

Again and in detail: Why *Rubus aetnicus* Weston is a nomen dubium

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Summary of results

The name *Rubus aetnicus* Weston 1770 has been brought up by Beek (2016) and soon was favored by Beek & Domina (2021) as the oldest legitimate name for the plant hitherto called *Rubus canescens* DC.

Although formally validly published, the concept of *Rubus aetnicus* Weston 1770 remains uncertain (nomen dubium). The short phrase by Cupani 1696, on which it is based, is lacking specific morphological characters.

The illustration of „*Rubus Etnus trifolius rectus candicans ac pilosus*“ from Cupani’s „Panphyton siculum“ (1713) cannot serve as a type of *Rubus aetnicus* Weston 1770, because there are multiple doubts about the identity of both taxa. The gathering of an „epitype“ by Beek & Domina (2021) has been vain. It supports only the 1713 illustration, but not *R. aetnicus* Weston.

Can the identity of *Rubus aetnicus* be solved on the base of Cupani’s 1696 phrase?

No holotype and no other original material by Cupani is known, which could be regarded as a type. Beek & Domina (2021) themselves wrote that Cupani’s description („*Rubus minor, alpinus, Etnicus, rectus, canescens, candido flore*“) *is not only very short but also cannot be interpreted according to modern standards.*

I fully agree with this statement. Beek & Domina continue: *If no specimen is available, special attention must be given to conspicuous details in the description.*

Let us try this and discuss unbiased the elements of the phrase:

minor = smaller.

minor may fit to 90% of the *Rubus* plants in the Etna region, it is not specific. I visited Mount Etna in late summer 2003. I haven’t seen any „big“ *Rubus* plants up there. Even specimens of *Rubus* taxa, that are usually big, were „smaller“ due to poor, raw, volcanic, dry soil in the mediterranean climate. On Mt. Etna virtually every *Rubus* bush can be characterized as *minor*.

alpinus = belonging to the high mountains.

A detailed vegetation survey of Mt. Etna (Sciandrello et al. 2020) shows that the tree line is at about 2.200 m, *Fagus sylvatica* goes up to 2.000 m. Members of genus *Rubus* were found as far up as 1.800 m (*R. hirtus* agg. and *R. idaeus*). *R. ulmifolius* has been recorded from sea level up to 1.500 m. *R. canescens* was found only between 1.200 und 1.300 m in that study. I do not believe these results, as the record of *R. canescens* („*aetnicus*“ sensu Beek) at Rifugio Citelli, 1.700 m above sea level and my own observations show, but one thing is evident: The attribute *alpinus* in Cupani’s phrase doesn’t help to limit or to exclude any *Rubus* taxon known from Sicily.

Etnicus = in the Mt. Etna region.

Even if we limit the area to altitudes above 800 meters, this is still an extensive region of more than 100 square kilometers. There are numerous *Rubus* biotypes from two subgenera (*Idaeobatus* and *Rubus*), with two sections (*Caesii* and *Rubus*) and at least four series (*Poiretiani*, *Discolores*, *Hystrix*,

Glandulosi) in this region, not to mention uncounted possible hybrids.

We also have to keep in mind that Cupani (as well as later botanists) might have used the term *Etnicus* not only for Mt. Etna itself, but in a wider sense, i.e. other mountain areas of eastern Sicily. For example, the type specimen of *Rubus aetnicus* Tineo ined. (Plantae Siculae rariores 445) was not collected on Mt. Etna but *in nemoribus Madonie al Passo della Botte*, a locality in the Madonie mountain range in the northern central part of Sicily, some 85 km westnorthwest of Mt. Etna.

rectus = upright, straight, slender.

When flowering period begins, almost every bramble grows *rectus*, only to later bend down under its own weight and may even creep on the ground finally. Moreover we don't know whether Cupani referred to the shoots or to the inflorescences. Is an upright or straight inflorescence a conspicuous specific character in *Rubus*? Let us be honest, it is not.

canescens = becoming grey.

The word is often used for plants with dense hair, covering stem and leaf lamina and reflecting the light, but it does not necessarily describe a tomentum, it could just as easily describe the color of stem and leaf epidermis, especially if there is a greyish cuticula. Cupani has an *Euphorbia* („Tithymalus minor... canescens ...“) in his book.

candido flore = with pure white flower.

This may match any *Rubus* species from the Etna region except for typical *Rubus ulmifolius*. Unfortunately even *R. ulmifolius* may have white flowers sometimes. Beek & Domina give an example in the lectotype of *Rubus aetneus* Tornabene they designated: *This plant is identical with R. ulmifolius. It has very narrow leaves, strong prickles and white flowers, but it fits within its variability.*

To sum it up: All terms of the *Rubus aetnicus* phrase are elastic and anything but clear. Cupani's six word description lacks specific characters.

