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Research

Rubus aetnicus Cupani ex Weston and *R. canescens* DC. (Rosaceae): an analysis

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Beek (2016) argued that *Rubus aetnicus* Cupani ex Weston was the correct name of the taxon that was then called *R. canescens* DC., and which was previously known as *R. tomentosus* Borkh. Moreover, *R. canescens* was stated to be not identical with *R. aetnicus*, but rather a form of *R. × collinus* DC. Matzke-Hajek (2016) raised objections to both statements. Therefore, the aim of this study was to thoroughly analyse both names and support this analysis with field work at the type localities and by DNA data. Despite the correspondence at the investigated conservative DNA loci, the investigation showed that the two species are morphologically different and must be conceived as separate taxa. According to the rules of the ICN, *R. aetnicus*, as the earliest available legitimate name, must be accepted as the correct name for *R. tomentosus* auct. non Borkh. There is no reason not to use the name *R. aetnicus*, which has not been commonly used until now. It is unambiguous, while any other name could cause confusion if it would be conserved. Other scientific names clarified in this study are *R. aetnaeus* Tornab. (= *R. ulmifolius* Schott), *R. aetnensis* Tornab. (= *R. aetnicus*) and *R. argenteus* Gmel.

Keywords: batology, nomenclature, *Rubus tomentosus*

Introduction

In his Hortus Catholicus, Cupani (1696: 193) published a bramble species with the phrase: ‘*Rubus minor, Alpinus, Etnicus, rectus, canescens, candido flore.*’ This description was used by Weston (1770: 258), who validated the name *Rubus aetnicus*. Beek (2016: 40) selected a type from Cupani’s Panphyton (Cupani 1713: Tab. 61) and identified the taxon as *R. canescens* sensu H.E. Weber (1989), which was, according to his analysis, not identical with *R. canescens* DC. (De Candolle 1815: 545). He suggested a proposal for conservation of the name *R. tomentosus* Willd. (Willdenow 1799: 1083) non Borkh. (Borkhausen 1794a: 108) to establish a stable correct name for this taxon.

Matzke-Hajek (2016) commented on these identifications, demonstrating uncertainty that the drawing in the Panphyton and the phrase in the Hortus Catholicus refer to the same taxon and that the former does not display the typical *R. canescens* sensu



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H.E. Weber. Matzke-Hajek (2016) also stated that the type of *R. canescens* DC. is a normal *R. canescens* sensu H.E. Weber.

In addition to these comments, the present authors considered that the conservation of *R. tomentosus* Willd. might cause additional confusion, as it will not always be clear if it refers to *R. tomentosus* Borkh. or *R. tomentosus* Willd. These reactions and reflections caused us to revisit the whole issue critically.

Material and methods

All relevant literature was consulted, including earlier interpretations of Cupani's taxon. Texts and figures were compared and critically analysed. In early publications, the description is not only very short but also cannot be interpreted according to modern standards. They must be interpreted in light of all the related taxa accepted in the same publication. Additionally, a distinction between the characters of the primocane (the first-year, vegetative stem) and the inflorescence is usually not made, if the primocane is considered at all. The most certain base for interpretation of an old species name would be a specimen, if preserved or survived, such as in the case of *Rubus pseudoideaus* F.W.Schmidt (Beek 2017). If no specimen is available, special attention must be given to conspicuous details in the description that had not come from the author's impression of brambles in general.

Because the available information in Cupani's work is limited, field research in the region of Mount Etna was performed to collect plants corresponding with Cupani's description, which could possibly belong to the taxon concerned. Special attention was given to specimens that were similar to the picture in the *Panphyton*.

Additionally, samples collected by earlier botanists at Mount Etna and identified as *R. aetnicus* were consulted, as well as other specimens of *Rubus* in PAL collected on Sicily.

Furthermore, the protologue of *R. canescens* DC. and its type at GE were revisited critically, comparing all details with both *R. canescens* sensu Weber and *R. × collinus* DC. (De Candolle 1815: 545). Additionally, field research was done at the locality that De Candolle mentioned, the Madeleine Pass west of Vinadio in north Italy, and a plant was transferred to the *Rubus* garden for further observation.

