Short Notes

REDISCOVERY OF THE BROMFIELD HERBARIUM

William Arnold Bromfield's posthumous *Flora Vectensis* (1856) was remarkable among the county Floras of its day for the exceptional thoroughness, and indeed minuteness, of its coverage. After Bromfield's sudden death overseas in 1851 his British herbarium, containing the specimens on which many of his Isle of Wight records were based, was given by his sister to the local Philosophical and Scientific Society at Ryde. That body, however, did not prove enduring and by 1908 the collection had passed into the possession of the Ryde School of Art. There it still was when Lousley (1946) had cause to enquire about it, safeguarded solely through the interest of a local teacher of botany, Miss G. Bullock of Binstead.

Sometime after Lousley's note appeared, Miss Bullock was absent through illness for a lengthy period. On her return the herbarium cupboard was empty and, unable to learn what had become of the collection, she regretfully concluded that it had finally been destroyed.

In 1976 the B.S.B.I. Recorder for Wight, v.c. 10, Mr B. Shepard, received a letter from Miss E. S. Haines of Fordingbridge, Hants., offering him "the late Dr White's Herbarium of the Isle of Wight". This had been sent on permanent loan by the latter's daughter to the late A. W. Westrup, presumably in the 1950s, in connection with the new Flora of Hampshire and the Isle of Wight that he was engaged in compiling; and on Mr Westrup's death it had passed to his successor in that capacity, Mrs P. Yule of Fordingbridge. It consisted of two large packages and was stored in a tin trunk in a garden shed.

When the packages reached Mr Shepard at Newport, he was astonished to find that they contained the lost Bromfield herbarium. ("The late Dr White" is presumed to have been Mr E. H. White, a former leading Isle of Wight botanist and schoolteacher, who would have been a likely choice as custodian of the collection in lieu of Miss Bullock when the Ryde School of Art had its clear-out.) The collection still amounts to well over 1,000 sheets and includes a considerable number of gatherings received through the Botanical Society of London, of which Bromfield became a member in 1843. Many of those from areas outside the Isle of Wight are only vaguely localized, if at all; others bear no collector's name.

Some Bromfield duplicates are also known to be in **K** (Lousley 1946). In **OXF**, too, there are further Hampshire and Isle of Wight specimens of his, mostly received through the acquisition of the herbarium of Haileybury and Imperial Services College (Clokie 1964).

ACKNOWLEDGMENT

I am indebted to Mr Shepard for much of the information contained in this note.

REFERENCES

Clokie, H. N. (1964) *An account of the herbaria of the Department of Botany in the University of Oxford*. Oxford.
Lousley, J. E. (1946). Bromfield, William Arnold (1801–51). *Rep. botl Soc. Exch. Club*, **12**: 655.

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RECORDS OF ELIZABETH HARVEY

In a recent paper (Allen 1981) I drew attention to some strictures by Watson (1847) on "the reprehensible practice of mingling specimens and loose labels from different and even distant

localities," perpetrated more particularly by "one lady-botanist, of well-known name," who "has done this to a great extent; and thus has thrown into circulation numerous errors, some of which have appeared in print also."

At this distance in time there seemed scant likelihood that the identity of the offender could now be established. However, while looking through Watson's herbarium (in **K**) more recently, I came across a note in his handwriting on a sheet of *Viola canina* L. which identifies the lady as Miss Elizabeth Harvey (1797/9–1873). The note runs: "It is obvious, in many instances, that Miss Harvey mingles specimens from different localities; and therefore ... the labels cannot be relied upon as evidence that the *specimens*, with which they are sent, did themselves grow in the locality."

Miss Harvey was the daughter of Admiral Sir John Harvey (1772–1837), who formed considerable natural history collections, particularly of shells, which are now in the University Museum at Oxford. The family lived for some years in Edinburgh and later at Deal, in East Kent (v.c. 15). Most of her surviving specimens (in **herb. Watson** and **MSE**) are from the latter area, but there are quite a number collected in Scotland, especially in 1845–6. Many of her Kent finds were published by Cowell (1839).

She joined the Botanical Society of London in November 1838 and at once donated a large quantity of British plants, participating in the annual Distributions for several subsequent years. In July 1840 she also became a member of the Botanical Society of Edinburgh, participating in that, too, sufficiently actively for the Society to accord her an obituary on her death.

Although Watson seems to have been inclined to be far too sweeping in his dismissals, the evidence is sufficient to suggest that all localities on Miss Harvey's labels should at least be treated with reserve.

REFERENCES

ALLEN, D. E. (1981). Sources of error in local lists. *Watsonia*, **13**: 215–220.
COWELL, M. H. (1839). *A floral guide for East Kent.* Faversham.
WATSON, H. C. (1847). On the credit-worthiness of the labels distributed from the Botanical Society of London. *Phytologist*, **2**: 1005–1015.

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THE BRITISH DISTRIBUTION OF UNCOMMON *CARICES*: ADDENDA AND CORRIGENDA

Over the past five years *Watsonia* has carried a series of Short Notes on this subject. One object of publication was to elicit information not previously available, another to stimulate further research; and it is encouraging that it is already possible to report a number of additional localities for the first four taxa investigated. These additions are listed below, together with corrections of some errors (chiefly in the grid references) that appeared in the original Notes.

