Short Notes

PUTATIVE *REYNOUTRIA JAPONICA* HOUTT. × *FALLOPIA BALDSCHUANICA* (REGEL) HOLUB HYBRIDS DISCOVERED IN BRITAIN

Reports that seed taken from naturalized plants of *Reynoutria japonica* Houtt. in Britain is frequently the result of hybridization with the commonly grown garden plant *Fallopia baldschuanica* (Regel) Holub (Russian Vine) have been the subject of two B.S.B.I. exhibition meeting displays (Bailey & Conolly 1984; Bailey 1987). These exhibits were accompanied by pleas to those interested to try to find such plants growing in the wild. Experience at Leicester had shown that although hybrid seed was capable of surviving the winter and germinating in the spring, such seedlings would be unlikely to survive a British winter, and so the best chance would be to look for seedlings under *R. japonica* plants in spring. These requests have, I am happy to report, borne fruit, and have resulted in B.S.B.I. member D. Bevan, who had seen our exhibits, finding the first *R. japonica* × *F. baldschuanica* growing in the wild; furthermore, the discovery was not just of a seedling, but of a clump of some considerable size, at Railway Fields, Haringey, Middlesex, v.c. 21 (GR 51/317.882) in 1987. This has prompted me to give a fuller account of the discovery, incidence and morphology of this new addition to the British flora.

Bailey & Conolly (1985) reported that the most commonly found variant of *R. japonica* in Britain was octoploid (2n=88) and female. Persistent reports that such plants were capable of setting some seed in the absence of male-fertile *Reynoutria* plants led to comparative examination of the chromosome complements of the octoploids with their seedling offspring from eleven localities in Britain (Table 1).

TABLE 1. LOCALITIES OF OCTOPLOID FEMALE *R. JAPONICA* PLANTS FROM WHICH SEED WAS COLLECTED AND GROWN, AND THE NO. OF SUCH SEEDLINGS THAT HAD 54 CHROMOSOMES

Location			No seedlings with 2n = 54	No seedlings grown
V.c. 11, S. Hants.	Petersfield	GR 41/744.234	5	5
V.c. 12, N. Hants.	Itchen Abbas	GR 41/541.329	5	5
V.c. 40, Salop	Ironbridge	GR 33/671.033	3	4
V.c. 48, Merioneth	Boston Lodge	GR 23/589.382	4	5
V.c. 48, Merioneth	Tyn Coed	GR 23/67.18	2	2
V.c. 48, Merioneth	Ynys	GR 23/597.353	2	2
V.c. 49, Caerns.	Criccieth	GR 23/492.381	4	4
V.c. 49, Caerns.	Pentre'r-felin	GR 23/526.396	3	3
V.c. 49, Caerns.	Pwllheli	GR 23/374.350	5	6
V.c. 55, Leics.	Sileby	GR 43/602.153	4	4
V.c. 55, Leics.	Stoughton	GR 43/644.026	3	3[a]

[a] artificial hybridization with *F. baldschuanica*

Since the female parent, *R. japonica*, had in all the above localities 88 chromosomes, it was something of a surprise that all seedlings counted had 54 chromosomes. Furthermore, whatever was going on was a very regular and widespread phenomenon, occurring as it did in widely separated parts of the country. Cytologically the seedling karyotype was rather distinctive in that ten large chromosomes could be readily distinguished from 44 smaller and more uniform chromosomes typical of *Reynoutria*. Working on the assumption that these seeds were the result of a fertilization event (rather than some bizarre meiotic aberration) one would be looking for a pollen parent with 20 chromosomes. The cytological data in combination with the leaf shape and the semi-twining habit of the seedlings pointed to the involvement of the diploid climber *F. baldschuanica* (2n=20) as a putative pollen donor.

Artificial hybridization between a female *R. japonica* from Stoughton and *F. baldschuanica* gave rise to several seeds; three seedlings were subsequently grown on and found to have the same chromosome number and karyotype as well as being virtually identical morphologically with the plants grown from wild-collected seed. A further indication of the ubiquity of this phenomenon came later, when I contacted Richard Scott of I.T.E., Merlewood, who had been conducting research into the suitability of *Reynoutria* taxa as biomass producers. During the course of this work he had collected seeds from female *R. japonica* growing next to a plant of *R. sachalinensis*, thinking not unnaturally that they would grow into the interspecific hybrid. However, when I examined these plants it quickly became apparent that they were hybrids between *R. japonica* and *F. baldschuanica*.

Plants grown outdoors at Leicester for three years are becoming more vigorous but are extremely reluctant to flower; some flower-buds were initiated on one plant this year (1987) but were aborted before they reached maturity. In contrast, the plant at Haringey is extremely vigorous, covering over 10 m^2, and is strongly rhizomatous and with several densely flowered inflorescences. Judging from its size, it must have been established for some time, since it is many times larger than the three-year-old Leicester plants.

DESCRIPTION OF *R. JAPONICA* × *F. BALDSCHUANICA*

Superficially similar to *R. japonica*, but with stems much thinner and with smaller leaves. Stems herbaceous, up to 2 m long, slender with red blotches, bending over almost to touch the ground, reducing the height of the plant to c. 1.5 m. Leaves acuminate, ovate to narrowly ovate-oblong, to 13 × 6.5 cm; petioles slender, 2–2.5 cm long. Inflorescence of axillary and terminal panicles. Flowers hermaphrodite (?), resembling *R. japonica* more than *F. baldschuanica*; the three outer perianth segments more broadly keeled than in *Reynoutria*; anthers 0.6–0.7 mm long; style trifid, with fimbriate, club-shaped stigmas (intermediate between the fimbriate and capitate stigmas of its respective parents). Younger plants without rhizomes, or only weakly rhizomatous; established clumps may have tough, woody rhizomes up to 2 cm in diameter. Flowering occurs very late in the season (late September to early October); there are no reports of any seed set in this hybrid.

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REFERENCES

BAILEY, J. P. & CONOLLY, A. P. (1984). A putative *Reynoutria* × *Fallopia* hybrid from Wales. *Watsonia*, **15**: 162–163.

BAILEY, J. P. & CONOLLY, A. P. (1985). Chromosome numbers of some alien *Reynoutria* species in the British Isles. *Watsonia*, **15**: 270–271.

BAILEY, J. P. (1987). *Reynoutria* hybrids in the British Isles. *B.S.B.I. News*, **45**: 36.

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THE VASCULAR PLANT HERBARIUM OF E. C. WALLACE

The herbarium of the late Edward Charles (Ted) Wallace (1909–1986) was massive and exceptionally well curated. His bryophyte collections were bequeathed to **NMW** and his lichens to the British Lichen Society. The vascular plants were presented to **RNG** by Mr Alan Crundwell to whom they had been bequeathed (Jury 1987).

The vascular plant herbarium was kept in an upstairs bedroom of his semi-detached house in Surrey in four purpose-built cupboards with a total of 137 shelves! Even so this was not enough and the specimens of *Carex* were housed separately in 15 boxes. The collection was arranged according to Dandy (1958) with the sheets of each species in strict vice-county order. No trace of any insect damage was found, except in some unmounted duplicate material which was destroyed.

Although still avidly collecting specimens to near his departing, no backlog of material awaiting processing or incorporating was found: Ted was too organized. A recent obituary (Richards 1987) gives details of his life, travels and great dedication to botany. Examination of his specimens also shows just how great his botanical passion was.

The job of incorporating the herbarium has now been completed and a substantial number of duplicates removed and exchanged. This was a large task, for **RNG** is fortunate in also having the herbarium of the late J. E. Lousley, who had exchanged many specimens with Wallace, and a good deal of material was duplicated. Both men had been members of the Botanical Exchange Club and the Watson Botanical Exchange Club and had acquired specimens from these sources. (Incidentally, it is very interesting to note that a very large number of specimens collected by Lousley which had not been kept by Lousley himself were found in Wallace's herbarium.)

