

## A review of *Rubus* section *Discolores* P. J. Muell. in Britain

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### ABSTRACT

Amendments to the British list of *Rubus* section *Discolores* P. J. Muell. are proposed and discussed. Three new species: ***Rubus armipotens***, ***R. rossensis*** and ***R. anglocandicans*** are described and a revised list of the Section is given. Distribution maps of the new species are included.

### INTRODUCTION

The taxonomy of *Rubus* section *Discolores* in Britain is greatly complicated by hybrids of the diploid, outbreeding *Rubus ulmifolius* Schott. These may be sterile or fertile, are usually robust and showy, and occur frequently as isolated clumps or individuals in areas where *R. ulmifolius* comes into contact with ancient bramble populations, especially in southern and western England and coastal South Wales. Such plants are frequently collected and named from Watson (1958), but, since very few British examples of the Section have been found to match syntypes of the original authors, it is likely that most of these identifications are erroneous. It appears necessary, therefore, to establish a reliable British list which may serve as a sounder basis for future observation and research. The twenty names discussed below are, with one exception, those included in this section by Dandy (1958); they were extracted from Watson's manuscripts which were posthumously published (Watson 1958).

### DISCUSSION

#### 1. *Rubus ulmifolius* Schott

Watson (1958) gave a satisfactory account of this species although the list of fertile hybrids could be amended and expanded not only for cases where the parentage is obvious but also where it is putative or uncertain. As it is a thermophilous species it avoids high ground in Wales, Scotland and northern England and, north of a Mersey–Trent line, is largely confined to the coasts as far as Ayr in the west and Montrose in the east.

#### 2. *R. pseudobifrons* Sudre

The widespread and well-marked British species given this name by Watson (1958), and earlier (1928) referred to as *R. winteri* P. J. Muell., differs from the holotype of *R. pseudobifrons* Sudre (coll. *G. Genevier*, 28/6/1867, Mortagne, Vendee, France, as *R. discolor*, herb. P. J. Muell., no 1318 in LAU) in several respects, but notably in the shape and tothing of the terminal leaflet and in stem and panicle armature; it is therefore described below as a new species.

#### ***Rubus armipotens* Barton ex A. Newton, sp. nov.**

Robustus. Turio altiarquatus in umbrosis fuscoviridis in apricis rufoviolaceus, pruinosis, capillis appressis dense obsitis, obtusangulus superficiebus planis vel concavis, striatis; aculeis crebris ad angulos dispositis longis, validis, plerumque patentibus, acute acuminatis e basi lata paullatim contractis instructus.

Folia 3- vel 5-nata atroviridia, margine undulata digitata vel subpedata quorum petioli aculeis falcatis nonnullis validis armata; foliola subimbricata superne ± glabra inferne grisea vel albe-

scentia tomentosa, pubescentia; foliolium terminale obovatum vel rhomboideum late acuminatum basi emarginata dentibus divaricatis mucronatis haud profundis.

Inflorescentia angusta ad apicem aphylla, ramuli superiores anguste, inferiores laxe adscendentes cymosi c 3-flori saepe inter se distantes; pedicelli breves.

Rachis vix flexuosa supra tomentosa praeterea pilosa, aculeis nonnullis rectis declinatis vel patentibus longis tenuibus obsita.

Sepala griseoalba tomentosa pubescentia interdum parum aculeolata, laxe reflexa. Petala suborbicularia pallide rosea margine capillata apice emarginata. Stamina alba stylos pallide luteos vix superantia. Carpella breviter pilosa.

Robust. Stem high-arching, greenish in shade to brownish or reddish-purple in sun, closely felted with appressed tufted and simple hairs, pruinose, blunt-angled with sides flat to slightly concave, striate; prickles on the angles fairly numerous, long, strong, quickly tapered to a slender sharp point from broad bases, usually patent, a few sometimes obfalcate, straight, slanting or with a falcate tip on the same plant.

Leaves 3- to 5-nate, dark green, with undulate margins, digitate or subpedate, petioles with a few rather large falcate prickles; leaflets usually subimbricate,  $\pm$  glabrous above, grey to white felted (suppressed in shade) and pubescent beneath. Terminal leaflet constant in shape,  $\pm$  narrowly obovate or rhomboid with wavy margins, broadly acuminate with usually shallow, open, divaricate,  $\pm$  mucronate teeth, and emarginate base.

Panicle usually leafless at apex, composed of  $\pm$  narrowly ascending cymose usually 3-flowered branches often spaced out giving a narrow  $\pm$  equal appearance; pedicels short; lower branches laxly ascending from axils of ternate leaves; simple leaves rarely more than one; leaves white-felted and pilose beneath.

