

# *Rubus lianos* (Rosaceae) – a new blackberry species from the Netherlands, Germany, and Belgium

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## Key words

*Rubus lianos*  
*Rubus koehleri* subsp. *polyoplon*  
var. *rhapidorhachis*  
*Mucronati*  
taxonomy  
apomicts  
endemism  
flora  
Limburg  
local species  
regional species

**Abstract** – In this paper we describe a new blackberry species belonging to the series *Mucronati* (Focke) H. E. Weber: *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde. It resembles the Silesian variety *R. koehleri* subsp. *polyoplon* var. *rhapidorhachis* Kinscher ex Sudre (1911: 189), which is lectotypified here. Added is a short discussion concerning the distribution area of the new species.

**Samenvatting** – Frits Muller verzamelde in 1966 in een bosje bij Veld-Oostenrijk nabij Horst (Limburg) een braam die hij aanvankelijk determineerde als *Rubus myricae* Focke var. *glanduliger* Sudre (1908: 33) en later als *R. conothyrus* Focke (1877: 271 = *R. siekensis* Banning ex G. Braun 1877: 54). Beide determinaties waren alleen gebaseerd op de sleutel in het werk van Sudre (1908–1913) en zijn zeker onjuist. Recent werd dit taxon gevonden in een groter gebied in Noord- en Midden-Limburg en aangrenzend Nordrhein-Westfalen in Duitsland. Daarnaast werd de soort aangetroffen in de buurt van Opglabbeek in België, ongeveer 40 km zuidwestelijk van het voorkomen in Nederland. We beschrijven dit taxon hier als een nieuwe soort, *Rubus lianos* ('tere braam'). Het epitheton verwijst naar de sierlijke tere habitus, de zeer fijne bladranding en de zeer slanke stekels. Het areaal is te karakteriseren als 'lokaal compact', een aanwijzing voor de geringe leeftijd van de soort.

Omdat *Rubus lianos* sterke gelijkenis vertoont met *R. koehleri* subsp. *polyoplon* var. *rhapidorhachis* Kinscher ex Sudre uit Silesië, is deze variëteit eerst gelectotypificeerd en vervolgens nauwkeurig vergeleken met *R. lianos*, om met zekerheid vast te stellen dat ze niet identiek zijn.

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## INTRODUCTION

In 1966, Frits Muller collected a blackberry in an old woodland at Veld-Oostenrijk near Horst in the Province of Limburg, the Netherlands [L.3280248/9], which he identified as series *Sprengeliani* Focke (1877: 241), and later as *Rubus conothyrus* Focke (1877: 271 = *Rubus siekensis* Banning ex G. Braun 1877: 54, series *Micantes* Sudre (1908: 16). Both identifications were only based on Sudre's key (1908–1913), and are certainly not correct; both taxa have less and shorter stipitate glands and the serrature is larger than with the plant from Horst. Only recently, Muller's blackberry was found to be widespread in an area in the central part of the Province of Limburg and the adjacent part of Nordrhein-Westfalen in Germany. Mainly through an ongoing survey of this region by R. Berkhout

(third author), and to a lesser extend, by R. Haveman (second author) and I. de Ronde (last author), many new locations of this blackberry were found. In addition, it was recently also discovered near Opglabbeek in Belgium, about 40 km southwest from its main occurrence in the Netherlands. In this paper we describe this blackberry as a new species, *Rubus lianos* (the tender blackberry). The epithet refers to its gracious, tender habit, very fine leaf serrature, and very slender prickles. The description is followed by a comparison with similar species, including the lectotypification of one of them, and a discussion on the specific status of *R. lianos*.

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## TAXONOMIC TREATMENT

***Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde,**  
nov. spec. — Fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 & 14

Series *Mucronati* (Focke) H.E. Weber

Holotype: L, *Beek 2018.65*, Netherlands, Horst (L.), Reulsberg, nabij tuinen aan de Dijkerheideweg, RD 210.237-380.160, legit R. Berkhout, 8.7.2018. — Fig. 1, 2, 3, 4, 5, 6 & 7.

Paratypes: The specimens listed under 'Exemplary herbarium specimens' are considered as paratypes.

Primocane (Fig. 8, 9 & 10) angular, diameter  $\pm$  5–6 mm, glabrous or slightly hairy, with scattered to numerous sessile and 0–5 stipitate glands per 5 cm. Prickles 3–8 per 5 cm, declining, sometimes slightly curved, from a 2–4 mm large base abruptly attenuated, slender, up to 5–8 mm long; between prickles 0–10(–30) unequal little pricklets per 5 cm. Petiole 6–10 cm, as long or longer than the basal leaflets, appressed pilose, with unequal stipitate glands and unequal sharply declining often curved prickles.



Fig. 1. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (*Beek 2018.65*, L): Primocane with leaves. Photo: A. van de Beek.