All sheets were stamped on incorporation into **RNG**: "Herbarium E.C. Wallace (1909–1986). Presented to Herbarium **RNG** 1986" so they will be identifiable in the future. (Specimens from Lousley's own herbarium have also been similarly annotated.)

While examining and checking each specimen some simple statistics were recorded (Table 1). Kent & Allen (1984) record that his herbarium contained 25,000 gatherings and had significant holdings from Surrey, v.c. 17, and Scotland. Wallace's vascular plant herbarium in fact contained 26,190 gatherings, of which 1,458 were foreign.

The Lousley herbarium contained 3,570 (14.6%) specimens from Surrey (Jury 1977), and with the addition of another herbarium also known to be rich in Surrey specimens a note was kept of these. In fact of the total 22,855 British gatherings incorporated, no less than 4,692 (20.5%) were from Surrey. Botanists working on the flora of v.c. 17 are therefore advised that they are likely to find it worthwhile consulting **RNG.** A total of 5,951 gatherings (24.5%) from Scotland were incorporated.

The foreign material is almost all from his recent travels (listed by Richards 1987), e.g. *Carex illegitima* Cesati from Rodhos collected in April 1987 (see photograph in Briggs 1986).

Table 1 shows what genera were especially well represented in his collection. The comparable figures for Lousley's herbarium are also given. It is interesting to note how both shunned the apomictic genera *Rubus* and *Taraxacum*, though Lousley had a fine collection of *Hieracium* specimens. In many cases the two herbaria have proved to be complementary.

Only two single specimens of *Agrostis* have been found, both only recently collected and unnamed by Wallace. Also missing were specimens of the genera × *Agropogon*, *Aira*, *Alopecurus*, × *Ammocalamagrostis*, *Ammophila*, *Anthoxanthum*, *Apera*, *Corynephorus*, *Cynodon*, *Digitaria*, *Echinochloa*, *Eragrostis*, *Gastridium*, *Hierochloë*, × *Hordelymus*, *Lagurus*, *Mibora*, *Milium*, *Nardus*, *Parapholis*, *Phalaris*, *Phleum*, *Polypogon*, *Setaria* and *Spartina*. Were these loaned by Wallace to someone? Information on their whereabouts would be gratefully received.

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TABLE 1. PARTIAL BREAKDOWN OF THE WALLACE VASCULAR PLANT HERBARIUM

	Number of gatherings						Number of gatherings in J. E. Lousley's herbarium where known
	Surrey v.c. 17	Scotland	Rest of the British Isles	Rest of Europe	Rest of the World	Total number	
Pteridophyta	144	429	681	72	58	1384	
Gymnospermae	19	63	19	6	9	116	
Monocotyledons							
Cyperaceae							
Carex	204	863	1162	205	67	2501	949
Scirpus	34	33	95	13	7	182	118
Juncaceae							
Juncus	70	194	186	42	11	503	301
Luzula	31	69	65	9	3	177	71
Liliaceae							
Allium	7	7	43	4		61	68
Orchidaceae							
Dactylorhiza	2	11	24			37	116
Orchis	9	2	28			39	41
Poaceae							
Agrostis			2			2	156
Bromus	55	22	147	19	2	245	271
Festuca	33	69	104	16		222	99
Poa	34	165	88	40	4	331	219
Vulpia	15	3	48	5		72	104
Potamogetonaceae							
Potamogeton	69	121	316	3	4	513	242
Others	346	558	1127	120	40	2190	
Total monocotyledons	909	2117	3435	476	238	7075	
Dicotyledons							
Asteraceae							
Centaurea	14	2	54	6		76	108
Hieracium	69	17	76	8	1	171	644
Senecio	32	18	100	6		156	105
Taraxacum	3	16	21	1		41	35
Boraginaceae							
Myosotis	35	32	80	3		150	96
Brassicaceae							
Lepidium	18	9	47	3		77	120
Caryophyllaceae							
Arenaria	18	77	137	8	8	248	56
Sagina	21	123	116	1		261	151
Silene	27	65	213	10	2	317	114
Chenopodiaceae							
Atriplex	11	24	73	2		110	112
Chenopodium	42	5	123	8		178	308
Euphorbiaceae							
Euphorbia	38	6	78	12	1	135	114
Fabaceae							
Medicago	18	8	81	9	1	117	218
Trifolium	47	25	156	17		245	387
Vicia	34	39	122	2	2	199	179

Table 1. continued

	Number of gatherings						Number of gatherings in J. E. Lousley's herbarium where known
	Surrey v.c. 17	Scotland	Rest of the British Isles	Rest of Europe	Rest of the World	Total number	
Fumariaceae							
Fumaria	23	12	85	2		122	115
Gentianaceae							
Gentianella	16	36	45	6	2	105	83
Geraniaceae							
Erodium	1	5	27			33	152
Geranium	30	24	116	1		171	132
Hypericaceae							
Hypericum	49	31	77	3		160	89
Lamiaceae							
Mentha	210	73	335	5		623	176
Onagraceae							
Epilobium	94	80	140	3	2	319	145
Polygonaceae							
Polygonum	153	65	155	7	2	382	326
Rumex	41	50	129	8		228	1126
Ranunculaceae							
Ranunculus	49	35	182	7	2	275	246
Rosaceae							
Alchemilla	3	27	47	1		78	64
Potentilla	37	54	65	13	3	172	92
Rosa	24	1	10			35	66
Rubus	8	23	12			43	3
Rubiaceae							
Galium	52	58	104	11	4	229	138
Salicaceae							
Salix	90	309	188	12	1	600	181
Scrophulariaceae							
Euphrasia	30	107	119	5		261	298
Veronica	83	101	135	11		330	208
Verbascum	10	1	26			37	95
Solanaceae							
Solanum	3	3	24			30	105
Violaceae							
Viola	156	155	422	10	2	745	204
Others	3429	2726	7365	500	101	14121	
Total dicotyledons	4007	3786	9125	581	118	17617	
Total in herbarium	5079	6395	13260	1135	323	26192	24465
Duplicates extracted	387	444	1046	10	1	1888	
Total specimens added to **RNG**	4692	5951	12212	1125	322	24304	

REFERENCES

BRIGGS, M. (1986). Ted Wallace – a memory. *B.S.B.I. News*, **44**: 5–6.
DANDY, J. E. (1958). *List of British vascular plants*. London.
JURY, S. L. (1977). The herbarium of J. E. Lousley. *Watsonia*, **11**: 312.
JURY, S. L. (1987). The herbarium of the late Ted Wallace. *B.S.B.I. News*, **45**: 13–14.
KENT, D. H. & ALLEN, D. E. (1984). *British and Irish Herbaria*. London.
RICHARDS, P. (1987). Obituary: E. C. (Ted) Wallace 1909–1986. *J. Bryol.*, **14**: 603–608.

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TRIFOLIUM OCCIDENTALE D. E. COOMBE, NEW TO WALES

On 15 May 1987 a single, profusely-flowering patch of *Trifolium occidentale* was found in cliff-top turf near Tears Point in the Gower Peninsula, Glamorgan (v.c. 41, GR 21/407.872) by Jo Dunn. Subsequent searches by Rosemary John, E. M. Kay and Q. O. N. Kay of suitable habitats on the coast of south-western Gower between Port-eynon Point and Rhosili showed that *T. occidentale* grew both on Tears Point and on similar south-facing limestone cliff-tops between Fall Bay and Mewslade Bay (GR 21/413.872 to 21/421.873); none was found elsewhere.

On Tears Point (the headland on the south-western side of Fall Bay near Rhosili) it is apparently confined to one minor headland, where several (c. 12) small scattered plants of varied size grow within an area of about 20 m^2 in dense, closely sheep-grazed and species-rich *Festuca rubra* turf on the level cliff-top, about 3–7 m from the edge of the cliff. The sloping limestone cliffs are about 45 m high here. Two more small patches were found about 25 m west of the first site on Tears Point (Table 1).