Carex montana L. (David 1977)

S. Devon, v.c. 3: 20/5.6, Roborough Down, refound in 2 places (A,A), 1980, R.W.D.

Dorset, v.c. 9: 41/0.1, Edmondsham, refound (B), 1977, R.W.D.

S. Hants., v.c. 11: 40/2.9, Sway, add second place (A), 1979, R. P. Bowman; 40/3.9, add Broom Hill, East Boldre, (C), 1977, R. P. Bowman, which is undoubtedly Townsend's Broom Hill station previously located (there are two 'Broom Hills') in 41/2.1, and may also be Jackson's 'near Beaulieu' previously located in 41/3.0; add 41/2.0, Acres Down (B), 1977, and Rhinefield, 2 places (A,B), 1980, all R. P. Bowman; 41/2.1, delete Broom Hill (see above).

E. Kent, v.c. 15: 51/9.6 and 61/1.6, Hanbury's specimens from Bysing and Thornden Woods have now been shown to be *C. pilulifera* (David 1981, p. 178). There is therefore no reason to suppose that *C. montana* ever occurred in this vice-county.

Glam., v.c. 41: 21/8.7, near Newton, refound (Newton Down, C), 1979, R.W.D.; 32/0.0, Morlais Castle Hill, refound (C), 1980, R.W.D.

Brecs., v.c. 42: 22/8.2, Hydfer Valley, add second place (B), 1978, M. Porter, destroyed by ploughing, 1979; 22/9.0, Penderyn, add 2 places (A,A), 1978, M. Porter; 22/9.1, Ystradfelte, add 3 places (A,B,B), 1978, M. Porter.

Carex digitata L. (David 1978a)

N. Somerset, v.c. 6: 31/5.7, Leigh Woods, correct (B) to (C) and add 5 more places (A,A,B,B,B), 1978–80, C. M. Lovatt & R. V. Russell.

E. Gloucs., v.c. 33: 32/8.0. Painswick, add second locality (C), 1977, J. Fleming.

W. Gloucs., v.c. 34: 31/5.7, Clifton, for (A) read (B), 1979, C. M. Lovatt; 32/5.9, Symonds Yat, the grid reference should be 32/5.1.

W. Lancs., v.c. 60: 34/4.7, Cringlebarrow Wood, refound (B), 1979, A. E. Cannell; Leighton Beck, read 2 places (B,B), Mrs M. Baecker.

N.E. Yorks., v.c. 62: first two figures of all grid references should be 44 not 45.

S.W. Yorks., v.c. 63: 43/5.9, Roche Abbey, refound (A), 1980, R.W.D., W. A. Sledge & R. Smith; and reported at a second station, 43/5.8, pre-1970, R. Smith.

Mid-W. Yorks., v.c. 64: 44/2.7, Tanfield (A) should be transferred to N.W. Yorks., v.c. 65; 44/4.4, delete (Boston Spa) after Thorp Arch, and add Jackdaw Crag (Boston Spa), refound in 2 places (A,A), 1978, R.W.D. & W. A. Sledge.

N.W. Yorks., v.c. 65: transfer 44/2.7 Tanfield (A) from Mid-W. Yorks.

Westmorland, v.c. 69: 34/3.8, Roudsea Wood, add second place (C), 1978, R.W.D.; 34/4.7, add Arnside Park, 2 places (A,A), 1978, R.W.D.; Hagg Wood, Arnside (C), 1976, G. M. Kay; Eggarslack, add second place (C), 1978, Mrs M. Baecker.

Carex elongata L. (David 1978b)

Salop, v.c. 40: 33/4.3, add Brownheath Moss (B), 1980, C. Walker; extinct in canal at Colemere, but found by the Mere (A), at White Mere (B), at Sweat Mere (A), and in 33/4.1, Hencott Pool (C), all 1979, C. Walker.

Denbs., v.c. 50: add 33/4.3, Hanmer Pool, 3 places (A,A,B), 1979, M. J. Wigginton.

Cheshire, for v.c. 59 read v.c. 58.

S. Lancs., v.c. 59: 33/7.9, Irlam, for 1880 read 1876.

S.W. Yorks., v.c. 63: for 43/5.0 (Doncaster) read 44/5.0; and insert 44/6.1 before Fishlake.

Westmorland, v.c. 69: 34/3.8, add Rusland (B), 1977, D. R. Grant.

Stirlings., v.c. 86: 26/4.8, Loch Lomond, add second place (B), 1979, A.McG. Stirling.

Add Co. Roscommon, v.c. H25: 13/8.0, Lough Key (A), 1980, D. Kelly.

Fermanagh, v.c. H33: for 23/4.3 (Kilmacbrack) read 23/4.2.

Carex humilis Leyss. (David 1979)

S. Wilts., v.c. 8: 31/9.3, for Wyle Down read Wylye Down; 41/0.1, add Damerham Knoll, 3 places (B,C,D reduced to A by subsequent ploughing), 1979, R. P. Bowman; 41/0.4, Tilshead, add 3 more places (A,B,C); add East Down (C); 41/1.4, Alton Down, add second place (B); all 1979–80, Miss B. Gillam & S. C. Lane.

Dorset, v.c. 9: 31/9.0, Buzbury Rings, refound (A), 1979, D. E. Coombe; Pimperne Long Barrow, refound (B), 1979, D. E. Coombe; 31/9.1, add Swell Down (C), 1980, D. E. Coombe.