HERBARIUM A. VAN DE BEEK

No. 2018.65

*Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde

HOLOTYPE

Datum: 08.07.2018

Loc.: Horst (L), Reulsberg, nabij tuinen aan de  
Dijkerheideweg, 210.237 / 380.160

Standplaats: langs bospad

Bladloot laag boogvormig  
Kelkklippen los teruggeslagen  
Bloemkroon roze  
Meeldraden langer dan de roze stijlen

Legit R. Berkhout

Fig. 2. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (Beek 2018.65, L): Primocane with leaves. Photo: A. van de Beek.



Fig. 3. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (*Beek 2018.65, L*): Primocane. Photo: A. van de Beek.



Fig. 4. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (Beek 2018.65, L): Central leaflet. Photo: A. van de Beek.

Leaves (Fig. 11 & 12) digitate or pedate 5-foliolate, sometimes a few 3(–4) foliate, glabrous above and with scattered short hairs below, green. Serrature fine, equal, with straight short mucronate tips or when in the shade sometimes with a few recurved teeth. Central leaflet 7–11 cm long, from a rounded or emarginated base broad elliptic to obovate, sometimes almost round, abruptly attenuated in a 5–15 mm long tip. Width 60–89% of the length. Length of the petiolule 23–41% of the length of the leaflet.

Flowering branch angular, somewhat pilose with long patent hairs, with 2–100 stipitate glands and gland tipped acicles and 2–25 pricklets per 5 cm. Prickles 1–2 per 5 cm, somewhat unequal, from an enlarged base abruptly attenuated, sharply declining, sometimes geniculate, up to 4–8 mm long. Inflorescence (Fig. 13) pyramidal or cylindrical, with a leafless upper part, moderately hairy, with unequal very slender prickles and rather numerous unequal often long glands and gland tipped acicles; lower branches ascending, the higher ones ascending-patent, with up to 4 flowers; leaves glabrous above, thinly tomentose below. Pedicels 8–17 mm long, greyish tomentose and short hairy, with 2–11 prickles and 5–30 unequal stipitate glands and gland tipped acicles, partially much longer than the diameter of the pedicel. Sepals reflexed, tomentose and hairy, glandular and aciculate. Petals (Fig. 14) pink, narrow elliptic, 10–12 mm long. Stamens longer than the greenish yellow or pink styles. Anthers glabrous. Ovaries (almost) glabrous. Receptacle hairy.

Ecology — Open forests, woodland edges and clearings, rarely in hedges and scrubs in the agricultural landscape, mainly on Pleistocene aeolian sands and loamy sands covering older riverine deposits. Predominantly found in Rhamno-Prunetea scrubs, with e.g. *Rubus winteri* (Focke) Foerster (1878: 100), *R. polyanthemus* Lindeb. (1882:16), *R. schleicheri* Weihe (1824: 152), and *R. geniculatus* Kaltenb. (1845: 267). The species tends to form dense scrubs.

Distribution — The Netherlands, Germany, and Belgium (Fig. 15, 16): Rather common in the region around Horst, Arcen and Venlo in the Province of Limburg, the Netherlands; also near Walbeck and Pont just across the border with Germany north of Venlo; in Belgium only found near Opglabbeek, Province of Limburg, about 40 km south-east from the main distribution area (Fig. 15). Despite extensive searches, *Rubus lianos* couldn't be found in the area between both parts of its distribution range. Because of the fact that the distribution range of *R. lianos* is well over 50 km across, this species could therefore be considered a regional species (see for the terminology: Van de Beek et al. 2014). However its continuous distribution range in the area of Venlo-Horst-Arcen is only about 25 km across. As far as hitherto known, the occurrence of the species near Opglabbeek can be considered an outlier, well beyond the border of its continuous distribution area. Recently two new sites were discovered near