On the other side of Fall Bay, *T. occidentale* was found to be locally more abundant between Lewis Castle (the headland to the east of Fall Bay) and Mewslade. Here it grows in floristically similar but less intensively grazed grassland near limestone outcrops on exposed cliff-tops, and also on the upper cliff-slopes facing the sea. The total population in this area was estimated to be 350–500 plants. On Lewis Castle, for example, at least 50 patches of *T. occidentale* were seen in about 60 m^2 of *Festuca rubra* turf (Table 1) at the seaward end of the headland, about 50 m above sea-level. Most plants were more vigorous than those on Tears Point and many were flowering strongly; on 7 June 1987 some flower-heads were still open but others had formed mature seed, so had probably started flowering in late April. Here and at Tears Point scattered patches of *T. repens*, not yet in flower on 7 June, grew locally intermingled with *T. occidentale*, mainly on the less exposed landward side of the site.

The Gower plants closely resembled plants of *T. occidentale* from Cornwall and the Isles of Scilly both morphologically and in their overall isoenzyme profiles, although the latter showed some distinctive local features (N. A. Ab-Shukor, unpublished). Chromosome numbers of 2n=16 were determined for three plants from Mewslade and Tears Point, in agreement with those reported from other populations of this diploid species.

When it was first described, *T. occidentale*, which closely resembles the tetraploid species *T. repens* and had previously been confused with it, was known in Britain only from western Cornwall and the Isles of Scilly (Coombe 1961). Its occurrence in the Channel Islands and north-eastern Spain suggested that it should be widespread on the western coast of France, and it was subsequently found both there and on the northern coast of Portugal (Coombe & Morisset 1967; Géhu 1972). Its discovery in 1979–81 on the eastern coast of Ireland as far north as Skerries in northern Co. Dublin (Akeroyd 1983) and in 1983 in a small population at Welcombe Mouth in Devon (Milton 1984a), about 70 km north-east of its nearest Cornish site, though only just in Devon, suggested that it should occur further north on the coast of England and Wales. Milton (1984b) drew attention to this in a widely-circulated paper in which he described and illustrated *T. occidentale*, but the present report appears to be the first discovery since then of *T. occidentale* in a

TABLE 1. SPECIES ASSOCIATED WITH *TRIFOLIUM OCCIDENTALE* AT SITES IN THE GOWER PENINSULA (DOMIN COVER-ABUNDANCE SCORES)

Species that were recorded with *T. occidentale* in Cornwall and the Channel Islands by Coombe (1961) are marked +++ if they occurred in at least three of Coombe's four noda, ++ if they occurred in two and + if they occurred in one with a constancy of 2 or more.

Species	Site		
	Tears Point E. (21/407.872)	Tears Point W. (21/407.872)	Lewis Castle (21/413.873)
Trifolium occidentale	3–4	2–3	4–5
Armeria maritima+++	2	—	3–4
Bellis perennis+++	2	1	2
Bromus hordeaceus subsp. *ferronii*+++	3–4	2	2
Cerastium diffusum+++	3	1	2
Cerastium fontanum++	2	—	2
Cynosurus cristatus+++	4	4	3–4
Dactylis glomerata+++	2	2	3
Festuca ovina+++	3	4	2
Festuca rubra+++	4–5	4	4
Helianthemum nummularium	—	4	2
Hieracium pilosella	3–4	2	2
Koeleria macrantha+++	2	3–4	3–4
Leontodon taraxacoides+++	2	4	2
Lotus corniculatus+++	2	3	3–4
Luzula campestris++	2	1	—
Plantago coronopus+++	3	4	2
Plantago lanceolata+++	3	—	2
Poa pratensis++	2	—	3
Ranunculus bulbosus+++	2–3	3	3–4
Sanguisorba minor	4	4	3–4
Scilla verna++	3	3–4	2
Taraxacum erythrospermum	2	1	2
Thymus praecox+++	—	2–3	2
Trifolium dubium++	3–4	—	1
Trifolium repens+	2	3–4	2
Trifolium striatum+	2–3	—	2

Additional species found at only one site: Tears Point E., *Centaurium erythraea*++ 1, *Cirsium vulgare*++ 1, *Poa annua* 3–4; Tears Point W., *Polygala vulgaris*++ 1, *Stachys officinalis*++ 1; Lewis Castle, *Aira caryophyllea*+++ 3, *Carex caryophyllea*++ 1, *Galium verum*++ 1, *Lolium perenne*+++ 3, *Sherardia arvensis* 1, *Trifolium scabrum*++ 1–2.

locality to the north of its known range in Great Britain. The Gower sites are the first to be found in Wales and are about 70 km north-north-east of Welcombe Mouth, separated from it by the Bristol Channel.

The maritime *Festuca rubra* turf of the Gower sites differs from that of the sites in Cornwall and Guernsey described by Coombe (1961) chiefly in the presence of a few calcicoles (e.g. *Sanguisorba minor*) and the absence of some calcifuges (e.g. *Jasione montana* and *Sedum anglicum*); otherwise they are very similar in floristic composition, with *Armeria maritima* as the chief halophytic species in both cases.

REFERENCES

AKEROYD, J. R. (1983). Further notes on *Trifolium occidentale* D. E. Coombe in Ireland. *Ir. Nat. J.*, **21**: 32–34.

COOMBE, D. E. (1961). *Trifolium occidentale*, a new species related to *T. repens*. *Watsonia*, **5**: 68–87.

COOMBE, D. E. & MORISSET, P. (1967). Further observations on *Trifolium occidentale*. *Watsonia*, **6**: 271–275.

GÉHU, J. M. (1972). *Trifolium occidentale* D. E. Coombe: éspèce nouvelle pour le littoral du nord du Portugal. *Agron. Lusit.*, **34**: 197–204.

MILTON, J. N. B. (1984a). *Trifolium occidentale* D. E. Coombe (Atlantic Clover) new to North Devon. *Watsonia*, **15**: 120–121.

MILTON, J. N. B. (1984b). *Trifolium occidentale* D. E. Coombe, an overlooked clover. *B.S.B.I. News*, **37**: 8–9.

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REDISCOVERY OF *HALIMIONE PEDUNCULATA* (L.) AELLEN IN BRITAIN

In northern Europe *Halimione pedunculata* (L.) Aellen is a rare annual of saltmarshes and tidally inundated dune-slacks. It appears to have undergone considerable decline during the present century, and is now listed as an 'endangered' species in Europe (Council of Europe 1983). *H. pedunculata* was believed to have become extinct in Britain in the 1930s. There are old records of the plant from at least 16 localities on the eastern coast between Kent and Lincolnshire (Perring & Walters 1962; Perring & Farrell 1983), but this century it has been observed at only three of these: at Pegwell Bay, Kent (many records, last seen about 1924); on the Wash at Freiston, Lincolnshire (1932, specimen at **NOT**); and at Walberswick, Suffolk (last seen 1938 (J. E. Lousley, note at **RNG**)).

On 29th September 1987 a colony of *H. pedunculata* was discovered in S. Essex, v.c. 18, GR 51/9.8, by S. J. L. and S. A. Wolfe-Murphy in the course of a Nature Conservancy Council survey of grazing marshes in Suffolk and Essex. The species occurs here on a narrow strip of relict saltmarsh about 100m back from the sea-wall, where it is associated with *Puccinellia maritima*, *Aster tripolium*, *Spergularia media*, *Suaeda maritima* and *Triglochin maritima* (Table 1). In phytosociological terms this vegetation clearly belongs to the *Puccinellietum maritimae*, and is similar to stands containing *H. pedunculata* described from elsewhere in Europe (Géhu & Meslin 1968; Géhu 1969; Westhoff & Den Held 1969). The presence of *Parapholis strigosa* is of particular interest, since on the Continent this species helps to typify the subassociation of the *Puccinellietum* in which *H. pedunculata* characteristically occurs (Beeftink 1977).

TABLE 1. PLANT SPECIES GROWING IN ASSOCIATION WITH *HALIMIONE PEDUNCULATA*
Cover-abundance is listed on the Domin scale.

