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SHORT COMMUNICATION

Rubus meijerianus A. Beek, a new species of the genus *Rubus* L. (Rosaceae)

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Key words

Rubus meijerianus
taxonomy
escaped plants

Abstract – A new blackberry species, *Rubus meijerianus* A. Beek is described. It has been cultivated for a long time, but it has been found escaped on several places in Europe during the last decades and it behaves as a wild plant. Therefore, it was decided to describe it as a separate species.

Samenvatting – Op verschillende plaatsen in Europa werd een stekelloze braam aangetroffen uit de subsectie *Rubus*. Het bleek dat deze braam veel gekweekt wordt en de laatste decennia ook regelmatig in het veld wordt aangetroffen, ook op plaatsen waar geen aanwijzingen zijn dat dat tuinafval is gedumpt of soortgelijke activiteiten werden uitgevoerd. Gewoonlijk worden stekelloze bramen als chimeren beschouwd. Het voorkomen in de vrije natuur was aanleiding om zaaiproeven te doen om vast te stellen of het betreffende taxon inderdaad een chimeer is. Er werd zaad van drie verschillende locaties verzameld. Deze leverden alle drie identieke planten met de ouders op: suberecte, stekelloze bramen. Deze stekelloze braam is dus geen chimeer en kan zich dus zelfstandig in de natuur uitbreiden door verspreiding van zaden.

In de Verenigde Staten is het al lang gebruikelijk om soorten die ontstaan zijn door kweek, maar vervolgens zich in de vrije natuur uitbreiden, als soort te beschouwen. Het geeft duidelijkheid in referenties naar het taxon en sluit aan bij art. 2 ICN (Turland et al. 2018). In lijn met deze praxis wordt in dit artikel ook deze braam als soort beschreven, onder de naam *Rubus meijerianus*.

Rubus meijerianus kan worden verward met stekelloze bramen uit het *R. ulmifolius*-complex. Deze verschillen echter door de boogvormige sterk berijpte bladloten met neerliggende en wortelende top, merendeels 3-tallige bladeren met grijs- tot witviltige bladonderzijden, viltige bloeiwijzen, grijze kelkslippen en ronde kroonbladen.

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During the summer of 1998, a plant of the genus *Rubus* L. was found on a roadside near Witteveen (Province of Drenthe) in the northern part of the Netherlands, which at first sight looked like a strong *R. ammobius* Focke. By closer observation the plant turned out to be completely devoid of prickles and its primocanes were hairy, while it for other features (suberect growth; green sepals with white margins) clearly belonged to the subsection *Rubus*. The plant from Witteveen shows no close similarities with any species of the genus. After finding the plant from Witteveen, the author found similar plants on other localities in Europe.

From further investigations it has become clear that this blackberry is frequently cultivated as a 'thornless' bramble, which is known under various cultivar names, e.g. Doyle's Thornless, Crescent Thornless. Because it was considered to be a chimera, it seemed to be of no taxonomic interest. In plant breeding, a chimera is a plant of which the bark (or other parts) is transplanted from a plant of one species to a plant of another related species in other to obtain a combination of desired characteristics. A chimera can only be multiplied by vegetative multiplication, because the offspring by seeds returns

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to the original characteristics of only one of the original plants (and only one of the original species), without the transplanted additions. In the case of 'thornless' chimera blackberries, the skin of a 'thornless' is transplanted to plants of a species with big fruits and the resulting chimera is multiplied by cuttings.

However, some of the localities where our 'thornless' plants were found could not be related to cultivation, such as a garden dump or similar human activities, and it seemed that these plants were distributed by seeds. Therefore it was decided to do sowing tests. Seeds of three 'thornless' plants from different locations were sown in the garden of the author in Veenendaal, Province of Utrecht, the Netherlands. The seeds of all three plants germinated well. The new generation (Fig. 1, 2, 3; specimen *Beek 2020.48*) appeared to be fully identical with the parents, so it must be concluded that the 'thornless' form is not a chimera, but a plant with tissue of only single individual which is not only propagated vegetatively, but also reproduced by seeds.