Rachis  $\pm$  straight or slightly flexuous, felted and moderately pilose above with spreading hairs, armed with several long, straight, declining, slender prickles, sometimes deflexed at base.

Sepals greenish-white, felted, pubescent, smooth, sometimes minutely aculeolate, loosely reflexed. Petals suborbicular, very shortly clawed, pale pink, erose, ciliate on margins. White stamens  $\pm$  equal to yellowish styles. Anthers glabrous; carpels shortly pilose.

HOLOTYPE: Sibford Heath, v.c. 23, 17/8/1927, *H. J. Riddelsdell*, as *R. godroni*, nos 1883/5 herb. Barton & Riddelsdell (BM)

Numerous sheets of this species are scattered throughout the main British herbaria under a variety of names; early gatherings of open-ground specimens were attributed to one of the Continental 'discolorous' taxa current at the time, e.g. *R. discolor*, *R. thyrsoides*, *R. robustus*, and shade-grown examples were called *R. rhannifolius* or *R. villicaulis*. Identification with Continental taxa has always presented problems. Rogers (1900) included it under *R. argentatus* P. J. Muell. and later (1905), at Focke's instigation, adopted the name *R. godronii* Lec. & Lam. But in his MS notes in 1908 (BM) he admits 'our *godroni* is very aggregate and our *robustus* ill defined'. Many gatherings made by H. J. Riddelsdell in the 1920s now in BM were labelled *R. godronii* but later W. C. Barton, after working through Continental material in Focke's and Müller's herbaria without finding a match, labelled many of the sheets with the MS name *R. armipotens*, but left no description. This name is now taken up as a tribute to his extensive research into this critical group of brambles. The first British reference to *R. pseudobifrons* was by Watson (1929b), but he nowhere gave reasons for his choice. It is concluded that, as in many other cases, he was relying solely on the description in Sudre (1909) and misinterpreted it.

The known distribution of this species is shown in Fig. 1 and includes v.c. 7, 8, 11-19, 21-23, 27, 33, 35, 37-40, 42, 55, 62.

### 3. *R. chloocladus* W. C. R. Watson (*R. pubescens* Weihe ex Boenn., non Rafin.)

Watson's specimens from Clophill, v.c. 30 (K), the only recorded occurrence of this plant in Britain, while superficially similar to *R. chloocladus* differ substantially in details, such as stouter stem prickles, stem pilosity and shape of terminal leaflet, from herbarium specimens from Germany and collections I have made in Weihe's own district with H. E. Weber. *R. chloocladus* should therefore be excluded from the British list. The identity of Watson's specimens is not known.