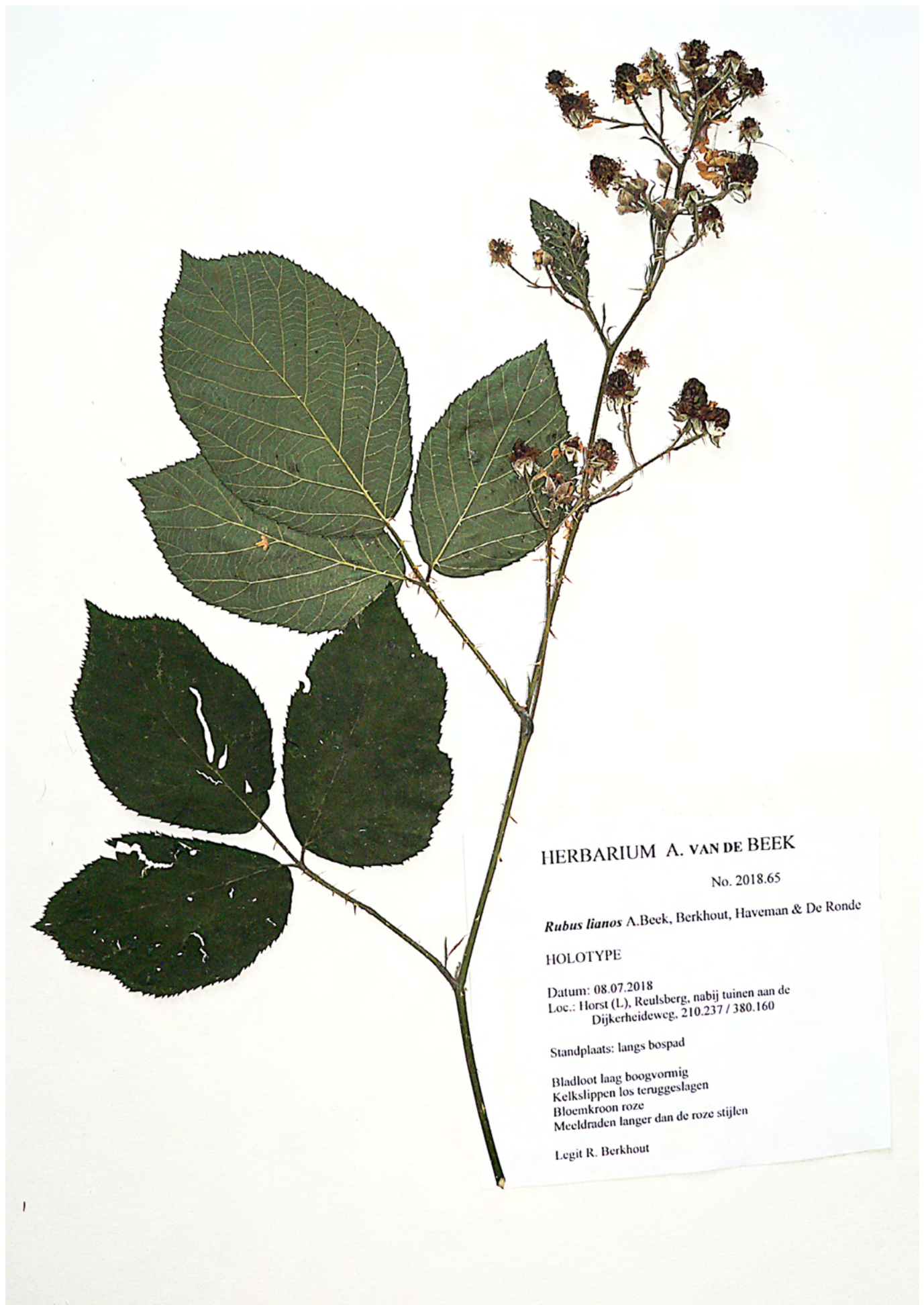


Fig. 5. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (Beek 2018.65, L): Inflorescence. Photo: A. van de Beek.



Fig. 6. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (*Beek 2018.65, L*): Pedicels. Photo: A. van de Beek.



Fig. 7. Holotype of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (*Beek 2018.65, L*): Flowers. Photo: A. van de Beek.



Fig. 8. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Primocane. Photo: R. Berkhout.



Fig. 9. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Primocane. Photo: R. Berkhout.





Fig. 10. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Primocane. Photo: R. Berkhout.

