Notes

RUBUS AGHADERGENSIS D. E. ALLEN (ROSACEAE): A NEW NAME FOR AN IRISH BRAMBLE

In the 1890s W. Moyle Rogers began receiving from Canon H. W. Lett specimens of a white-flowered, eglandular bramble new to him from various localities in Lett's parish of Aghaderg, near Loughbrickland, in County Down, v.c. H38. It was subsequently distributed through the Watson Botanical Exchange Club, and in 1901 Rogers had the opportunity of studying it in the field himself. In keeping with his preference for a hierarchy of taxa in *Rubus*, he decided it was best placed under *R. lindleianus* Lees as a variety, for which he coined the manuscript epithet *latifolius* (after the very broad leaflets of the stem leaves). Later, after his death, H. J. Riddelsdell felt that its discovery in a second vice-county, Armagh, v.c. H37 – though the locality in question was close by and only just across the boundary – warranted publishing the name at last, which he accordingly did in their joint names (Rogers & Riddelsdell 1925).

Although this taxon has been ignored in subsequent monographs of the group, it is manifestly no mere local variant of *R. lindleianus* but a distinct entity that deserves to be regarded as a species in its own right. That would not be sufficient justification, even so, for burdening the already very lengthy list of British and Irish *Rubus* species with yet another name, were this bramble confined to just the one small area from which it has so far been recorded. In 1991, however, D. A. Doogue collected in Ravensdale (GR J/09.14), in the hill country of the north of Louth, v.c. H31, a specimen (now in **BM**) of what is clearly this same plant. This extends the known range by over 25 km. It is, moreover, suspicious that Praeger (1901) describes *R. lindleianus* as "frequent" in Armagh, for recent fieldwork has shown that species to be rare over Ulster as a whole: much of what has been taken for it in that vice-county may in reality be Lett's bramble.

In view of this much wider range, extending into three vice-counties, raising the taxon to specific rank now seems appropriate. That requires a new name, however, as the epithet *latifolius* is preoccupied at that level:

Rubus aghadergensis D. E. Allen, **nom. et stat. nov.**

R. lindleianus var. *latifolius* Rogers & Riddelsd., *Journal of botany* **63**: 14 (1925).

LECTOTYPE: side of road, parish of Ballymore, near Scarva station, v.c. H37, 4 August 1894, *H. W. Lett* as *R. rhamnifolius*, herb. Barton & Riddelsdell no. 6783 (**BM**), det. B. A. Miles 1964.

The species belongs in series *Sylvatici* (P. J. Mueller) Focke.

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THE NATIVE BRITISH *COTONEASTER* – GREAT ORME BERRY – RENAMED

The only *Cotoneaster* species (Rosaceae) native to the British Isles grows on the Great Orme's Head, Llandudno, North Wales. It was discovered in 1783 by John Wynne Griffith and was subsequently rediscovered in 1821 by William Wilson of Warrington. The number of shrubs was stated as being plentiful, but has now been reduced to only four individuals (Smith 1979). Over-collecting and hard grazing by sheep and goats are thought to have been the main causes of its

decline. By fencing and propagation of plants for re-introduction to the limestone ledges it is hoped to save this taxon from further decline (Morris 1978).

The North Wales shrub has been included within *Cotoneaster integerrimus* Med., but when Hrabětová-Uhrová (1962) studied members of the genus *Cotoneaster* in former Czechoslovakia, she observed that the Great Orme taxon differed from those of Central Europe and therefore made it a new variety of *Cotoneaster integerrimus*, namely var. *anglicus* Hrabětová.

Apomixis is common in the genus *Cotoneaster*, most species having been found to be tetraploids (2n = 68) and coming true from seed. By tradition, apomictic taxa within the genus are given the rank of species.

In France three species related to *C. integerrimus* have long been separated: *C. intermedius* Coste, *C. juranus* Gandoger and *C. obtusisepalus* Gandoger. Two new species have also recently been described in Scandinavia: *C. scandinavicus* Hylmö and *C. canescens* Hylmö. The former is closely related to *C. cinnabarinus* Pojarkova from the Kola Peninsula, Russia.

By courtesy of Mr Maurice Morris, Penmachno, Gwynedd, N. Wales and Dr Nigel Brown, Treborth Botanic Garden, University of North Wales, we have had access to seed and plants of the Great Orme taxon making it possible to study this *Cotoneaster* in cultivation both in Britain and Sweden. We have concluded that the N. Wales plant clearly differs from the taxa of Central Europe and feel it is time to raise it to the rank of species.

Cotoneaster cambricus J. Fryer & B. Hylmö. **nom. et stat. nov.**
(section *Cotoneaster*, series *Cotoneaster*)
Synonym: *C. integerrimus* Medicus var. *anglicus* Hrabětová, *Acta Acad. Scient. Czechoslov. Basis Brunensis* **34** (6): 217, tab. 4a (1962).
HOLOTYPUS: Llandudno, Caernarvonshire, c. 1836, *L. Price* no. H.899(60)4 (**K**).
A low deciduous shrub. Young branches greenish-brown, villous. Leaves on young growth broadly elliptic to suborbicular, apex obtuse or acute; upper surface grey, moderately pilose, hairs persisting or becoming subglabrous, veins slightly depressed. Inflorescence 1–2(–3) flowered, pedicels and peduncles short 2–3(–5) mm; petals equal to or less than 1 mm longer than the calyx. Fruit small 5–8 mm, globose, clear red with orange tones; pyrenes 2–3.

