Gray, *Nat. Arr. Brit. Pl.* 2, 421 (1821) nom. superfl. illegit. pro *H. pilosella* L., non *H. repens* Willd., *Sp. Pl.* 3 (3), 1564 (1803).

H. canum Vuk., *Hierac. Croatica*, 6 (1858), nom. superfl. illegit. pro *H. pilosella* L.

Pilosella officinarum C. H. & F. W. Schultz, *Flora (Regensb.)* 45, 421 (1862), nom. nov. pro *Hieracium pilosella* L.

subsp. *nigrescens* (Fries) Sell & C. West, comb. nov.

H. pilosella var. *nigrescens* Fries, *Symb. Hist. Hierac.*, 2 (1848).

subsp. *tricholepia* (Naegeli & Peter) Sell & C. West, comb. nov.

H. pilosella subsp. *tricholepium* Naegeli & Peter, *Hierac. Mitt.-Eur.* 1, 138 (1885).

subsp. *trichoscapa* (Naegeli & Peter) Sell & C. West, comb. nov.

H. pilosella subsp. *trichoscapum* Naegeli & Peter, *Hierac. Mitt.-Eur.* 1, 133 (1885).

Pilosella flagellaris (Willd.) Sell & C. West, comb. nov.,

subsp. *flagellaris*

Hieracium flagellare Willd., *Enum. Pl. Hort. Berol. Suppl.*, 54 (1814, dated 1813).

Planta ad 35 cm alta, capitulis 2–4 (–7); pedunculi pilis simplicibus plus minusve numerosis ad 2 raro 3 mm longis obsiti; squamae involucri pilis simplicibus paucis vel subnumerosis ad 1·5 mm longis vestitae.

Naturalized in a few localities in great Britain, widespread in Continental Europe.

subsp. **bicapitata** Sell & C. West, subsp. nov.

Holotype: North-west of Hoove, Zetland, v.c. 112, 27 June 1963, W. Scott (CGE).

Planta ad 18 cm alta, saepe capitulis 2; pedunculi pilis simplicibus, numerosis ad 7.5 mm longis obsiti; squamae capitulorum pilis simplicibus densis ad 2.5 mm longis vestitae.

Known only from Zetland where it is apparently native. If native, the only taxon in the genus indigenous to the Islands.

Pilosella lactucella (Wallr.) Sell & C. West, comb. nov.

subsp. **lactucella**

Hieracium lactucella Wallr., *Sched. Crit.* **1**, 408 (1822).

subsp. **helveola** (Dahlst.) Sell & C. West, comb. nov.

H. floribundum subsp. *helveolum* Dahlst., *Hierac. Exsicc.* **4**, nos. 14 & 15 (1891); *Acta Hort. Berg.* **2** (4), 13 (1894).

Pilosella caespitosa (Dumort.) Sell & C. West, comb. nov.

Hieracium caespitosum Dumort., *Fl. Belg.*, 62 (1827).

Hieracium pratense Tausch., *Flora (Regensb.)* **11** Erg., 56 (1828).

subsp. **colliniformis** (Naegeli & Peter) Sell & C. West, comb. nov.

Hieracium collinum subsp. *colliniforme* Naegeli & Peter, *Hierac. Mitt.-Eur.* **1**, 308 (1885).

PILOSELLA AURANTIACA (L.) C. H. & F. W. Schultz

subsp. **AURANTIACA**

Hieracium aurantiacum L., *Sp. Pl.*, 801 (1753).

P. aurantiaca (L.) C. H. & F. W. Schultz, *Flora (Regensb.)* **45**, 426 (1862).

subsp. **brunneocrocea** (Pugsley) Sell & C. West, comb. et stat. nov.

Hieracium brunneocroceum Pugsley, *J. Bot., Lond.* **59**, 67 (1921).

PILOSELLA PRAEALTA (Vill. ex Gochnat) C. H. & F. W. Schultz

subsp. **PRAEALTA**

Hieracium praealtum Vill. ex Gochnat, *Tent. Pl. Cich.*, 17 (1808).