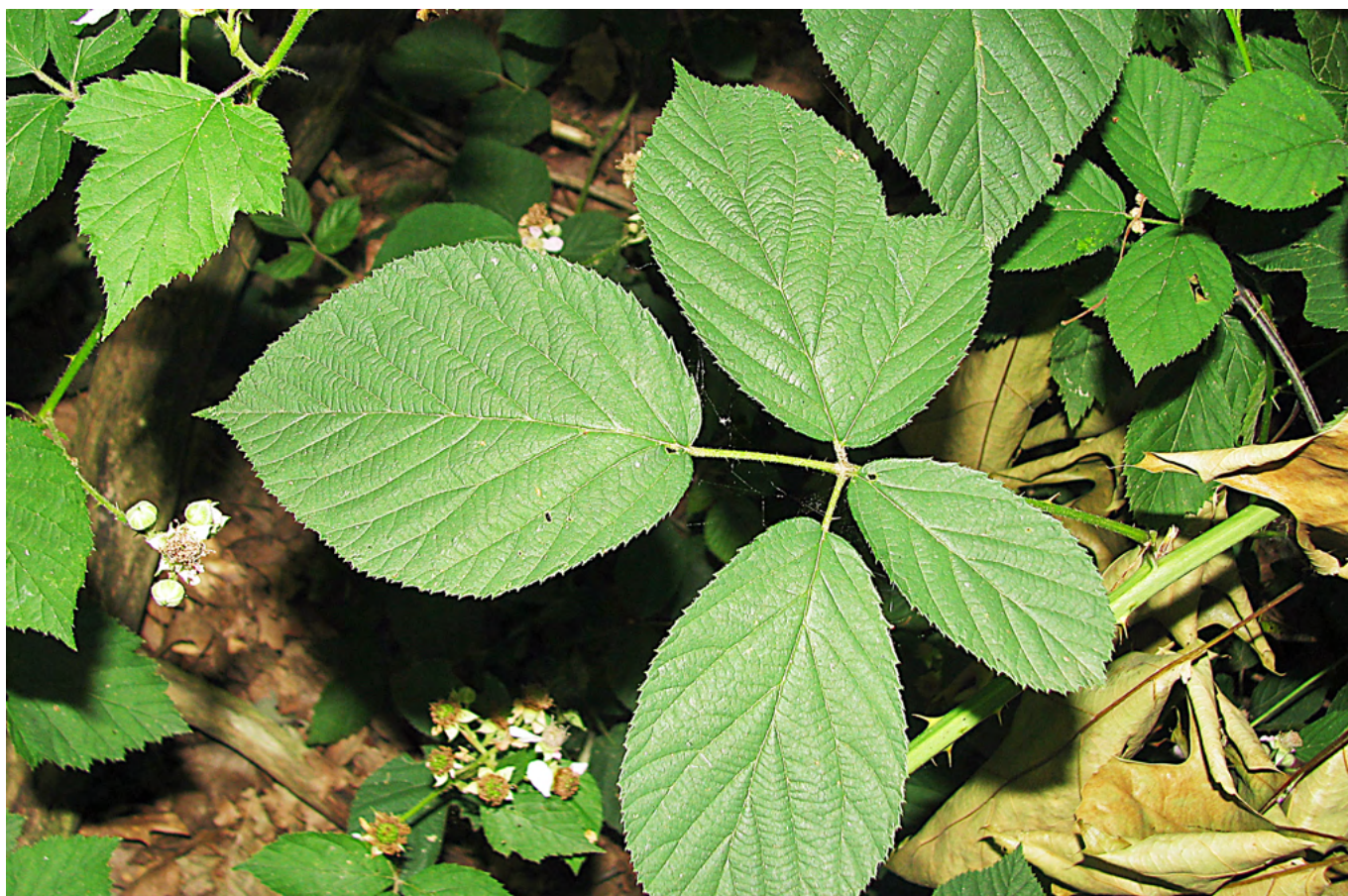


Fig. 11. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Primocane with leaves. Photo: R. Berkhout.



Fig. 12. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Primocane with leaves. Photo: R. Berkhout.



Fig. 13. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Inflorescences with immature fruits. Photo: R. Berkhout.