Though the origin of the 'thornless' bramble is probably an artificial crossing, this does not impede the publication of a new species. American botanists have done so since the end of the nineteenth century. When cultivated plants escape and behave in nature as wild plants, they have been described as species (e.g. *Rubus. logonobaccus* L.H. Bailey 1923: 155; *R. titanus* L.H. Bailey 1925: 222). In the case of the taxon we are dealing with, it was impossible to find its origin in spite of checking relevant literature (e.g. Bailey 1898, 1945; Berger 1925). Although the origin is unknown, it is clear that the taxon consists of identical plants which multiply by seeds. In order to refer to this group a name is needed and the best option is to give them a species name. This corresponds with new concepts of species, by which a separate entity is conceived as such, independent on the origin of this entity, corresponding with the increasing awareness how complex phylogenetics in botany are (cf. Haveman 2017). Furthermore, for further research and mapping it is desirable that the taxon is provided with a name, so that it is known what is meant, if it was not already required because of ICN, Art.2 (Turland et al. 2018). So it was decided to publish the taxon as a species, even more so because it cannot be related to any other *Rubus* species as an infraspecific taxon.

The taxon clearly belongs to the subsection *Rubus* and is, as for its habitat and because of the early fall of leaves in autumn, related to the series *Suberecti* (Lindl.) Focke. On the other hand, the inflorescence is more composed, as sometimes is the case in the series *Semisuberecti* Focke ex A. Beek. However, the taxon differs from both series by its hairy stem and axis. The occurrence of hairs on the primocane combined with typical characteristics of the series *Suberecti* occurs also within the American series *Arguti* (L.H. Bailey) A. Berger. The origin of most High Bush Blackberry crossings is in America, where species of the series *Allegheniense*s (L.H. Bailey) A. Berger and *Arguti* have fruits with cultivating interest, such in contrast to most European High Bush species (the series *Suberecti* Focke and *Rubus*). Because of the high hairy primocanes occurring within the *Arguti* it was decided to attribute the new species to that series.

The name of the new species, *Rubus meijerianus*, is devoted to Karst Meijer, specialist not only in *Rubus*, but also in *Taraxacum* and other plant groups, and conservator of the Herbarium Frisicum (HFN). Next to his scientific work Karst is also a garden specialist.



Fig. 1. Sown plant of *Rubus meijerianus* A. Beek (*Beek 2020.48*, herb. A. van de Beek) in the garden of the author, Veenendaal, the Netherlands: a. Habit. b. Inflorescence. Photo: A. van de Beek, July 5, 2020.



Fig. 2. Sown plant of *Rubus meijerianus* A. Beek (*Beek 2020.48*, herb. A. van de Beek) in the garden of the author, Veenendaal, the Netherlands: leaves. Photo: A. van de Beek, July 5, 2020.



Fig. 3. Sown plant of *Rubus meijerianus* A. Beek (*Beek 2020.48*, herb. A. van de Beek) in the garden of the author, Veenendaal, the Netherlands: primocane. Photo: A. van de Beek, July 5, 2020.

***Rubus meijerianus* A. Beek**, nov. spec. — Fig. 1, 2, 3, 4, 5, 6, 7, 8 & 9

Series *Arguti* (L. H. Bailey) A. Berger

Holotype: L, *Beek 98117*, Witteveen, 'berm van K. Brokweg', 16.07.1998. [L 0281375/6].

Fully unarmed. Primocane (Fig. 1a) erect, diameter 7–15 mm, almost glabrous to rather densely short hairy (Fig. 2), angular, with convex, flat or somewhat furrowed sides. Stipules lineate, eglandular or with some sessile glands. Petiole slightly hairy, 5–8 cm long. Leaves (Fig. 3) rather densely hairy above, densely long and soft hairy beneath (Fig. 4). Serrature slightly periodic, with narrow acute straight or sometimes a little refracted long mucronate teeth. Terminal leaflet 94–113 mm long, with a broad cordate basis, ovate or elliptical, gradually moderately to long acuminate; width-length index 0.67–0.85. Length of the petiolule 26–41% of the length of the leaflet.

Flowering branch angular, rather densely hairy. Inflorescence (Fig. 5) racemose or paniculate, pyramidal or cylindric, leafy to its mid or higher. Upper leaves sometimes a little greyish, more by the long soft hairs than by toment. Peduncles suberect, the longest ones with 1–5-flowers. Pedicels 5–15 mm long, with appressed and patent hairs. Sepals greenish, white bordered, loosely reflexed. Petals (Fig. 9) white to purple pink, broad ovate-elliptical to suborbicular, 10–15 mm long. Stamens longer or shorter than the greenish styles. Anthers glabrous. Carpels and receptacle glabrous or with some scattered long hairs. Flowering June, beginning of July.