Chromosome count 2n = 68, courtesy of Dr Hugh McAllister, Ness Botanic Gardens, University of Liverpool.

DIAGNOSTIC KEY TO THE MOST CLOSELY RELATED SPECIES

1a Hypanthium and calyx pilose; upper surface of leaves persistently pilose; flowering shoots 25–45 mm with 4 leaves and 3–7 flowers; pyrenes 3–4(–5).
France: Massif Central and the Alps (Haute Savoie) ..... *C. intermedius* Coste
1b Hypanthium and calyx glabrous 2
2a Upper surface of leaves glabrous from the beginning, leaves on sterile shoots ovate, apex acute, surface smooth with veins only slightly depressed; flowering shoots 15–25(–35) mm with 2–4 leaves and 1–3(–4) flowers; pyrenes (2–)3–4(–5); shrub 0·1–1·0 m, arching or decumbent with weak stems.
France: Vosges and Jura, and throughout the Alps (above zone of *C. integerrimus*) ..... *C. juranus* Gandoger
2b Upper surface of leaves pilose when young 3
3a Leaves on sterile shoots broadly ovate, apex acute or acuminate; upper surface pilose becoming glabrous, rugose with depressed veins; flowering shoots 15–25(–35) mm usually with 2–3 leaves and (1–)3–4(–7) flowers; pyrenes 2–3(–4); shrub arching, 1·0–1·5 m.
Central Europe and the Alps (zone below *C. juranus*) ..... *C. integerrimus* Medicus
3b Leaves on sterile shoots elliptic or suborbicular, apex obtuse or acute 4
4a Leaves broadly elliptic or suborbicular, upper surface densely pilose becoming subglabrous or glabrous; petals equal to or less than 1 mm longer than calyx lobes, off-white; flowering shoots 10–20 mm with c. 2 leaves and 1–2(3) flowers; pyrenes 2–3; shrub ± erect c. 1·0(–1·5) m.
Endemic to Wales ..... *C. cambricus* J. Fryer & B. Hylmö
4b Leaves elliptic, upper surface with long pilose hairs becoming subglabrous with only single long

hairs or entirely glabrous; petals more than 1 mm longer than the calyx lobes, off-white with reddish stripes; flowering shoots 15–25 mm with usually 2–3 leaves and 3–5 flowers; pyrenes 3–4; shrub arching 1·1–1·5 m.
France: Alps (Isère) ..... *C. obtusisepalus* Gandoger

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CONTRIBUTIONS TO A CYTOLOGICAL CATALOGUE OF THE BRITISH AND IRISH FLORA, 4

We present here chromosome counts for 121 populations of 108 vascular plant species from documented localities in Britain. This note continues a series, the previous one of which was Al-Bermani *et al.* (1993). One plant from each population was studied, except where noted. All counts were made on squashes of root-tips, except in the case of *Ophioglossum vulgatum* where meiosis in microspore mother-cells was examined. Supernumerary chromosomes are designated by the suffix 'S'. Voucher specimens for most counts have been deposited in **LTR**, the remainder are at **K** or **CGE** as indicated.

Althaea officinalis L., 2n = 42: E. Suffolk, v.c. 25, S.E. side of Benacre Broad, near Covehithe, TM/5.8 (**K**).
Anagallis arvensis L. subsp. *arvensis*, 2n = 40: Caerns., v.c. 49, Botwnnog, SH/26.32.
Anagallis tenella (L.) L., 2n = 22: W. Lancs., v.c. 60, near Lancaster, SD/491.603; Westmorland, v.c. 69, Lowick Common, SD/292.847 (no voucher).
Anthyllis vulneraria L. subsp. *vulneraria*, 2n = 12: Dorset, v.c. 9, Melbury Hill, ST/87.19.
Apium nodiflorum (L.) Lagasca, 2n = 22: Oxon, v.c. 23, Little Bourton, farm near M40 motorway, SP/4.4.
Aquilegia vulgaris L., 2n = 14: W. Lancs., v.c. 60, Silverdale, Gait Barrows N.N.R., SD/479.774.
Artemisia absinthium L., 2n = 18: Caerns., v.c. 49, Abersoch, N. end of Porth Fawr, SH/31.27.
Aster tripolium L., 2n = 18: W. Sussex, v.c. 13, Pagham Harbour nature reserve, near Sidlesham, SZ/8.9 (**K**).
Avena fatua L., 2n = 42: N. Wilts., v.c. 7, near Calne by the A4, ST/9.7 (**K**).
Beta vulgaris L. subsp. *maritima* (L.) Arcang., 2n = 18: N.E. Yorks., v.c. 62, Scarborough, TA/0.8.

Brassica nigra (L.) Koch, 2n = 16: Dorset, v.c. 9, St Alban's Head, 0·4 km E.N.E. of lookout, SY/963.756 (**K**); Dorset, v.c. 9, Weymouth, landward shore of Fleet Lagoon, SY/66.76; Cambs., v.c. 29, Bar Hill, TL/38.63.

Bromopsis ramosa (Hudson) Holub, 2n = 42: W. Lancs., v.c. 60, Silverdale, Gait Barrows N.N.R., near Hawes Water, SD/47.76 (no voucher).