	Quadrat No. (1×1 m)					
Species	1	2	3	4	5	6
Puccinellia maritima	8	8	8	7	7	7
Aster tripolium	7	6	7	7	7	7
Spergularia media	3	4	4	3	4	3
Halimione pedunculata	5	5	2	3	3	4
Suaeda maritima	3	1	3	2	1	3
Salicornia ?ramosissima	1					
Triglochin maritima	1			5	6	3
Parapholis strigosa		5			2	3
Atriplex prostrata		1				
Juncus gerardii						4
Bare ground (%)	5	1		5	2	5
Vegetation height (cm)	12	8	15	13	9	12

On 2nd October J. P. Doody, L. Farrell and S. J. L. revisited the site to carry out a population count of *H. pedunculata* and to map its distribution. A total of 1,714 plants were found within an area of 95m^2. They were distributed very unevenly, with large numbers in areas of more open vegetation and around the edges of slight depressions where seed had collected, possibly as a result of flooding. Most of the plants were in full fruit, with pedicel lengths frequently exceeding the 'up to 12mm' given in the Floras (e.g. Tutin 1987): a sample of 33 pedicels had an average length of

13mm, and a maximum of 25mm. Plant height was also very variable, with a sample of 41 fruiting plants having an average height of 14.2 cm and a range of 1.7–32.5 cm.

It is tempting to speculate on the possible origins of *H. pedunculata* at this site. Has it always been here or is it a recent arrival? The plant's centre of distribution in Europe is on the Danish coast (Jalas & Suominen 1980) and this also happens to be the major 'refuelling' area for Brent Geese on their autumn migration to south-eastern England (Owen *et al.* 1986). Huge flocks of these birds pass through Denmark in late September – just as the seeds of *H. pedunculata* are ripening – and arrive on the Essex coast in early October. Is it possible that *H. pedunculata* could have made the journey across the North Sea in the belly of a Brent Goose?

On the other hand, if it is indeed a site of long standing, how is it that the plant has remained undetected for so long? *H. pedunculata* is a notoriously unreliable species in that its numbers can vary dramatically from year to year (Bennett 1905; Géhu 1969), and this is bound to make finding the plant more a matter of luck than judgement. In addition, it only becomes visually obvious in late September or early October after the pedicels have lengthened. Most botanists are in the field earlier in the year when *H. pedunculata* could easily be overlooked.

This is the first record of *H. pedunculata* in Britain for 50 years, and the first ever record for Essex. Yet the vegetation in which it occurs is otherwise quite unremarkable, and there are certainly large areas of suitable looking habitat in other parts of Essex, and in Kent, Norfolk and Suffolk. It is likely that – if searched for late enough in the season – *H. pedunculata* could be found elsewhere in south-eastern England.

ACKNOWLEDGMENTS

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REFERENCES

Beeftink, W. G. (1977). The coastal salt marshes of western and northern Europe, in Chapman, V. J., ed. *Ecosystems of the World, Volume 1: Wet coastal ecosystems*. Amsterdam.

Bennett, A. (1905). Distribution of *Sonchus palustris* L. and *Atriplex pedunculata* L. in England. *Trans. Norfolk Norwich Nat. Soc.*, **8**: 35–43.

Council of Europe (1983). *List of rare, threatened and endemic plants in Europe*. Nature and Environment series, No. 27. Strasbourg.

Géhu, J. M. (1969). La persistance de *l'Obione pedunculata* en baie du Mont-Saint-Michel et en quelques points du littoral du nord de la France. Sa signification biologique. *Le Monde des Plantes*, No. **359**: 1–4.

Géhu, J. M. & Meslin, R. (1968). Sur la répartition et l'écologie d'*Halimione pedunculata* (L.) Aell. (Dicotyledoneae, Chenopodiaceae) en France. *Bull. Lab. Marit. Dinard*, **1** (1): 116–136.

Jalas, J. & Suominen, J. (1980). *Atlas florae Europaeae. Distribution of vascular plants in Europe. Volume 5: Chenopodiaceae to Basellaceae*. Helsinki.

Owen, M., Atkinson-Willes, G. L. & Salmon, D. G. (1986). *Wildfowl in Great Britain*, 2nd ed. Cambridge.

Perring, F. H. & Farrell, L. (1983). *British Red Data books: 1. Vascular plants*, 2nd ed. Lincoln.

Perring, F. H. & Walters, S. M., eds (1962). *Atlas of the British flora*. London.

Tutin, T. G. (1987). *Halimione* Aellen, in Clapham, A. R., Tutin, T. G. & Moore, D. M. *Flora of the British Isles*, 3rd ed., p. 160. Cambridge.

Westhoff, V. & Den Held, A. J. (1969). *Planten Gemeenschappen in Nederland*. Zutphen.

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ON *CONYZA SUMATRENSIS* (RETZ.) E. WALKER AND CERTAIN HYBRIDS IN THE GENUS

The first object of this note is to establish that the correct name for a *Conyza* now well naturalized in the Channel Islands (Marshall & McClintock 1972; McClintock 1975) and now in and near London (Badmin 1986; Wurzell 1988) is *C. sumatrensis* (Retz.) E. Walker (Marshall 1974).

This epithet was first published by Retzius in 1789 for such a plant in Sumatra – which may seem unexpected for one said to be native of Peru. It is, however, now at least, a common weed in Malaysia (Kalkmann & Van Steenis, in litt., 12 Sept. 1976) and may well have started spreading across the globe before the late 18th century. There are objections, however, to the use of this epithet:

a) Burtt (1948) considered Retzius' description did not give sufficient detail to enable certain identification to be made. But his alternative, *C. bonariensis* (L.) Cronq., is a separate species which has never been known in that part of the world (Kalkman & Van Steenis, in litt., 12 Sept. 1976).

b) Retzius described the stems as red, whereas in northern Europe they are usually green. Guédès (1984) dismissed the epithet *sumatrensis* solely because of this, even though in other places, including Sumatra, plants with red stems also occur – the latter presumably due to the Sumatran sun.

c) There is no type or other specimen of Retzius' to check the application of the name (Guédès, in litt., 17 Jan. 1985). This is of course true of many published names and we here designate a neotype:

Conyza sumatrensis (Retz.) E. Walker in *J. Jap. Bot.*, **46**: 72 (1971).
TYPE: Sumatra, Berastagi, February 1921, *H. N. Ridley* (Neotype: **K**, designated here).

Later epithets which have been used for this species include the following:

a) *C. floribunda* Kunth. This is rejected by Guédès & Jovet (1975) on the ground that it should be considered a distinct species, having smaller, glabrescent, finally chestnut-brown capitula and glabrescent or glabrous leaf-surfaces with setiferous margins. Marshall (1973) called this taxon *C. floribunda* var. *subleiotheca* (Cuatr.) J. B. Marshall, using much the same characters, but he now considers it within the range of *C. sumatrensis* which, with its wide distribution, not surprisingly, is variable.

b) *C. albida* Willd. ex Sprengel. This was favoured by Guédès & Jovet (1975) and by Jovet & Vilmorin (1975), but in neither of these publications is *sumatrensis* considered.

c) *C. erigeroides* DC. (see Guédès & Jovet 1975).

Other synonyms are listed by Marshall (1973, 1974).

HYBRIDS

The boundaries of *Conyza* species are not always clear, the plants becoming modified according to the conditions in which they grow. McClintock (1985) mentioned the opinion of Cronquist (1976) to whom *C. bonariensis* and *C. floribunda* (*sumatrensis*) are conspecific. Furthermore, hybrids have been claimed to occur in south-western France and north-eastern Spain, notably under names published (but not all validly so) by Sennen (1904, 1908, 1912, 1916, 1929). We have studied numerous specimens from **BM**, **BOG**, **BRI**, **E**, **GH**, **K**, **LP**, **RB** and **US** with such names and most of them seem to us to fit under *C. sumatrensis* (see synonymy in Marshall (1974)). Two taxa do, however, appear to be distinguishable:

a) *C.* × *daveauiana* Sennen (said to be *C. naudinii* Bonnet (*sumatrensis*) × *ambigua* DC. (*bonariensis*)); all the samples come from the neighbourhood of Barcelona, but it is not clear how his later *C.* × *barcinonense* (with the same postulated parentage) differs from it. All eight specimens we have seen look distinct; indeed Sennen (1912) himself wrote "peut-être la plante n'est pas hybride". We do not know how fertile it is, nor indeed if any of the claimed hybrids are. None have been made experimentally.

b) Another alleged hybrid of note is *C.* × *mixta* Foucaud & Neyraut (= *C. ambigua* (*bonariensis*) × *canadensis* (L.) Cronq.); we know of no specimen so named but the drawing the authors gave of it from near Bordeaux (Foucaud & Neyraut 1902) suggests the postulated parentage may be correct.