S. Hants., v.c. 11: add 41/0.1, north of Bokerley Dyke plantation (A, subsequently destroyed by ploughing), 1979, R. P. Bowman; correct grid reference for Gallows Hill and Mizmaze to 41/1.2 and add Giant's Grave (B), 1977, R. P. Bowman.

ACKNOWLEDGMENTS

In the original notes there was no room for acknowledgments, and I welcome this opportunity to thank the many informants who helped me with directions and advice, and, in particular, for *C. montana*, R. P. Bowman, M. Porter, Dr F. Rose and Miss E. Young; for *C. digitata*, Dr G. Halliday, Mrs S. C. Holland and T. F. Medd; for *C. elongata*, Miss D. A. Cadbury, Dr G. Halliday,

R. C. Palmer and A. McG. Stirling; and for *C. humilis*, Dr D. E. Coombe, Miss B. Gillam, P. J. M. Nethercott and T. C. E. Wells.

REFERENCES

DAVID, R. W. (1977). The distribution of *Carex montana* L. in Britain. *Watsonia*, **11**: 377–378.
DAVID, R. W. (1978a). The distribution of *Carex digitata* L. in Britain. *Watsonia*, **12**: 47–52.
DAVID, R. W. (1978b). The distribution of *Carex elongata* L. in the British Isles. *Watsonia*, **12**: 158–160.
DAVID, R. W. (1979). The distribution of *Carex humilis* Leyss. in Britain. *Watsonia*, **12**: 257–262.
DAVID, R. W. (1981). Presidential address. *Watsonia*, **13**: 173–179.

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LEAF POLYMORPHISM IN *ARUM MACULATUM* L.

Arum maculatum L. is a common woodland plant of the Deeside district, v.c. 51. It prefers the heavier soils of damp pedunculate oakwoods and is frequently found in association with the following species: *Anemone nemorosa*, *Galeobdolon luteum*, *Geranium robertianum*, *Hedera helix*, *Mercurialis perennis*, *Ranunculus ficaria* and *Silene dioica*. A study of leaf-size variation in *Arum* was undertaken in the spring of 1981.

In terms of mean leaf length and width, leaves with anthocyanin spotting were significantly smaller than unspotted leaves. For example, a population of spotted and unspotted plants in Wepre Wood (GR 33/292678) was sampled in March 1981. The mean length of spotted leaves was found to be 10.6±2.0 cm, compared with 13.4±2.3 cm for unspotted leaves. Similarly, mean leaf widths were 6.8±1.6 cm and 9.2±2.1 cm respectively. These observations would appear to suggest that *A. maculatum L.* is polymorphic for leaf-size.

In view of this, it is possible that there may be some genotypic control of leaf-size, especially as the differences in leaf dimensions are, in this case, unlikely to be due to environmental factors. Moreover, plants of the two forms sampled in other woodland habitats also showed significant leaf length and width variations.

Knowledge of Arums native to the British Isles has increased markedly since the publication of *Lords and Ladies* (Prime 1960). Prime noted that *A. maculatum* L. was highly polymorphic in respect of spadix colour, the occurrence of anthocyanin spotting, leaf characters, and sinistrally or dextrally rolled spathes. However, although he briefly considered leaf polymorphism, outlining the variable nature of leaf colour, size, morphology and texture, no specific reference is made to any investigations of leaf-size variation between maculate and immaculate forms of the species.

REFERENCE

PRIME, C. T. (1960). *Lords and Ladies*. London.

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SPARTINA OF THE SEVERN ESTUARY

In the *Flora of Gloucestershire* (Riddelsdell *et al.* 1948) the *Spartina* of the Severn Estuary is referred to as *Spartina* × *townsendii* H. et J. Groves. However, since the 1950s it has been widely known that two taxa have been collected under the name of *S.* × *townsendii* – the slender male-sterile plant (the

true *S.* × *townsendii*) and the vigorous fertile amphidiploid plant derived from it (*S. anglica* C. E. Hubbard).

None of the specimens cited under *S.* × *townsendii* in the *Flora of Gloucestershire* had been seen by Dr Hubbard and he told me how interested he was to find out if true *S.* × *townsendii* did occur in the Severn Estuary. Consequently, a survey of the *Spartina* populations on both banks of the Severn in Gloucestershire and Avon was carried out by members of the Gloucestershire Naturalists'Society in August and September 1978. Later in the autumn a few members also took part in the survey of the salt marshes in the Severn Estuary, a study initiated by the Severn Estuary Conservation Group.

It is well known that *Spartina* was deliberately introduced into the Severn Estuary as a mud-binder to help combat coast erosion and that the first recorded plantings were in 1913 at Clevedon, Somerset, with stock taken from Hayling Island (*Flora of Gloucestershire*, p. 585). It was also planted on the banks of the Severn between Hill and Berkeley Pills in 1921. All the *Spartina* planted was referred to as *S.* × *townsendii*. The policy of the Severn River Authority was to dig small patches of the grass into the mud, and in two to three years this would have grown to a great mass.

Although 1913 is always stated as the date of the first introduction, Mr F. W. Rowbotham, formerly District Engineer of the Lower Severn, told me that at the end of the last century Squire Jenner-Fust of Hill imported two wagon loads of *Spartina* from the coast of East Anglia to protect the foreshore at Sheperdine, where he had a large frontage of saltings.

Seed of *S. anglica* may be dispersed by birds as well as by the tide, as in autumn flocks of reed buntings, tits and finches can be seen feeding amongst the *Spartina*.

