

SHORT COMMUNICATION

Two new species of *Rubus* L. (Rosaceae) section *Corylifolii* Lindl.

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Key words

Rubus praeceptorum
Rubus psilander
Corylifolii

Abstract – Two new species of *Rubus* L. section *Corylifolii* Lindl., *R. praeceptorum* A. Beek and *R. psilander* A. Beek, are described. They are mainly found in the Netherlands.

Samenvatting – Reeds geruime tijd werden er met name in het zuiden van Nederland twee opvallende bramentaxa uit de sectie *Corylifolii* Lindl. aangetroffen die onbekend waren en verspreid voorkwamen. Tijdens het karteren voor de checklist werden nieuwe vindplaatsen ontdekt en dit leidde tot gericht onderzoek, vooral in het midden en oosten van Noord-Brabant, waar de bramenflora het minst bekend was. Uit dit onderzoek kwam naar voren dat het om twee duidelijk afgebakende soorten gaat, die nieuw beschreven moesten worden.

De ene soort was al in 1948 ontdekt door Kern en Reichgelt, maar in hun bescheidenheid hebben zij er steeds vanaf gezien nieuwe soorten te beschrijven. Dit geldt ook voor dit taxon. Ter ere van hun onderzoek en van alle onderwijzers en leraren die zich hebben ingezet voor de botanie wordt deze *Rubus praeceptorum*, de ‘onderwijzersbraam’, genoemd. Deze behoort tot de serie *Viativi* A. Beek en wel tot de soorten met kale helmhokken. Hij verschilt van *R. calvus* H. E. Weber doordat hij net als *R. calviformis* H. E. Weber kortviltige bloeiwijzen heeft met korte of vrijwel zittende klieren, die niet of nauwelijks buiten het vilt uit steken. Aanvankelijk werden de planten van *R. praeceptorum* dan ook tot deze laatstgenoemde soort gerekend. Hij verschilt echter van *R. calviformis* door een zachtere constitutie van de bladeren, smallere, meestal elliptische tot omgekeerd eironde topblaadjes, een kleine bloeiwijze met onder de gedrongen top slechts een of twee zijtakken in de oksels van de bovenste bladeren, zwakkere, tot 3(–4) mm lange en minder talrijke stekels in de bloeiwijze en een behaarde vruchtbodem. *Rubus praeceptorum* komt voor vanaf Belgisch Limburg, via Noord-Brabant en Noord-Limburg door het Rijk van Nijmegen tot de omgeving van Winterswijk en verder bij Weener in het Emsland in Duitsland.

De andere soort behoort tot de serie *Ferociores* A. Beek. Hij heeft net als *Rubus ferocior* rozerode bloemen, maar verschilt door kale helmhokken (vandaar de naam *R. psilander*). Daarnaast verschilt hij van *R. ferocior* door vlakke bladeren, een min of meer regelmatige piramidale, langer behaarde bloeiwijze, meestal smallere topblaadjes en iets langere stekels; de vruchtbeginsels zijn altijd kaal. Door de rommelige bolle bladeren is *R. ferocior* uitgesproken kenbaar als een lid van de *Corylifolii*, terwijl *R. psilander* dit kenmerk zo weinig heeft, dat deze in het verleden herhaaldelijk is verward met soorten uit de sectie *Rubus*. *Rubus psilander* komt voor in geheel Midden-Brabant, vanaf de omgeving van Breda tot oostelijk van Eindhoven en noordelijk tot aan de Maas.

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INTRODUCTION

During the mapping for the checklist of the brambles in the Netherlands (Beek et al. 2014), several new *Rubus* taxa were discovered. Some of these required more research before they could be published. In the south and east of the Netherlands two taxa, already known for decades but not clearly distinguished,

were rediscovered during the mapping. Since the Provinces of Noord-Brabant and Limburg west of the River Meuse were not as closely examined for brambles as the rest of the country, research focused on this region before publishing these taxa. As a result of these new investigations, it was concluded that both taxa are characteristic new species with a substantial distribution. Consequently they are described here as *Rubus praeceptorum* A. Beek and *R. psilander* A. Beek.