CONCLUSION

We have found that we can place any plants we have seen from the British Isles, and most of those from the Continent, under one of three species: *C. canadensis*, *C. bonariensis* or *C. sumatrensis* (cf. Hansen 1972). Nevertheless, members may still like to look out for possible hybrids.

REFERENCES

BADMIN, J. (1986). Annual exhibition. *Kent Fld Club Bull.*, **31**: 18.

BURTT, B. L. (1948). On *Erigeron bonariensis* L. *Kew Bull.*, **3**: 369–372.

CRONQUIST, A. (1976). *Conyza* Less., in TUTIN, T. G. *et al.*, eds. *Flora Europaea*, **4**: 120. Cambridge.

FOUCAUD, J. & NEYRAUT, E. J. (1902). Une hybride nouveau. *Ann. Soc. Sci. Char. Inf.*, **7**: 109–111.

GUÉDÈS, M. (1973). *Conyza altissima* (*C. naudinii*) et *C.* × *rouyana* à Tours. *Le Monde des Plantes*, **378**: 4.

GUÉDÈS, M. (1984). *Conyza bonariensis* (L.) Cronq. and *Conyza albida* Willd. ex Sprengel. *B.S.B.I. News*, **38**: 19.

GUÉDÈS, M. & JOVET, P. (1975). *Conyza albida* Willd. ex Sprengel, the correct name for "*C. altissima*" Naudin ex Debeaux (*C. naudinii* Bonnet). *Taxon*, **24**: 393–394.

HANSEN, A. (1972). Contributions to the flora of the Canary Islands. *Cuad. Bot. Canar.*, **14/15**: 59–60.

JOVET, P. & VILMORIN, R. DE (1975). *Conyza*, in COSTE, H. *Flore descriptive et illustrée de la France*, 3-ème supplement, pp. 187–192, 308–311. Paris.

MARSHALL, J. B. (1973). *Conyza* – taxa found in Britain. *Watsonia*, **9**: 372–373.

MARSHALL, J. B. (1974). A note on *Conyza sumatrensis* (Retz.) E. Walker (*C. floribunda* Kunth). *Watsonia*, **10**: 166–167.

MARSHALL, J. B. & MCCLINTOCK, D. (1972). *Conyza* in Britain. *Watsonia*, **9**: 201–202.

MCCLINTOCK, D. (1975). *The wild flowers of Guernsey*, pp. 203–204. London.

MCCLINTOCK, D. (1985). *Conyza*. *B.S.B.I. News*, **40**: 11.

SENNEN, E. C. (1904). Note sur le *Conyza naudinii* Bonnet et sur quelques hybrides. *Bull. Soc. bot. Fr.*, **51**: 426.

SENNEN, E. C. (1908). Plantes d'Espagne, années 1906 & 1907. *Bull. Acad. Int. Geog. Bot.*, **18**: 469–470.

SENNEN, E. C. (1912). Quelques formes nouvelles ou peu connues. *Bol. Soc. Aragon.*, **11**: 194.

SENNEN, E. C. (1916). Liste des plantes . . . adventices . . . de Barcelone. *Bol. Soc. Aragon.*, **15**: 97–98.

SENNEN, E. C. (1929). Sobre dos plantes nuevas en la flora Española. *Bol. Soc. Ibér.*, **28**: 66–67.

WURZELL, B. (1988). *Conyza sumatrensis* (Retz.) E. Walker established in England. *Watsonia*, **17**: 145–148.

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A NEW BRAMBLE FROM SKYE AND THE OUTER HEBRIDES

Rubus ebudensis A. Newton, **sp. nov.**

R. grato similis, sed proprie differt:– Turiones acutiores, profundius sulcati; aculei validiores, curvati e basi lata (vice recti declinati e base angustata); foliola terminalia elliptica vel elliptico-rotundata, apice paulatim acuminata, petioli aculeolis validis curvatis armati; inflorescentia saepe uno vel nonnullis foliis simplicibus ± rotundatis supra ornata; rachis aculeis validis curvatis declinatis armata.

Flores erubescentes 2.5 cm diam. vice rosei 3.5 cm; petala corrugata antherae epilosae. Habitat praecipue in insulis Skyense et Ebudibus extremis.

Similar to *R. gratus* particularly in panicle structure, but differing as follows:– Stems more sharply angled and more deeply grooved; stem prickles stouter, curved rather than straight, declining from broad rather than narrow bases; terminal leaflets elliptic or elliptic-rotund, gradually acuminate rather than obovate; petioles with several strongly curved prickles.

Panicle often with one or more roundish simple leaves above the 3-nate leaves, the rachis armed with several stout-based curved declining prickles. Flowers pinkish and 2.5 cm diam. rather than pink and 3.5 cm, petals crumpled, anthers glabrous. Found in Skye and the Outer Hebrides; not noted as yet on the mainland.

HOLOTYPE: Side of B884 near Colbost above Loch Dunvegan, Skye, v.c. 104, GR 18/212.492, 18/8/1966, *B. A. Miles 66/250* (**Herb. A. Newton**).

Specimens of this species have previously been named as *R. gratus* or given the manuscript name of 'false gratus'. I have also seen the following material:
S. Uist, N. Glendale, GR 08/791.177, 8/1980, *R. Pankhurst & A. Chater 377* (**BM**).
Benbecula, 8/1940, *J. W. Heslop-Harrison* (**BM**).
S. Harris, Leverburgh, GR 18/020.855, 8/1980, *R. Pankhurst & A. Chater 351* (**BM**); Ardvey, GR 18/125.928, 8/1980, *R. Pankhurst & A. Chater 347* (**BM**); Obbe, 7/1894, W. A. Schoolbred (as *R. gratus*, det. W. M. Rogers) (**BM**).
Lewis, Eishken, GR 19/327.120, 8/1980, *R. Pankhurst & A. Chater 354* (**BM**).
Skye, near Loch Treaslane, GR 18/3.5, 8/1966, *B. A. Miles* (**CGE**).

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RORIPPA × *HUNGARICA* BORBÁS (*R. AMPHIBIA* × *R. AUSTRIACA*) (CRUCIFERAE) NEW TO THE BRITISH ISLES

In June 1987, while investigating *Rorippa* populations along the River Roding, Chigwell, Essex (v.c. 18), we found a single plant intermediate between *R. amphibia* (L.) Besser and *R. austriaca* (Crantz) Besser. Further morphological analysis indicated that it was probably a hybrid between the two species and material was therefore sent to Professor B. Jonsell, who confirmed the identification (pers. comm. 1987). This hybrid has been reported rarely from Europe (Javůrková-Kratochvílová & Tomšovic 1972; Jonsell 1975) and this is the first record from the British Isles. Voucher specimens have been placed in **BM**, **LTR**, **herb. T.C.G.R.** and **herb. B. W.**

We have accepted the name *R.* × *hungarica* as the binomial for *R. amphibia* × *R. austriaca* (Borbás 1879) but have not seen the material from which it was described.