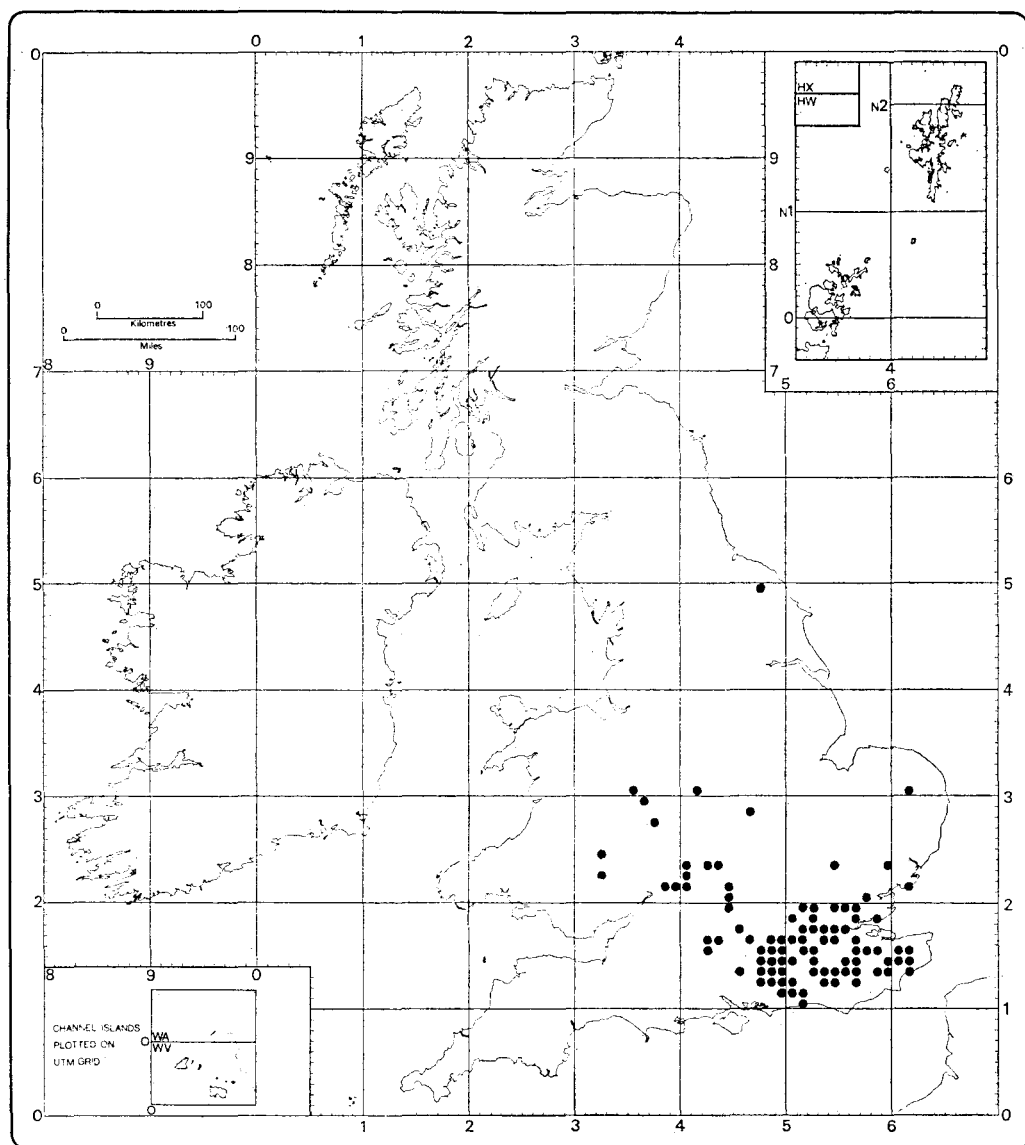


FIGURE 1. Distribution of *Rubus arnipotens* Barton ex A. Newton in the British Isles.

4. *R. winteri* P. J. Muell. ex Focke

Syntypes of this taxon (incl. Wirtgen, Pl. Sel. Fl. Rhen. 1063, K) reveal a plant virtually identical with Set of British Rubi no 113 from Stydd, v.c. 57, issued as *R. argentatus* var. *robustus*, and some specimens collected by Bagnall and Bloxam and named *R. discolor*  $\gamma$  *macroacanthos* from Hartshill, v.c. 38. The same species occurs also in v.c. 36, 55 and 56, but many of Watson's determinations of specimens from other counties (OXF, SLBI) are incorrect and his description in Watson (1958) was widened to include some of these.

5. *R. crassifolius* Genev.

Specimens of a plant frequent in parts of v.c. 34 and 36 were referred by Rogers (1900) to *R. argentatus* P. J. Muell. and later (1905) to *R. godronii* Lec. & Lam., which has priority. Sudre (1904) determined specimens as *R. propinquus* P. J. Muell. and was followed by Watson (1958). Since this was a later homonym of *R. propinquus* Richardson, Dandy (1958) replaced it in the British list by *R. crassifolius* Genev., which is given by Sudre (1909) as a synonym. *R. crassifolius*, however, as revealed by syntypes in CGE (coll. G. Genevier, Evrunes, à la Rigandière, Vendée, France, 3/9/1866), is a densely hairy plant in all its parts and differs also in other respects from the British taxon. Since our plant is also different from *R. propinquus* P. J. Muell., as revealed by no. 1316 in LAU (syntype), and also from *R. godronii* Lec. & Lam. (Rub. praesertim Gall. no. 69 ex Nancy = *R. argentatus* P. J. Muell. (Bat. Eur. 332 in BM, MANCH)) and cannot otherwise be matched, it requires to be described as a new taxon.

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

Turio in umbrosis viridis in apricis fuscus vel atrorufescens, pruinosis, capillis appressis dense obsitus, obtusangulus superficiebus planis striatis. Aculeis paucis falcatis vel curvatis vel rectis declinatis vel patentibus, nonnullis apice obfalcatis e basi valida exortis praeditus.

Folia 3- vel 5-nata subpedata atroviridia quorum petioli pilosiores quam turio aculeis paucis curvatis vel falcatis obsiti. Foliola ± imbricata; foliolum terminale ovale obovatum vel suborbiculare paullatim nonnunquam longe cuspidatum basi truncata dentibus crenatis haud profundis superne ± glaber subtus aspere pilosa viride- vel griseoalba tomentosa.

