

Short Notes

A CHERBOURG BRAMBLE IN HAMPSHIRE

On the Tertiary gravels around Southampton occur several widely-distributed brambles which have not as yet received a name. The New Forest, lying close by to the west, long tended to monopolize the attention of successive *Rubus* specialists and caused them to bypass this hardly less rich part of S. Hants., v.c. 11. As a result its more obtrusive local forms escaped being described in the years when so many regional endemics elsewhere were being given taxonomic recognition.

One of the most distinctive of these forms is locally plentiful even within Southampton itself and predictably featured in the random collection made by J. Groves in 1876 around his home in what is now the inner district of Shirley. Babington, to whom this was submitted, referred it to the then misunderstood *R. fuscoater* Weihe, under which name Rogers left it when the specimen (now in BM) subsequently passed into his possession. Inexplicably, the bramble does not seem to have been collected again until 1964, when B. A. Miles encountered it on Southampton Common (CGE, no. 64/384). Watson is known to have visited that locality twice, in 1936 and 1951, and must surely have noticed it there in abundance, as also must J. F. Rayner, who sampled the Common's brambles in the early years of the century; however, the records from there of neither of them (Rayner 1929; J. E. Woodhead unpubl.) include any species for which it could credibly have been mistaken.

Intensive study of *Rubus* in the county as a whole revived in 1968, when E. S. Edees made an extensive collecting tour in connection with the new *Flora of Hampshire* in course of preparation. This produced the bramble for his herbarium (NMW, no. 20143) from West Walk, the main surviving fragment of the one-time Forest of Bere Portchester. It has since proved to be common in that large wood and to occur in many of its satellites in the district centred on Wickham. Its headquarters, however, are in the area just to the north-west of Southampton, where in Nightingale Wood it even becomes the dominant bramble. Further large populations occur between there and the start of the chalk belt north of Romsey and south of Winchester. Altogether I have noted it in seven 10-km squares (41/3.1, 3.2, 4.1, 5.0–5.2, 6.1), a range more than sufficient to qualify it for description as a new species.

Recently, however, while going through the Continental *Rubus* collection in BM, I came across two numbers in Sudre's *Batotheca Europaea* (495 and 496 in Fascicule 10) of a bramble collected round Cherbourg by Corbière in 1894 which I immediately recognized as identical. Sudre (1911) cited further Corbière specimens distributed earlier by Boulay through the Association Rubologique (nos. 1085 and 1086 of 1892) and by Magnier in his *Flora Selecta Exsiccata* (no. 3761). The latter I have not seen, but the former I have been able to examine in P and I am satisfied that they belong to the same entity. Corbière (1894) described it as "assez commun" in Cherbourg and environs and, although at that time he included at least one quite different bramble under the same name, I found this to be borne out on a visit I made to the area in 1987 to the extent that I met with it almost at once, in some quantity. Like Association Rubologique no. 1085, the specimens I encountered in the field were mainly of a starved form of open ground which apparently has no counterpart in Hampshire, where the plant is confined to shade almost exclusively. This wider tolerance of the French populations is one reason for believing that they represent the parent ones from which the opposite side of the Channel was at some period colonized – probably within the last few centuries, for in many of its Hampshire stations the plant has a recent look and is seemingly still in the course of primary spread.

Boulay sent out the 1892 specimens under the name *R. radula* subsp. *uncinatus* forma, but they bear in fact little resemblance to Letendre's material from Seine-Inférieure, which Boulay had distributed as *R. uncinatus* Mueller in 1885–6 (P). Sudre (1912) thought the plant approached, rather, *R. apiculatus* Weihe and *R. menkei* Weihe, remarking that it was a "forme embarrassante". He referred it instead to *R. insericatus* subsp. *truncifolius* (Mueller & Lef.) Sudre, describing it as a new variety for which he coined the epithet *thyrsigeriformis* out of a fancied resemblance to *R. thyrsiger* Banning & Focke. The Cherbourg bramble, however, is clearly a species in its own right and it is accordingly here raised to that rank.

Rubus thyrsgigeriformis (Sudre) D. E. Allen, *comb. et stat. nov.*

R. radula subsp. *uncinatus* sensu Corbière, *Nouv. Fl. Normandie* 206 (1894), pro parte, non *R. uncinatus* Mueller in *Flora* 41: 154 (1858); *R. insericatus* subsp. *truncifolius* var. *thyrsgigeriformis* Sudre, *Rubi Europae* 149 (1911).

As Sudre characterized his variety only very briefly, a fuller description now needs to be provided: Stem low-arching, bluntly angled, dark purple, with sparse short to medium simple and tufted hairs and numerous short to medium stalked glands, acicles (some gland-tipped) and pricklets (some also gland-tipped); prickles c.20–25 per 5 cm, chiefly on the angles, unequal, 3–7 mm, declining or curved or a few patent from a long compressed base, slender, red with yellow point. Leaves pedate; leaflets usually 3 (1–5), scarcely contiguous, light green, glabrous above or with sparse adpressed short simple hairs, soft beneath with numerous short simple and tufted hairs; terminal leaflet c. 7–10 × 4–6 cm, ovate or obovate or nearly round, with an often abrupt, acuminate, often curved apex c.1.5–2 cm and entire or emarginate base, more or less evenly serrate with the principal teeth prominent and often patent or retrorse, the petiolule c. $\frac{1}{4}$ to $\frac{1}{3}$ as long as the lamina; petiolules of basal leaflets 1–4 mm; petiole longer than the basal leaflets, coloured and clothed like the stem, with 15–20 slender curved prickles 2–5 mm. Flowering branch with 3-foliolate leaves below and 1–5 simple leaves above, not leafy to the apex; inflorescence long, pyramidal, with ascending or divaricate peduncles decreasing in length upwards, divided at or above the middle and bearing 1–3 flowers, shorter than their leaves, the pedicels up to 3 cm, often subdivided; rachis slightly flexuose, dark purple, not angled, clothed and armed like the stem; pedicels with numerous tufted hairs, numerous stalked glands and gland-tipped acicles of varying lengths, from very short to 1 mm, and several slender prickles 2–4 mm. Flowers c.1–1.5 cm in diameter; sepals greenish-grey, white-margined, with numerous stellate hairs and a few spreading long simple hairs, numerous short to medium stalked glands and few or many short to medium acicles, long- and leafy-pointed, patent at first, then reflexed; petals c. 8–9 × 4–5 mm, pale or deep pink, broad ovate or oblong, with sparse simple hairs on the margin, not contiguous, often sharply erect; stamens level with or slightly longer than styles, filaments white, anthers glabrous; styles yellowish-green, red-based; young carpels glabrous; receptacle glabrous; fruit obovoid, ripening in Hampshire as early as the beginning of July. Flowering from the middle of June into August. Series *Hystrices* Focke.