TABLE 1. CHARACTERS OF *RORIPPA AMPHIBIA*, *R. AUSTRIACA* AND *R.* × *HUNGARICA* BASED ON MATERIAL FROM CHIGWELL
Measurements are ranges made on fresh material

Character	*R. amphibia*	*R.* × *hungarica*	*R. austriaca*
habit	clumps with ascending stems	± clump-forming	patch-forming with erect stems
stem T.S. below inflorescence	hollow with thin, supple, dark green cells	loosely packed with thick, firm whitish-green cells	solid with dense, hard foamy white cells
middle stem leaves			
auricles	small, but clasping stem	obvious and nearly projecting	prominent, projecting well behind stem
teeth	deep, outwards-pointing	medium, generally forward-pointing	shallow, forward-pointing
sepal length (mm)	(3.3) 3.4–4.3	3.2–3.6	2.7–3.0
petal length (mm)	(4.3) 4.8–6.2	4.8–5.7	3.7–5.0
shape at base	clawed	± unclawed	unclawed
pedicels	spreading to deflexed	spreading to deflexed	ascending, angle c. 40°
immature ovaries			
stipe (mm)	0.4–0.5	c. 0.3	sessile
shape	oblong	elliptic	± round
length (mm)	2.0–3.0	1.3–1.5	1.2–1.5
width (mm)	0·8–1.2	0.9–1.2	1.1–1.4
fruit set	setting good fruit	not maturing, racemes elongating markedly	setting good fruit

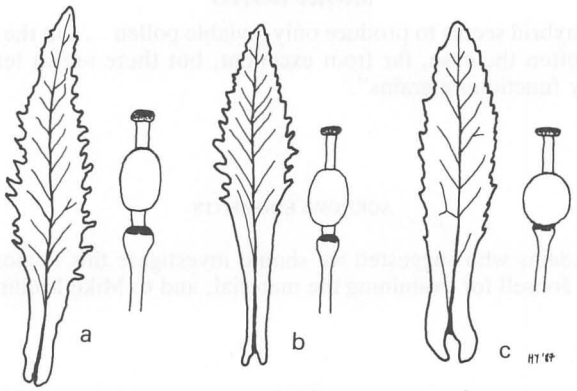

FIGURE 1. Leaves and immature ovaries of (a) *R. amphibia*, (b) *R.* × *hungarica* and (c) *R. austriaca*.

The plant was found growing amongst tall vegetation on the steep bank of the river within 20 m of both parents. *Rorippa amphibia* was frequent along the river bank and one patch of *R. austriaca* was found in dry grassland; this appears to be a new site for the latter although there are three other colonies known nearby in the Roding Valley. Other *Rorippa* taxa present along the river here are *R. palustris*, *R. sylvestris* and *R. amphibia* × *sylvestris* (the latter also confirmed by Jonsell).

Characters of *R.* × *hungarica* and its parents from Chigwell are given in Table 1. Drawings of leaves and immature ovaries are given in Fig. 1, and a plot of fresh sepal length against fresh petal length for individual flowers of all the taxa is given in Fig. 2. These illustrate the general intermediate nature of the hybrid, though any one character may vary towards either parent. In addition, Professor Jonsell examined pollen under a microscope and states (pers. comm.) "the *R.*

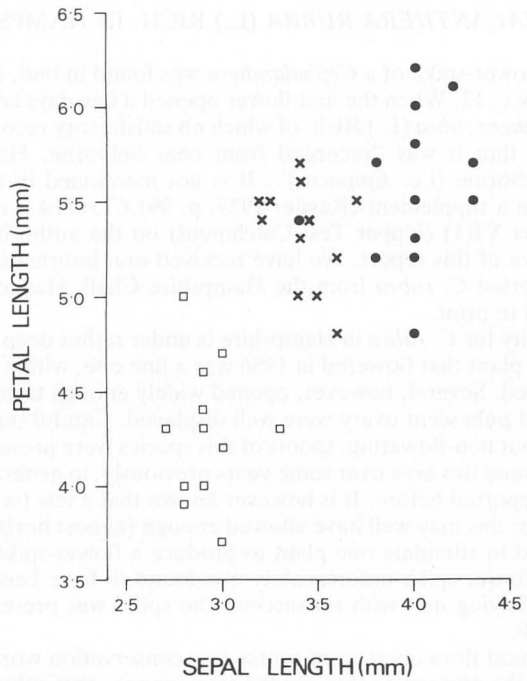

FIGURE 2. Fresh sepal length plotted against fresh petal length for individual flowers of (●) *R. amphibia*, (□) *R. austriaca* and (×) *R.* × *hungarica*, all from Chigwell.

amphibia × *austriaca* hybrid seems to produce only inviable pollen . . . in the parent species pollen quality is, as is very often the case, far from excellent, but there are at least a number of well developed presumably functioning grains".

ACKNOWLEDGMENTS

Our thanks to Ken Adams who suggested we should investigate this section of river in the first place, to Professor B. Jonsell for examining the material, and to Mike Mullin for help in checking nomenclature.

REFERENCES

BORBÁS, V. (1879). Floristicai adatok különös tekintellel a Roripákra. *Értek. természettudom. Köréből*, **9**(15): 54.

JAVŮRKOVÁ-KRATOCHVÍLOVÁ, A. & TOMŠOVIC, P. (1972). Chromosome study of the genus *Rorippa* Scop. em. Reichenb. in Czechoslovakia. *Preslia*, **44**: 140–156.

JONSELL, B. (1975). Hybridization in yellow-flowered European *Rorippa* species, in WALTERS, S. M.& KING, C. J., eds. *European floristic and taxonomic studies*. Faringdon.

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CEPHALANTHERA RUBRA (L.) RICH. IN HAMPSHIRE

On 20th July 1986 the flower-spike of a *Cephalanthera* was found in bud, in a beech-yew wood on the chalk in N. Hants., v.c. 12. When the first flower opened a few days later, it was clear that this was a plant of *Cephalanthera rubra* (L.) Rich. of which no satisfactory records exist for Hampshire. Druce (1927) reported that it was "recorded from near Selborne, Hants., but in error, the specimen being a Helleborine (i.e. *Epipactis*)". It is not mentioned in the *Flora of Hampshire* (Townsend 1904), but in a supplement (Rayner 1929, p. 99) *C. rubra* is recorded as having been found in 1926 in District VI(1) (Upper Test Catchment) on the authority of Miss E. Williams. Nothing further is known of this report. We have received oral information that Anne Pratt, the Victorian botanist, reported *C. rubra* from the Hampshire Chalk Hangers in the 1880s, but we cannot trace this record in print.

The present-day locality for *C. rubra* in Hampshire is under rather deep shade, on a north-west-facing slope. The single plant that flowered in 1986 was a fine one, with a total of 13 flower-buds, but some of these aborted. Several, however, opened widely enough to produce flowers in which the narrow labellum and pubescent ovary were well displayed. Careful search of the site revealed that at least nine leafy, but non-flowering, shoots of this species were present over some 50m of the bank. Botanists have visited this area over some years previously, in general botanical surveys, but *C. rubra* has not been reported before. It is however known that a few trees were felled higher up the bank a few years ago; this may well have allowed enough (almost horizontal) morning sunlight to penetrate the site and to stimulate one plant to produce a flower-spike.

In early August this flower-spike unfortunately was found to have been broken off. Efforts at pollinating the flowers having met with no success, the spike was preserved, using the sulphur dioxide method, by F. R.

The site has little ground flora apart from sparse ivy; conservation work has been undertaken, with the cooperation of the owners, to thin out the tree canopy, particularly the yews and smaller scrubby beeches, to let in more light. In its localities in France and Germany, *C. rubra* only flowers well in situations where it gets some hours of sunlight on each sunny day, e.g. in glades or on the

northern sides of minor roads or trackways. Similar management has been carried out in other British sites, with considerable success in stimulating several plants to flower. It is known that in some continental sites there are large numbers of rhizomes present that do not even produce leafy shoots, but in later years have inflorescences if light is let in.

REFERENCES

DRUCE, G. C. (1927). New county and other records. *Rep. botl Soc. Exch. Club Br. Isl.*, **8**: 134.
RAYNER, J. F. (1929). *A supplement to Townsend's Flora of Hampshire*, p. 99. Privately printed.
TOWNSEND, F. (1904). *Flora of Hampshire*, 2nd ed. London.