Michal Sochor (Olomouc, Czechia) used direct DNA sequencing and basic analyses of two standard phylogenetic markers, the nuclear internal transcribed spacer (ITS) and *trnL-trnF* plastid intergenic spacer (for further details see Sochor et al. 2015, Sochor and Trávníček 2016), in samples from the Madeleine Pass and Mount Etna.

NB. To avoid repeatedly complicated circumscriptions, we here (unless otherwise indicated) use the name *R. tomentosus* for the taxon of this name, as described by Willdenow (1799), Focke (1877), Sudre (1908–1913) and many other authors, which was identical to *R. canescens* sensu H.E. Weber.

Rubus aetnicus

Cupani's publications

The story begins with the publication of a phrase name by Cupani in his *Hortus Catholicus* (Cupani 1696). Weston used this phrase for the publication of *Rubus aetnicus* (Weston 1770: 257). This phrase, which is the validating description of *R. aetnicus* Cupani ex Weston, was 'Rubus minor, Alpinus, Etnicus, rectus, canescens, candido flore.'

The following conclusions can be drawn from this phrase:

- a) Minor: it is a small plant compared to 'normal' *Rubus*, mainly *R. ulmifolius* Schott (1818: 42) in that region.
- b) Alpinus: it was found in the higher mountain regions.
- c) Etnicus: the plant is from Mount Etna.
- d) Rectus: the stem is not prostrate like those of *R. caesius*, which is indicated as 'repens'. *Rubus elegantissimus*, a small form of *R. idaeus* L. (Beek 2016), is also indicated as 'rectus.'
- e) Canescens: the plant is greyish.
- f) Candido flore: clear white flowers; thus, no obvious influence of the usually pink flowered *R. ulmifolius*.

Some years later another work by Cupani was circulated posthumously, the *Panphyton* (Cupani 1713), which included drawings of his plants. In this work, there is a picture of a blackberry with the following text added: 'Rubus Etnicus trifolius rectus candicans ac pilosus.' Thus, there was also a clear white upright blackberry from Mount Etna. The characteristics were not described identically with the phrase in the *Hortus Catholicus*. Cupani added 'trifolius' and 'pilosus' and excluded 'minor' and 'canescens.' However, the descriptions do not contradict each other: 'pilosus' is another word for 'canescens,' and 'trifolius' contrasts with the usually 5-foliolate strong *R. ulmifolius* and does not oppose 'minor.' 'Trifolius' likely refers to the leaves of the inflorescence only, and *R. ulmifolius* usually has 5-foliolate leaves at the flowering branch.

Beek (2016) selected the drawing of the *Panphyton* as the type of *R. aetnicus* Cupani ex Weston because of the similarities in characteristics and the reference to the same place of collection. This was supported by the term 'canescens,' which suggests a plant from the *R. tomentosus* group and the drawing in the *Panphyton* which displays such a plant.

Two methods can be followed to establish whether these identifications are correct. Firstly, interpretations of botanists from the region where Cupani collected his knowledge can be investigated. Secondly, fieldwork can clarify which taxa grow at the indicated localities.

Later interpretations

The first author after Weston who picked up Cupani's phrase was Gussone. In his *Florae Siculae Prodrromus*, he describes a *Rubus tomentosus* b *hypoleucus* (Gussone 1827: 579). He inserted Cupani's phrase in his description. Because this phrase was already validated at the rank of species by

Weston, Gussone should have taken the name *R. aetnicus* Cupani ex Weston as the species name and changed the status of *R. tomentosus* Borkh. to a variety, since both, according to his opinion, are infraspecific taxa of the same species. Consequently, the name *R. tomentosus* var. *hypoleucus* Guss. is illegitimate. The differences Gussone mentions are not substantial and are covered by the normal variation of *R. tomentosus*.

Tornabene (1859: 86) follows Gussone and identifies *R. aetnicus* as *R. tomentosus* var. *hypoleucus*. Later, Tornabene published a *Rubus aetnaeus* in his *Flora Sicula* (Tornabene 1887: 229). At first sight, it might seem this is a variation on the name *R. aetnicus*; however, this is not the case. Tornabene excludes *R. tomentosus* var. *hypoleucus*. Though that name is illegitimate, Tornabene refers, in his description of *R. tomentosus*, to its description that includes *R. aetnicus*. Therefore, *R. tomentosus* sensu Torn. (= *R. aetnicus*) and *R. aetnaeus* are heterotypic.