The diagnostic characters are the dark purple stem and rachis with many unequal stalked glands, acicles (some gland-tipped), pricklets and mixed declining and curved prickles; the usually 3-nate leaves with ovate to roundish terminal leaflet typically terminating abruptly in a long acuminate and often curved apex; the long pyramidal inflorescence with one or more trilobed leaves above; the long- and leafy-pointed reflexed sepals; the small pink flowers with the petals often erect, the short stamens and red-based styles.

Representative specimens have been deposited in **BM** and **RHMC**.

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D. E. ALLEN

Lesney Cottage, Middle Road, Winchester, Hants., SO22 5EJ

A NEGLECTED BRAMBLE OF GUERNSEY

On his once-only inspection of the *Rubi* of the Channel Isles in 1897 W. Moyle Rogers came across a bramble new to him which he referred to a variant of *R. dumnoniensis* Bab. (Rogers & Rogers 1898). He recorded seeing it in Guernsey at Petit Bot Bay and in Sark in plenty near Dixcart Hotel.

His specimens from both localities are now in BM. Those from Sark are scrappy and do not look convincingly identical with the ones from Guernsey, but the latter are excellent examples of a bramble that I encountered in turn at Petit Bot Bay in 1978. I subsequently saw it elsewhere in Guernsey on that visit, mostly in company with D. McClintock – on the cliff-tops at Icart (in some quantity), in two places, among scrub and in a hedge, east of Hougue des Quartiers, and in Silbe Nature Reserve (a single clump) – but, perhaps significantly, the equivalent of two fieldwork days I spent in Sark failed to disclose it (Allen 1981).

In a note dated March 1917, affixed to the second of the two sheets bearing his Petit Bot Bay material, Rogers proposed the epithet *cordatifolius* for this “conspicuous variety, which I have not seen in England or Ireland”, adding by way of description: “terminal leaflet broadly ovate-acuminate, with compound finely pointed teeth and deeply cordate broad base. Panicle when well developed broadly cylindrical with one (or both?) of its two simple leaflets like those of the terminal leaflet on the barren stem.” The name was published after his death by Riddelsdell, initially (Riddelsdell 1920) with the barest of descriptions, later (Rogers & Riddelsdell 1925) more fully and with a Latin diagnosis. This expanded on Rogers’ note to the extent of describing the leaflets as having lobate-serrate teeth and greenish-ashy felt beneath. To which I can add from my own field notes: stem shining as if varnished, shallowly furrowed; petals pinkish; filaments white, exceeding greenish styles; anthers glabrous; sepals reflexed.

R. dumnoniensis was a much-misunderstood taxon until very recently and its interpretation overbroad. Had W. C. Barton known the true plant, he would surely not have queried the variety, in a 1951 note affixed to one of the BM Petit Bot Bay sheets, as merely a luxuriant state of that species. Watson (1958) did not recognize even the species as distinct, aggregating it with two others, and consequently saw no cause to give the variety so much as a mention. Eedes & Newton (1988), having had no opportunity of studying the Guernsey bramble in the field, do no more than refer to the taxon’s existence.

In my view this bramble is amply distinct from *R. dumnoniensis* sensu stricto – so much so that it never even occurred to me that it could be the variant referred to by Rogers until I saw his specimens – and deserves to stand as a species in its own right. The necessary new combination is accordingly now made:

***Rubus cordatifolius* (Rogers ex Riddelsd.) D. E. Allen, comb. et stat. nov.**

R. dumnoniensis var. *cordatifolius* Rogers ex Riddelsd., *J. Bot. (Lond.)* 58: 102 (1920); Rogers & Riddelsd., *J. Bot. (Lond.)* 63: 14 (1925). LECTOTYPE: Petit Bot Bay, Guernsey, v.c. S, 7 July 1897, W. M. Rogers, herb. Barton & Riddelsdell no. 9823 (BM), des. B. A. Miles 1964. Series *Rhamnifolii* (Bab.) Focke.

Representative specimens of my own collecting have been deposited in STP.

I have not seen any material identical with this bramble either from Great Britain or from the adjacent Cotentin Peninsula of France. However, it may well yet prove to occur in the coastal parts of the latter, the *Rubus* flora of which has close affinities to that of these offshore islands.