Ecology — Often cultivated in gardens and sometimes escaped.

Distribution — The Netherlands (Fig. 10): in addition to occurrence in gardens and their immediate environment, escaped on several localities in the Province of Drenthe, near Buitenpost in Friesland, in a bush north of Winterswijk (Province of Gelderland), near Moerdijk and on a slope south of the motorway junction Noordhoek in the Province of Noord Brabant.

Belgium: near Overmere (Province of East-Flandria).

Italy: the species was found on localities around Ravenna and Bologna; it is not clear if these plants had their origin in garden refuse or from seeds.

Identification — *Rubus meijerianus* might be confused with brambles without prickles from the *R. ulmifolius* complex. These plants differ from *R. meijerianus* by arching, pruinose primocanes with prostrate, rooting tips, mainly 3-foliolate leaves which are abaxially greyish or white tomentose at the primocane and whitish in the inflorescences, and by tomentose inflorescences, and grey sepals.



Fig. 4. Wild plant of *Rubus meijerianus* A. Beek (*Beek 2020.46*, herb. A. van de Beek) in Bunnik, Province of Utrecht, the Netherlands: habit. Photo: A. van de Beek, July 10, 2020.



Fig. 5. Wild plant of *Rubus meijerianus* A. Beek (*Beek 2020.46*, herb. A. van de Beek) in Bunnik, Province of Utrecht, the Netherlands: leaves. Photo: A. van de Beek, July 10, 2020.



Fig. 6. Wild plant of *Rubus meijerianus* A. Beek (*Beek 2020.46*, herb. A. van de Beek) in Bunnik, Province of Utrecht, the Netherlands: primocane. Photo: A. van de Beek, July 10, 2020.



Fig. 7. Wild plant of *Rubus meijerianus* A. Beek (*Beek 2020.46*, herb. A. van de Beek) in Bunnik, Province of Utrecht, the Netherlands: abaxial side of leaflet. Photo: A. van de Beek, July 10, 2020.



Fig. 8. Wild plant of *Rubus meijerianus* A. Beek (*Beek 2020.46*, herb. A. van de Beek) in Bunnik, Province of Utrecht, the Netherlands: inflorescence with young fruits. Photo: A. van de Beek, July 10, 2020.



Fig. 9. Wild plant of *Rubus meijerianus* A. Beek (*Beek 2020.46*, herb. A. van de Beek) in Bunnik, Province of Utrecht, the Netherlands: flowers. Photo: A. van de Beek, July 10, 2020.

Characteristic specimens

Netherlands

L — *Beek 98125*, Nieuweroord, weg naar Elim, verlaten volkstuin, 16.7.1998; *Beek 2002.07*, Bunnik, bij spoorwegovergang in dorp, 8.2002; *Beek 2002.03*, Veenendaal, Petenbos, 4.7.2002; *Beek 2004.12*, Schermerhorn, near bridge in the centre of the town, 1.7.2004; *Beek 2004.14*, Moerdijk, ruig terrein oostelijk van de brug en de sluis (411/101), 22.7.2004; *Beek 2004.16*, Knooppunt Noordhoek bij Standdaarbuiten, parallelweg west net zuid van knooppunt op heuvel van mast (95/405), 22.7.2004; *Beek 2020.46*, Bunnik, langs grasland langs fietspad aan zuidzijde van spoor bij Groeneweg, 52.06309N/5.19666E, 10.07.2020 (Fig. 4, 5, 6, 7, 8 & 9).

HFN — *Meijer 3769*, Zuidwolde, in bosrand, 22.12.42, 18 september 2014; *Meijer 3470*, Stiens, boswal, 6.31.41, 27 juni 2007; *Meijer 3514*, Buitenpost, boswal langs weg 6.46.23, 8 augustus 2008; *Meijer 3805*, Meppen, bosrand, 17.45.23, 15 juli 2010.

Belgium

HFN — *Meijer 4096*, Vlaamse Ardennen, Oost-Vlaanderen, Overmere, bosrand en langs straat, 16 aug. 2019.

Italy

Herb. A. van de Beek — *Beek 2002.11*, Bologna, north of the city in vineyard, 8.8.2002; *Beek 2002.32*, Ravenna, near parking in the city, 10.8.2002.

Switzerland

Herb. A. van de Beek — *Beek 2001.91*, Lauterbrunnen, in garden along the road behind the bakery, 23.10.2001.