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MATERIAL AND METHODS

During the general research for the mapping, samples of relevant plants were collected and analysed. After it became clear that they did not belong to a known species, specific attention was given to this group through investigation of plants in the field and examination of herbarium specimens preserved in the herbarium of Naturalis Biodiversity Center at (L). Photos were taken, samples collected and compared until a well-established overview was reached. This resulted in the publication of two new species.

DISCUSSION

A few specimens in L which were identified as *Rubus calviformis* H. E. Weber (1982: 91) did not fully correspond to this species. Their leaflets are narrower and their texture softer, and the prickles are fewer and weaker. These specimens were collected by Kern & Reichgelt in the Nijmegen region and one was collected by Weber near Winterswijk. During the mapping, the same taxon was found at several locations in the north of the Province of Limburg and the east of the Province of Noord-Brabant. A single specimen was found to come from the Emsland in Germany, which is located more to the north. After new investigations into the group of *R. calvus* H. E. Weber (1982: 86) and *R. calviformis* (Beek 2014), it indeed became clear that these plants belong to a separate taxon, which is clearly distinct from *R. calviformis*. It is here described as *R. praeceptorum* A. Beek, the 'teachers' bramble', in honour of the teachers and friends Jan H. Kern and Theo J. Reichgelt. They collected many brambles in the region of Nijmegen and identified the taxa very well, but were too modest to publish new taxa. Many of the taxa which they recognized but could not identify with certainty, were published later, among these *R. rubrumcadaver* A. Beek (1997: 42), *R. canduliger* Bijlsma & Haveman (2007: 318), *R. adulans* A. Beek (1997: 40), *R. neumannianus* H. E. Weber & Vannerom (in Weber 1988: 199), etc. We respectfully acknowledge all those teachers who, through their observations in nature and collections, inspired their pupils with enthusiasm to make their own observations.

Other plants of the section *Corylifolii* Lindl. in the south of the Netherlands have similarity to *R. ferocior* H. E. Weber (1977: 190; for a full description see Weber 1979). Though this species occurs in the Province of North Brabant, the specific plants did not correspond well with its characteristics. Although they have many stalked glands in the inflorescence and pale to reddish pink flowers, the leaves are not convex and somewhat narrower, the prickles longer and, most of all, the anthers are glabrous. In habit the plants do not resemble a typical *Corylifolii* as *R. ferocior* is, with the result that they have even been confused with species of the section *Rubus*, e.g. *R. cruentatus* P. J. Müll. ex Wirtg. (1854–1861, nr. II, 36) and *R. teretiusculus* Kalt. (1844: 282). After new field work it has now become clear that the taxon has a rather wide distribution and that it is time to publish it as a new species. This new taxon is named *Rubus psilander* A. Beek, because of its glabrous anthers, the most conspicuous difference with the related *R. ferocior*.

TAXONOMIC IMPLICATIONS

Rubus praeceptorum A. Beek, nov. spec. — Fig. 1, 2, 3, 4, 5, 6 & 7.

Holotype: L, herb. Kern & Reichgelt 7089, Nijmegen: op de Duckenburg (aan de rand van het peppelbos), 25.7.1949, *R. nemorosus* Hayne. [L 0629793/4].

Differt a *Rubus calvo* Weber characteribus sequentibus: turio partim pilosus foliis plerumque planis constitutione molliore; longitudo folioli terminalis petioluli 23–40% folioli longitudinis; inflorescentia sine aciculis glanduliferis; pedicelli aliquatenus longius dense pilosi glandulis tenuibus fere in pube absconditis vel absentibus. — A *Rubus calviforme* Weber: folia constitutione molliore; foliolium terminale plerumque angustius obovato-ellipticum vel rhombeum sive nonnumquam paulo ovato latitudine 52–76% longitudinis; inflorescentia pedunculis axillaribus 0–2 sub apice breve aculeis paucioribus tenuis 3(–4) mm longis; receptaculum pilosum. — Series *Viatici* A. Beek.