Inflorescentia ad apicem aphylla pyramidata superne bracteis longis trifidis inferne foliis nonnullis simplicibus vel 3-natis ornata ramuli inferiores multiflori saepe longi foliosi medii laxe ascendentes subcymosi 3-5 flori superiores pedicellis brevissimis aculeolis curvatis ornatis congesti.

Rachis vix flexuosa inferne tomentosa, pilosa superne villosa aculeis rectis (nonnullis curvatis) e basi media exortis instructa.

Sepala griseotomentosa albomarginata crasse pilosa inermia reflexa. Petala suborbicularia rosea margine pilosa. Stamina rosea stylos pallide roseos superantia. Carpella glabra vel capillis sparsis obsita.

Stem green (in shade) or brownish to maroon, closely felted with appressed simple and tufted hairs, also with a few long hairs, pruinose, blunt-angled with flat striate sides. Prickles few, on the angles, varying from falcate, slightly curved, straight sloping to exactly patent or obfalcate at the tip (more or less constant on a particular plant), from a stout but not usually long base.

Leaves 3- to 5-nate subpedate, glossy dark green, petioles more pilose than stem with a few strong-based curved or falcate prickles. Leaflets ± imbricate, the terminal oval, roundish-obovate or orbicular, long or short cuspidate, with entire or emarginate base, with shallow crenate teeth ± glabrous above, roughly pilose and greenish or greyish to white-felted beneath (suppressed in shade).

Panicle narrow pyramidal, ± flat topped, lower branches long, spreading, many-flowered, often leafy, median branches loosely ascending, subcymose 3-5 flowered, uppermost with very short pedicels giving a congested appearance. Pedicels short with a few small curved prickles. Uppermost quarter of panicle leafless but with long trifid bracts almost equalling branches, with several simple and ternate leaves below.

Rachis somewhat flexuous, felted, thickly pilose below, villose above with several mostly straight prickles (a few curved) tapering gradually from a moderate base. Panicle with a few minute glandular hairs up to 0.5 mm, particularly on the bracts and stipules.

Sepals grey-felted, with white margins, ± strongly pilose, unarmed, reflexed. Petals suborbicular, short-clawed, bright pink with strongly pilose margins. Stamens pink, longer than pinkish styles. Carpels glabrous or with a few longish hairs.

HOLOTYPE: Hillside above Redbrook, v.c. 34, 11/8/1892, A. Ley & W. M. Rogers, as *R. argentatus* P. J. Muell., Set of British Rubi no. 30 (MANCH)

This bramble is particularly prominent in the vicinity of Ross and southward to the Forest of