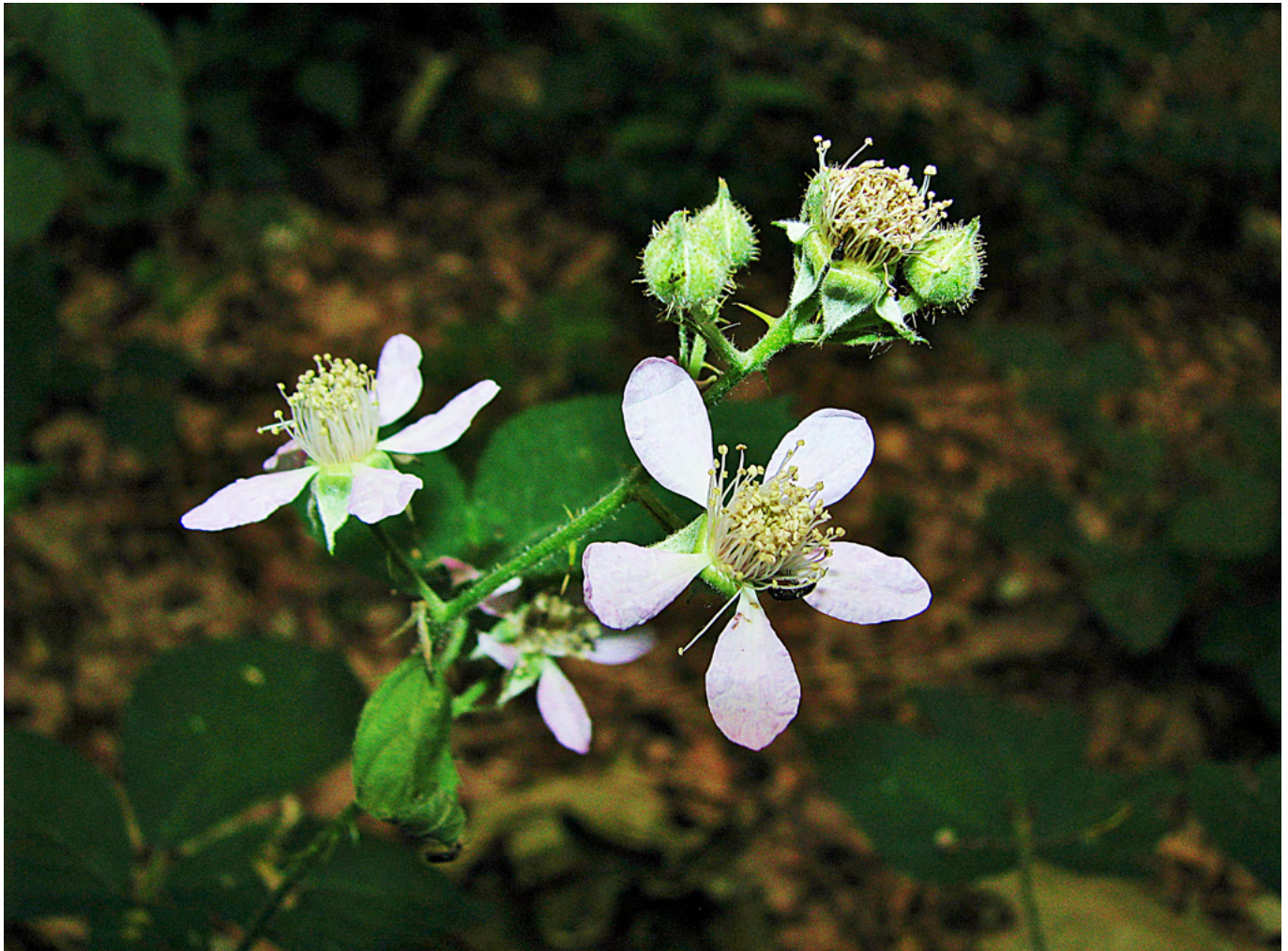


Fig. 14. *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde: Flowers. Photo: R. Berkhout.

Swalmen. Although these two sites are located south of the main range of the species, the Belgian population remains a distinct outlier.

Identification — *Rubus lianos* is characterized by its very fine serrature, slender prickles, pink flowers, and glabrous anthers. It has only a few stipitate glands on the primocane which strongly contrasts with the abundant and long stipitate glands present in the inflorescence. Because of the obovate leaves with the mucronate tip, the fine serrature, and the rather long stipitate glands in the inflorescence, *R. lianos* has to be placed in the series *Mucronati* (Focke) H. E. Weber.

On other localities in the Province of Noord-Brabant, the Netherlands, similar plants were found, but they have a broader and more irregular serrature and stronger prickles on the primocane (e.g. [L.3288978/9](#) from Dorst). Despite the resemblance with *Rubus lianos*, these plants are also different in other details such as leaf shape. Therefore, these plants are not considered to belong to the new species; they are considered as local biotypes.

Similar species — Most species in series *Mucronati* have hairs on the anthers, a feature that *Rubus lianos* lacks. In this respect, *R. lianos* resembles *R. atrichantherus* [Prahl \(1890: 61\)](#), but the latter has larger, more equal and somewhat curved prickles, less stipitate glands, and glandular acicles on the stem, pilose

adaxial surfaces of the leaves, (almost) white flowers, and hairy ovaries. In addition, the serrature is not so fine as in *R. lianos*.

Another similar taxon is *Rubus koehleri* subsp. *polyoplon* var. *rhapidorhachis* [Kinscher ex Sudre \(1911: 189\)](#) (= *Rubus rhapidorhachis* [Kinscher \(1909: 80\)](#), nom. illeg., [ICN art. 36.1a](#)). Apart from geographical arguments (*R. koehleri* subsp. *polyoplon* var. *rhapidorhachis* is only found in Silesia, a region crossing the borders of Germany, Poland, and the Czech Republic), this variety differs from *R. lianos* by its narrower obovate leaflets with a long tip, stronger prickles on the primocane, and erect sepals.

#### Lectotypification of *Rubus koehleri* subsp. *polyoplon* var. *rhapidorhachis* [Kinscher ex Sudre](#)

For clarity, the lectotype of *Rubus koehleri* subsp. *polyoplon* var. *rhapidorhachis* [Kinscher ex Sudre \(1911: 189\)](#) is designated here: L, 'Silésie: Dans le Hoellenbusch, près de Münsterberg; alt. 300 m', 6.8.1908, *H. Kinscher s.n.* in herbarium H. Sudre, *Batotheca Europaea* 572 [[L 0019842](#), the primocane pieces with leaves only].

Note: The epitheton 'rhapidorhachis' is spelled in different ways: 'rhapidorrhachis' ([Kinscher 1909](#)), 'rhapidorachis' ([Sudre 1911](#)), 'rhapidorrhachis' (B [[B100295870](#)]). The spelling 'rhapidorhachis' seems to correspond best with the spelling in Greek.



Fig. 15. Distribution of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (Beek 2018.65, L) in the Netherlands, Germany, and Belgium Map: R.-J. Bijlsma..

#### Exemplary herbarium specimens of *Rubus lianos*

The coordinates are Dutch RD-coordinates. The herbarium acronym L denotes the herbarium of Naturalis Biodiversity Center at Leiden, see [Thiers \(2019+\)](#).

#### Netherlands

L — *F.M. Muller 06994*, Horst (L.) bos hoek Venrayseweg-Tienrayseweg, 28.7.1966 [[L.3280248/9](#)]; *F.M. Muller 07820*, Horst (L.), bos achter kasteelruïne, 25.7.1967 [[L.3280250/1](#)]; *S.E. de Jongh s.n.*, 20.7.1968 [[L.3280247](#)].

Herb. A. van de Beek — *A. van de Beek 2015.37*, Jammerdaalse Heide, 209,916-373,420, 31.07.2015; *2015.38*, Lottum, 208,967-387298, 01.08.2015.