The specimens *Beek 2001.91*, *2002.11*, *2020.46* (Fig. 4, 5, 6, 7, 8 & 9), and *2020.48* (Fig. 1, 2 & 3) are currently preserved in herb. A. van de Beek, but will be transferred to the herbarium of Naturalis Biodiversity Center (L) once the COVID-19 pandemic is over.

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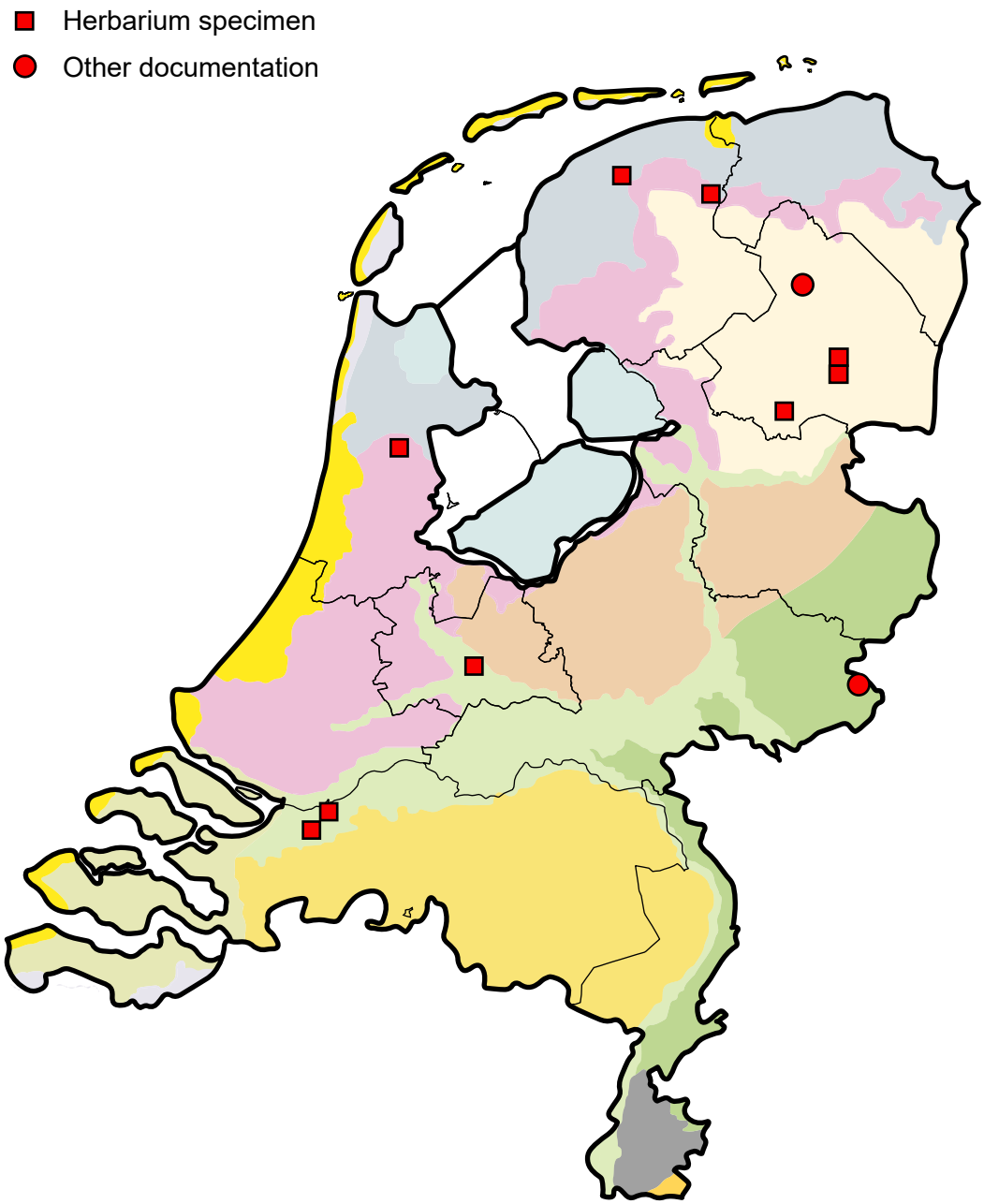


Fig. 10. Distribution of *Rubus meijerianus* A. Beek in the Netherlands. Map: R.-J. Bijlsma.

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