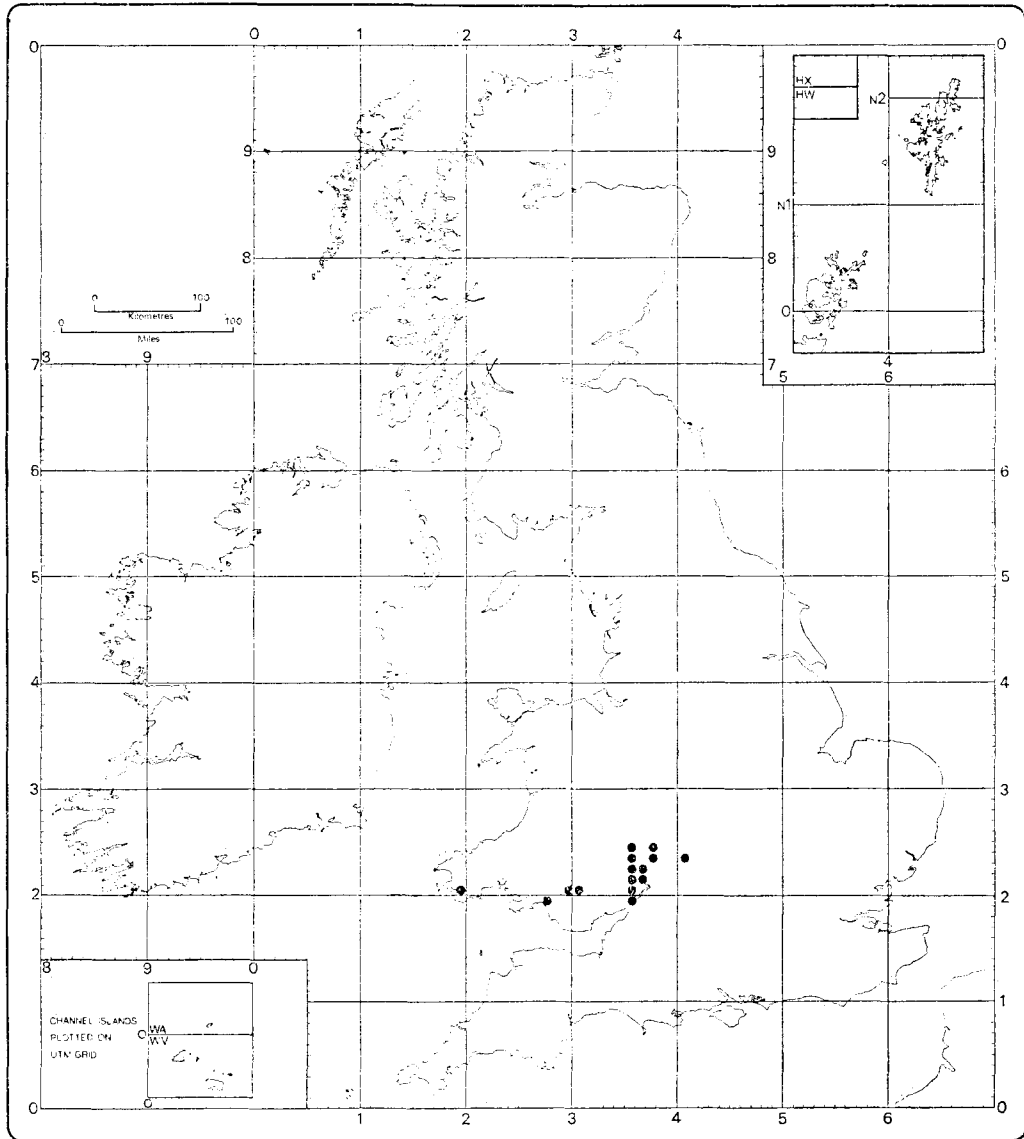


FIGURE 2. Distribution of *Rubus rossensis* A. Newton in the British Isles.

Dean, where it makes a fine show on wood margins with handsome rose-pink flowers and grey-white foliage. Some of the early gatherings received various names but, after Rogers' visit to the area in 1892, it became the principal component of his concept of *R. argentatus* and was later known as 'Herefordshire *godronii*'. A good series can be seen in herb. Barton & Riddelsdell (BM) nos. 648, 915, 4880/2-5, 4892/4, 8147/8 (isotypi).

The known distribution is shown in Fig. 2 and covers v.c. 33-37, 41, 45 (T. A. W. Davis no. 73/1359).

#### 6. *R. lamburnensis* Rilstone

This Cornish plant is constant over a limited area and should be retained in the list as a species.

7. *R. carnkiefensis* Rilstone

Another constant but local Cornish plant whose affinities are rather, as the author states, with *R. dummoniensis* Bab. and *R. ramosus* Bloxam ex Briggs than with the section *Discolores*. It should be included within the section *Sylvatici*, subsection *Discoloroides*.

8. *R. pydarensis* Rilstone

Rilstone (1952) finally placed this in the *Discolores* where, in view of its constancy over a wide area and its combination of characters, it should be retained as a species.

9. *R. stenopetalus* Muell. & Lefèv.

The single British gathering of this plant by Watson from Everleigh Ashes, v.c. 8 (SLBI), has some affinity with *R. armipotens* and is distinct from *R. stenopetalus* Muell. & Lefèv., as revealed by Bat. Eur. 342 (BM) (coll. Questier 7/1860, Buisson de Tillet nr Vaumoise, Valois, France, *loc. class.*). Its inclusion in the British list cannot be sustained.

10. *R. geniculatus* Kalt.

The single British specimen cited by Watson (1958) cannot be equated with gatherings of *R. geniculatus* Kalt. from the Aachen district, nor with any other named taxon known to me.

11. *R. cuspidifer* Muell. & Lefèv.

Specimens so determined by Watson (K, SLBI) cannot be matched with any named taxon known to me. They differ from one another and also from the holotype of *R. cuspidifer* Muell. & Lefèv. (coll. Lefèvre 26/7/1855, Forêt de Retz, Oise, France, herb. P. J. Müller no. 1387 in LAU). The inclusion of this species in the British list cannot, on this evidence, be justified.

12. *R. cornubiensis* (Rogers & Riddelsd.) Rilstone

As Rilstone (1950) suggested in his account, the association of this species by Watson with *R. bifrons* Vest ex Tratt., a widespread central European species which I have studied both in exsiccata and in the German Ardennes, cannot be maintained. The British species belongs rather in the section *Sylvatici*, subsection *Discoloroides*.

13. *R. tresidderi* Rilstone

This local Cornish species should also, as its author suggests, be included within the section *Sylvatici*, subsection *Discoloroides*.