Herb. R. Haveman — *R. Haveman 123008.001*, Venlo, Floriadeterrein, langs pad in *Pinus*-bos, 206,011-379.836, 30.8.2012, leg. R. Haveman, I. de Ronde & A. van der Berg; *NS132*, Arcen, oud gemengd bos op zand boven oude rivierafzetting, 212,632-388,043, 24.08.2019; *NS133*, Arcen, open plek op rand van duin op lemig zand, gemengd bos, 212,68-388,08, 24.08.2019; *NS134*, Arcen, bosrand met Galio-Urticetea-soorten, 212,732-388,109,

24.08.2019; *NS123*, Arcen, Walbeckerweg in rand van gemengd eikenbos, 212,114-388,919, 09.08.2019; *NS110*, Arcen, bosrand kasteelpark Aan de Lange Weide, 206.347-389.101, 28.7.2018, leg. R. Haveman & I. de Ronde; *NS111*, Landgoed Arcen, open plek in droog beuken-eikenbos, met o.a. *Rubus polyanthemus* en *R. geniculatus*, 205.438-388.214, 28.7.2018, leg. R. Haveman & I. de Ronde; *NS112*, Landgoed De Hamert, Wellerlooi, Walbeckerweg, in rand van gemengd bos, met *R. gratus* en *Molinia*, 210.610-391.355, 28.7.2018, leg. R. Haveman & I. de Ronde; *NS120*, Wellerlooi, De Hamert, Walbeckerweg, in bosrand, 210,549-391,397, 09.08.2019, leg. R. Haveman & I. de Ronde.

Herb. A. Troelstra — *A. Troelstra 15-R052*, Boomsingel kasteeltuinen van Horst, 201,531-386,825 1.8.2015; *15-R058*, Open strook aan rand gemengd bos, waterwingebied bij Lottum, 208,592-387,314, 1.8.2015; *18-R050*, Loofbos, Schandelose Heide, 210,078-383,571, 4.7.2018; *18-R056*, Onder loofhout, Zwart Water ten noorden van Venlo, 210,161-380,110, 5.7.2018.

Herb. R.J. Bijlsma & L. Reutelingsperger — *R.J. Bijlsma & L. Reutelingsperger 1939*, Barbara's Weerd, 210,235-387,132, 25.08.2017.

#### Belgium

Herb. A. van de Beek — *A. van de Beek 2018.68*, Opglabbeek, Zavelweg, onverharde weg aan eind links, linkerzijde, 171,263-341,089, 30.07.2018.

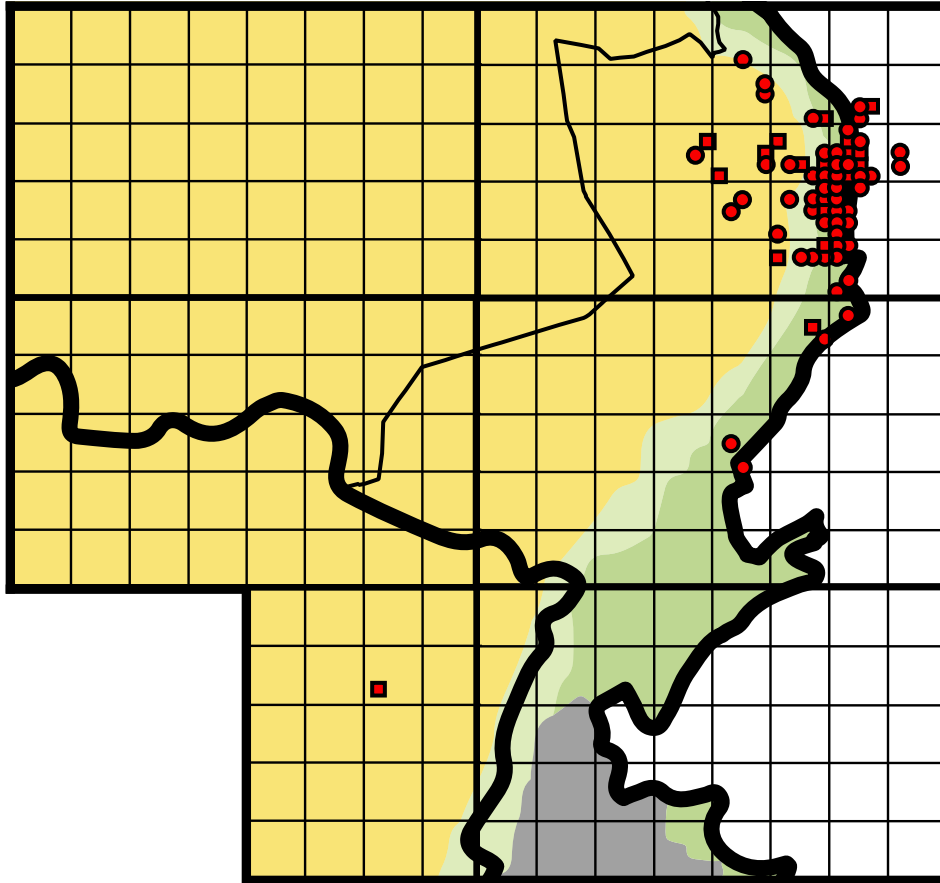


Fig. 15. Detailed map of the distribution of *Rubus lianos* A. Beek, Berkhout, Haveman & De Ronde (Beek 2018.65, L) in the Netherlands and adjacent Germany. The single location in Belgium, near Opglabbeek (Province of Limburg), is indicated as well. Map: R.-J. Bijlsma.