We have no information about the size, proportions and shape of leaves, the hairyness or tomentum of shoots and leaves. We don't know anything about density and shape of prickles on the shoots, on the leaf stalks or inflorescence axis, number of glands, bristles or hairs. But all these characters are essential for judging the identity of a *Rubus* species when original material is missing.

In modern botany there is a broad consensus about not accepting poor quality descriptions. If we apply this consensus on contemporary *Rubus* descriptions, shouldn't we be even more careful when it comes to extremely short phrases dating back 320 years?

Are *R. aetnicus* Weston and *R. etneus* Cupani (in Panphyton, 1713) the same taxon?

Of course, Beek & Domina (2021) are right when they conclude: *the descriptions* [in Cupani 1696 and Cupani 1713] *do not contradict each other*. But does this prove that *R. aetnicus* and *R. etneus* referred to the same taxon? By no means. In an earlier text (Matzke-Hajek 2016) I already listed the differences between the two phrases in question (fig.1, fig. 2, see below) and argued for not to equate them. I pleaded: *The identity of Rubus aetnicus remains speculative and the name should not be used.*

There is hardly anything to add. I would just like to point out one further important historical aspect:

In fact we cannot be sure who named *Rubus etneus* in the Panphyton and who created the different phrase. Between Cupani's death in 1710 and the publication of the Panphyton three years went by. From historical research we know that putting together his scientific legacy for print was not without

problems, if not somewhat chaotic (Costa et al. 2016). The person who was commissioned to publish it was a druggist and probably had commercial interests. Some names and phrases in the Panphyton may have been engraved on the printing plates after Cupani's death just before the printing process of the book, and perhaps not all were in accordance with Cupani's manuscripts. This casts further twilight on the scientific continuity of Cupani's publications. The fact that the compilation and printing of the work did not proceed in an orderly manner is also evident from the observation that all surviving copies of the Panphyton differ somehow in the number of pages and the numbering of the plates. Beek (2016) failed to state which copy of the book the neotype illustration was taken from.

Anyone who thinks they know what *Rubus aetnicus* looked like has been influenced by the unproven assumption that the *R. etneus* illustration in Panphyton depicts *R. aetnicus*. It is just as possible that they were two different species.

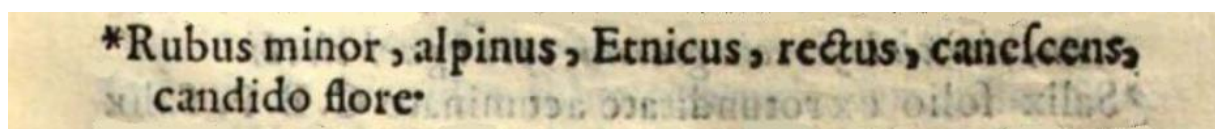


Fig. 1: The phrase in Cupani's Hortus Catholicus (1690) is the description of *Rubus aetnicus* Weston:

Rubus minor, alpinus, Etnicus, rectus, canescens, candido flore

(Scan taken from google books)

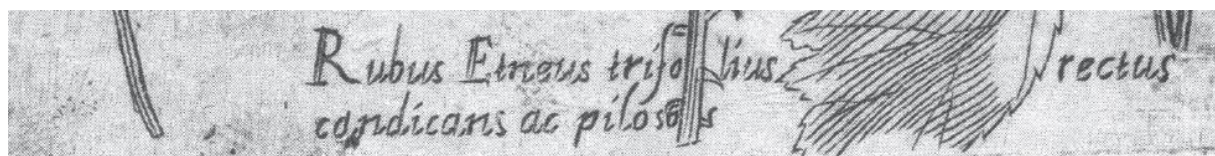


Fig. 2: The phrase on the „neotype“ illustration from Cupani's Panphyton siculum (1713) differs markedly:

Rubus Etnicus trifolius candidicans ac pilosus

(Scan taken from Beek 2016)

If we do not want to be accused of scientific superficiality or even ignorance, we must not accept the Panphyton illustration as the type of *Rubus aetnicus* Weston.

According to the ICN (Shenzhen Code, Art. 9.20, Note 8.) the epitype published by Beek & Domina 2021, p. 4, formally supports the „neotype“ published previously (Beek 2016, illustration of *Rubus Etnicus* from Cupani, Panphyton siculum, 1713). In order to understand the value of epitypes, but also to learn why they are sometimes not a help or even counterproductive, I recommend reading the papers of Lendimer (2020) and Sennikov (2022).

Since Cupani's enigmatic phrase is written in Latin, I too conclude in Latin:

Rubus aetnicus, requiescat in pace!

Acknowledgement:

Thanks to Rafaël Govaerts, Kew, who recommended to cite the taxon *Rubus aetnicus* Weston instead of *R. aetnicus* Cupani ex Weston. In Weston's book there is no ascription of the name to Cupani. Rafaël Govaerts also explained his point of view on how an epitype can or cannot be overcome.

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