14. *R. vulnificus* Lefèv. ex Genev.

Lefèvre's original gatherings, as revealed by specimens in herb. P. J. Müller (LAU), differ significantly from Watson's gatherings from v.c. 14 and determined as *R. vulnificus*. These represent a local unnamed taxon. *R. vulnificus* Lefèv. ex Genev. should be excluded from the British list.

15. *R. procerus* P. J. Muell.

This is widely planted as 'Himalayan Giant' in gardens and allotments and frequently persists when these are abandoned. It is also bird-sown and, being extremely vigorous, it is soon established in hedges and on waste ground. It is now widely naturalized and spreading in Britain, particularly on the outskirts of towns; any gathering of a bramble of section *Discolores* encountered in such habitats should first be checked for this.

16. *R. × polioclados* W. C. R. Wats.

This taxon was said by Watson (1929a) to be abundant in parts of Epping Forest, v.c. 18, and to have an affinity with *R. ulmifolius*. It exhibits considerable glandular development in stem and panicle and is best regarded as a hybrid between *R. ulmifolius* and a glandular species. It was not included in Watson (1958).

17. *R. neomalacus* Sudre

Sudre's autographed syntypes (coll. G. Genevier, 1858 & 1860, Torfou & St Hilaire, Vendée, France, herb. P. J. Müller, nos 1636/8-40, LAU) are indeed close to, if not identical with, some specimens so determined by Watson. The name should be retained provisionally for some Surrey and Hampshire gatherings, but care should be taken to distinguish it from *R. rubritinctus* and from *R. imbricatus*, and also from hybrid derivatives of *R. armipotens* which occur in the same area. I have collected examples from Bramshott Common, v.c. 12, and the following, from v.c. 17, can also be taken as representative:

<b>BM</b>	(herb. Barton & Riddelsdell)		
	6541 Wareham Hill, Witley	<i>W. M. Rogers</i>	4.8.1894
	6542 Haslemere	<i>W. M. Rogers</i>	20.8.1900
	6543 Ockham Common	<i>C. E. Britton</i>	8.1901
	6544 Farley Heath, Guildford	<i>W. C. R. Watson</i>	15.7.1930
<b>CGE</b>	Opposite Littleworth Common, NW side of A3	<i>W. H. Mills</i>	1.7.1953
	Milford Heath	<i>W. C. R. Watson</i>	30.6.1934
	Smithwood Common	<i>W. C. R. Watson</i>	14.7.1930
<b>OXF</b>	Witley (no. 2050)	<i>E. S. Marshall</i>	6.7.1897
<b>SLBI</b>	Thursley Common	<i>E. S. Marshall</i>	5.9.1891
	Fairmile Common	<i>C. E. Britton</i>	9.8.1902
	near Newlands Corner	<i>C. Avery</i>	7.7.1938

18. *R. falcatus* Kalt.

Despite extensive enquiries to various European herbaria, no authentic specimen of Kaltenbach's can be discovered. The specimen referred to by Watson (1958), collected by himself and N. D. Simpson at Neuenhof, near Forst, Aachen, no. 371137 in herb. Simpson (**BM**), appears to be *R. goniophylloides* Sudre, which I have seen myself in quantity in the Aachen district. Despite Watson's assertion of the identity of this with the 'Sandy (Beds) plant' there are significant disparities and, since I am unable to match the British species with *exsiccata* of any eligible taxon validly named on the Continent, nor could it be identified by H. E. Weber (pers. comm. 1974), it is here described as a new species.

***R. anglocandicans* A. Newton, sp. nov.**

*Turio altiarcuatus fuscorufescens ± fulgens subglauescens ± glaber acutangulus superficiebus sulcatis. Aculeis ad angulos dispositis e basi lata paullatim contractis rectis declinatis vel patentibus vel curvatis vel falcatis nonnullis uncinatis praeditus.*

*Folia quinata subdigitata superne glaber inferne griseo- vel albo-tomentosa molliter pubescentia. Folium terminale late vel anguste obovatum vel ellipticum basi truncata longe acuminatum argute inciso-serratum.*

*Inflorescentia saepe elongata thyrsoida ad apicem aphylla ramuli pedunculis brevibus cymosi, pedicellis sat longis, utrisque tenuibus aculeolis curvatis instructis.*

*Rachis vix flexuosa inferne glabrescens superne tomentosa pilosa aculeis validis uncinatis falcatisve e basi lata exortis obsitus.*

*Petala alba late elliptica ciliata; sepala viride- vel griseoalba tomentosa pubescentia reflexa. Stamina alba stylos virides parum superantia. Carpella capillis longis barbata.*

Stem brownish-red, high-arching,  $\pm$  shining, subglaucescent,  $\pm$  glabrous, usually sharp-angled with grooved sides. Prickles few on the angles, gradually tapered from a broad base (quite wide for most of length), straight, slanting, curved, or falcate.