Bromus interruptus (Hackel) Druce, 2n = 28: Cambs., v.c. 29, Pampisford, TL/4.4 (**CGE**).

Bryonia dioica Jacq., 2n = 20: E. Sussex, v.c. 14, Beachy Head, c. 1·8 km N. of Hodcombe Farm, TV/576.968.

Buxus sempervirens L., 2n = 28: Surrey, v.c. 17, Silent Pool, near Shere, TQ/06.48.

Chenopodium vulvaria L., 2n = 18: Dorset, v.c. 9, c. 1·5 km W. of Burton Bradstock, SY/47.89.

Cirsium heterophyllum (L.) Hill, 2n = 34: Main Argyll, v.c. 98, Black Mount, off road between Ballachulish and Tyndrum, NN/2.4 (no voucher).

Cirsium palustre (L.) Scop., 2n = 34: Caerns., v.c. 49, Garn Fadryn, SH/27.35; W. Lancs., v.c. 60, Lower Salter, near Barkin Bridge, SD/601.636 (no voucher).

Cirsium vulgare (Savi) Ten., 2n = 68: W. Lancs., v.c. 60, Lancaster, near River Lune, SD/484.636.

Conopodium majus (Gouan) Loret, 2n = 22: W. Sutherland, v.c. 108, Nedd, NC/137.319 (no voucher).

Crepis paludosa (L.) Moench, 2n = 12: W. Lancs., v.c. 60, near Millbeck footbridge, SD/648.638 (no voucher).

Daucus carota L. subsp. *carota*, 2n = 18: W. Lancs., v.c. 60, Carnforth, SD/499.711.

Dipsacus fullonum L., 2n = 18: W. Lancs., v.c. 60, near Lancaster, SD/467.624.

Drosera rotundifolia L., 2n = 20: S. Devon, v.c. 3, Dartmoor, c. 2 km N.E. of Postbridge, SX/66.80.

Echium vulgare L., 2n = 32: E. Suffolk, v.c. 25, Felixstowe, Landguard Nature Reserve, TM/2.3 (**K**).

Elymus caninus (L.) L., 2n = 28: Westmorland, v.c. 69, Brigsteer Park, 2·5 km S. of Brigsteer, SD/48.87.

Elytrigia repens (L.) Desv. ex Nevski subsp. *repens*, 2n = 42: Oxon, v.c. 23, Little Bourton, farm near M40 motorway, SP/4.4.

Erica tetralix L., 2n = 24: W. Sutherland, v.c. 108, near Allt na Claise, NC/174.327.

Erodium maritimum (L.) L'Her., 2n = 20: Dorset, v.c. 9, near Moreton, SY/80.89.

Euonymus europaeus L., 2n = 32: E. Suffolk, v.c. 25, Great Wenham, TM/077.383.

Euphorbia lathyris L., 2n = 20: W. Lancs., v.c. 60, White Land Industrial Estate, near Lancaster, SD/453.625.

Euphorbia portlandica L., 2n = 16: Dorset, v.c. 9, Isle of Portland, Church Ope Cove, SY/69.70.

Gagea lutea (L.) Ker Gawler, 2n = 72: Westmorland, v.c. 69, Sedgwick, E. bank of R. Kent, SD/510.878.

Geranium lucidum L., 2n = 40: Derbys., v.c. 57, Dovedale, SK/14.53 (three plants counted).

Glaucium flavum Crantz, 2n = 12: W. Lancs., v.c. 60, R. Keer estuary, S.W. of Carnforth, SD/482.699.

Gnaphalium luteo-album L., 2n = 14: Channel Is., v.c. S. Alderney, Platte Saline, WA/567.078.

Heracleum sphondylium L. subsp. *sphondylium*, 2n = 22+1S: Derbys., v.c. 57, Milldale, SK/14.55.

Hippophae rhamnoides L., 2n = 24: N. Lincs., v.c. 54, Gibraltar Point, TF/56.57; W. Lancs., v.c. 60, near Heysham harbour, SD/407.604.

Honckenya peploides (L.) Ehrh., 2n = 68: W. Lancs., v.c. 60, W. of Cockerham, near Bank Houses, SD/431.531.

Hordeum marinum Hudson, 2n = 14: W. Kent, v.c. 16, Higham Marshes, near Gravesend, TQ/69.74.

Hordeum murinum L. subsp. *murinum*, 2n = 28: Caerns., v.c. 49, Abersoch, dunes at N. end Porth Fawr, SH/314.277; W. Lancs., v.c. 60, W. of Cockerham, near Bank Houses, SD/432.531.

Humulus lupulus L., 2n = 20: Berks., v.c. 22, Cothill Fen, SU/46.99.

Hyacinthoides non-scripta (L.) Chouard ex Rothm., 2n = 16: W. Lancs., v.c. 60, Lancaster University grounds, SD/48.57.

Iberis amara L., 2n = 14: Surrey, v.c. 17, Box Hill, Juniper Hall nature reserve, TQ/176.528.

Lathyrus aphaca L., 2n = 14: Dorset, v.c. 9, Weymouth, landward shore of Fleet Lagoon, SY/66.76.

Leucanthemum vulgare Lam., 2n = 18: Channel Is., v.c. S. Alderney, Essex Hill, WA/592.074.