The rapid spread of *Spartina* up the Severn is summarized in the *Flora of Gloucestershire*, p. 585: it had reached Aust by 1930, Beachley and Sedbury in 1934, and Sharpness Docks and Hock Cliff (one plant) by 1945.

The survey revealed a further increase in the grass and, as expected, *S. anglica* was found to be the dominant *Spartina* of the Severn Estuary. On the west bank it was recorded at all sites visited from Beachley to Westbury-on-Severn, and again at Upper Dumball, GR 32/746.107, where the saline conditions necessary for the existence of this grass probably reach their limit up the Severn. On the east bank it is abundant from Severn Beach to Sheperdine, Avon, and from Severn House Farm to Frampton Pill, Gloucestershire, with solitary clumps below Hock Cliff and to a point at GR 32/696.101 west of Church Road on the southern shore of the Arlingham peninsula. Upstream from Arlingham *Spartina* is replaced by *Scirpus maritimus*.

S. × *townsendii* has proved to be very much scarcer, occurring only on the lower stretches of the Severn. It usually grows on the higher parts of the salt marsh where the foreshore is more stabilized and where a salt marsh flora is becoming established. Recorded sites are given below.

West bank of the Severn, Gloucestershire (W. Gloucs., v.c. 34): Beachley, 31/59K – small patches on both sides of the point. Broad Stone, Stroat, 31/59Y – on the foreshore. Aylburton Warth, 32/60F – at back of gully. Pill House, 31/59S – two specimens could not be determined with certainty but had characters nearer to *S.* × *townsendii* than to *S. anglica*.

East bank of the Severn, Avon (W. Gloucs., v.c. 34): Aust, 31/58U – small patch on raised ground, lower salt marsh. Littleton, 31/59V – in higher salt marsh. Sherperdine, 31/69D – higher part of salt marsh near Chapel House.

Wye Valley, Gloucestershire (W. Gloucs., v.c. 34): Lancaut, 31/59N, some five miles upriver from the confluence of the Wye and the Severn at Beachley – small quantity in upper salt marsh growing with *S. anglica*.

Avon Gorge, Bristol (W. Gloucs., v.c. 34): Professor A. J. Willis reports that the *Spartina* of the Gorge is *S. anglica*, but with small patches of *S.* × *townsendii* up the R. Avon.

Severn estuary, Gwent (Mons., v.c. 35): T. G. Evans finds that *S. anglica* is the dominant *Spartina* upstream from Newport, with small patches of *S.* × *townsendii* at Newport, Sudbrook and Blackrock.

REFERENCE

RIDDELSDELL, H. J., HEDLEY, G. W. & PRICE, W. R. (1948). *Flora of Gloucestershire*. Arbroath.

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ANOMALOUS INFLORESCENCES IN *PRIMULA VULGARIS* HUDS.

During the course of 1978, trials were initiated at Plymouth Polytechnic's Experimental Station at Rumleigh to investigate aspects of flower production in the primrose, *Primula vulgaris* Huds. The purpose of these trials was to investigate the feasibility of growing *Primula vulgaris* for flower production under controlled commercial conditions, and to determine the effect of regular harvesting of blooms on seed production. The plants used to initiate this study were grown from seed which was obtained from two sources: from Barnhaven of Brigsteer, Kendal, Cumbria; and from plants growing wild within the boundary of the field station. In July 1979 groups of young plants were set out in two plots, one unshaded and the other in artificial shade conditions under a solar dome tunnel allowing 55% light penetration, air movement and rain seepage. Both plots were established at the southern end of the station, on a south-west facing slope.

During subsequent flower harvesting it was noticed that a number of plants exhibited an anomalous flower form (Fig. 1). These were transferred to a separate site for further examination.

Over a period from February to April, 1980, five clumps of plants demonstrating the anomalous flower forms were discovered amongst the 672 clumps in the tunnel plot. Four of these originated from Barnhaven seed, the fifth from Rumleigh's own seed stock.

The inflorescences of these plants exhibited a variation in form in which the corolla was reduced or totally absent, while the calyx was substantially enlarged into a cone-shaped trumpet 25–35 mm in diameter. This appeared corolla-like in general form, and was fused at the base into a tube, pale green or white in colour. The limbs of the calyx were green, divergent and leaf-like in texture, being markedly reticulate with irregularly toothed margins and aristate apices. The tube was pilose, both internally and externally, as was the pedicel. Corolla form was very variable, even within the same clump of plants, but in most instances the corolla was completely absent. If present it was much reduced and in several instances the petals were pale green or white in colour with retuse apices. Stamens and gynoecium appeared to be as normal for primrose. It is interesting that all the anomalous forms observed were of the pin-eyed morph. However, as only five clumps of plants were involved, it is impossible to tell if this condition is restricted to pin-eyed plants.

The leaves on the plants in question were of the same form as normal, but perhaps slightly smaller; no difference was apparent in root form or distribution.

