

Notes

AN HYSTRICEAN BRAMBLE (*RUBUS* SP.) FROM INLAND KINCARDINESHIRE: LISTING BY BABINGTON, ROGERS, TRAIL AND WATSON REPUDIATED

In 1876 John Sim, a farmer and keen naturalist living in Strachan, Kincardineshire, sent a bramble to C. C. Babington for determination. Babington was then Professor of Botany in Cambridge and had become the leading bramble authority. Two sheets in *CGE* are extant from Sim's collection, both bearing the names *R. Koehleri* – *infestus*. *R. Reuteri* in Babington's handwriting.

The first published record of this determination seems to have been in Watson's *Topographical Botany* (1883): the list of vice counties for *Rubus glandulosus* Bellardi var. *reuteri* Mercier includes South Aberdeenshire. Assignment to the wrong vice-county perhaps resulted from the locality being given on the herbarium sheets as Strachan near Banchory, N. B. (i.e. North Britain). Babington himself was responsible for the next citation of the record (1886): under *Rubus reuteri* Mercier he reported that specimens from Sellack and Penyard Wood (both Herefordshire), Kirkby (Lancashire), Banchory (N. B.) and Thirsk (Yorkshire) "all agree fairly well with the authentic specimens of *R. reuteri*", these having been collected near Geneva, where Mercier first described the species (Babington 1873).

The third publication of Babington's determination of Sim's bramble was by Rogers (1893). The name had again changed, to *Rubus obscurus* Kaltentb., but the localities given in 1886 are all retained (Hereford, Lancashire, Banchory N. B. and Yorkshire) and Monmouthshire is added. Rogers provided a reasonably full description of *R. obscurus*, placing it next to *R. koehleri* Weihe & Nees within his Group 7 *Koehleriani* (= *Hystrices*). Rogers' *Key to British Rubi* (1893) and *Handbook of British Rubi* (1900) gave a much improved understanding of British brambles, and led Trail to attempt a vice-county listing for Scotland (1902/03). Following a further name change (Rogers 1895), Sim's bramble was listed by Trail as *Rubus rosaceus* Weihe & Nees ssp. *purchasianus* Rogers, its only Scottish records being for v.c.c. 91 and 92. It seems that Trail uncritically accepted the South Aberdeenshire citation given by Watson

(1883), but knowing that Banchory was in Kincardineshire responded to the locality list of Babington (1886) by adding v.c. 91.

Both records were classed by Trail (1902/03) as "in much need of confirmation"; he had probably noted that Rogers (1897) included *Rubus rosaceus* var. *purchasianus* in a list of brambles that he (Rogers) had not seen either fresh or dried from Scotland. By this time Trail had a sound knowledge of the bramble species of north-east Scotland, as shown by his *Flora of Buchan* (1902), and he may well have suspected that the species was either rare or incorrectly determined. Since 1903 there have been no more mentions of Sim's record in the literature, and the distribution given in Edees & Newton (1988) for *Rubus purchasianus* Rogers, the present name of the bramble, centres on Herefordshire and Monmouthshire.

I therefore sought to refine Sim's bramble in the Strachan-Banchory area. My search produced in summer 2002 a puzzling bramble allied to the *Hystrices* on a laneside at NO684934 midway between Strachan and Banchory; both David Allen and Alan Newton considered it an unnamed form. In summer 2003 I found further bushes of the same bramble in an ungrazed strip along a stream fenced off from fields to either side (NO681933). The 1881 Census showed John Sim occupied Gateside Farm which was stated to be 140 acres (57 ha) in extent, and from the 1866 6" O.S. maps it seemed likely that the fenced-off stream was its east boundary. The present farmer to its east has confirmed to me that the stream has indeed long been the boundary of Gateside Farm. However, the *Hystricean* bramble growing there is considerably different to *Rubus purchasianus*, having almost round leaves, pinkish to pink petals and hairy anthers (cf. rhomboid or obovate leaves, bright pink petals and glabrous anthers).

I then examined the two sheets in *CGE* to try to establish what species Sim had collected. Unfortunately, the material is inadequate lacking proper stem pieces, and at least one of the four pieces present belongs to a different species. On the sheet I designate A, there are

two similar shoot tops 27 and 22 cm long ending in young inflorescences. On sheet B, there is a 29 cm long shoot top with inflorescence undeveloped and a 15 cm shoot top from a different species that bears several flowers; this latter shoot has no stalked glands whereas the three other stems have abundant stalked glands. I consider the 15 cm shoot to be *Rubus scissus* W. C. R. Watson, and the other three pieces to be *Rubus echinatoides* (Rogers) Dallman, those on sheet A certainly so. This sheet is annotated in pencil "probably *echinatoides*" by an unknown hand.

In Strachan parish there are now very few bramble species and *Rubus echinatoides* and *Rubus mucronulatus* Boreau are about equally abundant. *Rubus fissus* Lindley, *R. plicatus* Weihe & Nees and *R. scissus* occur sparsely, and there is one large patch of *Rubus pictorum* Eedes. Only one species belonging to the series *Hystrices* occurs in Kincardineshire, this being *Rubus dasyphyllus* Rogers (E. S. Marshall) for which the nearest locality is at Muchalls (NO89), 25 km east of Strachan.