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D. E. ALLEN
 Lesney Cottage, Middle Road, Winchester, Hants., SO22 5EJ

CAREX ORNITHOPODA WILLD. IN CUMBERLAND

There has always been some doubt as to the occurrence of *Carex ornithopoda* Willd. in Cumberland, v.c. 70, so it was with considerable satisfaction that R.W.M.C. discovered a single tuft

with 30 inflorescences on a sandstone rock on the banks of the River Eden in the gorge between Lazonby and Armathwaite on 8 May 1986. When the site was revisited on 15 May 1987, the original tuft was yellowed and in poor condition with only a single inflorescence. However any disappointment was dispelled when further searching revealed 40 healthy plants in a 40 m strip parallel to the river. In May 1988 the status of the *Carex* was unchanged.

The Eden gorge is composed of acid red Permian sandstone which supports a calcifuge flora. However the river banks within reach of flooding have a calcicole flora from flushing with lime-laden water and silt deposition. The *Carex* site faces south to south-west at an altitude of 53 m above sea level. *C. ornithopoda* is present between 1.3 m and 2.6 m above the normal river level, well within the flood zone. The habitat is kept relatively open due to the scouring effect of the river, which also uproots trees from the rocks at sapling age. Silt and sand (pH 7.3 with no free carbonate) has been deposited in cracks and ledges of the steep sandstone outcrop and, although partially shaded by *Alnus*, *Betula*, *Corylus* and *Quercus*, the habitat is open to the sun for much of the day and readily dries out. Many of the *Carex* plants are intermixed with and overshadowed by the taller-growing associates, and are well camouflaged but are nonetheless vigorous, robust and mostly fertile.

A total of 45 species was recorded from the *C. ornithopoda* habitat. The following were close associates at the original rock site: *Anthoxanthum odoratum*, *Brachypodium sylvaticum*, *Carex caryophylla*, *Dactylis glomerata*, *Deschampsia cespitosa*, *Festuca rubra*, *Luzula sylvatica*, *Origanum vulgare*, *Poa pratensis*, *Primula vulgaris*, *Senecio jacobaea*, *Trifolium medium* and *Viola riviniana*. Although not an associate, *Galium boreale* was present on rock ledges at the rivers edge.

This colony of *C. ornithopoda* has obviously been established for some time and is being maintained by young plants arising from seed. It is intriguing to speculate on its origins. It must have been derived from seed or rhizomes washed down from colonies upstream. The nearest colonies are at Shap and Orton (David 1980), with a recent discovery from the Pennine limestone above Hilton (G. Halliday pers. comm.). These sites are all some 35 km from the Eden-side locality. It may be derived from a much nearer Pennine limestone source as yet undiscovered or from which it is now extinct. Searching of the Eden above and below the *Carex* site for further colonies has been unsuccessful.

Carex ornithopoda is now confirmed for Cumberland where it is at its most northern site in the British Isles. The habitat is of particular interest as it is the only one known at present off the Carboniferous limestone formation.

ACKNOWLEDGMENT

We wish to thank Dr G. Halliday for the pH determination.

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R. W. M. CORNER & F. J. ROBERTS
Hawthorn Hill, 36 Wordsworth St., Penrith, Cumbria, CA11 7QZ

ON THE LECTOTYPIFICATION OF *PARNASSIA PALUSTRIS* L.

The purpose of this note is to justify the recent lectotypification of *Parnassia palustris* L. published by Hultgård (1987). In his description of *P. palustris*, Linnaeus (1753) cited the binomial without an associated phrase-name (because the distinctions of this species were at generic rank), and referred to six earlier publications: Linnaeus (1737, 1738, 1745), Royen (1740), Haller (1742) and Dalibard (1749). The last three authors referred back to one or other of Linnaeus's publications. Linnaeus also listed three synonyms in the protologue, published by Bauhin (1623), Cordus (1561) and Morison (1699).

There are five relevant specimens in existence which Linnaeus saw prior to 1753 and which must

be considered. The specimen supporting the citation of the species in *Flora lapponica* is housed at the Institut de France in Paris. Although we have seen only its photograph (BM), we do not regard it as a suitable choice because it is a small, slender specimen, and its cauline leaf, if present at all, is completely immersed among the basal leaves; these are often regarded as features characteristic of var. *tenuis* Wahlenberg, a taxon from northern latitudes which someone (although not us) may feel inclined to recognize. In order to preserve current usage of var. *palustris*, therefore, we must look elsewhere for a lectotype.

The specimen in LINN, labelled "palustris 1" (Sheet 392.1 in Savage 1945), consists of four flowering stems and belongs to what we regard as var. *palustris*, but cannot be chosen because it bears the symbol (€) which indicates that it was collected in western Asia, probably by Gerber, in the district of the River Don or Astrachan (Stearn 1957). This is contrary to the protologue which specifies "in Europae".

There are two specimens in the Hortus Cliffortianus herbarium at BM. One of them, labelled "Parnassia palustris et vulga – vid. T. 246", has a clumped habit, rather like that of var. *condensata*, and as we cannot be certain that it does not represent this variety we prefer not to consider it further. The second specimen, labelled "Parnassia sive Cistus palustris humilis Hevera folio, quibusdam Gramen Parnassi vel Hepaticus flos dicitur", consists of four flowering stems inserted in a vase; although it otherwise resembles var. *palustris*, there are no basal leaves, and for this reason we have not chosen it as lectotype.

The fifth specimen is sheet XVII.91 in the Burser herbarium (UPS); it is labelled "Gramen Parnassi albo simplici flore Bauh. Weiss leberblumlein. In Lusatia, Misnia, Helvetia, Dania" (see also Juel 1936), and agrees well with the protologue and our concept of var. *palustris*. The phrase-name is the synonym published by Bauhin (1623) and from which Linnaeus presumably derived the name of the genus. This specimen is therefore the one which has been designated as lectotype (Hultgård 1987).

There are no Linnaean specimens of *Parnassia* in H (Kukkonen & Viljamaa 1973), SBT (Fries 1935) or S.