Limonium britannicum Ingrouille subsp. *celticum* Ingrouille var. *celticum*, 2n = 36: Cheshire, v.c. 58, Hilbre Island, SJ/185.878; var. *pharense* Ingrouille, 2n = 36: Caerns., v.c. 49, Bardsey Island, E. of Pen Cristin, Ogof y Gaseg, SH/12.21 (150 m N.E. of site given in Hollingsworth *et al.* (1992)).

Linaria vulgaris Miller, 2n = 12: W. Lancs., v.c. 60, near Carnforth, SD/493.714.

Lobelia dortmanna L., 2n = 14: W. Sutherland, v.c. 108, loch c. 1 km N.E. of Duartmore Bridge, NC/211.383 (no voucher).

Lonicera periclymenum L., 2n = 54: Leics., v.c. 55, Swithland Wood, SK/5.1.

Lotus corniculatus L., 2n = 24: W. Lancs., v.c. 60, Carnforth, SD/499.711.

Luzula sylvatica (Hudson) Gaudin, 2n = 12: W. Lancs., v.c. 60, near Millbeck footbridge, SD/648.638; Westerness, v.c. 97, Glen Nevis, along path to Stob Ban, NN/15.66.

Malva moschata L., 2n = 42: E. Sussex, v.c. 14, Ardingly, Wakehurst Place, Bloomers Valley, TQ/3.3 (**K**).

Matthiola incana (L.) R. Br., 2n = 14: E. Sussex, v.c. 14, Peacehaven cliffs to Castle Hill, TQ/4.0 (**K**).

Medicago lupulina L., 2n = 16: Westmorland, v.c. 69, Whitbarrow, Ravens Lodge, underneath Whitescar, SD/46.85.

Melica nutans L., 2n = 18: W. Lancs., v.c. 60, Silverdale, Gait Barrows N.N.R., SD/481.776.

Narthecium ossifragum (L.) Hudson, 2n = 26: Westmorland, v.c. 69, Lowick Common, SD/292.847 (no voucher).

Onopordum acanthium L., 2n = 34: Dorset, v.c. 9, near Bere Regis, SY/84.94.

Ophioglossum vulgatum L., n = c. 270: Leics., v.c. 55, Leicester, Oadby, Botanic Garden meadow, SK/61.01.

Ornithopus perpusillus L., 2n = 14: Caerns., v.c. 49, Boduan, opposite entry to Mathan Uchaf farm, SH/319.369.

Parapholis strigosa (Dumort.) C. E. Hubb., 2n = 28: W. Kent, v.c. 16, Higham marshes, near Gravesend, TQ/69.74.

Persicaria lapathifolia (L.) Gray, 2n = 22: W. Lancs., v.c. 60, near Heysham harbour, SD/404.599.

Phalaris arundinacea L., 2n = 28: W. Lancs., v.c. 60, River Lune, near Lancaster, SD/483.633.

Phleum phleoides (L.) Karsten, 2n = 14: W. Norfolk, v.c. 28, Brettenham, near Thetford, S. of A1066, TL/907.844 (**K**).

Polypogon monspeliensis (L.) Desf., 2n = 28: S. Hants., v.c. 11, Southampton Water, Hythe, SU/4.0.

Potentilla argentea L., 2n = 14: Dorset, v.c. 9, 1·6 km N. of Wool, SY/84.87.

Potentilla palustris (L.) Scop., 2n = 64: Warks., v.c. 38, Sutton Coldfield, Sutton Park, SP/10.97.

Primula vulgaris Hudson, 2n = 22: Westmorland, v.c. 69, Brigsteer Park, 2·5 km S. of Brigsteer, SD/48.87.

Pulicaria dysenterica (L.) Bernh., 2n = 18: W. Lancs., v.c. 60, near Lancaster, SD/465.624.

Ranunculus flammula L. subsp. *flammula*, 2n = 32: S. Lancs., v.c. 59, Ainsdale dunes, SD/31.11.

Ranunculus sceleratus L., 2n = 32: Oxon, v.c. 23, Little Bourton, farm near M40 motorway, SP/4.4.

Rumex crispus L., 2n = 60: E. Sussex, v.c. 14, Cuckmere Haven, E. side of river, TV/5.9 (**K**).

Saponaria officinalis L., 2n = 28: W. Lancs., v.c. 60, River Lune, near Lancaster, SD/483.634.

Scilla autumnalis L., 2n = 28: Channel Is., v.c. S. Alderney, Essex Hill, WA/592.074.

Scutellaria galericulata L., 2n = 30: Salop, v.c. 40, Crose Mere, S. end, SJ/433.303.

Seriphidium maritimum (L.) Polj., 2n = 54: W. Lancs., v.c. 60, W. of Cockerham, near Bank Houses, SD/428.532.

Serratula tinctoria L., 2n = 22: Dorset, v.c. 9, Melbury Hill, ST/87.19.

Silene noctiflora L., 2n = 24: Dorset, v.c. 9, 2 km S. of Winterborne Kingston, SY/85.96.

Sison amomum L., 2n = 14: Middlesex, v.c. 21, Monken Hadley Common, S. edge, 0·25 km E. to bridge over railway, TQ/2.9 (**K**).

Sonchus arvensis L., 2n = 54: Warks., v.c. 38, Ingon Grange Farm, near Snitterfield, SP/214.590.

Stachys officinalis (L.) Trev., 2n = 16: Dorset, v.c. 9, Melbury Hill, ST/87.19.