P. praealta (Vill. ex Gochnat) C. H. & F. W. Schultz, *Flora (Regensb.)* **45**, 429 (1862).

subsp. **arvorum** (Naegeli & Peter) Sell & C. West, comb. nov.

Hieracium magyaricum subsp. *arvorum* Naegeli & Peter, *Hierac. Mitt.-Eur.* **1**, 586 (1885).

subsp. **spraguei** (Pugsley) Sell & C. West, comb. et stat. nov.

Hieracium spraguei Pugsley, *J. Linn. Soc. London (Bot.)* **54**, 328 (1948).

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POTAMOGETON BERCHTOLDII × **NATANS** = *P. × variifolius* Thore, *Essai Chlor. Dép. Landes*, 47 (1803) ("varii-folius") (pro sp.).

P. gramineus subsp. *variifolius* (Thore) Nyman, *Consp. Fl. Eur.*, 682 (1882).

P. natans × *trichoides* Hagstr., *K. Svenska Vetensk. Handl., N.F.* **55** (5), 193 (1916).

P. javanicus subsp. *variifolius* (Thore) P. Fourn., *Quatre Fl. Fr.*, 140 (1935).

This remarkable hybrid was first described (as a species) by Thore from Dép. Landes in south-west France; it occurs also in the adjoining Dép. Gironde. It was unknown from outside this area until a plant apparently identical with it in all respects was discovered in Ireland by D. McClintock in August 1957, in the Glenamoy River below Glenamoy Bridge, West Mayo (v.c. H 27) (BM). The same plant was again found in the Glenamoy River by A. C. Jermy on 18 July 1962 (BM), growing in company with *P. natans* in a side eddy away from the fast-flowing stream.

P. × variifolius has always been a botanical puzzle. Shortly after its original description De Candolle, in Lam. & DC., *Fl. Fr.* ed. 3, 3, 184 (1805), referred it to *P. fluitans*, as also did A. Bennett, *J. Bot., Lond.* 29, 75 (1891). Nyman (1882), however, treated it as a subspecies of *P. gramineus*, and it was placed in the synonymy of that species by K. Richter, *Pl. Eur.* 1, 13 (1890). Graebner, in his monograph of *Potamogeton* in Engler, *Pflanzenr.* 4 (11), 48 (1907), treated it as a 'Planta dubia' apparently related to the tropical and subtropical *P. octandrus* (*P. javanicus*); and P. Fournier (1935), following this up, went so far as to recognize it formally as a subspecies of *P. javanicus*.

The idea that *P. × variifolius* is in any way closely allied to *P. octandrus* is quite fanciful. In fact, as Hagström (1916) pointed out, the plant is sterile and must be of hybrid origin. Such an origin had been suggested by Rouy, *Fl. Fr.* 13, 304 (1912), with *P. polygonifolius* and *P. gramineus* as putative parent species. Hagström, however, rejected this suggested parentage, stating that the leaf characters 'point in the direction of *P. natans* and some narrow-leaved species'. After discussing the plant further he decided that the narrow-leaved parent must be *P. trichoides* and he accordingly treated *P. × variifolius* as *P. natans* × *trichoides*.