Leaves quinate, subdigitate, glabrous above, velvety pubescent and thickly grey to white-felted beneath. Terminal leaflet narrow to broad, obovate or elliptical, acuminate, with an entire base, coarsely and sharply serrate. Panicle often long, cylindrical, the branches mostly short-peduncled cymes, the pedicels rather long. Apex usually leafless but with broad bracts, not, or only slightly, triid; lower portion with ternate, sometimes quinate, leaves. Peduncles and pedicels rather slender with curved pricklets.

Rachis straight or slightly flexuous, glabrescent below, felted and pilose above, with several, often stout, strongly falcate prickles; those below often shorter but all very broad-based.

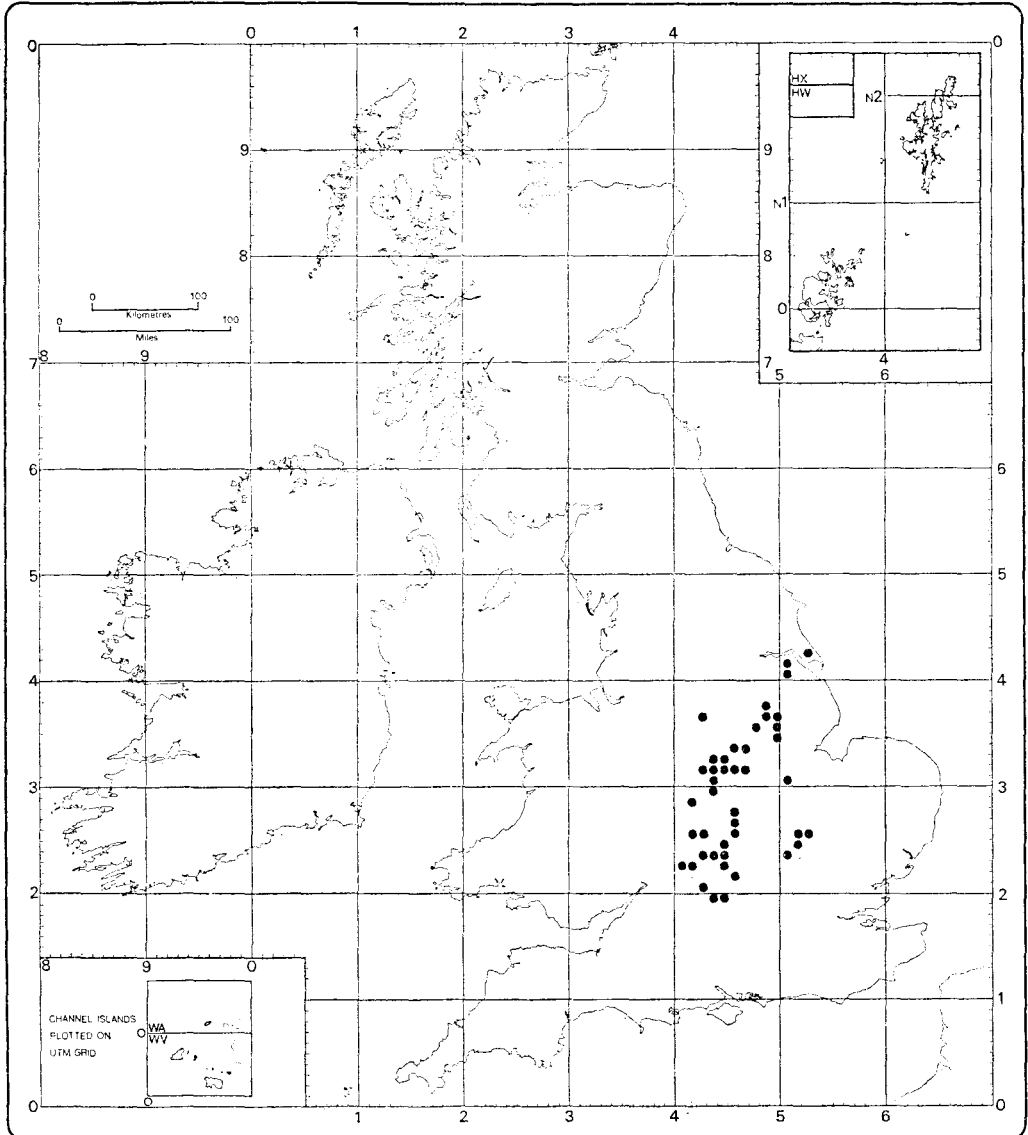


FIGURE 3. Distribution of *Rubus anglocandicans* A. Newton in the British Isles.