Because *R. aetnaeus* Torn. has not yet been typified, we selected a lectotype:

Rubus aetnaeus Torn., Fl. Sic.: 229 (1887).

Lectotype (designated here): Aetna Maletto, s.d., [F. Tornabene], CAT (CAT4961!) (Fig. 1).

This plant is identical with *R. ulmifolius*. It has very narrow leaves, strong prickles and white flowers, but it fits within its variability.

In Tornabene's flora of Mount Etna (Tornabene 1890: 194), this species is mentioned as *R. aetnensis* but with reference to Tornabene (1887); thus, if it is not just a typological error, this name is a later superfluous synonym.

Nyman, in his *Conspectus* (Nyman 1889), enlists *Rubus aetnicus* Tineo (Nyman 1889: 107). This does not refer to a published book but obviously to the lithographed label of the *Plantae Siculae rariores* nr 445 by M. Lojacono-Pojero which contains 'Rubus aetnicus Tin. ined. *R. tomentosus* β. *hypoleucus* Guss.' A specimen is at P:

'Plantae Siculae rariores. 445. *Rubus aetnicus* Tin. ined. *R. tomentosus* β. *hypoleucus* Guss. ex locis Madomi, Etna, Maletto. In nemoribus Madoniae al Passo della Botto. Legit M. Lojacono. Flor. 28 Junio 1881' (P02497469!).

This specimen belongs to *R. tomentosus*, and because of the inclusion of *R. tomentosus* β. *hypoleucus* Guss., the name is identical with *R. aetnicus* Cupani ex Weston.

Therefore, all south Italian nineteenth century authors identify *R. aetnicus* with *R. tomentosus*, with, at most, some differences at the level of variety. The publication of another taxon under the name *R. aetnaeus* by Tornabene is confusing, but when investigated, his position is clear.

Specimens from Mount Etna in herbaria

For the identification of *R. aetnicus* by later authors, their publications are relevant, as well as the labels on their herbarium specimens. Specimens that were identified as *R. aetnicus* in regional herbaria are identical with *R. tomentosus*. Most of them have strong hooked prickles on the flowering

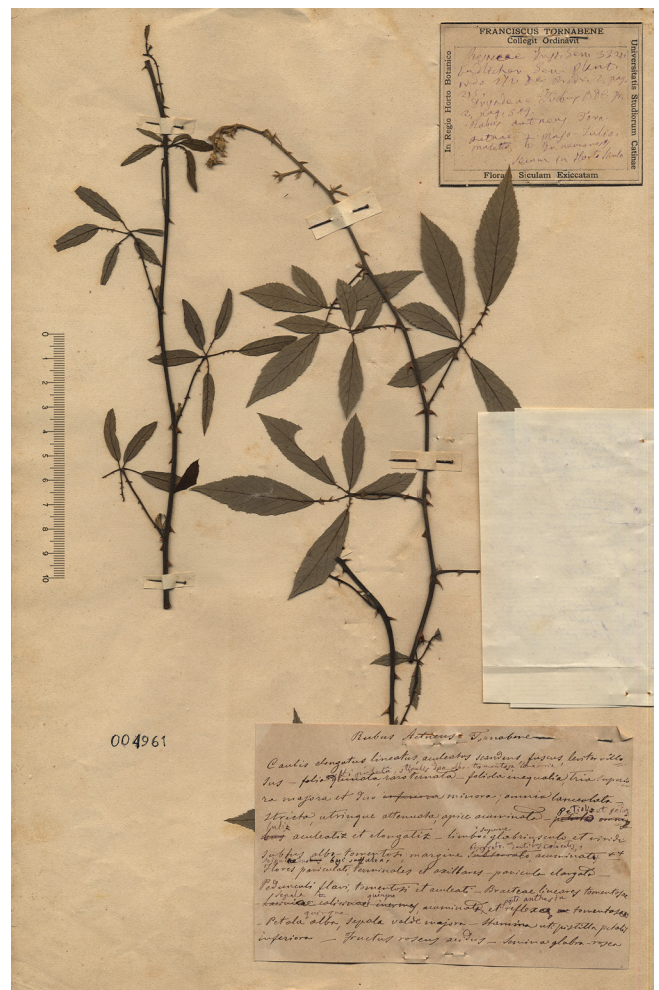


Figure 1. *Rubus aetnaeus*, lectotype (CAT).

branch and many unequal stipitate glands. Such plants were also found with labels, whereon they were identified as *R. tomentosus* Borkh. or *R. canescens* DC.