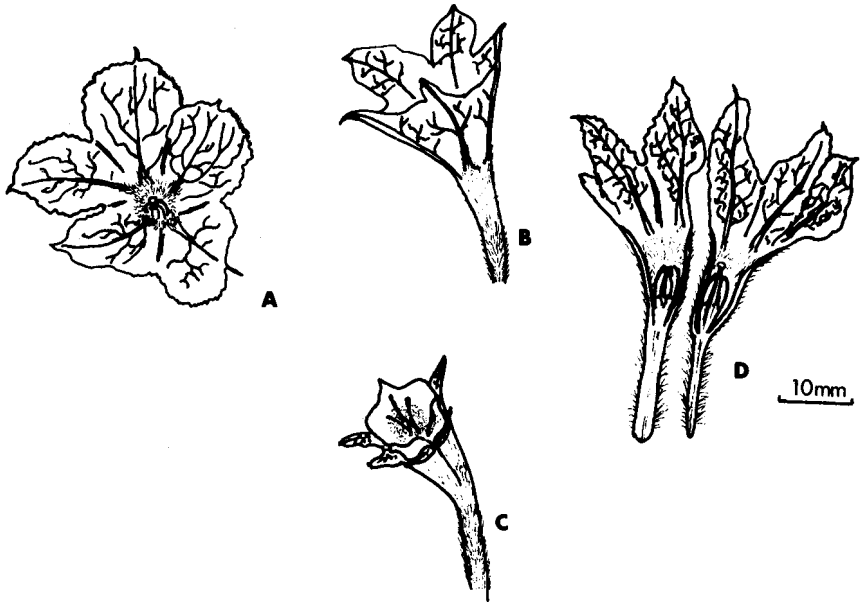

FIGURE 1. Anomalous flower types in *Primula vulgaris*: A, Face view of apetalous form showing enlarged sepals and absence of petals; B, Side view of apetalous form; C, Side view of form in which petals are much reduced; D, Bisection of apetalous form, showing normal stamens and gynoecium, and leafy nature of expanded sepals.

A few examples of an intermediate form were observed in one clump arising from the Barnhaven seed, in which the corolla was reduced but normal in form, but the calyx was enlarged and leafy as before. These specimens appeared very similar to the 'Jack-in-the-Green' type of Elizabethan primrose.

Previous descriptions of flower abnormalities of this type in primrose appear to be scarce; but, in a discussion of the origins of garden Auriculas, Biffen (1951) mentions the adoption of virescence in the wild primrose, reporting the discovery of a single specimen 'in which the yellow petals were replaced by small but unquestionable leaves'. However, he also reports that 50 years of subsequent surveys failed to reveal further specimens of this type. Unfortunately no illustrations of this single specimen are available, and the description fails to make clear whether the leafy structures referred to are derived from sepals or petals. White (1912) records two isolated observations of 'a sport with the calyx converted to leaves' dating from 1883 and 1900, but again there is no indication whether petals were present or not, and no detailed description is provided.

Biffen (1951) speculates on the possibility of the development of virescent forms and their propagation. Accordingly we have retained specimens of the forms observed at Rumleigh and intend to continue our experiments to attempt to discover the origin of this unusual type.

ACKNOWLEDGMENT

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REFERENCES

BIFFEN, R. H. (1951). *The Auricula*. Cambridge.
WHITE, J. W. (1912). *The flora of Bristol*. Bristol.

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VARIETIES OF *VIOLA ODORATA* L. IN SUFFOLK AND CAMBRIDGESHIRE

The descriptions and records of varieties of *Viola odorata* L. have been discussed by Walters (1944, 1946). The typical 'violet-coloured' *V. odorata* is rather less common in the wild than white-flowered plants, most populations of which can be divided into two varieties, readily distinguishable on a combination of characters. In the first variety, var. *dumetorum*, the lateral petals have a 'beard' or tuft of hairs as in the type, and the spur is dark violet-coloured; in the other, var. *imberbis*, the lateral petals are beardless and the spur is reddish-purple. (Other characters of habit, leaf-shape, hairiness, etc., are less diagnostic: these are listed in Walters (1944)). The pinkish-purple-flowered var. *subcarnea*, frequent on limestone with var. *imberbis* in Somerset, seems to differ from the latter only in the flower-colour, and may only be an introduction in eastern England. Patches of plants with white or pale coloured flowers with variable combinations of other characters are occasionally seen, and may be of hybrid origin. The efficient clonal reproduction means that large patches are often genetically uniform.

During April, 1977, we made the following further records and observations in E. Suffolk, v.c. 25, W. Suffolk, v.c. 26, and Cambs., v.c. 29.

Viola odorata var. *odorata*
Churchyard, Barrow, v.c. 26, GR 52/763.636, A.C.L., C.M.P. & S.M.W.
Churchyard, Kirtling, v.c. 29, GR 52/686.576, A.C.L. & J. M. Spencer-Smith.

Viola odorata var. *imberbis* (Leighton) Henslow
Churchyard, Mickfield, v.c. 25, GR 62/135.618, A.C.L. & J. M. Spencer-Smith.

Churchyard, Chevington, v.c. 26, GR 52/789.600, A.C.L., C.M.P. & S.M.W.
Churchyard, Whepstead Baptist, v.c. 26, GR 52/833.582, A.C.L., C.M.P. & S.M.W.
Churchyard, Hawstead "All Saints", v.c. 26, GR 52/856.593, A.C.L., C.M.P. & S.M.W.
Churchyard, Lawshall, v.c. 26, GR 52/864.543, A.C.L., C.M.P. & S.M.W.
Churchyard, Great Ashfield, v.c. 26, GR 52/995.678, A.C.L. & J. M. Spencer-Smith.
Roadside bank, S.W. of Dullingham, v.c. 29, GR 52/619.578, A.C.L.
Roadside bank, N.E. of Dullingham, v.c. 29, GR 52/627.587, A.C.L.
Churchyard, Cheveley, v.c. 29, GR. 52/684.608, A.C.L. & J. M. Spencer-Smith.
Churchyard, Kirtling, v.c. 29, GR 52/686.576, A.C.L. & J. M. Spencer-Smith.