ACKNOWLEDGMENTS

We would like to thank the staff at BM, LINN, S and UPS for allowing us to examine specimens, and Dr C. Jarvis for helpful comments.

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R. J. GORNALL, U.-M. HULTGÅRD & B. JONSELL
 Botany Department, The University, Leicester, LE1 7RH

EXPERIMENTAL EVIDENCE AGAINST THE OCCURRENCE OF AGAMOSPERMY IN THE BRITISH *CRATAEGI*

Where their ranges overlap in Britain *Crataegus laevigata* (Poiret) DC. and *C. monogyna* Jacq. readily form hybrids (Bradshaw 1953, 1971; Byatt 1975; Gosler 1981). Bradshaw (1971) has demonstrated that the two species are obligate outbreeders, are totally interfertile, and that hybrid pollen showed no reduction in fertility. However, Muniyamma & Phipps (1979) have shown that in *C. pruinosa* apomixis in the form of somatic apospory is common, and have suggested that this may be a widespread means of seed formation in North American *Crataegi*. This paper gives the results of an experiment to determine whether apospory was present in *Crataegus laevigata* or *C. monogyna*. The work was carried out as part of a larger survey of introgressive hybridization between the two species in the Thames Valley (Gosler 1981).

Flowering twigs were cut from each of four trees (two of each species) in Open Magdalen Wood, Oxford on 2 May 1981 and were supported in water in the laboratory. At least 100 unopened flowers were obtained of each species. The flowers of *Crataegus* are protogynous so that the anthers may be removed prior to anthesis. The following operations were carried out on flowers of each species: (a) 50 flowers were emasculated prior to anthesis and bagged. Fruit production in this sample would suggest the presence of apospory.

(b) 25 flowers were emasculated prior to anthesis and then artificially cross-pollinated and bagged. Fruiting in this sample was used as a control for the effect of cutting and bagging.

All specimens were allowed to set fruit, and the percentage of flowers of each group (species and operation) that produced fruit was recorded. The fruiting success of the experimental and control groups was compared using χ^2 .

Table 1 shows the results of the experiment. The difference in the number of fruits set between

TABLE 1. FRUIT-SET IN *CRATAEGUS LAEVIGATA* AND *C. MONOGYNA* FOLLOWING EMASCULATION ONLY, AND EMASCULATION THEN CROSS-POLLINATION

Species	Emasculatation only		Cross-pollination	
	n ^a	no. fruit set	n ^a	no. fruit set
<i>C. laevigata</i>	50	0 (0%)	25	9 (36%)
<i>C. monogyna</i>	50	0 (0%)	25	11 (44%)

^an = no. flowers used.

emasculated and cross-pollinated treatments was highly significant: for *C. laevigata* $\chi^2_{(1)} = 20.45$, $p \leq 0.001$; for *C. monogyna* $\chi^2_{(1)} = 25.78$, $p \leq 0.001$. This indicates that the failure of flowers to form fruit in the experimental group was not due to their emasculatation.

Assuming that there are no significant differences between trees, and that pseudogamy does not operate (although Muniyamma & Phipps (1979) inferred its occurrence in the triploid *C. pruinosa*), the results suggest that apospory is absent or occurs at a very low frequency (at most less than 1%).

Somatic apospory is likely to be more important in North American than in European *Crataegus* species. Longley (1924) found that of 100 North American species examined, some 75% were triploid, and Camp (1942) suggested that many of the 1100 New World species were dubious, having resulted from complex genetic interactions involving allopolyploidy and apomixis. This presents a rather different biosystematic situation from that observed in Europe where most species are sexually reproducing diploids, many of which form fertile hybrids, such as *C. laevigata* and *C. monogyna* (Franco 1968).

Although the present results suggest that apospory is probably absent from these species, it is impossible to say that it never occurs and further work is needed to determine whether pseudogamy is necessary for apomictic fruit formation.

ACKNOWLEDGMENTS

The work was funded by the S.E.R.C. and carried out as part of an M.Sc. in Pure and Applied Plant Taxonomy at the University of Reading. I thank Professor D. M. Moore for supervising the project and Dr A. W. McDonald, Mr H. Dunkley and an anonymous referee for improvements to an earlier draft of the manuscript.

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A. G. GOSLER

Edward Grey Institute of Field Ornithology, Department of Zoology, South Parks Rd., Oxford,
OX1 3PS

EPIPACTIS PURPURATA SM. REAPPEARS IN DORSET

The Violet Helleborine (*Epipactis purpurata* Sm.) had been thought to be extinct in Dorset, v.c. 9, for many years. It was last recorded in the county in 1926 from a wood in the north, which was largely felled during the Second World War. Although the site has since been replanted with broad-leaved trees, they are still young, and the understorey is dense and overgrown. It will be many years before there is suitable habitat for *E. purpurata* to reappear in its old site, although there is an as yet unconfirmed report that it has been seen recently in another part of the wood. The species' other two former sites have both been clear-felled, one put to the plough, and the other replanted with alien conifers. All three sites were formerly mature beechwoods on clay-with-flints over chalk or other calcareous deposit, and thus broadly accorded with the majority of sites for the species in Hampshire and the Chilterns.

It came as something of a surprise, therefore, when the species was discovered in an ancient hazel coppice with oak standards and a rich ground flora on the Kimmeridge Clay near Sturminster Newton, some 13 km away from any of its former haunts, and in a quite different type of habitat. The site is comparable, in fact, to many of the species' stations in Hertfordshire, where it is characteristic of neglected hazel and hornbeam coppice on clay soils (Bateman 1981). The new site is situated on a north-facing slope ranging from 72 m above sea-level at the boundary to 40 m at the River Stour, and is an S.S.S.I. and reserve managed by the Dorset Trust for Nature Conservation. Rotational coppicing of the hazels is practised in the traditional manner.