Other plants that were collected at Mount Etna belong to *R. caesius* L. (Linnaeus 1753: 493) and its hybrids, *R. acheruntinus* Ten. (Tenore 1831: 603), *R. ulmifolius* and unknown taxa of *R. series Glandulosi* (Wimm. & Grab.) Focke (1877: 355) and *R. series Hystrix* Focke (1877: 78). Except *R. tomentosus*, no specimens of brambles with discoloured leaves have been collected from elevations above 1000 m.

The harvest of field work

In the hills around Mount Etna and on the lower slopes of the mountain, *R. ulmifolius* Schott is dominant, but *R. tomentosus* also occurs, as well as hybrids of these species (*R. × collinus* DC.). At higher elevations, at places that deserve the characteristic 'alpinus', only *R. tomentosus* was found. A characteristic specimen of *R. tomentosus* was collected at Rifugio Citelli at an elevation of 1700 m (Fig. 2).



Figure 2. *Rubus aetnicus*, Mount Etna (photo G. Domina).

Discussion about *R. aetnicus*

In the higher regions of Mount Etna ('alpinus'), only *R. tomentosus*, *R. caesius* and unknown plants of the series *Glandulosi* and *Hystrix* occur. *Rubus caesius* was excluded by Cupani, and the *Glandulosi* and *Hystrix* that were found do not correspond with the characteristics 'canescens' and 'rectus.' Therefore, the identity of *R. aetnicus* with *R. tomentosus* is obvious. However, this is only an argument e silentio, as no other species were seen. For stronger conclusions, positive evidence is required, which is now available. The prickles on the flowering branch of the picture by Cupani correspond very well with the plants of Rifugio Citelli (Fig. 3), as do the 3-foliolate leaves and the wedged central leaflets. The flowers are very characteristic with their narrow star-like arranged petals. Additionally, the characteristics mentioned in both Cupani (1696) and Cupani (1713) correspond very well with the Rifugio Citelli plants. Consequently, there is no rational argument against the identification.

In agreement with these conclusions and to avoid any ambiguity, we designated an epitype for *R. aetnicus*:

Rubus aetnicus Cupani ex Weston, *Botanicus universalis et hortulanus* 1: 258 (1770).

Epitype (designated here): Sicily, Etna, Rif. Citelli, Sant' Alfio (CT), 37°45'55"N, 15°3'27"E, 1730 m a.s.l., volcanic lithosol, 4 Jul 2018, Giannantonio Domina 100/18 (PAL, isoepitypes at L and FI) (Fig. 4).



Figure 3. *Rubus aetnicus*, flowering branch (photo A. van de Beek).

Other characteristic specimens from Mount Etna

PAL: Etna, 19 Nov 1848, Tineo s.n. (PAL23012); Madonie, s.d. [XIX Century], Porcari s.n. (PAL87754, PAL23013, PAL23014, PAL23015, PAL23016, PAL23017, PAL87745, PAL87747); Boschi di Bronte, Jul 1853, Reina s.n. (PAL87743); Etna Faita, 26 Jul 1829, s.c. (PAL87741); Etna Faita, 26 Jul 1829, s.c. (PAL87751); Monte Scalone,



Figure 4. *Rubus aetnicus*, epitype (photo A. van de Beek).

24 Jun 1846, s.c. (PAL87752); Etna (CT), s.d. [end of XIX Century], M. Lojacono s.n. (PAL7295 sub *R. tomentosus*); Nella Selve di Maletto, 23 Jun 1831, s.c. (PAL 87742 sub *R. tomentosus*); Etna Piano di Romano, Jul 1853, Reina s.n. (PAL87756, sub *R. tomentosus*).