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THE IRISH VICE-COUNTY MAP IN *WATSONIA*: A CORRECTION

I wish to draw attention to the map of vice-counties of Ireland which has been published in most issues of *Watsonia* from 1976 onwards. In this map the boundary line limiting West Cork, v.c. H3, to the east and Mid Cork, v.c. H4, to the west is incorrect and not in accord with the reference vice-county map for Ireland published by Praeger (1901). This map is reproduced in both editions of *Census Catalogue of the flora of Ireland* (Scannell & Synnott 1972, 1987).

Webb (1980) set out very clearly the historical background to the vice-counties. In this paper a number of ambiguities and errors are discussed and attention is drawn to the changes in the administrative county boundaries in 1898–1900, and the effects of those on the biological scheme. Webb reaffirms the principle adopted by the Praeger Committee of the Royal Irish Academy – that the biological vice-counties should be defined in accordance with the frontispiece map of *Irish Topographical Botany* (Praeger 1901). Webb delineates in words and by line-drawing the boundaries of the vice-counties and in particular those lines drawn to subdivide the larger counties. In the case of West Cork, v.c. H3, and Mid Cork, v.c. H4, the dividing line runs from the median part of the Bandon estuary, along the Bandon River to the bridge at Bandon, from thence by a straight line to the centre of Macroom, from there by a straight line to Millstreet and then along the Mallow-Killarney railway line to the Kerry border. This is not the line presented in the map published in *Watsonia*.

Where then did the H3/H4 line in the *Watsonia* map come from? In 1949 the Ordnance Survey of Ireland published a large-scale map (10 miles to one inch) setting out the biological divisions. Colonel Niall MacNeill, an authority on dragonflies, then in charge of Ordnance Survey, supervised the work. In this map the H3/H4 line is based on barony boundaries and appears as an undulating line from the sea to the Kerry border. This is the line presented in the *Watsonia* map. Webb (1980), however, has discussed this map and has given reasons for its rejection; he also points out that MacNeill's boundary between West Cork and Mid Cork deviates from Praeger's by as much as 8 km in two places. The boundary line is also incorrect in the overlay issued with *Atlas of ferns of the British Isles* (Jermy *et al.* 1978).

The map in Druce (1932) is correct as regards the boundary line and the letter-press on the back of Druce's map describes the geographic points on the line. Dandy's work on the vice-counties (Dandy 1969) refers to Great Britain only.

It is recommended that the correct map be published and that attention be drawn to Webb (1980) on the Irish vice-counties.

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I wish to thank Professor David Webb for his comments on an earlier draft of this note.

REFERENCES

DANDY, J. E. (1969). *Watsonian vice-counties of Great Britain*. London.
DRUCE, G. C. (1932). *The comital flora of the British Isles*. Arbroath.
JERMY, A. C., ARNOLD, H. R., FARRELL, L. & PERRING, F. H. (1978). *Atlas of ferns of the British Isles*. London.
PRAEGER, R. L. (1901). Irish topographical botany. *Proc. R. Ir. Acad.*, 3rd series, **23**: 61–94.
SCANNELL, M. J. P. & SYNNOTT, D. M. (1972). *Census catalogue of the flora of Ireland*. Dublin. (2nd ed., 1987).
WEBB, D. A. (1980). The biological vice-counties of Ireland. *Proc. R. Ir. Acad.*, **80** B(12): 179–196.

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POLYGONUM HYDROPIPER L. VAR. *DENSIFLORUM* A. BRAUN

While walking along the edge of the Ouse Washes near Welches Dam, Manea, Cambridgeshire, v.c. 29, on 13th November 1986, P.D.S. saw in some quantity two completely different looking Polygonums growing with *Urtica dioica* subsp. *glabrescens*, *Bidens tripartita*, *Atriplex prostrata*, *Erysimum cheiranthoides*, *Senecio aquaticus* and *Rumex* spp. In some places they formed separate patches, in others they were close together, but not intermingled. There were no intermediates.

One of them (*Sell 86/229*, colour slide 423/16 in **CGE**) had narrow, wavy leaves and very lax inflorescences, and was recognizable at a glance as *Polygonum hydropiper* L.; the peppery taste of the leaves confirmed the identification. The other plant (*Sell 86/228*, colour slide 423/15 in **CGE**) had broader, non-wavy leaves and much denser inflorescences, many of which came from the axils of the leaves. The plant was on the whole much larger, taller and more branched and straggly. On first tasting this plant P.D.S. got no reaction, but later did obtain some reaction, as did others who tried it. An examination of the plant in detail indicated that it must be included in *P. hydropiper*, but it is a distinct variant of that species.

Consultation of the literature showed that C. E. Britton (1926, 1933) had recorded such a plant from Brox in Surrey, v.c. 17, under the name *P. hydropiper* var. *densiflorum* A. Braun, *Flora (Regensb.)*, **7**: 352 (1824), and that this determination was upheld by Salmon (1931). Grose (1957) recorded it from a cultivated field near Dewey's Water and a damp field near Garsdon, both in Wiltshire. Timson (1966), in his *Biological Flora* account, included only these records and gave no indication that he had seen the plant himself. This variant is also mentioned in Lousley & Kent (1981).

During the autumn of 1986, J.R.A. independently received material of *Polygonum* for determination, from Mrs M. E. R. Martin (v.c. 72) and L. J. Margetts (v.c. 3), that appeared to be *P. hydropiper* var. *densiflorum*. Mrs Martin had annotated the specimen: "More elegant plant. Brown glands not so numerous. Biting taste less obvious. Not drooping tips." Mr Margetts noted (in litt. to J.R.A.) that "the inflorescences were not drooping." P.D.S. later confirmed this identification.

In the Cambridge University herbarium (**CGE**) there is a specimen collected by the Rev. E. S. Marshall, no. 2487 from the head of Loch Long, Dunbarton in 1900, which was associated with normal *P. hydropiper* and *P. persicaria* L. It is annotated: "I do not think that this is a hybrid, but I believe it may be *P. hydropiper* L. var. *densiflorum* Braun in *Bot. Zeit.* 1824; but I have not access to his paper, but take it from Bosch's *Flora Batavica*. Ar. Bennett in litt. 31/12/1900." E. F. Linton has annotated the specimen: "Too strongly fertile in my opinion for a hybrid *Polygonum*. Reminds me of forms of Hydropiper which simulate *P. mite*. I do not know the varietal name. I have one nearly as dense-flowered (from Nayland, Suffolk), but never a specimen with such broad-round-basal leaves! I consider I have *P. mite* × *hydropiper* from Sway, not entirely barren, but fruits rather intermediate. The fruit and perianth of your plant are out and out Hydropiper, not a trace of *P. persicaria*." A duplicate of Marshall's gathering (**BM**) bears the annotation "Taste insipid", which fits the observations of P.D.S. and Mrs Martin noted above. We consider both Marshall's Dunbarton plant and Linton's Suffolk plant to be var. *densiflorum*.