One of the authors (A.G.H.) found one plant of an unidentified helleborine in 1986, when a section of the hazels was cut: that plant was incorrectly identified by other local botanists as the Broad-Leaved Helleborine (*E. helleborine* (L.) Crantz). The finder remained convinced, however, that it was *E. purpurata*, and the co-author (M.N.J.) was consulted, and the plants confirmed in 1988 as *E. purpurata*, a species with which he was familiar from sites in Hampshire and the Chilterns. This was, therefore, the first confirmed record of the species in Dorset for 62 years.

There were two main areas of distribution of plants in the coppice. A careful search revealed a total of 37 rootstocks within a broad belt some 45 × 25 m to the north of, and below the central ride through the coppice, stretching across the area of newly-cut hazels, and extending some 5 m into an

area of uncut hazels, where five of the plants were found. A cursory search to the south of, and above the central ride revealed a further five rootstocks in a roughly circular area about 25 m in diameter, and some 25 m away from the main colony. It seems likely that a more detailed search of this second area will reveal more plants. One of these latter plants was growing under bracken, and there is also much Heath Bedstraw (*Galium saxatile*) present: this acid indication was later confirmed by soil tests, which gave pH readings of between 4 and 6.

Of the total of 42 rootstocks found, no fewer than 15 had multiple flowering stems, a feature of this species (Summerhayes 1951), the largest clump having ten inflorescences. A single-stemmed plant can be 30 years old, and it has been said that large many-stemmed plants are probably "hundreds of years of age" (Bateman 1979). It is apparent, therefore, that the species has remained undiscovered beneath the dark hazels for many years, and searches of similar sites elsewhere in the county may well prove rewarding.

An interesting feature of the present colony is that the majority of plants growing in the open flowered in the fourth week of July and the first week of August in 1988 (a generally late season), and had set seed by the third week of August. The five plants growing in the dense shade of the uncut hazels, however, and one or two in shadier locations elsewhere, were in full flower during the second and third weeks of August, a more typical flowering time for the species. Two plants had variegated leaves (i.e. longitudinally striped green and white), and the purplish-grey colouration characteristic of the leaves and stem of this species was very much less marked at this site than at other sites in Hampshire and the Chilterns.

A study of seed capsules was carried out on 22 August 1988 on ten randomly selected inflorescences, with the following results: mean number of flowers = 31.3 (range 24–44); mean percentage of swollen capsules = 88.29% (range 81.8–96%). At this level of pollination efficiency, assuming viable seed, the future of the species at this site seems assured.

Accompanying orchid species found with the helleborines were Common Spotted-orchid (*Dactylorhiza fuchsii*) and Bird's Nest Orchid (*Neottia nidus-avis*), both rather sparse and gone to seed.

ACKNOWLEDGMENTS

The authors wish to thank D. D. Hobson for assistance with the survey work, J. Adams for assistance with the soil testing, Dr T. Norman for drawing the site to the attention of M. N. Jenkinson, and R. M. Bateman for assistance with reference material and helpful discussion.

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M. N. JENKINSON & A. G. HOBSON
 25 Harland Road, Bournemouth, Dorset, BH6 4DN

NEW COMBINATIONS IN THE BRITISH AND IRISH FLORA

The following 15 new combinations are needed in order to validate names to be used in forthcoming floristic publications.

1. *Ulmus minor* Miller subsp. **angustifolia** (Weston) Stace, **comb. et stat. nov.**
 Basionym: *U. campestris* var. *angustifolia* Weston, *Bot. univ.* 1: 352 (1770).
2. *Ulmus minor* subsp. **sarniensis** (Loudon) Stace, **comb. et stat. nov.**
 Basionym: *U. campestris* var. *sarniensis* Loudon, *Arbor. frutic. brit.* 3: 1376 (1838).

The view is taken here that *U. glabra* Hudson, *U. procera* Salisb., *U. plotii* Druce and *U. minor*

are four taxa worthy of specific rank. Within this concept of *U. minor* two taxa are distinct entities with well defined, largely allopatric distributions, and seem best recognized as subspecies as above. Other entities within *U. minor*, notably *U. diversifolia* Melville, *U. coritana* Melville and *U. carpinifolia* G. Suckow as well as many unnamed variants, are sympatric and hybridize so frequently that recognition as subspecies is impractical. Whether or not Melville's (1960) idea that *U. minor* subsp. *sarniensis* arose as a quadruple hybrid is correct is immaterial to the above classification.

3. ***Euphorbia amygdaloides* L. subsp. *robbiae* (Turrill) Stace, comb. et stat. nov.**

Basionym: *E. robbiae* Turrill in *Bot. Mag.* **169** (n. s.): t. 208 (1953).

The well-known *E. robbiae* of gardens has recently (Radcliffe-Smith 1976) been reduced to a variety of *E. amygdaloides*. However, it is always distinct, has a different chromosome number, and has a restricted distribution in north-western Turkey; it is an almost ideal subspecies.

4. ***Lamiastrum galeobdolon* (L.) Ehrend. & Polatschek subsp. *argentatum* (Smejkal) Stace, comb. et stat. nov.**

Basionym: *Galeobdolon argentatum* Smejkal in *Preslia (Praha)* **47**: 243 (1975).

The views are taken here that *Lamiastrum* Heister ex Fabr. (1759) is a distinct genus that was validly published and hence predates *Galeobdolon* Adans. (1763) or Hudson (1778), and that the segregates of *L. galeobdolon* are worthy only of subspecific rank.