Stem low arching, bluntly angular with flat or rounded sides, diameter 3–6 mm, eglandular or with 1–5 short stalked glands per internode, usually partly glabrous and on other spots with few to dense hairs. Prickles 10–15(–35) per internode, a little unequal, patent or slightly reflexed, usually with a curved tip, the biggest ones from a 2–6 mm large base soon attenuated into a subulate tip or fully subulate, up to 4–6 mm long. Stipules 12–14 mm long, linear-lanceolate to narrow ovate, short hairy, with sessile glands. Petiole 5–9 cm long, longer than the lower leaflets, with stellate hairs, sessile or sessile dark glands and 11–14 curved up to 3 mm long prickles. Leaves 5-foliolate, upside hairy, down-side densely soft short hairy. Serrature sharp, somewhat irregular, rather fine with ± straight teeth. Terminal leaflet 59–95 mm long, elliptic or often obovate, sometimes rhomboid or slightly ovate, with a ± rounded or emarginated base, rather abruptly or gradually short to moderately long attenuated; width 52–76% of its length; length of the petiolule 21–34(–40)% of the length of the leaflet.

Flowering branch angular, moderately to densely stellate hairy, with 0–2 short stalked glands per internode. Prickles 3–16 per internode, a little unequal, from a 1–3 mm large base ± subulate, curved, up to 2–4 mm long. Upper leaves often somewhat greyish tomentose at the underside. Inflorescence with a short leafless tip and 0–2 peduncles in the leaf axils, densely short hairy, with scattered short stalked glands and some ± subulate up to 2–3(–4) mm long prickles. Peduncles ascendant, with 1–8 flowers, divided below the middle or fasciculate, or sometimes the lowest ones divided above the middle. Pedicels 8–15 mm long, with 0–8 prickles, densely grey tomentose, with 5–30 very tiny, sometimes almost sessile glands, the longest ones shorter than the diameter of the pedicel. Sepals patent, concave, grey tomentose, usually unarmed and not or barely glandular. Petals pinkish red, 9–13 mm long, large ovate-elliptical. Stamens as long as or somewhat longer than the red styles. Anthers and ovaria glabrous. Receptacle hairy. Flowers: Middle of June – August.

Recognition — *Rubus praeceptorum* belongs to the group of the *Viatici* with glabrous anthers. It can easily be distinguished from *R. calvus* because the latter has long-stalked glands on the pedicels, while *R. praeceptorum* has only (very) short-stalked glands or no stipulate glands at all on the pedicels. It has this feature in common with *R. calviformis*. *R. praeceptorum* differs from *R. calviformis* by the softer texture of the leaves and the usually narrower terminal leaflets. The inflorescence of *R. praeceptorum* is small and is set with few 3(–4) mm long prickles.

Vegetative plants of *Rubus caloternus* A. Beek (1998: 19) may resemble plants of *R. praeceptorum*, but can be distinguished by the leaves, which have a more regular serrate leaf margin



Fig. 1. The holotype of *Rubus praeceptorum* A. Beek (herb. Kern & Reichgelt, nr. 7089, L [L0629793]), sheet 1. Photo: Roxali Bijmoer, Naturalis, Leiden.

with finer teeth (Fig. 8). The margins of the leaves of *R. calotemnus* are very shallowly serrate (Fig. 8), while the teeth of *R. praeceptorum* are deeper (Fig. 7). In addition, the leaves of *R. calotemnus* are usually thinly hairy below, and not short soft hairy like those of *R. praeceptorum*.

Ecology — Hedges, roadsides, ruderal fields on loamy sandy soils.

Distribution — From Weener in the Emsland in Germany southward along Winterswijk in the Netherlands, southwestward to the region of Nijmegen, the north and the middle of the Province of Limburg and westward to the middle of the Province of North Brabant, and southward into Belgian Limburg (Fig. 9).



Fig. 2. The holotype of *Rubus praeceptorum* A. Beek (herb. Kern & Reichgelt, nr. 7089, L [L0629794]), sheet 2. Photo: Roxali Bijmoer, Naturalis, Leiden.