We are in full agreement with Hagström that *P. × variifolius* must be a hybrid between *P. natans* and one of the narrow-leaved ('pusilloid') species. It has floating leaves which, though much smaller, resemble those of *P. natans* and often show an indication of the discoloured joint at the top of the petiole which is characteristic of that species, and it has numerous narrowly linear submerged leaves which resemble the phyllodes of *P. natans* though more delicate in texture and with a nervation suggesting the influence of one of the 'pusilloid' species. Surprising though such a combination of parents may be, we can think of no other explanation for the origin of *P. × variifolius*; but while in accord with Hagström on this point we have always had doubts about his choice of *P. trichoides* as the 'pusilloid' parent. *P. × variifolius*, like *P. natans*, has four-carpellate flowers, whereas in *P. trichoides* the number of carpels is normally reduced to one (rarely two or three). Hagström mentioned this point, but regarded it as an instance where '*P. natans* is prevailing over *P. trichoides*'. Our own investigations have shown, however, that in hybrids between *P. trichoides* and four-carpellate species the number of carpels is reduced to 1–3, as in *P. crispus* × *trichoides* (*P. × bennettii*) and *P. pusillus* × *trichoides* (*P. × grovesii*; see below), and if *P. × variifolius* were *P. natans* × *trichoides* we should expect a similar reduction.

The discovery of *P. × variifolius* in West Mayo confirms our doubts about the parentage *P. natans* × *trichoides*, for *P. trichoides* is not known from Ireland, and we have no reason to suppose that the hybrid has not arisen *in situ* in West Mayo where it occurs along with *P. natans*. We conclude, therefore, that the 'pusilloid' parent must be a species other than *P. trichoides*, and the only possibilities are *P. berchtoldii* and *P. obtusifolius*, both of which have four-carpellate flowers and open stipules as in *P. × variifolius*. We can see no sign of any influence of *P. obtusifolius* in the hybrid, but the venation of the submerged leaves strongly suggests *P. berchtoldii*, a common and widely distributed species which occurs in West Mayo. The formula *P. berchtoldii* × *natans* is therefore here proposed for *P. × variifolius*.

POTAMOGETON ALPINUS × LUCENS = *P. × nerviger* Wolfgang. in J. A. & J. H. Schult., *Mant.* 3, 359 (1827) (pro sp.).

P. rufescens var. *nerviger* (Wolfg.) Nyman, *Consp. Fl. Eur.*, 681 (1882).

P. rufescens subsp. *nerviger* (Wolfg.) K. Richter, *Pl. Eur.* 1, 12 (1890).

P. alpinus subvar. *nerviger* (Wolfg.) Ascherson & Graebner, *Syn. Mitteleur. Fl.*, 1, 311 (1897).

P. alpinus × *praelongus* Hagstr., *K. Svenska Vetensk. Handl.*, N. F. 55 (5), 149 (1916)
pro parte, excl. pl. angl.

P. alpinus × *heterophyllus* Galenis, *Lietuvos TSR Fl.* 2, 63 (1963).

The hybrid *P. alpinus* × *lucens* is known in the British Isles only from the River Fergus in Clare (v.c. H 9), where it was discovered above Inchiquin Lough by J. G. Dony

on 3 August 1947 (BM) and re-collected by him on 30 July 1948 (BM); it was also collected above Poplar Bridge, Killinaboy, by G. Taylor on 31 August 1962 (BM).

P. × nerviger Wolfgang was originally described (as a species) from Lithuania. During the last century it was variously treated as a variety, subspecies or subvariety of *P. alpinus* (*P. rufescens*), and its affinity with that species is obvious. In 1907 G. Fischer, *Ber. Bayer. Bot. Ges.* **11**, 46, suggested that it might be the hybrid *P. alpinus* × *lucens* though he could find no anatomical confirmation for this. Hagström (1916) made no comment on Fischer's suggestion but identified Wolfgang's Lithuanian plant with the British *P. × griffithii* under the formula *P. alpinus* × *praelongus*. As already explained in *J. Bot., Lond.* **77**, 280 (1939), we believe this formula to be correct for *P. × griffithii*, but not for *P. × nerviger*, which, following Fischer's suggestion, we accept as *P. alpinus* × *lucens*. Recently Galenis (1963) has treated *P. × nerviger* as a hybrid between *P. alpinus* and *P. gramineus* (*P. heterophyllum*), but we do not know the justification for this.