5. ***Coincya wrightii* (O. Schulz) Stace, comb. nov.**

Basionym: *Brassicella wrightii* O. Schulz in *J. Bot. (Lond.)* **74** (Suppl. 1): 1 (1936). Synonym: *Hutera wrightii* (O. Schulz) Gómez-Campo in *Anal. Inst. Bot. Cavanilles* **34**: 149 (1977).

The current trend (Greuter, Burdet & Long 1986) is to amalgamate the genera *Coincya*, *Hutera* and *Rhynchosinapis* under the first (earliest) name. Combinations already exist for two of the three British species, but not for the Lundy Island endemic above.

6. ***Clinopodium menthifolium* (Host) Stace, comb. nov.**

Basionym: *Calamintha menthifolia* Host, *Fl. Austriaca* **2**: 129 (1831). Synonym: *Calamintha sylvatica* Bromf. (1845).

7. ***Clinopodium calamintha* (L.) Stace, comb. nov.**

Basionym: *Melissa calamintha* L., *Sp. Pl.* 593 (1753).

Synonyms: *Calamintha nepeta* (L.) Savi subsp. *glandulosa* (Req.) P. W. Ball; *C. nepeta* auct. angl., non (L.) Savi sensu stricto.

8. ***Clinopodium grandiflorum* (L.) Stace, comb. nov.**

Basionym: *Melissa grandiflora* L., *Sp. Pl.* 592 (1753).

Synonym: *Calamintha grandiflora* (L.) Moench.

The genera *Clinopodium*, *Acinos* and *Calamintha* differ only by trivial characters and are best united under the first (earliest) name. They are here kept separate from *Satureja*, which differs in its more or less equal-lobed calyx and more or less equal stigmas, despite which it was amalgamated with the other three genera by Greuter, Burdet & Long (1986). The combinations *Clinopodium ascendens* (Jordan) Samp. and *C. acinos* (L.) Kuntze already exist, but two British natives and one alien have not hitherto been covered.

9. ***Fallopia japonica* (Houtt.) Ronse Decraene var. *compacta* (Hook. f.) J. Bailey, comb. nov.**

Basionym: *Polygonum compactum* Hook. f. in *Bot. Mag.* t. 6476 (1880).

10. ***Fallopia* × *bohemica* (Chrtek & Chrtková) J. Bailey, comb. nov.**

Basionym: *Reynoutria* × *bohemica* Chrtek & Chrtková in *J. nat. Mus. Praha, Hist. nat.*, **152**: 120 (1983).

L.-P. Ronse Decraene (Ronse Decraene & Akeroyd 1988) at Reading and J. P. Bailey at Leicester have confirmed earlier suggestions that *Reynoutria* and *Fallopia* (*Bilderdykia*) should be amalgamated under *Fallopia*, the earliest name. The combinations *F. japonica* (Houtt.) Ronse Decraene and *F. sachalinensis* (Friedr. Schmidt ex Maxim.) Ronse Decraene already exist; the other two needed for British plants are provided above.

11. *Rumex acetosa* L. subsp. *hibernicus* (Rech. f.) Akeroyd, **comb. et stat. nov.**

Basionym: *Rumex hibernicus* Rech. f. in *Watsonia* 5: 65 (1961).

Synonym: *Acetosa hibernica* (Rech. f.) Holub in *Folia Geobot. Phytotax. (Praha)* 12: 425 (1977).

A distinctive variant of *Rumex acetosa* occurs in dune-grassland communities in western and parts of southern Ireland, and perhaps elsewhere in the British Isles. It has a dwarf habit, shorter basal leaves, narrower cauline leaves, and a dense, often subsimple inflorescence; the stems, petioles and often the leaves are papillose-puberulent. Intermediate populations occur, but the distinct ecological and geographical distribution of this variant suggests treatment at subspecific rank.

12. *Rumex crispus* L. subsp. *littoreus* (Hardy) Akeroyd, **comb. et stat. nov.**

Basionym: *Rumex crispus* var. *littoreus* Hardy in *Bot. Gaz. (Lond.)* 1: 133 (1849). Synonym: *R. crispus* var. *trigranulatus* Syme in *Rep. botl Soc. Exch. Club Br. Isl.* 1872-4: 37 (1875).

13. *Rumex crispus* L. subsp. *uliginosus* (Le Gall) Akeroyd, **comb. et stat. nov.**

Basionym: *Rumex crispus* var. *uliginosus* Le Gall, *Fl. du Morbihan* 500 (1852). Synonyms: *R. crispus* var. *planifolius* auct. brit., non Schur; *R. elongatus* auct. brit., non Guss.

Distinctive variants of the widespread weed *Rumex crispus* occur on seashores, notably shingle beaches, and on estuarine tidal mud (Akeroyd 1988). Both variants are widespread in Britain and Ireland, and are apparently present on Atlantic coasts of Europe. It is therefore appropriate that these 'native' populations of this synanthropic plant be treated as subspecies.

14. *Asperula cynanchica* L. subsp. *occidentalis* (Rouy) Stace, **comb. et stat. nov.**

Basionym: *Asperula occidentalis* Rouy, *Fl. France* 8: 60 (1903).

The differences between *A. cynanchica* and *A. occidentalis* are slight and quantitative, their chromosome number is the same, and the latter taxon is confined to dunes on the western coasts of Spain, France, Ireland and Wales, where it is approached in several characters by extreme variants of *A. cynanchica*. Subspecific status is wholly appropriate.

15. *Orobanche minor* L. var. *maritima* (Pugsley) Rumsey & Jury, **comb. et stat. nov.**

Basionym: *Orobanche maritima* Pugsley in *J. Bot. (Lond.)* 78: 110 (1940). Synonym: *O. amethystea* auct. brit., non Thuill.