Stellaria holostea L., 2n = 26: W. Lancs., v.c. 60, near Yealand Conyers, SD/509.746.

Suaeda vera Forssk. ex J. Gmelin, 2n = 36: E. Sussex, v.c. 14, Cuckmere Haven, E. side of river, TV/5.9 (**K**).

Succisa pratensis Moench, 2n = 20: W. Lancs., v.c. 60, outskirts of Lancaster, SD/491.603.

Tanacetum parthenium (L.) Schultz-Bip., 2n = 18: W. Lancs., v.c. 60, River Lune estuary, near Sunderland Point, SD/426.556.
Teucrium botrys L., 2n = 32: Surrey, v.c. 17, Box Hill, Juniper Hall nature reserve, TQ/176.528.
Thlaspi arvense L., 2n = 14: W. Lancs., v.c. 60, near Lancaster, near River Lune, SD/486.637.
Torilis nodosa (L.) Gaertner, 2n = 24: Dorset, v.c. 9, c. 1·5 km W. of Burton Bradstock, SY/47.89; Caerns., v.c. 49, Aberdaron, 2 km E. of Aberdaen, Penrhyn-mawr Farm, SH/190.261.
Tragopogon pratensis L. subsp. *minor* (Miller) Wahlenb., 2n = 12: Dorset, v.c. 9, Melbury Hill, ST/87.19.
Trientalis europaea L., 2n = c. 160: Moray, v.c. 95, Grantown-on-Spey, NJ/02.26.
Trifolium campestre Schreber, 2n = 14: W. Suffolk, v.c. 26, Lakenheath, Maidscross Hill, TL/72.82 (**K**).
Trifolium fragiferum L. subsp. *fragiferum*, 2n = 16: Dorset, v.c. 9, Small Mouth, ST/66.76.
Trifolium glomeratum L., 2n = 16: E. Suffolk, v.c. 25, Aldeburgh, North Warren Nature Reserve, TM/4.5 (**K**).
Trifolium incarnatum L., 2n = 14: Dorset, v.c. 9, Zelstan, SY/89.98 (no voucher); subsp. *molinerii*, 2n = 14: W. Cornwall, v.c. 1, The Lizard, N. of Caerthillian Cove, SW/69.12.
Trifolium ochroleucon Hudson, 2n = 16: Cambs., v.c. 29, Orwell Hill, TL/36.50 (**K**).
Trifolium scabrum L., 2n = 10: W. Cornwall, v.c. 1, Marazion, SW/50.31.
Trifolium squamosum L., 2n = 16: N. Essex, v.c. 19, Little Oakley, near Harwich, TM/225.278 (**K**).
Trifolium striatum L., 2n = 14: W. Suffolk, v.c. 26, Icklingham, Kings Forest, TL/7.7 (**K**).
Urtica urens L., 2n = 24: Oxon, v.c. 23, Little Bourton, farm near M40 motorway, SP/4.4.
Verbascum virgatum Stokes, 2n = c. 64: E. Cornwall, v.c. 2, Saltash, SX/4.5 (**K**).
Veronica chamaedrys L., 2n = 32: Dorset, v.c. 9, Wareham, Washer's Pit, SY/86.94; W. Lancs., v.c. 60, Silverdale, Gait Barrows N.N.R., SD/479.776.
Veronica hederifolia L. subsp. *hederifolia*, 2n = 54: E. Glouc., v.c. 33, Ashton under Hill, SO/99.37.
Veronica polita Fries, 2n = 14: Dorset, v.c. 9, Upton Park, SY/99.92.
Veronica serpyllifolia L. subsp. *serpyllifolia*, 2n = 14: N. Wilts., v.c. 7, Lockeridge, S.W. of Marlborough, SU/150.675; Caerns., v.c. 49, Crugan, Llanbedrog, SH/33.32; W. Lancs., v.c. 60, near Stirk Close, SD/634.650.
Vicia hirsuta (L.) Gray, 2n = 14: Dorset, v.c. 9, Weymouth, landward shore of Fleet Lagoon, SY/66.76; Salop, v.c. 40, Sunny Hill, W. of N.-S. minor road from Brockton to Clunton, SO/3.8 (**K**).
Vicia sylvatica L., 2n = 14: Salop, v.c. 40, Bucknell, on N. E. edge of Tueshill Wood, SO/3.7 (**K**) (two plants counted).
Vicia tetrasperma (L.) Schreber, 2n = 14: E. Sussex, v.c. 14, Ardingly Reservoir, Hanging Meadow, TQ/3.3 (**K**).

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VARIATION AND HYBRIDISATION OF *ALNUS* MILLER IN IRELAND

The Common Alder, *Alnus glutinosa* (L.) Gaertner (Betulaceae) is known to be morphologically variable. McVean (1953a, b) has shown that weak clinal variation in leaf and catkin dimensions exists along a gradient running from S. W. England to N. W. Scotland.