Exemplary specimens

Netherlands

L — Kern & Reichgelt, nr. 18606, Duckenberg bij Nijmegen, 25.07.1949, [L.3271756/57] (sub *R. calviformis*); Kern & Reichgelt, nr. 18600, Duckenberg bij Nijmegen, 04.09.1948, [L.3271746/47/48/49/50] (sub *R. calviformis*); A. van de Beek, nr. 20011, Stramproy, begin zijwegje van

Kruisstraat naar bos. 6.7.2000, [L.3271751/52] (sub *R. calviformis*); A. van de Beek, nr. 20013, Stramproy, begin zijwegje van Kruisstraat naar bos. 6.7.2000, [L.3271753], (sub *R. calviformis*); F.M. Muller, nr. 09993, loofbos z. van Miste, Winterswijk, 10.7.1972, [L.3271759/60] (sub *R. calviformis*); H.E. Weber, nr. 82.811.3, süd.östl. Winterswijk, südl. Weltershaar, 11.08.1982, [L.3271758] (sub *R. calviformis*); A. van de Beek, nr. 2004.33, Vorstenbos, Dreptweg, 02.08.2004, [L.4252285] (sub *R. calviformis*).
Herb. A. van de Beek — A. van de Beek, nr. 2013.36, Beestman bij Aalten,



Fig. 3. Stem, leaves and inflorescences of *Rubus praeceptorum* A. Beek (A. van de Beek, nr. 2016.36, herb. A. van de Beek). Photo: A. van de Beek.

241,612/437,665, 08.2013; A. van de Beek, nr. 2015.27, Tegelen, leemgroeven, 208,112/369,283, 01.08.2015; A. van de Beek, nr. 2015.28, Lottum, 208,665/387,362, 1.8.2015; A. van de Beek, nr. 2016.36, langs oud spoorlijntje zuid van Bostel, 151,649/398,466, 25.07.2016.

Germany

L — A. van de Beek, nr. 2000.904, Oude stationemplacement van Weener [err. typ. 'Weeren'] (Emsland), 24.09.2000, [L.4208413/14/15/16].



Fig. 4. Stem with leaves of *Rubus praeceptorum* A. Beek (A. van de Beek, nr. 2016.36, herb. A. van de Beek). Photo: A. van de Beek.

***Rubus psilander* A. Beek**, nov. spec. — Fig. 10, 11, 12, 13, 14, 15, 16, 17, 18 & 19.

Holotype: L, herb. A. van de Beek, nr. 962, Goirle, weg naar Hilvarenbeek, ooststrand van de Witte Duinen. 17 juli 1996. [L 0073526/7].

Differt a *Rubus ferociore* H. E. Weber aspectu regulare quia folia plana et non convexa rugata et inflorescentia satis regulare pyramidata; aspectus non clare ut species sectionis *Corylifolii* Lindl. ut *R. ferocior* valde exhibit sed maius sicut plantarum sectionis *Rubus*. Etiam differt antheris glabris, aculeis

aliquatenus longioribus, foliis terminalibus saepe angustioribus brevius petiolulatis inflorescentia pilis longioribus et ovaris semper glabris. — Series *Ferociore* A. Beek.

Primocane low arching to prostrate, diameter 4–5 mm, red brown in the sun, almost glabrous or with scattered hairs, with 0–30 stalked glands and 0–10 conic or subulate gland tipped pricklets per internode. Prickles very unequal, (10–)30–60 per internode, from a 1–5(–9) mm large base soon attenuated, compressed or ± subulate, reflexed, usually a little curved, up to 5–7 mm long. Stipules linear-lanceolate to narrow ovate, 10–15 mm long. Petiole 6–11 cm long, rather densely



Fig. 5. Inflorescence of *Rubus praeceptorum* A. Beek (A. van de Beek, nr. 2015.26, herb. A. van de Beek). Photo: A. van de Beek.