Webb & Chater (1972) noted that *O. maritima* was probably best regarded as a variety of *O. minor*. Work at Reading by F. J. Rumsey and S. L. Jury supports this and indicates that it should be reduced to one of four varieties of *O. minor* occurring in Britain (Rumsey 1988).

ACKNOWLEDGMENTS

I am grateful to J. R. Akeroyd, J. P. Bailey, F. J. Rumsey and S. L. Jury for publishing their new combinations in this note.

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C. A. STACE

Department of Botany, The University, Leicester, LE1 7RH

W. H. PEARSALL'S AQUATIC PLANT RECORDS FROM ESTHWAITE WATER

Recent investigations of the aquatic flora of Esthwaite Water in the Lake District (v.c. 69) have drawn attention to some confusion over the identity of certain taxa recorded by W. H. Pearsall who made extensive studies of the lake (Clapham 1971). Both Pearsall and his father, also W. H. Pearsall, studied the aquatic plants of other Lake District lakes (Pearsall & Pearsall 1921, 1923). Given the fundamental importance of these studies (e.g. Pearsall 1917, 1918, 1920 & 1921) to the understanding of the development of aquatic vegetation (Tansley 1949; Sculthorpe 1967; Macan 1970; Hutchinson 1975), the identity of these early records needs to be explored.

In addition to his scientific papers reference has been made to W. H. Pearsall's vegetation maps of Esthwaite Water housed at the Ferry House, Freshwater Biological Association, Ambleside, and of herbarium specimens which he collected or annotated (**BM, K, OXF**).

The three species *Ranunculus truncatus*, *Castalia minor* and *Hydrilla verticillata*, and the genus *Potamogeton* need to be considered.

RANUNCULUS TRUNCATUS

Records for *Ranunculus truncatus* Koch refer to *R. peltatus* Schrank. This is clear from Pearsall (1920) and Pearsall (1929) in which they listed the plant as *R. peltatus* var. *truncatus*. There are no known herbarium specimens from Esthwaite Water, though other material identified by Pearsall as *R. peltatus* var. *truncatus* (in **BM**) has been confirmed as *R. peltatus* (S. Webster pers. comm.).

CASTALIA MINOR

The water-lily species referred to by Pearsall (1917) as *Castalia minor* is almost certainly a variant of *Nymphaea alba* L. Tansley (1949) considered *C. minor* to be *Nymphaea occidentalis* though he also included *C. minor* in a plant list reproduced from Pearsall (1917). This "small white water-lily" (Tansley 1949) is distributed "in 'acid' upland tarns" (Pearsall 1917), and conforms to *Nymphaea alba* subsp. *occidentalis* Ostenf. Hutchinson (1975), however, calls the plant *Nymphaea alba* var. *minor* though he considers that most botanists would regard it as "somewhat starved *alba*".

HYDRILLA VERTICILLATA

Esthwaite Water is the only known locality for *Hydrilla verticillata* Casp. in England, a record (Bennett 1914; Pearsall 1914, 1915) which has been the subject of some conjecture. M. J. P. Scannell (pers. comm.), who has studied the plant in Eire, confirms the validity of the material, and numerous specimens at **BM** collected by Pearsall from Esthwaite Water between 1914 and 1920 and labelled by him as *Hydrilla verticillata* or *H. verticillata* var. *pomeranica* Reichb. were confirmed as *H. verticillata* by C. D. K. Cook in 1979. Unfortunately the plant became extinct about 1945 probably as a result of eutrophication (Lund 1979; Cook & Lüönd 1982). Oddly, Pearsall & Pennington (1973) conclude that "the very rare plant which was originally called *Hydrilla verticillata* var. *pomeranica*" is "now called *Elodea nuttallii*", a view originating from Tutin (1962) and Clapham (1971).

POTAMOGETON

Confusion arises over a number of *Potamogeton* species found in Esthwaite Water. The systematics of the genus *Potamogeton* were in a state of flux at the time of Pearsall's work and this has made the records of these species difficult to interpret. This is particularly so for *Potamogeton pusillus* L., *P. panormitanus* Biv. and *P. sturrockii* sensu Pearsall (e.g. Pearsall 1930). Pearsall & Pearsall (1921) believed that distinct variations were exhibited "in relation to the depth of water" and "that light intensity was the chief factor in causing them". Some of these variations were given subspecific and varietal status. Careful examination of herbarium material collected or named by Pearsall (**BM, K, OXF**), in conjunction with the observations of Dandy & Taylor (1938), lead to the conclusion that *P. pusillus* sensu Pearsall, *P. pusillus* var. *tenuissimus* Mert. & Koch, *P. pusillus* subsp. *lacustris* Pearsall & Pearsall fil., *P. panormitanus* and *P. sturrockii* should all be regarded as *P. berchtoldii* Fieb.; and *P. heterophyllus* Schreber and *P. longipedunculata* should be regarded as *P. gramineus* L. This is further reinforced by Pearsall & Pennington (1973) who described the 'linear-leaved associates' as including the "pondweeds . . . such as *P. pusillus* and what is now known as *P. berchtoldii* (formerly *P. pusillus* subsp. *lacustris*)". Dandy (1958) gave *P. sturrockii* (A. Benn.) A.

Benn. as a synonym for *P. obtusifolius* Mert. & Koch. However, Pearsall did not confuse this latter species with *P. berchtoldii* as is clear from the descriptions he gave of the two species (Pearsall & Pearsall 1921).