POTAMOGETON CRISPUS × PRAE LONGUS = *P. × undulatus* Wolfgang. in J. A. & J. H. Schult., *Mant.* **3**, 360 (1827) (pro sp.). Dandy & Taylor, *Bot. Soc. & Exch. Club Brit. Is.* **12**, 425 (1942); *J. Bot., Lond.* **80**, 118 (1943).

P. crispus × *praelongus* Casp., *Schr. Phys.-ök. Ges. Königsberg* **18**, 98 (1877).

P. praelongus × *crispus* Ascherson & Graebner, *Syn. Mitteleur. Fl.* **1**, 338 (1897).

The hybrid *P. crispus* × *praelongus* was first recognized by Caspary (1877) from localities now in Poland. *P. × undulatus* Wolfgang, which had already been described (as a species) from Lithuania, was later identified correctly as the same hybrid. There are authentic records of it also from Germany and Denmark.

In the British Isles *P. × undulatus* was first found in 1906 in the River Lagan at Belfast, Antrim (v.c. H 39), where it was re-collected in September 1952 by G. Taylor (BM); it also occurs in the Six Mile Water at Antrim in the same vice-county. In addition to these Irish localities a Welsh station for the hybrid is now known. It was found in Llyn Hilynn, Radnor (v.c. 43), by J. A. Webb in 1938 (NMW), in company with *P. crispus* and *P. praelongus*; and it was collected there again by C. I. & N. Y. Sandwith in July 1945 (BM), along with *P. crispus* and *P. praelongus*.

Potamogeton pusillus × trichoides = *P. × grovesii* Dandy & Taylor, hybr. nov.; inter parentes manifeste media, *P. trichoides* facie similior sed stipulis basin versus tubulosis differt; a *P. pusillo* floribus 1–3-carpellatis praecipue distinguitur.

Holotype: England, East Norfolk (v.c. 27), dike between Ingham and Palling, 11 August 1897, J. Groves (BM).

P. trinervius sensu Dandy, *List Brit. Vasc. Pl.* 134 (1958), non G. Fisch.

This apparently very rare hybrid is known to us only from a single locality between Ingham and Palling in East Norfolk (v.c. 27), where on 11 August 1897 James Groves made a voluminous gathering of 'pusilloid' pondweeds which he distributed extensively through the Botanical Exchange Club under the name *P. trichoides*, and which he recorded as *P. trichoides* in *Bot. Exch. Club Rep.* **1897**, 569 (1898). The gathering does indeed contain specimens of *P. trichoides*, but examination of many sheets of it shows that altogether it comprises three different plants: *P. trichoides*, *P. pusillus* and their hybrid *P. pusillus* × *trichoides*. Thus every sheet of this gathering requires careful scrutiny to decide which of the three taxa are represented. *P. pusillus* and *P. trichoides* by themselves are very easily distinguishable, differing in leaf nervation, stipules, winter-buds, flowers and fruit. The hybrid, being intermediate in its characters, is of course more difficult to distinguish: in general appearance it more closely resembles *P. trichoides*, but it differs from that species, which has open stipules, in having the stipules tubular towards the base as in *P. pusillus*; it differs from *P. pusillus*, which has four-carpellate flowers, in having the carpels reduced in number to 1–3 as in *P. trichoides*. The flower spikes in the hybrid are mostly quite abortive; occasionally a drupelet is developed, but it may not have been viable.

An identical hybrid was later collected (with *P. trichoides*) on 1 August 1900 by A. and J. Bennett and C. E. Salmon in the New Cut between Stalham and Palling (GL), this presumably being the same as Groves's original locality.