During 1987 and 1988, samples were taken from 17 populations from as wide a range of geographical localities in Ireland as possible. Most populations were in semi-natural habitats such as riverside banks and carr communities, and none showed evidence of planting. At each site, from a normal minimum of ten individual trees, I made five measurements from ten mature leaves and three measurements from ten mature female catkins (if present), plus an assessment of leaf apex shape and number of teeth on leaf margin, number of pairs of secondary veins and number of glands on the leaf surface. Two ratios were calculated from these data. The following characters were recorded: 1. Lamina length (measured from the top of the petiole along the main vein to the leaf tip); 2. Maximum lamina width; 3. Lamina length to widest point; 4. Number of pairs of secondary veins; 5. Angle of divergence of the mid-secondary veins from the main vein; 6. Angle of divergence of the leaf-apex; 7. Angle of divergence of the leaf-base; 8. Size of the tufts of hairs in the axils of the secondary veins (arbitary scale 0–5); 9. Length of the petiole; 10. Apex acute, subacute or rounded; 11. Number of teeth on one side of the lamina; 12. Ratio of lamina length/lamina length from base to widest point; 13. Ratio of lamina width/(ratio of lamina length/lamina length from base to widest point); 14. Number of glands present on a randomly chosen area of 2 mm^2 on the abaxial leaf surface; 15. Mature female catkin length (following anthesis); 16. Mature female catkin width; and 17. Length of stalk of female catkin.

McVean (1953a, b) found weak clinal changes of size in leaf length and width and female catkin length – effectively he showed that leaf and catkin dimensions were correlated, though the largest-leaved plants did not necessarily bear the largest catkins. Unfortunately I had considerable difficulty in sampling a sufficient number of mature female cones and was unable to confirm this finding. However, in Fig. 1 I have plotted data for lamina length and width for Irish populations alongside re-calculated values derived from McVean (1953a, b), all with 95% confidence limits and arranged along a north-east/south-west axis. In Ireland there is great variation in leaf size, but it is not clinal, nor is there any difference in leaf size between alders from different regions of Ireland. This contrasts with Britain (McVean 1953a, b)

The differences in the variation pattern of Common Alder in Britain and Ireland may be due to a number of causes. The first and most obvious potential cause is that the geographical and climatic span of Ireland is much less than that found in Britain and selection pressures may be insufficient to generate a cline. Secondly it could be that Common Alder populations in Britain are more genetically isolated from each other than they are in Ireland. Highly isolated small populations are likely to experience genetic drift (Levin 1981) and it is possible for clinal variation to develop under these circumstances even in the absence of selection. Most flowering plant populations in which clines have been found are in fact highly genetically isolated (Nic Lughadha & Parnell 1989). *Alnus* pollen, however, is frequently transported over long distances (Huntley & Birks 1983), so the real potential for genetic drift in *Alnus* is likely to be small. There is no evidence that there is any difference in the degree of genetic isolation between populations of Alders in Britain and Ireland. Thirdly it could be that the origins of *A. glutinosa* in Britain and Ireland are different, and that most present-day Irish populations were derived from a few founder individuals or populations. This is unlikely given the speed of the spread of *A. glutinosa* into Ireland following the last glaciation (Huntley & Birks 1983). Fourthly it is possible that *A. glutinosa* is not native at all in Ireland but was derived from a few original planted introductions. Current evidence suggests that, following the most recent glaciation, wild *Alnus* reached and rapidly colonised Ireland some 1500 years later than it did in Britain, between 6500 and 7000 B.P. (Huntley & Birks 1983), and there is no evidence that it subsequently became extinct. So I conclude that the difference in the variation pattern in Common Alder between Ireland and Britain is due to the relatively lesser geographical span of Ireland.

Of the populations sampled, one (population 15) from Charlestown House, near Jamestown (Co. Leitrim) in Co. Roscommon (v.c. H25) (see Kelly 1985) contained trees whose leaves were unusually variable in outline and appeared intermediate between *A. glutinosa* and *A. incana* (L.) Moench (Grey Alder). *A. incana* differs from *A. glutinosa* in its subacute to acuminate leaves