Although authors such as Tansley (1949), Sculthorpe (1967), Macan & Worthington (1951) and Macan (1970) have brought some of Pearsall's nomenclature up to date, they have been neither consistent nor thorough. Tansley (1949) uses *P. sturrockii* in his summary of Pearsall's work. Sculthorpe (1967) does not incorporate the *P. pusillus*/*P. berchtoldii* change into his adaptation of Pearsall's deep water succession (Pearsall 1920) and the *P. pusillus* in his schema should read *P. berchtoldii*. Macan & Worthington (1951) repeat this mistake, and Macan (1970) uses names such as *Castalia minor* and *Potamogeton pusillus* subsp. *lacustris* in his text. Hutchinson (1975) plays safe, using the nomenclature *P. berchtoldii* (sens lat.).

As the knowledge of the autecology of species of *Potamogeton* such as *P. berchtoldii* grows it is increasingly important that the correct interpretation should be made of such "classics of British ecology" (Clapham 1971).

ACKNOWLEDGMENTS

The assistance of C. D. Preston, Biological Records Centre, in preparing this paper is gratefully acknowledged and I wish to thank the Keepers of **K**, **BM** and **OXF** for permission to examine material, and the Director of the Freshwater Biological Association for permission to use W. H. Pearsall's maps. Part of this work was funded by the Nature Conservancy Council.

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P. M. WADE

Department of Geography, The University, Loughborough, LE11 3TU

CHENOPODIUM HYBRIDUM L. VAR. *PAESKEI* ASCHERS. & GRAEB. IN BRITAIN

Chenopodium hybridum L. var. *paeskei* Aschers. & Graeb. is the name assigned to populations that can be differentiated from typical *C. hybridum* (var. *hybridum*) in having red or purple colouration and a more compact inflorescence. The red colour, caused by a betacyanin pigment, is primarily in the axils, veins and smaller stems. Var. *paeskei* often has an inflorescence that is leafy towards the apex (like *C. album*, for example). The inflorescence of var. *hybridum* is usually leafless.

The variety *paeskei* was first described by Ascherson & Graebner (1898, 1913) as having a "twisted-together panicle" and a "reddish stem". Rather curiously, they also stated that its overall appearance and smell are similar to *Datura stramonium* L.

In Britain, it was recorded from two sites in Cambridgeshire in the 1950s, at Cambridge and Waterbeach (Perring *et al.* 1964). Scanning electron microscope studies of seed from the latter population revealed differences from var. *hybridum* in testa morphology. *C. hybridum* has a characteristically large seed, 1.75–2 mm in diameter (Brenan 1964), with a coarsely pitted surface. The cells in the areas between the pits have sinuous raised anticlinal walls in var. *hybridum* (Fig. 1a), whereas in var. *paeskei* there are also cells with much straighter, more sharply defined anticlinal walls, which form a prominent reticulum (Fig. 1b). These cells are basically rectangular in shape, and about four times as long as they are broad. The reticulate pattern is especially common around the hilum, but it is found all over the seed surface in varying amounts. It can be seen with a high-powered stereo microscope (at $\times 60$ magnification or greater) using strong unidirectional lighting. It has also been observed on seeds of var. *paeskei* from Oxford and from Kennet in Cambridgeshire in 1987.

Thus there is a case for wider recognition of this variety, on grounds of its distinct morphology and colouration. I am sure that it has often been overlooked in the past. As Snaydon (1984) stated, "variation which is not named tends not to be recognized".

ACKNOWLEDGMENTS

I must thank Mr P. D. Sell for a great deal of help with my work on *Chenopodium*, Mr E. Chicken for seed material from Kennet, and Dr J. R. Akeroyd for interesting and useful discussions.

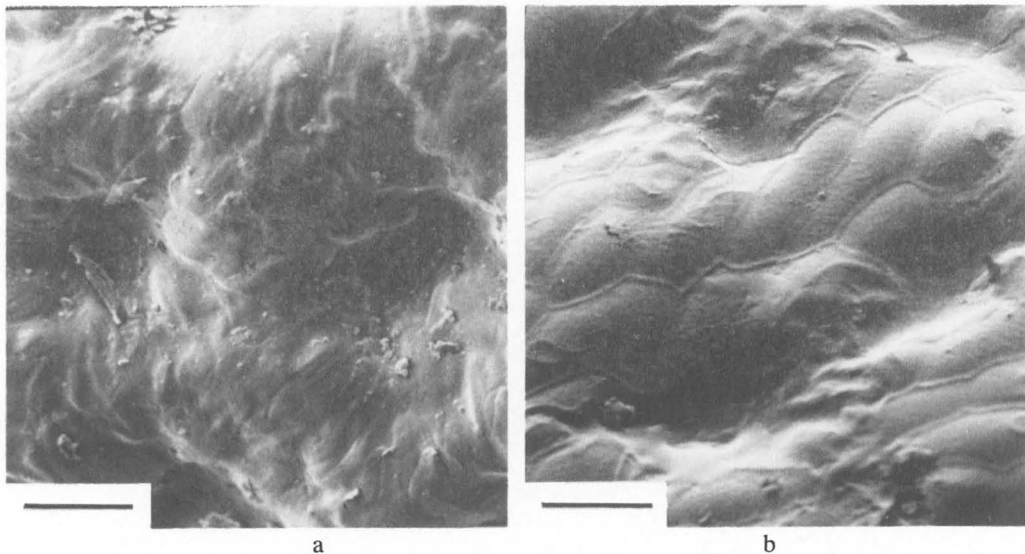


FIGURE 1. Seed-surface of a) *Chenopodium hybridum* var. *hybridum*, and b) var. *paeskei*. Scale bar = 4 μ m.

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P. WILKIN

Botany Department, The University, Whiteknights, Reading, RG6 2AS



FIGURE 1. (a) *Chenopodium album* var. *album*, and (b) var. *serotinum*. Scale bar = 1 µm.