Fig. 6. Pedicels of *Rubus praeceptorum* A. Beek (A. van de Beek, nr. 2016.36, herb. A. van de Beek). Photo: A. van de Beek.



Fig. 7. Leaf of *Rubus praeceptorum* A. Beek (A. van de Beek, nr. 2015.26, herb. A. van de Beek). Photo: A. van de Beek.



Fig. 8. Leaf of *Rubus calotemnus* A. Beek. Photo: A. van de Beek, Ulvenhoutse Bos, 20.06.2011.

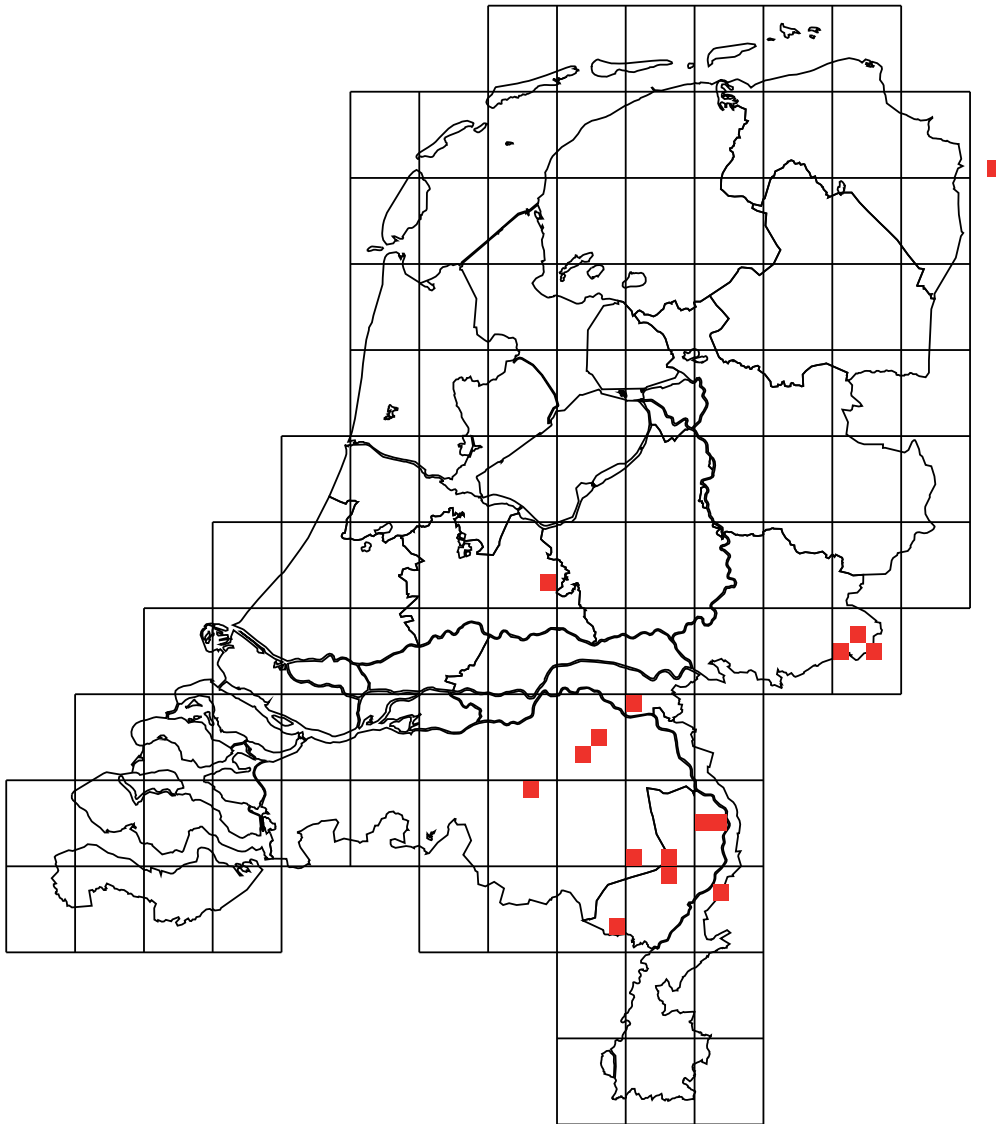


Fig. 9. Distribution of *Rubus praeceptorum* A. Beek in the Netherlands and adjacent Germany.