Viola odorata var. *dumetorum* (Jord.) Rouy & Fouc.
Ditchbank by church, Gipping, v.c. 25, GR 62/072.635, A.C.L. & J. M. Spencer-Smith.
Churchyard, Bacton, v.c. 25, GR 62/053.672, A.C.L. & J. M. Spencer-Smith.
Churchyard, Wyverstone, v.c. 25, GR 62/042.679, A.C.L. & J. M. Spencer-Smith.
Churchyard, Bradfield St George, v.c. 26, GR 52/907.599. A.C.L., C.M.P. & S.M.W.
Churchyard, Cockfield, v.c. 26, GR 52/904.550, A.C.L., C.M.P. & S.M.W.
Churchyard, Elmswell, v.c. 26, GR 52/982.636, A.C.L. & J. M. Spencer-Smith.

Viola odorata var. *subcarnea* (Jord.) Parl.
Churchyard, Chevington, v.c. 26, GR 52/789.600, A.C.L., C.M.P. & S.M.W.
Churchyard, Kirtling, v.c. 29, GR 52/686.576, A.C.L. & J. M. Spencer-Smith.

All these sites are on boulder clay.

V. odorata var. *imberbis* and var. *dumetorum* were never found in the same place, but var. *odorata*, var. *subcarnea*, var. *imberbis*, and a *dumetorum*-like variety with glabrous petals occur together in Kirtling churchyard.

This extends our knowledge of the distribution of the two varieties var. *imberbis* and var. *dumetorum* in East Anglia, and suggests that the excess of records of var. *dumetorum* reported in Walters (1946) was simply due to the inadequacy of sampling. It would, however, be interesting to know whether there is any soil preference being shown by the two varieties in East Anglia.

REFERENCES

WALTERS, S. M. (1944). Notes on white-flowered *Viola odorata* L. in the Bristol district. *Proc. Bristol Nat. Soc.*, **27**: 41–45.
WALTERS, S. M. (1946). Observations on varieties of *Viola odorata* L. *Rep. botl Exch. Club Br. Is.*, **12**: 834–839.

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SAMBUCUS RACEMOSA L. SENSU LATO

Among the knotty problems calling for considerable research and deliberation for my projected Alien Flora has been that of trying to sort the Red-berried Elders. The three main taxa which have been introduced into our islands have each been graded as species and need particularly to be considered:

1. *S. racemosa* L. sensu stricto

This is a native of much of central Europe and is now well naturalized in Scotland (where, however, the earliest published record I have traced is as late as 1927, although there are specimens in **BM** which take this back to 1910) and occasionally elsewhere.

Linnaeus's description is useless for distinguishing this from the other similar taxa, which were unknown in his time, but current practice includes among its characters those of being glabrous or

sparsely pubescent when young, (3–)5–7 leaflets of varying shape (roughly lanceolate, with serrations varying from coarse to fine) and inflorescence a dense panicle with the lower branches usually deflexed and not over 5 mm long. Rehder (1940) gives its leaflets as 4–8 cm (Ferguson (1976) as 4–12 (–15)), inflorescence 3–6 cm and fruits 5 mm.

2. *S. pubens* Michx

This native of N. America was introduced early in the last century. Michaux wrote that it was allied to *S. racemosa*, but was to be distinguished by its leaflets being narrower, serrate, never in threes and often subtomentose beneath. Characters given by later authors differ in, for example, the nature of the serration, but agree that the plant usually has some pubescence, especially when young (although there is a glabrous variety) and that the inflorescence is laxer and larger than in *S. racemosa*, the lowest branches being up to 15 mm and not deflexed. Rehder (1940) gives its leaflets as 5–7 and 5–10 cm, inflorescence up to 10 cm and fruits 5 mm, and suggests that this species can grow tallest of the three, i.e. up to 8 m, whereas *S. racemosa* may reach only 4 m. Varying dates are given for flowering, but it may be later than in other species, even up to the end of July.

3. *S. sieboldiana* (Miq.) Graebner

This native of China and Japan was introduced early in the present century. Miquel originally described it as a variety of *S. racemosa*, using Blume's unpublished specific epithet, saying there were marked variations from the typical species, but that it was connected by intermediates. His plant was glabrous or subglabrous, with leaflets mostly in sevens and longer and narrower than in the type variety. Its inflorescence tends to be laxer, as in *S. pubens*, and there is a pubescent variety. Rehder (1940) gives an additional character, which I have never been able to detect, that the branchlets have two blue rings at the nodes. His measurements are leaflets usually 7, sometimes 11, 6–20 cm, inflorescence about 7 cm and fruits 3–4 mm. Ohwi (1965) gives its leaves as 12–30 cm and fruits as 4 mm, but says the plant is very variable.

Several closely allied plants have been described as species, in addition to these three. Such include *S. kamtschatica* E. Wolf, with a pubescent inflorescence and corolla lobes longer than the tube; *S. callicarpa* Greene (*S. leiosperma* Leiberg), the western vicariant of *S. pubens*, which is glabrous or nearly so; and *S. sibirica* Nakai, said to differ from *S. racemosa* in having roughly hairy leaves.