Petals white, broad, elliptical, ciliate. Sepals greenish to greyish-white, felted,  $\pm$  acute or mucronate, reflexed. Stamens white, slightly exceeding the green styles. Carpels long-pilose, bearded.

HOLOTYPE: Frilford Heath, v.c. 22, 21/8/1895, *W. M. Rogers*, as *R. thyrsoides* sp. coll., Set of British Rubi no. 116 (MANCH) (Isotypi in BM, CGE, OXF)

This is the chief representative in Britain of the series *Candicantes*, which is widespread in areas of northern and central Europe where *R. ulmifolius* is absent. It is similar to *R. candicans* Weihe but differs in leaf-toothing, quality of armature, panicle outline and flower characters. It is also close to some specimens named *R. thyrsoanthus* by Danish authors. A good series of specimens can be seen at OXF. It is noticeable that *R. anglocandicans* presents a 'Continental-type' distribution, being confined to a belt of country from Berks. to S.E. Yorks., where the terrain is similar to that of northern Germany, and chiefly on sandy soils; it is particularly frequent in the northern Cotswolds and along the lower Trent Valley. The known distribution is shown in Fig. 3 and includes v.c. 22, 23, 29, 30, 32, 33, 38, 39, 53-57, 61.

19. *R. hylophilus* Rip. ex Genev. (*R. brittonii* Barton & Riddelsd.)

British specimens of *R. brittonii* match well examples of *R. hylophilus* Rip. ex Genev. in K and Bat. Eur. no. 366 in BM and MANCH; the use of the name *R. hylophilus* is therefore justified for the British plant. The account and figure in Watson (1958) give a satisfactory impression of this species.

20. *R. thyrsoanthus* Focke

Watson's single example of putative *R. thyrsoanthus* (SLBI) appears to be a depauperate specimen or a recent hybrid derivative of *R. armipotens*. It is certainly different from *R. thyrsoanthus* Focke, which I have collected from the Harz area in Germany (whence it was first described) and have verified with syntypes.

#### CONCLUSIONS

A revised British list of *Rubus* section *Discolores* is as follows:

Series *Gypsocaulones* P. J. Muell. (incl. *Hedycarpi* Focke)

- R. ulmifolius* Schott
- R. rusticanus* Merc., *R. discolor* auct.
- R. armipotens* Barton ex A. Newton
- R. pseudobifrons* auct.
- R. winteri* P. J. Muell. ex Focke
- R. rossensis* A. Newton
- R. crassifolius* auct.
- R. lamburnensis* Rilstone
- R. pydarensis* Rilstone
- R. procerus* P. J. Muell.
- R. hedycarpus* Focke, *R. armeniacus* Focke

Series *Candicantes* Focke

- R. neomalacus* Sudre
- R. anglocandicans* A. Newton
- R. thyrsoides* auct.
- R. hylophilus* Rip. ex Genev.
- R. brittonii* Barton & Riddelsd.

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## REFERENCES

- DANDY, J. E. (1958). *List of British vascular plants*. London.
- RILSTONE, F. (1950). Some Cornish *Rubi*. *J. Linn. Soc. (Bot.)*, **53**: 413–421.
- RILSTONE, F. (1952). *Rubi* from Dartmoor to the Land's End. *Watsonia*, **2**: 151–162.
- ROGERS, W. M. (1900). *Handbook of British Rubi*. London.
- ROGERS, W. M. (1905). French and German views of British *Rubi*. *J. Bot., Lond.*, **43**: 198–205.
- SUDRE, H. (1904). Observations sur 'Set of British *Rubi*'. *Bull. Soc. Étud. scient. Angers*, **33**: 106–145.
- SUDRE, H. (1909). *Rubi Europae*, (2). Paris.
- WATSON, W. C. R. (1928). Brambles of Kent and Surrey, 1. *Lond. Nat.*, **7**: 12–17.
- WATSON, W. C. R. (1929a). Bramble Notes. *Rep. botl Soc. Exch. Club Br. Isl.*, **8**: 782–788.
- WATSON, W. C. R. (1929b). In TURRILL, W. B., ed. Report of the distributor for 1928. *Rep. botl Soc. Exch. Club Br. Isl.*, **8**: 904.
- WATSON, W. C. R. (1958). *Handbook of the Rubi of Great Britain and Ireland*. Cambridge.

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