### Germany

Herb. R. Haveman — *R. Haveman* NS136, Veldweg zuid van Arcener Straße, rand van sparrenbos met veel *Rubus edeesii*, 213,129–387,139, 24.08.2019; NS135, Holt, An der Fossa, bosrand met *Quercus robur*, *Rubus winteri*, *foliosus* & *geniculatus*, 213,181–388,066, 24.08.2019; NS124, Walbeck, op de grens met NL net oost van grenspaal 494, langs aspergeakker in bosrand, 212,548–389,045, 09.08.2019, leg. R. Haveman & I. de Ronde; NS121, Zuid van Walbeck, langs Spitzfeld, in rand van hoog opgaand eikenbos, 214,368–392,259, 09.08.2019, leg. R. Haveman & I. de Ronde; NS122, Zuid van Walbeck, langs Spitzfeld, in de volle zon in berm, 214,375–392,265, 09.08.2019, leg. R. Haveman & I. de Ronde.

### Other locations (a selection) of otherwise identified field recordings of *Rubus lianos*

The coordinates are Dutch RD-coordinates. Abbreviations: B&R = R. J. Bijlsma & L. Reutelingsperger, IR = I. de Ronde, RB = R. Berkhout, RH = R. Haveman.

### Netherlands

Beesel, Kasteel Waterloo, greppel aan bosrand langs rijksweg, 202.309–363.516, 22-11-2019 (RB); Venlo, Vindelssedijk, langs bospad, 210,136–372,840, 1.8.2015 (RB); Venlo, Grootte Heide langs Hinsbeckerweg, in bosrand, 212,314–374,608, 1.8.2015 (RB); Venlo, Grootte Heide nabij Klagenfurtlaan, in gemengd bos, 212,156–374,925, 1.8.2015 (RB); Venlo, Schaapsdijkpark, in bos, 211,870–376.507, 21-11-2019 (RB); - Venlo, Herongerberg langs Arenborgdelweg, in bos, 212,513–377,416, 21-11-2019 (RB); Velden, De Krosselt, langs Oude Venloseweg, in eikenbos, 209,024–379,622, 14.8.2016 (RB); Velden, Zwart Water, bospad langs Diepsteeg, 210,237–380,160, 14.8.2016 (RB); Schandelo, bosje langs Muldersweg, 211.856–381.362, 26-10-2019 (RB); Grubbenvorst, Meerlose Baan, langs

bospad, 206,390–381,405, 17.6.2017 (RB); Schandelo, bos langs Straelseweg, 212.200–382.611, 26-10-2019 (RB); Lottum, in bosje naast fabriek aan de Houthuizerweg, 207,041–384,148, 8.7.2018 (RB); Horst, Reulsberg, zijweg Deneweg, in bosrand, 203,580–384,459, 17.10.2016 (RB); Lomm, Lommerheide, langs Broekveldweg, in gemengd bos, 210,461–384,521, 21.7.2016 (RB); Lomm, Hanik, bosje langs Hanikerweg, 211,870–384,885, 26-10-2019 (RB); Lomm, Straelense Broek, bos in het verlengde van Ontginningsweg, 211,936–385,583, 26-10-2019 (RB); Arcen, Landgoed kasteel, langs Lommerbroekweg, langs bospad, 210,439–385,872, 28.8.2016 (RB); Kasteelpark Horst, 201,533–386,846, 1.8.2016 (IR&RH); Arcen, Lingsfort, bos nabij voormalig Fort Hazepoot, 212,904–387,829, 1-9-2019 (RB); Arcen, bos Walbeckerweg, 212,610–388,014, 24.8.2018 (IR&RH); Castenray, Castenraysche Vennen, broekbos, 199,638–388,587, 29-7-2018 (RB); Arcen, bos Walbeckerweg, 212,720–388,109, 24.8.2018 (IR&RH); Arcen, bos Walbeckerweg, 212,716–388,114, 24.8.2018 (IR&RH); Arcen, bosje oost van Lingsfort, tegen Duitse grens, 212,898–388,068, 24.8.2018 (IR&RH); Arcen, bos Walbeckerweg, 210,549–391,398, 9.8.2018 (IR&RH); Wellerlooi, De Hamert, langs bospad nabij dorp, 206,949–394,557, 11.10.2016 (RB); Roekenbosch nabij Blitterswijck, bosrand, 204,908–392,809 (RB); Roekenbosch nabij Blitterswijck, bos, 204,807–393,047 (RB); Wanssum, Koischeberg, langs Kamperfoeliepad, in eikenbos, 203,729–395,109, 20.12.2015 (RB); Barbara's Weerd, 210,251–387,234, 25.08.2017 (B&R); Lomm, De Diep, 209,502–383,940, 27.09.2019 (B&R); Meerkoelen onder Vreewater, 212,267–382023, 27.09.2019 (B&R); Brandenmolen, 210,976–388,850, 03.07.2020 (B&R); NL-D-grens Arcen-Walbeck, 212,363–390,060, 03.07.2020 (B&R); Ravensvennen, 210,499–386,035, 17.07.2020 (B&R); Lingsfort, 211,121–387,371, 17.07.2020 (B&R); O-rand Schandeloze heide (rand zKRn2), 211,295–383,133, 17.07.2020 (B&R); Velden / De Weerd (LL), 208,963–379,337, 31.07.2020 (B&R); Hanikerweg 212,315–387,122, 20.07.2020 (B&R); Velden / Zwart Water, 209,919–379,363, 31.07.2020 (B&R); Lommerheide, 210,516–384,619, 04.08.2020 (B&R); Bong Slinkweg, 210,408–382,371, 04.09.2020 (B&R); Schandeloze Broek, 210,587–380,763, 04.09.2020 (B&R).