appressed pilose, with some almost sessile glands, a few gland tipped acicles and 13–25 rather slender curved prickles. Leaves 5-foliolate, flat, upside slightly hairy, downside not or barely sensible hairy. Serrature not to moderately periodical, somewhat irregular, with moderately to sometimes very large straight or a little recurved teeth. Terminal leaflet large elliptic or sometimes slightly obovate, with a rounded or emarginated base, rather abruptly short attenuated; with 65–79% of its length; length of the petiolule 16–31% of the length of the leaflet. Petiolules of the lower leaflets 0–2 mm.

Flowering branch angular, rather densely patent hairy, with 0–100 very unequal dark glands per internode, with transitions to gland tipped pricklets and larger prickles. Prickles unequal, 8–35 per internode, from a 2–4 mm large base slender, reflexed or somewhat curved, the longest ones 4–6 mm. Inflorescence rather regularly pyramidal, leafy up to the middle or somewhat higher, loosely hairy, with rather numerous glands, gland tipped pricklets and slender prickles. Pedicels ascendant, usually divided below the middle, often fasciculate; the longest ones with 6–9 flowers. Pedicels 5–25 mm long, thinly tomentose and with rather dense longer hairs, with 40–100 unequal glands and (3–)10–25 prickles. Sepals patent to erect, greenish grey

tomentose and hairy, with 10–100 unequal glands and 10–20 prickles. Petals pale to reddish pink, large ovate to elliptic, 10–14 mm long. Stamens a little longer than the styles. Styles flesh-coloured or red with a yellow tip. Anthers and ovaria glabrous. Receptacle hairy. Flowers: End of June, July.

Recognition — Generally the plants of *Rubus psilander* do not appear to belong to the section *Corylifolii*, as is definitely the case with *R. ferocior* due to the latter's convex, wrinkled leaves and its irregular growth. The leaves of *R. psilander* are, on the other hand, flat and its inflorescences are rather regular pyramidal. The most characteristic difference, however, are the glabrous anthers. Furthermore, the prickles are usually a little longer, the terminal leaflet narrower and its stalk shorter, the hairs in the inflorescence longer and the ovaria always glabrous.

Ecology — Roadsides and other semi-ruderal places. Usually not on recently ruffled soil, but on semi-stabile places, such as road sides in rural areas or in instable woods.

Distribution — Netherlands, Province of North Brabant, from Breda to east of Eindhoven, north up to the River Meuse (Fig. 20).



Fig. 10. The holotype of *Rubus psilander* A. Beek (herb. A. van de Beek, nr. 962, L [L0073526]), sheet 1. Photo: Roxali Bijmoer, Naturalis, Leiden.

Exemplary specimens

Netherlands

L — A. van de Beek, nr. 7863, Netersel, weg naar Bladel (IVON 51-51) onder hoge eiken langs weg, 16.08.1988, [L.3287749]; F.M. Muller, nr. 7759, Broekbos tussen Steensel en Riethoven, N.B., 07.07.1967, [L.3287753]; S.E. de Jongh s.n., Steensel (N.B.), 07.07.1967, [L.3287755]; S.J. van Ooststroom, nr. 24673, Stevert, Z. van Steensel (gem. Eersel,

N.B.), bosjes in het dal van de Run, 07.07.1967, [L.3287762]; A. van de Beek, nr. 7941, Noord-Brabant, Oisterwijk, 13.08.1991, [L.3287746]; A. van de Beek, nr. 7851, zuidelijk van Maaskantje terrein met steenhopen, 19.08.1988, [L.3287758/59/60/61]; A. van de Beek, nr. A 16, Riethoven, N.B., 07.07.1967, [L.3287756/7].

Herb. A. van de Beek — A. van de Beek, nr. 2016.35, Liempde, Velder, 153,104/395,724, 25.07.2016.