CAT: Rifugio Citelli, 27 Jul 2002, S. Sciandrello s.n. (CAT31507); Presso Rifugio Citelli 4 Jul 2008, S. Brullo, G. Giusso, S. Sciandrello s.n. (CAT8662); Etna Giarrita, 11 Jul 1996, S. Brullo, G. Siracusa s.n. (CAT31508); Monte Maletto, 6 Aug 1997, S. Brullo s.n. (CAT31509); Etna, Casa Cantoniera, 21 Jul 1980, S. Brullo s.n. (CAT49047); Etna, Valle del Bove, 28 Jul 1986, S. Brullo s.n. (CAT49048/1).

L: Sicily, Etna, Rifugio Citelli, 37°45'56"N, 15°3'26"E, 1730 m a.s.l., volcanic soil, 13 Jun 2017, G. Domina s.n. (ex Herbarium Mediterraneum Panormitanum); Sicily, Etna Linguaglossa, 37°48'47"N, 15°5'34"E, 1000 m a.s.l., volcanic soil, 13 Jun 2017, G. Domina s.n. (ex Herbarium Mediterraneum Panormitanum).

***Rubus canescens* DC.**

Status questions

De Candolle (1813) described *R. canescens* in his catalogue of the botanical garden in Montpellier. It is questionable whether this publication is provisional (Beek 2016) or the ambiguous phrases only express scholarly prudence. The publication in Flore de France (De Candolle 1815) is certainly valid. The former referred to localities at Vinadio in Italy and specimens in the botanical garden, while the latter only referred to the plant of Vinadio. A specimen collected by De Candolle is preserved at GE, and Matzke-Hajek (1993) correctly selected this as the lectotype (G, Vinadio, 22 Juillet 1809, '*Rubus velutinus* DC'). He identified this specimen as *R. tomentosus* Borkh. typo excluso and concluded that *R. canescens* must be the correct name of this taxon, as the name *R. tomentosus* Borkh. is illegitimate because Borkhausen (1794b; most authors refer to this publication; the actual protologue is in Borkhausen 1794a, Beek 2016) included *R. occidentalis* L. (1753: 493) in the description (Weber 1989, Beek 2016).

According to Beek (2016), there are serious objections against this identification. He concluded that *R. canescens* is a hybrid of *R. tomentosus* and *R. ulmifolius* and, consequently, a synonym of *R. × collinus*, though a very different form of the hybrid than the type specimen. However, Matzke-Hajek (2016) refuted this conclusion and stated that the type of *R. canescens* is a normal *R. tomentosus*. This was a reason to revisit the identity of *R. canescens*. The type specimen was checked once again. Furthermore, the type locality was visited, and a DNA was sequenced.

Type of *R. canescens*

De Candolle was convinced that the type of *R. canescens* was different from *R. tomentosus* and that it must be conceived as a separate species. The first impression of the type specimen,

with its 5-foliolate leaves on a strong flowering branch, suggests a form of *R. × collinus*.

The plants that were recently found at several localities on the Col de Madeleine do habitually not look like *R. tomentosus*, as confirmed by Rense Haveman, who visited the locality. They were stronger than the normal *R. tomentosus* (Fig. 5). When they were transplanted to the garden, they generally maintained their characteristics. The plants from Vinadio have been found to be diploid (measured by B. Zonneveld).

Hybrids of *R. tomentosus* can often hardly be distinguished from the species itself, which, being a diploid, is very variable. In such cases, DNA data can give additional insights. Michal Sochor sequenced a sample from de Col der Madeleine and another one from Mount Etna. He checked two loci – nuclear ITS and plastid *trnL-trnF*. Both were identical in these sequences and not different from any *R. tomentosus* throughout Europe, which was investigated by the same methods. These loci are indicators for taxonomic relationships, but there is a great homogeneity in these markers, while there is a large variability in morphology.