All these taxa, based on trivial and overlapping characters, show that we are dealing with an almost world-wide entity in the N. Temperate zone, the great distances separating the three main groups not having enabled the populations, markedly variable in themselves, to evolve really distinctive characters. Hand anybody specimens, and it is improbable that he will be able to place more than a few correctly without being told from which area they came. He would do best by putting the most pubescent plants into *S. pubens*, those with the longest and most numerous and attenuate leaflets into *S. sieboldiana*, and those with the most compact inflorescences into *S. racemosa* sensu stricto; but even then he would not always be right.

Naturalized plants in Britain have been credited with all three main names, but it has proved impossible to refer them with assurance to other than *S. racemosa* sensu lato. The position is further complicated by their presumably having hybridized whenever conditions allowed. In a world-wide context too, it seems unjustified to uphold full specific status for any of the American or Asiatic plants.

The most suitable category seems to be that of variety; and there exist the combinations *S. racemosa* var. *pubens* (Michx) Koehne and *S. racemosa* var. *sieboldiana*[Blume ex] Miq. Those who consider that the wide spatial separation of the populations merits subspecific recognition can use the names *S. racemosa* subsp. *pubens* (Michx) Hultén and *S. racemosa* subsp. *sieboldiana* (Miq.) Hara.

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REFERENCES

FERGUSON, I. K. (1976). *Sambucus*, in TUTIN, T. G. *et al.*, eds. *Flora Europaea*, **4**:44–45. Cambridge.
OHWI, J. (1965). *Sambucus*, in *Flora of Japan*, pp. 833–834. Washington.
REHDER, A. (1940). *Sambucus*, in *Manual of cultivated trees and shrubs*, 2nd ed., pp. 827–830. New York.

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TWO SOUTH-WESTERN BRAMBLES

1. **Rubus villicauliformis** A. Newton, **sp. nov.**

Turio arcuatus angulatus superficiebus excavatis superne atrorufescens inferne fuscoviridis capillis albis, aculeis sparsis gracilibus e basi angusta rectis vel declinatis vel subcurvatis nonnullis parum obfalcatis ad angulos dispositis obsitus. Folia plerumque quinata subdigitata subimbricata latere undulata atroviridia superne fere glabra inferne griseotomentosa parce pilosa capillis parvis praesertim ad nervos applicatis. Foliolum terminale ovatum vel elliptico-ovatum acuminatum irregulariter serratum basi emarginata eiusdem petiolulo triplo longius. Inflorescentia anguste subpyramidata ad apicem primo saltem fasciculata inferne ramis subracemosis laxe adscendentibus. Rachis vix flexuosa atrorufescens inferne capillis albis vestita superne villosa, aculeis gracilibus parum reclinatis sat longis armata. Pedicelli rachidi superiori similes aculeolis rufescentibus nonnullis obsiti. Sepala laxe reflexa intra albotomentosa externe villosa pauce aculeolata. Flores *c.* 2.5 cm diametro. Petala obovata pubescentia atroroseata; stamina roseata vix stylos roseos superantia. Anthera glabra, carpella barbata. Fructus ovatus.

Stem low-arching, dark red above, brownish-green beneath, bluntly angled with grooved sides, glabrescent with scattered white, simple hairs and many sessile glands; prickles confined to the angles, thinly scattered, occasionally in pairs, slender, straight, patent or declining or slightly curved from a narrow base, a few recurved, mostly as long as the stem width. Leaves (3–4)-5-nate, subdigitate, almost glabrous above, dark green, with undulate margins, grey to grey-green felted beneath and thinly hairy with numerous short, appressed, simple hairs. Petioles moderately long; leaflets ± imbricate, the terminal leaflet ovate or ovate-elliptical, acuminate, with an emarginate base; margin finely but somewhat irregularly serrate. Panicle narrowly subpyramidal, dense at the top at least at first, with a few loosely ascending, subracemose branches below. Rachis slightly flexuose, dark red, with frequent white simple hairs below, the upper part densely hairy and felted, armed with several slightly curved, rather long prickles. Pedicels like the upper part of the rachis, with frequent short, declining red prickles. Sepals loosely reflexed, whitish felted within, grey-white felted and densely hairy outside, with a few short prickles. Petals obovate, pubescent, deep rose-pink; stamens rose, slightly exceeding the pink tinged styles. Anthers glabrous. Carpels bearded. Fruit ovoid.

HOLOTYPUS: Beaford Moor, N. Devon, v.c. 4, GR 21/58.14, 19/7/1977, *A. Newton* 10201 (**herb. A.N.**)

This bramble was referred to by Rilstone (1952) as the Cornish representative of the *R. villicaulis* group but "probably an unnamed species". There are many examples in herb. Rilstone (**BM**) and also in herb. Barton & Riddelsdell (**BM**). On one sheet (358) Rilstone says that it is "widespread in East Cornwall, especially common about Caradon and the upper Fowey valley". Another note refers to its preference for the granite uplands above 500 ft. A gathering from Bridestowe, N. Devon (Rilstone 1277) is determined (correctly) as the same species. During the 1980 B.S.B.I. Plymouth field meeting (see p. 107) it was found to be frequent on the moors of E. Cornwall and also around the southern edges of Dartmoor, S. Devon. On a previous visit to N. Devon in 1977 I found it to be widespread in thickets and hedges on the margins of damp moorland at higher levels. It is a

distinctive, easily recognized plant on account of its dark green foliage and deep rose-pink flowers, and is distinct from *R. villicaulis* Koehl. in other significant respects.