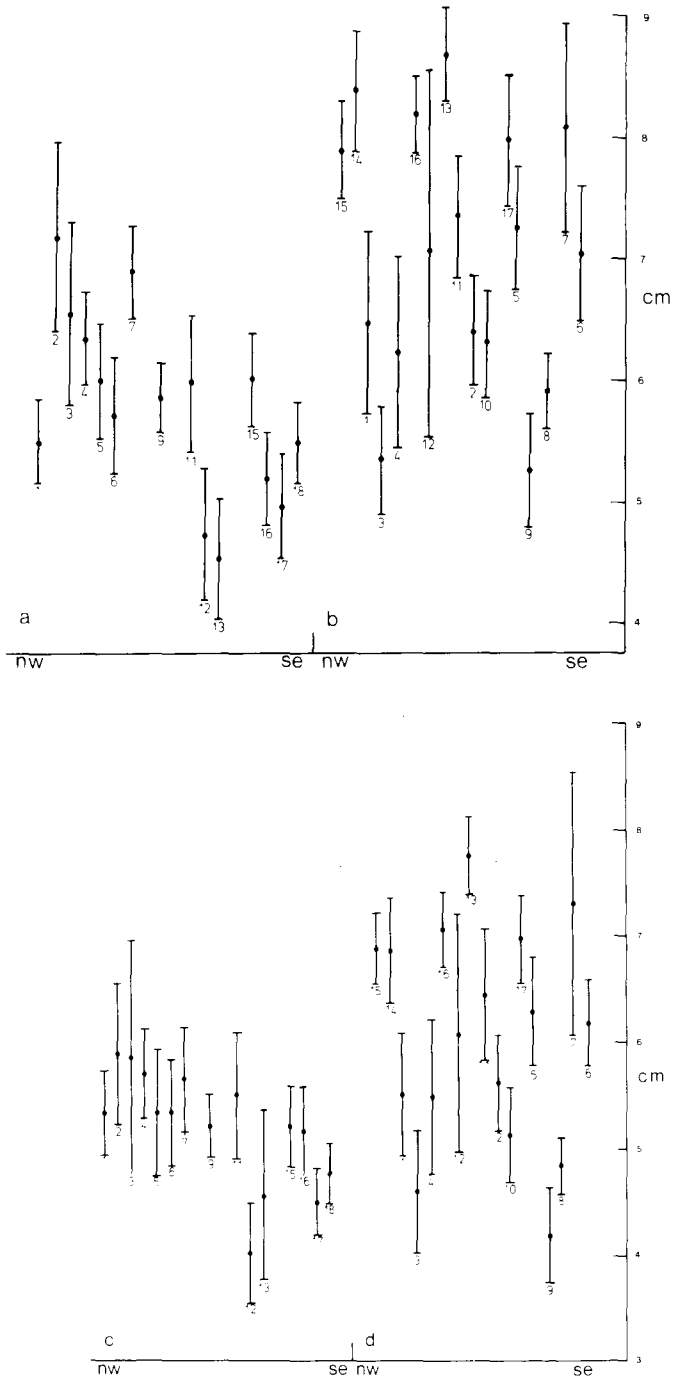

FIGURE 1. Means for leaf length (a,b) and breadth (c,d) (cm), with 95% confidence limits, for populations of *A. glutinosa* recorded in Ireland (b,d) and Britain (a,c). The data from the populations are arranged to show a gradient from north-west to south-east. Data for plants from Britain are plotted from revised data of McVean (1953a, b). The code numbers identify the different populations.

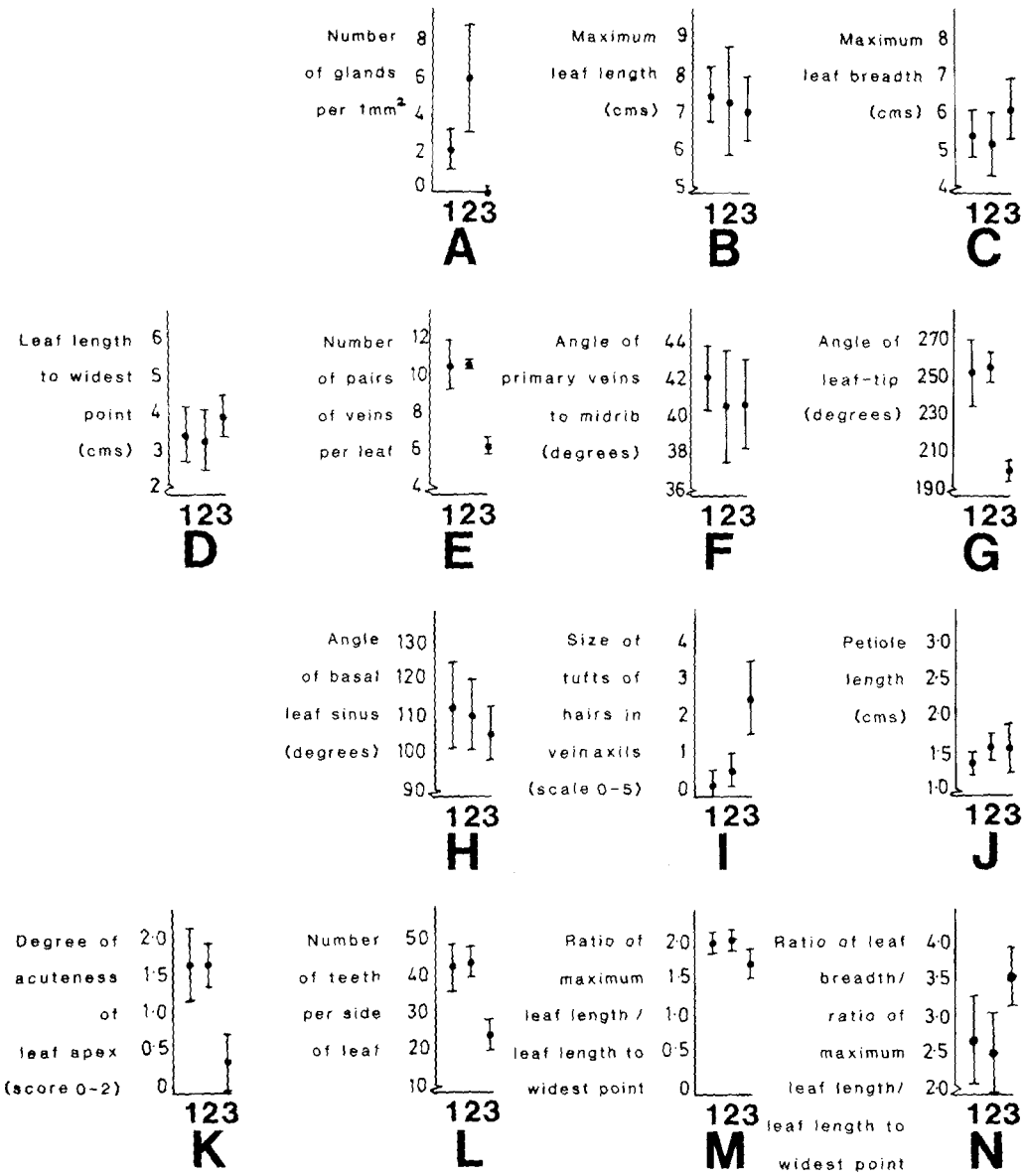

FIGURE 2. Character means with 95% confidence limits for all plants in population 15 (1 = *A. incana*, 2 = *A.* × *pubescens*, 3 = *A. glutinosa*).