Discussion about *Rubus canescens*

The results of the DNA analysis indicated a close relationship between *R. tomentosus* and *R. canescens*. Morphologically, the



Figure 5. *Rubus canescens*, primocane (photo A. van de Beek).

two taxa differ very much. Plants of *R. canescens* have long primocanes with a diameter up to 1 cm, strong inflorescences with (almost) straight prickles (Fig. 6), triangular, loosely reflexed sepals (instead of the characteristic strongly reflexed narrow sepals of *R. tomentosus*), and flowers with often more than 5 (up to 10) large ovate petals (Fig. 7), which are sometimes pink (Fig. 8) in bud. The leaves are 5-foliolate (Fig. 9). These characteristics, especially in their combined presence at the same plant, are so different from *R. tomentosus* that from a morphological perspective it is obvious to conceive *R. canescens* as a separate taxon.

Still, the DNA analysis seems to point to a different conclusion. However, the sequencing was done only on a few loci and the investigated parts were only conservative loci which have no morphological expression. The genetics of *Rubus* is very complicated so that no direct and absolute conclusions can be drawn from DNA sequencing of a few loci. It might be a plant of hybridogenous origin which has much in common with *R. tomentosus*. If *R. tomentosus* is involved in creating a hybrid and is morphologically dominant, it will not be strange if parts of the genome of the hybrid are identical with it. The conclusion from morphology and cytology together cannot be more than provisional for this moment, so that it will be best to conceive *R. canescens* as a separate taxon, whose status may be downgraded in the future. This future research should include all similar taxa, not only hybrids of *R. tomentosus* but also e.g. the group of *R. collicola* (Sudre) Bouvet (1903: 680).

If *R. canescens* is a hybrid, the other parent might be *R. ulmifolius* because this species is also diploid. *Rubus ulmifolius* is not common in the immediate vicinity of Vinadio; nevertheless, it is present there (a specimen of Reichenbach at W: Vinadio, 4 Aug 1840, Pedsi [?] s.n., Reichenbach fil, Flora Pedemontana 1843 [W]) and is a dominant *Rubus* species in a wider region. Therefore, *R. canescens* could be a synonym of *R. × collinus*, the correct name of hybrids between *R. aetnicus* (= '*R. tomentosus*' in our sense) and *R. ulmifolius*. The names



Figure 7. *Rubus canescens*, flower (photo A. van de Beek).

Rubus collinus and *R. canescens* were published simultaneously. Because the name *R. × collinus* has been generally used for the hybrid, this usage has to be continued.

The correct name for *R. tomentosus* auct. non Borkh.

Rubus aetnicus Cupani ex Weston is the earliest legitimate name of the taxon that was previously called *R. tomentosus* and later *R. canescens*. There is no reason not to accept it as the correct name, according to the rules. The name *R. tomentosus* Borkh. has a type that belongs to an American species, and this makes the later homonyms *R. tomentosus* Willd. and *R. tomentosus* Tratt. illegitimate. The possible conservation of, e.g. *R. tomentosus* Willd., would probably cause confusion. The name *R. canescens* refers to another taxon, and even if somebody would lump them together, it would be strange to prefer the name of a very atypical form to the unambiguous



Figure 6. *Rubus canescens*, primocane and stipules (photo A. van de Beek).



Figure 8. *Rubus canescens*, unfolding bud with pink petals (photo A. van de Beek).



Figure 9. *Rubus canescens* leaf, adaxially (photo A. van de Beek).

R. aetnicus. Moreover, choosing *R. canescens* as the correct name is against the rules, because *R. aetnicus* is older.

Another name must also be considered in this discussion, *R. argenteus* C.C.Gmel. (Gmelin 1806: 434). Gmelin identifies his *R. argenteus* as *R. tomentosus* Willd., which is *R. tomentosus* Borkh. typo excl., because Willdenow accepted *R. occidentalis* elsewhere in his volume. Therefore, *R. argenteus* Gmel. must be conceived as a nomen novum for *R. tomentosus* Willd. non Borkh. (lectotype, designated by Beek 2016: B[BW09888010]), Gmelin cites '*Rubus tomentosus*. Borkhausen. in Roemers neu. Bot. Magaz. 1. St. – Wetterauische Flora. 2. p. 287.' (err. typ. for p. 237) as a synonym. This is obviously not a reference to Borkhausen's publication (as Weber 1977 argues) but to the name as it is used in the 'Wetterauische Flora' (Gärtner et al. 1800), which is *R. tomentosus* sensu Willdenow. Otherwise Gmelin, who was very precise in nomenclature, would not have given the name *R. tomentosus* Willd. (and excluding the type of *R. tomentosus* Borkh.) as the main reference, with the full description of Willdenow, but he would have referred to Borkhausen's description. Consequently, *R. argenteus* Gmel. is a later synonym of *R. aetnicus*.