Herb. A. S. Troelstra — A. S. Troelstra, nr. 15-R004, eikenbos langs Rooveritse Lei, 133,079-389,123, 19.06.2015; A. S. Troelstra, nr. 16-R008,



Fig. 11. The holotype of *Rubus psilander* A. Beek (*herb. A. van de Beek*, nr. 962, L [L0073527]), sheet 2. Photo: Roxali Bijmoer, Naturalis, Leiden.

eikenwal, ten Z. van Sint-Michiëlsgestel, niet ver van km 152,1-404,95, 17.06.2016; A. S. *Troelstra*, nr. 16-R013, bos langs Broekleij, Cromvoirt, 145,667-407,302, 17.06.2016; A. S. *Troelstra*, nr. 16-R038, bos bij Roeivijver ten zuiden van Drunen, 139,103-409,184, 28.06.2016; A. S. *Troelstra*, 96-R023, Chaamse Bos tussen Ulvenhout en Chaam, km. 116-393, 29-7-1996.

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 Beek A van de. 2014. De sectie *Corylifolii* en verwanten van het genus *Rubus* in Nederland. *Gorteria* 36: 89–107.



Fig. 12. Stem and leaves of *Rubus psilander* A. Beek. Photo: A. van de Beek, Liempde, Velder, 25.07.2016.



Fig. 13. Leaf of *Rubus psilander* A. Beek (herb. A. van de Beek, nr. 968, L [L0073528]). Photo: Roxali Bijmoer, Naturalis, Leiden.



Fig. 14. Stem of *Rubus psilander* A. Beek. Photo: A. van de Beek Liempde, Velder, 25.07.2016.



Fig. 15. Stem of *Rubus psilander* A. Beek (A. van de Beek, nr. 968, L [L.0073528]). Photo: Roxali Bijmoer, Naturalis, Leiden.



Fig. 16. Detail of inflorescence of *Rubus psilander* A. Beek (A. van de Beek, nr. 968, L [L.0073528]). Photo: Roxali Bijmoer, Naturalis, Leiden.



Fig. 17. Detail of inflorescence of *Rubus psilander* A. Beek. Photo: A. van de Beek Liempde, Velder, 25.07.2016.



Fig. 18. Flower of *Rubus psilander* A. Beek. Photo: A. van de Beek Liempde, Velder, 25.07.2016.



Fig. 19. Serrate margin of a leaflet of *Rubus psilander* A. Beek (A. van de Beek, nr. 968, L [L.0073528]). Photo: Roxali Bijmoer, Naturalis, Leiden.