(truncate to emarginate in *A. glutinosa*), the greater number of vein pairs in its leaves (10–15 versus 4–7) and in its sessile as opposed to pedunculate female catkins. The hybrid between these two species, *A.* × *pubescens* Tausch, has only been recorded twice in Ireland (v.cc. H14, Laois & H25, Co. Roscommon) under natural conditions (Scannell & Synnott 1988). *A.* × *pubescens* seems to be recognisable only, with difficulty, on the basis of intermediate morphology between its parents. Fig. 2 shows the means of the measurements made on plants in population 15. For the majority of characters, putative hybrids overlap with one or other or both of the parents, and they appear

morphologically closer to *A. incana* (Fig. 2C,D,H,I,K,L,M,N). However, putative hybrids are intermediate between the parental species in some characters (Fig. 2B). In other characters the hybrid is clearly different from, and not intermediate between, its parents; for example, it has a much higher gland density on its leaves than either of the parents (Fig. 2A). Given the difficulty in recognising the hybrid, this previously unnoticed characteristic may well prove useful in its identification.

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PEDICULARIS SYLVATICA L. SUBSP. *HIBERNICA* D. A. WEBB (SCROPHULARIACEAE) NEW TO WALES

During a botanical excursion to the Gower Peninsula, Glamorgan (v.c. 41) in May 1993, *Pedicularis sylvatica* subsp. *hibernica* was found in three sites, new to Wales. Subsequent investigation revealed that plants with hairy calyces occur elsewhere in Wales, and it has probably been overlooked.

Pedicularis sylvatica subsp. *hibernica* was described by Webb (1956), and differs from subsp. *sylvatica* in having the calyx and pedicels clothed in rather long white curled hairs (glabrous in subsp. *sylvatica*). In Ireland it is frequent on the blanket bogs of the west coast, and has been occasionally recorded elsewhere, mainly near the coast. In Britain it has been reported only from Kintyre and the Outer Hebrides (Perring & Sell 1968). Slightly hairy plants (transitional to subsp. *sylvatica*) are not common in Ireland, and they seem to occur chiefly near the eastern limit of subsp. *hibernica* (Webb 1956). Plants of subsp. *hibernica* on the Gower Peninsula were similar to those examined in western Ireland.

The records seen are listed below; it is probable that the plant is widespread elsewhere in Wales, and possibly in south-west and north-west England. I would welcome any other British records.

1. Overton Cliff, Gower, Glamorgan, v.c. 41 (SS/454.849). Two plants in coastal heath, with subsp. *sylvatica*, May 1993, *T. C. G. Rich et al.*
2. Broad Pool, Gower, Glamorgan, v.c. 41 (SS/51.91), abundant on *Molinia caerulea* bog to north-east of Broad Pool (one plant of subsp. *sylvatica* was also present), especially common in areas burnt two years previously, May 1993, *T. C. G. Rich et al.* (**NMW**).
3. Fairwood Common, Gower, Glamorgan, v.c. 41 (SS/56[illegible]922), occasional on *Molinia caerulea* bog north of airport, May 1993, *T. C. G. Rich et al.*
4. Portmead Common, Gower, Glamorgan, v.c. 41 (SS/627.967), May 1993, *Q. O. N. Kay*. All ten plants examined had hairy calyces.

5. Clyne Common, Gower, Glamorgan, v.c. 41 (SS/600.900), May 1965, *Q. O. N. Kay*.
6. Near Caerphilly, Glamorgan, v.c. 41 (ST/1.8, tetrad B), 31 May 1920, *A. W. Wade* (**NMW**).
7. Ponypriddy area, Glamorgan, v.c. 41 (ST/0.8 or ST/0.9), 16 May 1938, *A. Jones* (**NMW**).
8. Glyn Neath, Glamorgan, v.c. 41 (SN/8.0, tetrad B), peaty pasture, 23 July 1941, *H. A. Hyde* (**NMW**).
9. Between Beddau and Llantwit Fadre, Glamorgan, v.c. 41 (ST/068.848), damp ground near the railway, 24 September 1967, *A. Pinkard* (**NMW**).
10. Ystradowen Moors, near Cowbridge, Glamorgan, v.c. 41 (ST/02.78), grass/sedge community on damp peat, 21 May 1968, *S. G. Harrison* (**NMW**).
11. Nanthenfoel, Pont Creuddyn, Cardigan, v.c. 46 (SN/542.521), heathy pasture, scattered over several hectares with subsp. *sylvatica*, 9 June 1993, *A. O. Chater*.

Whether this taxon merits subspecific rank is another matter, and further work on the genetics of the expression of hairiness is required. It almost always grows with or near subsp. *sylvatica*, and differs in no other character. Webb (1956) points out that a "difference of this kind, confined to apparently a single character, would scarcely be worth taxonomic recognition (any more than say albinism, which is not uncommon in this species), were it not for the fact that the hairy forms occur only in a well-defined geographical area".

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