The name of the series

Weber (1989) argued that the name *Poiretiani* Tratt. (1823: 44) = *Tomentosi* Focke (1877: 77) cannot be applied to the series whereto *R. aetnicus* belongs because it is typified by *R. tomentosus* Borkh. Consequently, the North American *R. occidentalis* L., the type of the series *Occidentales* Focke (1911: 171) of the subgenus *Idaeobatus* (Focke) Focke (1877: 97), must have series *Poiretiani* as its correct name. He gave a new name to the series *Poiretiani*, with the exclusion of its type based on *R. canescens*, the series *Canescentes* H.E.Weber (1989: 19).

When Beek (2016) rejected the identity of *R. canescens* and *R. tomentosus* and identified the former with *R. ×*

collinus, the name *Canescentes* was typified by this species and consequently the series of *R. tomentosus* was nameless again. It was then given the name *Argyrophylli* A.Beek (Beek 2016: 44).

However, both Weber and Beek overlooked the effect of Art. 48 of the ICN (Turland et al. 2018). Trattinnick, when publishing the series *Poiretiani*, excluded the type of *R. tomentosus* Borkh. by placing *R. occidentalis* in another series (Trattinnick 1823: 7). Therefore, he published a new name, *R. tomentosus* Tratt. non Borkh. (Trattinnick 1823: 45), based on his own description that refers to *R. tomentosus* auct. non Borkh. The name *R. tomentosus* does not become legitimate for the species he meant, but that does not make the name of the series *Poiretiani* illegitimate. Consequently, the correct name of the series of *R. aetnicus* is *Poiretiani* Tratt. because Trattinnick included *R. argenteus* C.C.Gmel., as well as *R. tomentosus* Willd., in his species. The oldest legitimate name for *R. tomentosus* Tratt. (as circumscribed in the protologue) is *R. argenteus* C.C.Gmel., a replacement name for *R. tomentosus* Willd. (above), and the type of the latter is consequently the type of both *R. argenteus* C.C. Gmel. and *R. tomentosus* Tratt. non Borkh.

Conclusion

Rubus aetnicus is identical with the taxon that was (incorrectly) called *R. tomentosus* Borkh. for a long time. It is morphologically so different from *R. canescens* DC., that the cytological correspondence of the investigated loci cannot be absolutely decisive. It is most probably a taxon of hybridogenous origin, possibly with *R. ulmifolius*. There is no reason not to apply Art. 11.4 of the ICN (Turland et al. 2018) and adopt *R. aetnicus* Cupani ex Weston as the correct name. The correct name of the series is *Poiretiani* Tratt.

List of names which are present in this article:

Rubus subg. *Idaeobatus* (Focke) Focke, Syn. Rub. Germ. 97. 1877.

R. ser. Argyrophylli A.Beek, Adansonia 38(1): 46. 2016. Illeg. name (ICN art. 48.1; 52.1).

R. ser. Canescentes H.E.Weber, Ber. Bayer. Bot. Ges. 60: 19. 1989. Illeg. name (ICN art. 48.1; 52.1).

R. ser. Glandulosi (Wimm. & Grab.) Focke, Syn. Rub. Germ. 355. 1877.

R. ser. Hystrix Focke, Syn. Rub. Germ. 342. 1877.

R. ser. Occidentales Focke, Biblioth. Bot. 17 (Heft 72): 201. 1911.

R. ser. Poiretiani Tratt., Rosac. Monogr. 3: 44. 1823.

R. ser. Tomentosi Focke, Syn. Rub. Germ. 225. 1877. Heterotyp. later synon. of *R. ser. Poiretiani* Tratt.

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Author contributions

Bram van de Beek: Methodology (equal); Writing – original draft (equal). **Gianniantonio Domina:** Writing – review and editing (equal).

Data availability statement

There are no new data presented in this paper.

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