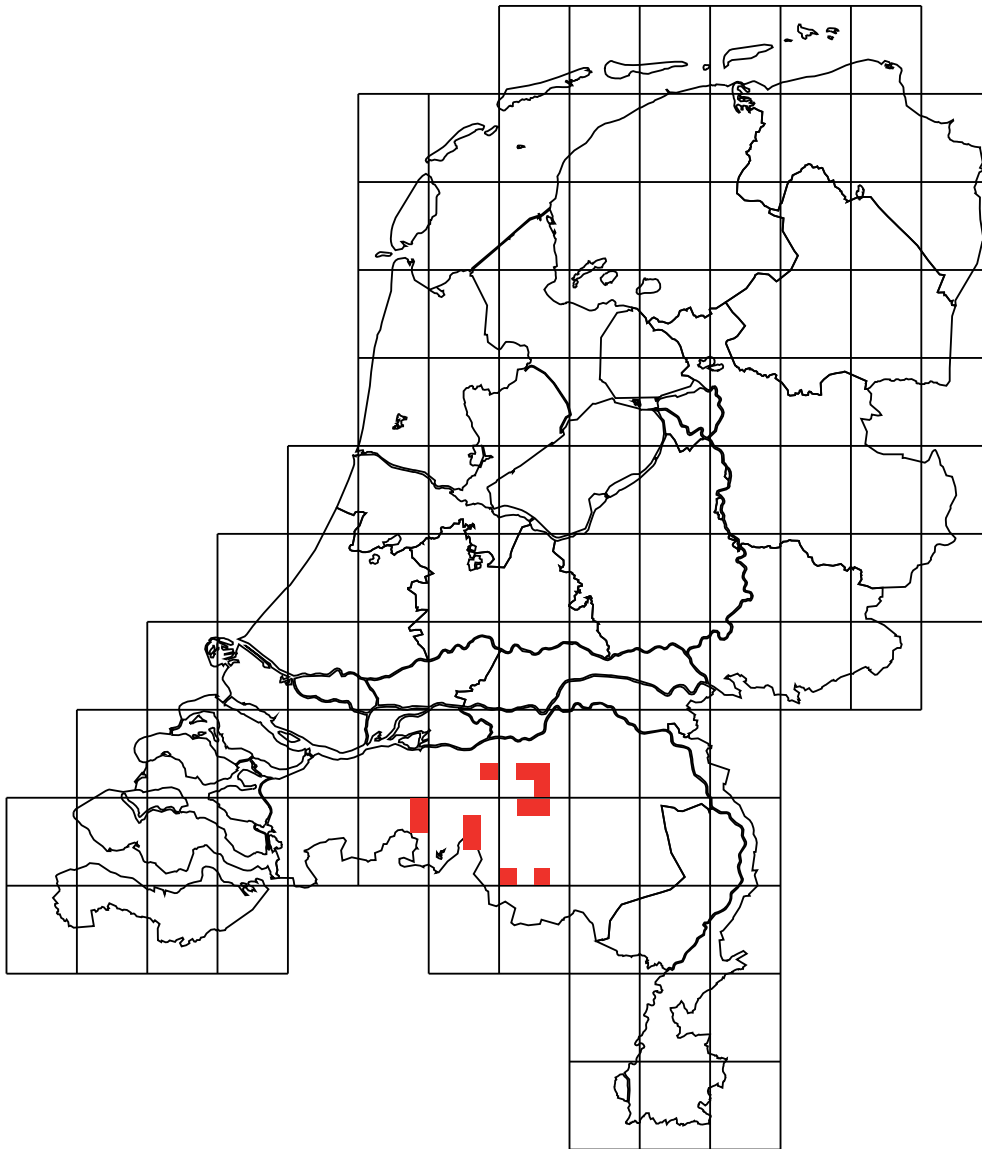


Fig. 20. Distribution of *Rubus psilander* A. Beek. in the Netherlands.

Beek A van de, Bijlsma RJ, Haveman R, Meijer K, Ronde l de, Troelstra AS, Weeda EJ. 2014. Naamlijst en verspreidingsgegevens van de Nederlandse bramen (*Rubus* L. subg. *Rubus*). *Gorteria* 36: 108–171.

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Kaltenbach JH. 1844. Flora des Aachener Beckens, Zweite Abtheilung, Klasse 11–23 nach Linné, [enthaltend einen Nachtrag über die Gattung *Rubus*]. Jahresbericht über die kombinierte Höhere Bürger- und Provinzial-Gewerbeschule, sowie über die Sonntags-Handwerkerschule zu Aachen während des Schuljahres 1843/44. J.J. Beaufort, Aachen.

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Weber HE. 1979. Über einige häufige und wenig beachtete *Rubi* sect. *Corylifolii* (Focke) Frid. in Mitteleuropa. *Osnabrück. Naturwiss. Mitt.* 6: 101–122.

Weber HE. 1982. Einige bislang übersehene Brombeer-Arten der Sektion *Corylifolii* im westlichen Mitteleuropa (Gattung *Rubus*, Rosaceae). *Osnabrück. Naturwiss. Mitt.* 9: 91.

Weber HE. 1988. Beitrag zur Kenntnis der Gattung *Rubus* (Rosaceae) in Rheinland-Pfalz und angrenzenden Gebieten. *Mitt. Pollichia* 75: 197–209, Wirtgen P. 1854–1861. *Herbarium Ruborum Rhenanorum*. Coblenz.