## Belgium

Louwel, bosweg in verlengde van de Zavelstraat, in bosrand, 171,250–341,080, 8.10.2017 (RB).

## Germany

Swalmen, bosrand langs grensweg aan Duitse kant, 203,330–360,670, 24-10-2019 (RB); Auwel, bos aan ooststrand Holter Bruch, 213,244–386,877, 1-9-2019 (RB); Pont, bos in Loehr Heide, 217,163–387,820, 1-9-2019 (RB); Pont, bosje nabij Griff, 216,105–389,142, 1-9-2019 (RB); Walbeck, Grenzweg, langs bospad vanaf dorp, 213,075–389,625, 27.8.2017 (RB); Walbeck, grensbossen, langs bospad, 212,650–390,257, 27.8.2017 (RB); Spitzfeld, in het verlengde van de Jülicher Weg, in bosrand, 214,025–392,200, 27.8.2017 (RB); Walbeck-Steprath, 213,578–391,963, 27.07.2020 (B&R); De Hazepoot/Straelense Broek, 213,182–388,063, 24.08.2018 (B&R); Walbeck, 212,524–389,692, 03.07.2020 (B&R); Straelense Broek-Maesmuhle-Reithalle, 213,460–385,869, 15.08.2020 (B&R); Dammerbruch, 211,936–379,270, 12.09.2020 (B&R).

## DISCUSSION

In this paper, we use a phenetic species concept. This is defensible considering the congruence between morphology and the results of DNA fingerprinting in earlier studies (Kollmann et al. 2000, Kraft & Nybom 1995); thorough knowledge of the phenotypic variation of the apomictic lineages will therefore lead to distinguishing these lineages properly (Ryde 2011, see also Haveman 2013).

Contemporary batology only considers apomict *Rubus* biotypes as species if their distribution area diameters reach at least 50 km (see for a discussion and overview Kurtto et al. 2010). Technically, the distribution range of *R. lianos* reaches well over 50 km, and therefore meets the criteria for description as species. Because the core distribution area in the Venlo area is only about 25 km, though, it can be argued that *R. lianos* is a biotype with only a 'local compact' distribution area. This would extend the distribution area terminology introduced by Bijlsma & Haveman (2007), analogous to their 'regional compact' category: a distribution area with a rather smooth outline and only a few outliers. Theoretically, a local compact distribution area reflects a very young species, which only recently started to spread. Initially, the distribution area expands concentrically (but constrained by site factors, like edaphic factors and land use), but in time, long-distance dispersal will result in occurrences disjunct from the area where the species started. *Rubus lianos* seems therefore to be in a very early state of dispersion, away from its area of origin.

The status of the disjunct occurrence near Opglabbeek in Belgium is not clear. It could be a natural expansion of the distribution area of the species, for instance by birds (Weber 1987), or an unintended anthropogenic introduction, for instance with plant material of trees from the Venlo region (viz. Bijlsma & Haveman 2007). It cannot be excluded that both parts of the distribution area, viz. the larger one near Venlo as well as the outlier near Opglabbeek in Belgium, can be traced back to unintended introductions from a yet unknown source population. In that case the plants in Opglabbeek could be introduced from the same source or indirectly from the Venlo region. The absence from the area between the core of the distribution area and Opglabbeek could also be interpreted as an ecological phenomenon, in which case the area in between (with wet soils and low pH being predominant) is unsuited for the species. As of yet, it is unclear which factors shaped the distribution area of *R. lianos*.

However, we concur with Haveman & De Ronde (2013) that there is no fundamental difference between locally and regionally distributed (stabilised) apomict *Rubus* lineages, and that range size should not be an *a priori* consideration for the recognition of species. *Rubus lianos* is well characterized, well established and rather common in central Limburg, and thus believed to be a stabilised apomict, comparable to other pseudogamous *Rubus* species.

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