The known 10 km square distribution, justifying regional endemic status, is as follows:

E. Cornwall, v.c. 2: 10/96; 20/26, 27, 37, 38.

S. Devon, v.c. 3: 20/45, 46, 47, 55, 57, 86.

N. Devon, v.c. 4: 20/58; 21/41, 51.

A specimen from Brawdy, Pembs., v.c. 45 (leg. T. A. W. Davis 77/1465) appears to be identical except for pilose anthers.

2. **Rubus tamarensis** A. Newton, **nom. nov.**

R. rivularis var.*hirtiformis* Sudre, *Rubi* Europae, 207 (1913)

LECTOTYPUS: Chard Common, S. Somerset, v.c. 5, 12/7/1893, leg. R. P. Murray and W. M. Rogers, Set of British Rubi 102 (**MANCH**)

This is the bramble intended by Riddelsdell (1939) and Rilstone (1952) to be referred to as *R. hiernii* Riddelsdell. Unfortunately, however, Riddelsdell, in his protologue of *R. hiernii*, merely created a superfluous synonym for *R. rotundifolius* (Bab.) Blox., a different taxon, known only from Bloxam's Twycross (Leics., v.c. 55) specimens.

R. tamarensis is widespread and common in Devon and extends to Chard, S. Somerset, v.c. 5, but it occurs only in the extreme east of Cornwall according to Rilstone (1952) – I myself have seen no Cornish material. Since it is a major constituent of the Devon bramble flora and of regional endemic status it is now raised to specific rank. The petals are white and the styles red.

The known 10 km square distribution as verified by me is as follows:

S. Devon, v.c. 3: 20/55, 56, 75, 78, 88, 89; 21/81.

N. Devon, v.c. 4: 20/39, 58, 59, 69; 21/20, 41, 51, 52, 53, 60, 63, 70.

S. Somerset, v.c. 5: 21/94; 31/30.

REFERENCES

RIDDELSDELL, H. J. (1939). *Rubus hiernii* n. sp., in MARTIN, W. K. & FRASER, G. T. *Flora of Devon*, pp. 281–282. Arbroath.

RILSTONE, F. (1952). *Rubi* from Dartmoor to the Land's End. *Watsonia*, **2**: 151–162.

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VULPIA AUSTRALIS (STEUDEL) BLOM IN BRITAIN

Stace & Cotton (1967) pointed out that the majority of plants recorded as casual aliens in Britain under the name *Vulpia australis* are in fact referable to *V. muralis* (Kunth) Nees. The purposes of this note are to clear up the doubts expressed by Stace & Cotton about the identity and typification of *V. australis* (Steudel) Blom and to publish the known British records of this species.

Vulpia australis (Steudel) Blom is based on *Festuca australis* [Nees ex] Steudel, which was in turn based on *Festuca tenella* var. α Nees (*non F. tenella* Willd., which is the North American *V. octoflora* (Walter) Rydb.). The only specimen cited by Nees was collected by Sellow at Montevideo and seen by Nees in **B**. Stace & Cotton (1976) stated that no such specimen exists at **B** now, but that a duplicate of it, sent from **B** in 1840 (after Nees' publication), is at **K**, and is *Vulpia myuros* (L.) C. C. Gmelin f. *megalura* (Nutt.) Stace & Cotton. This taxon is quite different from the South American plant interpreted as *V. australis* by Blom (1934) and Parodi (1956) and currently so-called by South American botanists.

Fortunately, I have recently seen four good duplicates of the Sellow specimen in **W** (3) and **G** (1).

These are exactly the same as the South American plant currently known as *V. australis*, and they make it clear that the **K** specimen was a contaminant of the original collection at **B** and does not represent Steudel's *Festuca australis*. I designate the specimen at **W** with the printed label "Herb. Reg. Berolinense" as the lectotype of *Festuca tenella* var. α Nees.

Vulpia australis appears to be common in eastern temperate South America (extreme southern Brasil, Uruguay and eastern Argentina). It has been reported as a casual in Europe on a few occasions and, although most of the British records are referable to *V. muralis*, I have seen three specimens of *V. australis* from this country.

1. Wool alien, railway sidings, Newnham Bridge, Worcs., v.c. 37, C. M. Goodman, 1957 (Lousley no. W430).
2. Wool alien, Ash, E. Kent, v.c. 15, D. McClintock, 1960 (Lousley no. W1611).
3. Wool alien, hop field, Barming, W. Kent, v.c. 16, J. E. Lousley, 1966 (Lousley no. W2845).

All three were originally in **herb. J. E. Lousley** and are now in **RNG**.

REFERENCES

Blʃ M, C. (1934). Über einige *Vulpia*-Arten. *Acta Horti gothoburg.*, **9**: 153–164.

Pa.ODI, L. R. (1956). Las especies de gramíneas del género *Vulpia* de la Argentina y países limítrofes. *Rev. Argent. Agron.*, **23**: 71–94.

Stace, C. A. & Cotton, R. (1976). ᵎotes on tw ɔ alien Vulpias in Britain. *Watsonia*, **11**: 72–73.

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