Although more difficult to recognize when pressed, a number of specimens in **CGE** and elsewhere seem to be referable to *P. hydropiper* var. *densiflorum*. These are listed below. The Nayland plant is presumably that to which Linton referred. P.D.S. did not comment on the Flitwick plant, which is typical of the variety, when he collected it, other than that it had an acrid taste: it may be this variety that Saunders (1883) called *P. minus* Hudson and which Dony (1953) later corrected to *P. hydropiper*. Both collections were from a ditch (stream) at Flitwick Moor.

v.c.3. S. Devon. Starcross, side of small stream, 22.9.1900, *S. H. Bickham*, **CGE**; near Exeter, Columbjohn, by River Culm (GR 20/95.99), 30.9.1986, *L. J. Margetts*, **RNG**.
v.c.13. W. Sussex. Near Lyminster, farmyard, 23.9.1928, *E. C. Wallace*, **RNG**.
v.c.17. Surrey. Brox, 2.10.1926, *C. E. Britton 2988*, **BM**, **RNG**; between Kew and Richmond, by River Thames, 10.9.1932, *J. E. Lousley*, **RNG**; Frensham Great Pond, dried bed of lake, 12.9.1941, *E. C. Wallace*, **RNG**.
v.c.23. Oxon. Oxford, Port Meadow, 1891, J. Baker, **OXF**; Lechlade, 9.1894, *G. C. Druce*, **OXF**.
v.c.25. E. Suffolk. Stoke-by-Nayland, lower park gate, roadside, 9.1889, *J. D. Gray*, **CGE**; Nayland, *ibid.*, 12.9.1889, *E. F. Linton*, **BM**.
v.c.27. E. Norfolk. Near Cromer, Felbrigg Woods, 8.1896, *A. Wallis*, **CGE**.
v.c.29. Cambs. Manea, near Welches Dam, edge of Ouse Washes, 13.11.1986, (GR 52/472.860) *P. D. Sell 86/228*, **CGE**.
v.c.30. Beds. Flitwick Moor, side of stream, 12.9.1962, *P. D. Sell 62/805*, **CGE**.
v.c.37. Worcs. Bransford, ditch, 1.10.1910, *R. F. Towndrow*, **CGE**.
v.c.41. Glam. Near Cardiff, Llanedyrne Road, ditches, 5.10.1935, *A. E. Wade*, **CGE**.
v.c.71. Man. Rushen, marsh by Croak Mooar, 16.9.1952, *D. E. Allen*, **CGE**.
v.c.72. Dumfries. Near Dumfries, riverside sandy gravel (GR 25/97.76),13.9.1986, *M. E. R. Martin*, **RNG**.
v.c.79. Dunbarton. Head of Loch Long, Arrochar, 28.8.1900, *E. S. Marshall 2487*, **BM**, **CGE**.
v.c.83. Midlothian, Crookster, 1849, *J. B. Syme*, **BM**.

REFERENCES

BRITTON, C. E. (1926). *Polygonum hydropiper* L. *J. Bot., Lond.*, **64**: 328.
BRITTON, C. E. (1933). British *Polygona*, section *Persicaria*. *J. Bot., Lond.*, **71**: 90–98.
DONY, J. G. (1953). *Flora of Bedfordshire*. Luton.
GROSE, D. (1957). *The flora of Wiltshire*. Devizes.
LOUSLEY, J. E. & KENT, D. H. (1981). *Docks and knotweeds of the British Isles*. London.
SALMON, C. E. (1931). *Flora of Surrey*. London.
SAUNDERS, J. (1883). On the flora of South Bedfordshire. *J. Bot., Lond.*, **21**: 310–312.
TIMSON, J. (1966). Biological Flora of the British Isles, 103. *Polygonum hydropiper* L. *J. Ecol.*, **54**: 815–821.

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LECTOTYPIFICATION OF FIVE NAMES IN *RANUNCULUS* L. SUBGENUS *BATRACHIUM* (DC.) A. GRAY

This group is bedevilled with names difficult to apply, many of which need to be lectotypified, and progress is necessarily piecemeal. Five of these names are dealt with below.

R. hederaceus L., *Sp. pl.* 556 (1753)
The diagnosis given by Linnaeus is, in fact, taken verbatim from the *Hortus Cliffortianus* of 1738, and the type should, if possible, be selected from material available to him at that time. There is unfortunately no specimen in the *Hortus Cliffortianus* in **BM**. It is therefore necessary to consider the synonyms and any specimens in his herbarium (**LINN**) up to 1753. Benson (1954) designated

the sheet of the Savage *Catalogue* 715/74 (**LINN**) as the lectotype. Cook (1966) says he has seen this specimen and has no reason to doubt Benson's designation. P.D.S. has labelled the specimen as the lectotype.

R. hederaceus forma *natans* Moss, *Camb. Br. Fl.*, **3**: 139, pl. 144 (1920)
No type was designated, but judging from the distribution given, there were obviously a great many syntypes. The original drawing made by E. W. Hunnybun for pl. 144 is in the Botany School, University of Cambridge. It is labelled "Hemingford Common [Huntingdonshire], May, 1900", but there is no specimen to go with it in **CGE**. P.D.S. has therefore selected as lectotype a specimen in **CGE** which is cited with the original description. It is labelled "Rheinfläche bei Kruft, 15 Aug. 1861, Dr Wirtgen *Herb. Pl. Crit.* Fasc. 10, no. 546", on which Moss has written, "*R. hederaceus* L., floating form. Not *R. homiophyllus* Ten." Cook (1966) considers that forma *natans* has no genotypic basis.

R. hederaceus var. *grandiflorus* Babington, *Man. Br. Bot.* 5 (1843)
There are two syntype gatherings in Babington's herbarium in **CGE** made before 1843 and labelled by him as var. *grandiflorus*.
1) Floating on the water in a small pit near the Monastery, Charnwood Forest, Leicestershire, 20 June 1837, *C. C. Babington*.
2) Needwood Forest, Staffordshire, 15 June 1837, *C. C. Babington*.

Both are *R. omiophyllus* Ten. P.D.S. has selected the first as the lectotype. The second becomes a paralectotype.

R. floribundus Babington in *Ann. Mag. nat. Hist.*, ser. 2, **16**: 397 (1855)
All the material on which Babington based his description is in his herbarium in **CGE** and is so labelled in his own handwriting. There are six syntypes:
1) In a pond by the road on the common at Denver, Norfolk, 2 June 1853, *C. C. Babington*.
2) In a pit on the common at Denver, Norfolk, 2 June 1853, *C. C. Babington*.
3) On the mud by the pond on the common at Denver, Norfolk, 2 June 1853, *C. C. Babington*.
4) In a pond near Legge's Farm near Hatfield, Herts., 12 June 1855, *C. C. Babington*.
5) Hedon, near Hull, 7 Sept. 1853, *W. W. Newbould*.
6) In stagnis Siciliae, *Prof. Gasparinii*.

In selecting a lectotype, uncertain specimens and those not fulfilling the required characters should be rejected first. Number 6 can be rejected as Babington himself says it only "appears to be *floribundus*". Number 3 has no floating leaves and therefore shows only some of the characters. The remaining four sheets are excellent specimens. A careful comparison of these specimens with the original description enables 4 and 5 to be rejected on one or more grounds and for the Denver plants to be regarded as those that best fit the description. Both are good specimens, but number 2 shows the rooting at the lower nodes and good sepals. It thus fits the description exactly and is designated as the lectotype. It is *R. peltatus* Schrank and *R. floribundus* must be reduced to a synonym of that species. Sheets 1 and 4 are also *R. peltatus*. Sheet 5 and possibly 3 are *R. baudotii* Godron. Sheet 6 is *R. aquatilis* L.

R. peltatus var. (vel forma) *lacerus* Druce in *Rep. botl Soc. Exch. Club Br. Isl.*, **5**: 272 (1919)
Druce stated that this plant "differs from the type in the floating leaves being irregularly cut into acute, wedge-shaped segments, sometimes with the apices prolonged into long, comb-like parts." There are three syntypes in Druce's herbarium in **OXF** collected from the River Don, Alford, N. Aberdeen by Druce in 1918 and labelled by him as "*R. peltatus* var. (vel forma) *lacerus*", all of which are *R. peltatus* Schrank. One of these can be rejected because the laminar leaves are not prolonged into capillary appendages. Both of the remaining sheets are good specimens and S.D.W. has designated one of them as the lectotype. This specimen has the longer capillary appendages of the two and thus best fits the description. This sheet is marked "Don" in Druce's handwriting.

REFERENCES

BENSON, L. (1954). Supplement to a treatise on the North American *Ranunculi*. *Amer. Midl. Nat.*, **52**: 328–369.

COOK, C. D. K. (1966). A monographic study of *Ranunculus* subgenus *Batrachium* (DC.) A. Gray. *Mitt. bot. StSamml., Münch.*, **6**: 47–237.

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