Sim was a competent bryologist (Macvicar 1902) and collected hard-to-spot flowering plants as shown by specimens of *Equisetum variegatum* Schleicher and *Hammarbya paludosa* (L.) Kuntze in **ABD**, and I suggest he realised that on his boundary streamside he had a different bramble to the distinctive *R. echinatoides* and *R. mucronulatus* that are ubiquitous in west Kincardineshire. In fact the bushes of the unknown *Hystricean* presently grow intermixed with these two species, so

perhaps Sim inadvertently made a mixed gathering including *echinatoides*, and Babington discarded the *Hystricean* shoots. Just possibly a third party was involved, either Trail (who was already collecting *Rubus* specimens in 1876 including some from Banchory in **ABD**) or George Nicholson, Kew, who gave many bramble specimens collected in northern Scotland to **ABD**. This person could have suggested to Babington that Sim's plant was *Hystricean* and Babington, having recently established *Rubus reuteri* as a species, chose shoots to mount which superficially resembled it, particularly in the rhomboidal shape of the leaves. This was a key feature of *Rubus reuteri* from the descriptions in Babington (1873, 1874).

A final complication is that Druce collected from Strachan in 1926 a bramble he named *Rubus koehleri* (specimens in **BM** and **OXF**). Again the material is inadequate but sufficient to reject that determination (David Allen, pers comm.). Perhaps Druce expected to find this species from the literature. I hope this present paper makes clear that the listings of *Rubus reuteri*, *R. obscurus* and *R. rosaceus* ssp. *purchasianus* for v.cc. 91 and 92 are all wrong.

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A SIMPLE GENETIC BASE FOR THE SPREADING AND APPRESSED HAIR TYPES IN
ANTHYLLIS VULNERARIA L. (FABACEAE)

Rich (2001) reviewed the status of *Anthyllis vulneraria* L. subsp. *corbierei* (Salmon & Travis) Cullen, and concluded that it was probably part of the polymorphic variation in *A. vulneraria* subsp. *vulneraria*. It was noted that genetic experiments were required to establish the basis of inheritance of the key spreading and appressed hair characters on the lower stem and petioles which distinguish the taxa (hairs spreading in subsp. *corbierei* and appressed in subsp. *vulneraria*). The results of such an experiment are reported here.

METHODS

One fruit was collected at random from each of about 50 plants of *Anthyllis vulneraria* at the type locality of subsp. *corbierei* at South Stack, which contains a mixture of plants with appressed and spreading hairs (Rich 2001). Fruits were stripped out of the persistent calyx and the single seed extracted from each pod. Each seed coat was nicked with nail-clippers, and the seeds were sown in standard John Innes No. 1 potting compost and grown in a greenhouse in Cardiff. Due to lack of water during one holiday, only eight plants survived to flowering, six plants with spreading hairs and two with appressed hairs. The plants were kept isolated from insects and allowed to self-pollinate. All seeds from each plant were harvested and sown as above. The number of seeds that germinated from each plant was very variable. Progeny were scored for spreading or appressed hairs on the petioles and surfaces of the first leaves of the seedlings.

RESULTS

The numbers of seedlings of each type from the eight parent plants are shown in Table 1. The two parents with appressed hairs (plants 4 and 7) both produced seedlings only with appressed hairs. Parent plants with spreading hair types either produced seedlings with spreading hairs

TABLE 1. RESULTS OF SEED GERMINATION TRIALS

Plant	Parental hair type	No. seedlings with each hair type		
		Spreading	Appressed	Ratio
4	Appressed	0	12	0:1
7	Appressed	0	12	0:1
2	Spreading	3	0	1:0
6	Spreading	5	0	1:0
8	Spreading	5	0	1:0
1	Spreading	14	5	2.8:1
3	Spreading	26	7	4.7:1
5	Spreading	3	2	1.5:1

only (plants 2, 6 and 8) or a mixture of seedlings with spreading and appressed hairs (plants 1, 3 and 5). In these latter three plants, the proportions of seedlings with spreading or appressed hairs do not depart significantly from what would be expected with a simple 3:1 ratio (Chi-squared test: plant 1, $p = 0.89$; plant 3, $p = 0.62$; plant 5, $p = 0.44$).

DISCUSSION

The results are consistent with a simple Mendelian genetic model of a dominant gene for spreading hairs (S) with a recessive gene for appressed hairs (s), assuming the two parent plants with appressed hairs were homozygous recessives (ss), the three parents producing only seedlings with spreading hairs were homozygous dominants (SS) and the three parents producing mixed seedlings were heterozygotes (Ss). The results indicate that the spreading/appressed hair character states are a simple polymorphism, supporting the argument that the supposed taxon with spreading hairs does not merit recognition at subspecific rank (Rich 2001).

REFERENCE

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