The name *P. trinervius* G. Fischer, *Ber. Bayer. Bot. Ges.* **11**, 29, 123 (1907), has been erroneously used for this hybrid. It was published by G. Fischer for Bavarian plants to which he attributed the parentage *P. panormitanus* × *trichoides*, i.e. *P. pusillus* × *trichoides*. He stated that there were two forms of the hybrid, one like *P. pusillus* (*P. panormitanus*) but more delicate, the other resembling *P. trichoides* but with the broader three-nerved leaves of *P. pusillus* (the leaves of *P. trichoides* are in fact three-nerved but only the midrib is readily discernible). By the courtesy of Professor H. Merxmüller we have been able to examine Fischer's original material, now at Munich (M), and we find that all his specimens of the first (slender) form are in fact *P. trichoides*, while all those of the second (three-nerved) form are *P. pusillus*; one gathering, from Gaustadter Weiher, July 1905, is a mixture of the two species (the supposed parents), but we can find no trace of a hybrid. A sheet of this mixed gathering from Gaustadter Weiher and one of *P. pusillus* from Godeldorf Weiher are the only sheets actually labelled with the binomial *P. trinervius*, and as the epithet *trinervius* clearly refers to the form with obviously three-nerved leaves (i.e. *P. pusillus*) we choose the specimen on this latter sheet as lectotype; it was collected in Godeldorf Weiher in July 1902 by G. Fischer, and labelled 'Potamogeton *trinervius* Fischer = *P. panormitanus* × *trichoides*'. It appears that Hagström must have suggested the formula (though not the binomial) as there is a note 'dt. Hagström' at the bottom of the label. The name *P. trinervius* thus becomes a synonym of *P. pusillus*, and the hybrid *P. pusillus* × *trichoides* from East Norfolk is left without a binomial. We therefore name it after its discoverer, James Groves (1858–1933).

J. E. DANDY
G. TAYLOR

DACTYLORHIZA INCARNATA (L.) Soó

subsp. **gemmata** (Pugsley) Sell, comb. nov.

Orchis latifolia var. *gemmata* Pugsley, *J. Linn. Soc. (Bot.)* **49**, 578 (1935).

subsp. **cruenta** (O. F. Muell.) Sell, comb. nov.

Orchis cruenta O. F. Muell., *Fl. Dan.* **5** (15), t. 876 (1782).

I agree with J. Heslop-Harrison (*Ber. Geobot. Forsch. Inst. Rübel* **1953**, 53–82 (1954)) and A. R. Clapham (Clapham, Tutin & E. F. Warburg, *Fl. Brit. Is.* ed. 2, 1044 (1962)) in considering the above taxa to be subspecies of *Dactylorhiza incarnata* (L.) Vermeul. and now make the necessary transferences to the correct generic name *Dactylorhiza* Nevski.

P. D. SELL

CATAPODIUM RIGIDUM (L.) C. E. Hubbard

subsp. **majus** (C. Presl) Perring & Sell, comb. et stat. nov.

Sclerochloa rigida var. *major* C. Presl, *Fl. Sic.*, xlvi (1826) (based on *Sclerochloa patens* C. Presl).

Sclerochloa patens C. Presl, *Cyp. Gram. Sic.*, 45 (1820).

Subsp. *majus* can be distinguished from subsp. *rigidum* by its taller habit, wider leaves and open pyramidal inflorescence. It occurs in the south and west of the British Isles, often near the sea, and abroad in south-west Europe and much of the Mediterranean region.

F. H. PERRING
P. D. SELL

CATABROSA AQUATICA (L.) Beauv.

subsp. **minor** (Bab.) Perring & Sell, stat. nov.

C. aquatica var. *uniflora* S. F. Gray, *Nat. Arr. Brit. Pl.* **2**, 133 (1821).

C. aquatica var. *littoralis* Parnell, *Brit. Grass.*, 228, t. 102 (1842).

C. aquatica var. *minor* Bab., *Man. Brit. Bot.*, 366 (1843) (Lectotype: Sand of the sea shore, Hoylake, 24 August 1804, T. Gisborne (CGE)).

Subsp. *minor* differs from subsp. *aquatica* in having shorter culms, leaves and panicles, and in the spikelets being only 1-flowered. It occurs in poor wet sandy soils near the sea at various places on the north and west coasts of Britain. No specimens have been seen from outside Britain.

F. H. PERRING

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