

***Rubus tenuimollis* Mikoláš (Rosaceae), a new species of section *Corylifolii* of the genus *Rubus* from eastern Slovakia**

VLASTIMIL MIKOLÁŠ¹

¹Hanojská 4, SK-040 13 Košice, Slovakia, tel. +421903784087; dolomiticola@gmail.com

Mikoláš V. (2017): *Rubus tenuimollis* Mikoláš (Rosaceae), a new species of section *Corylifolii* of the genus *Rubus* from eastern Slovakia – Thaiszia – J. Bot. 27 (1): 041-047. – ISSN 1210-0420.

Abstract: *Rubus tenuimollis* sp.nov., a new species of *Rubus* section *Corylifolii* is described from eastern Slovakia. The map of distribution and the scan of the species are added. The species is an apomictic one, probably from the ser. *Subcanascentes* H.E.Weber and it is known from an area ca. 20 km x 46 km (a local species with the tendency to regional distribution in the classification of Weber). The species grows especially (known distribution) in the area of Košice s.l., however, it reaches Žakarovce village in Slovenské Rudohorie Mts. and Dargov village in Slanské vrchy Mts. It is a subxerothermous species, growing on forest and bush edges. It is probable that the new species grows also in Hungary. A bit similar species (growing in eastern Slovakia), *Rubus fasciculatus* is different by sterile stems without stipitate glands, by upper surface of blades very densely hairy, by periodical indentation, shorter flower stalks, receptacle with numerous hairs etc.

Keywords: *Rubus tenuimollis*, eastern Slovakia, taxonomy, ecology, protection, Slovakia.

Introduction

In the year 2003 I found *Corylifolii* species in Račí potok brook (Košice). Another research in the following years revealed new localities in Košická kotlina basin, central Hornád valley, Slovenské Rudohorie Mts. and Slanské vrchy Mts.

The species is the local one with the tendency to regional species (e.g., Weber 1995, 2002, Kurtto et al. 2010) and I describe it as the new species for science.

***Rubus tenuimollis* Mikoláš, sp. nov.** (Fig. 1, holotype)

Description: Shrub with sterile stems obliquely ascending up to ca. 1-(1.5) m, stems bluntly angled, green, 5-6 mm in diameter. Stems with up to 7 stipitate glands per 5cm length of stem, glands 0.4-0.8 mm long. Stems hairless and with (4)-7-9-(12) prickles per 5 cm length of stem, green, straight, uniform, (3)-4-5 mm long, needlelike, smaller prickles very rare dispersed, shorter than 1 mm. Leaves of sterile stem 5-foliolate, rarely 3-foliolate. Blades rather thin, flat, adaxially yellowish-green to green, relatively densely hirsute, however, in certain belts of leaflets glabrous, on touch hairy, hairs 0.2-0.6 mm long, adpressed, 60-80-(100) hairs per cm², abaxially grey-green, thinly velvety hirsute, conspicuously soft to the touch, with (0.2)-0.4-0.6-(0.8) mm long adpressed hairs. 5-foliolate leaves 18-22 cm long and 15-20 cm wide. Petiole (6)-9-10-(11) cm long, sparsely hirsute and rarely stipitate glandular, with (4)-6-9-(12) little oblique prickles, 2-2.5 mm long. Terminal leaflet ca. 7-9 cm long and 7-10 cm wide, ovate, subovate, oval cordate or round, the base straight, round or cordate, with 7-9 nerves, with apex (0.5 cm), gradually narrowed, rarely without apex, usually regularly dentate on the margin, rarely with (1)-2-4 little lobes in upper part of leaflet, with the deeper incision up ca. 15 mm long. Bigger teeth ca. 2 mm wide and 1.5-(2) mm long and little teeth 1-(1,5)x1 mm big. Petiolule up 2.5-3 cm long, reaching usually up to 40% as long as its lamina, with very sparsely acicles and little oblique prickles (rarely up to 8) and rarely with glands. Stipitate glands maximally up to 3-(4). Lateral blades of leaf ca. 7-9 cm long and 5-7 cm wide and with up to 1 cm long petiolule, lower lateral blades ca. 6 cm long and 4 cm wide and with 1-2 mm long petiolules. Hairs, stalked and sessile glands and little prickles similar as at petiolule of terminal leaflet (fewer and usually shorter). Stipules filifer to narrowly lanceolate, up 15 mm x 2 mm big, with up 1.2 mm long hairs on margin and dispersed glands. Inflorescence paniculate, up to 25 cm long and 10 cm wide, with (15)-20-30-(40) flowers and usually with erected to erecto-patent branches. Distal part of inflorescence (up to 6-8 cm long) is leafless, upper leaf is simple or 3-foliolate, the ones (2-3) below 3-foliolate. Simple leaf up to 9 cm long and 6 cm wide, with usually regular indentation, teeth are smaller than on sterile leaflets, at base straight or little round, with up 15-20 mm long petiolule. Indumentum is similar to that on sterile blades. 3-petiolate leaves in inflorescence up to 8-11-(16) cm long 8-11-(20) cm wide, with regular dentation on margin. Terminal leaflets up to 4-6-(9,5) cm long and 2,5-4-(6.5)cm wide,; with unusually fine serration, with 0.5-1 cm long petiolules, hirsute, sometimes with little prickles and glands. Lateral leaflets 3.5-5-(9) cm long and 2-3-(7) cm wide, sometime sublobate and somewhat asymmetrical with incisions up 12-(15) mm long, petiolules are sessile. Rhachis of inflorescence is densely hairy, straight or slightly curved, bluntly angled, with short and long hairs (up to 1.2 mm), with little oblique prickles (up to 5 per 5 cm length of rhachis), up 2.5 mm



HOLOTYPUS!

KO 33389

Rubus tenuimollis Mikoláš

Loc.: Eastern Slovakia, town of Košice, estate housing Ťahanovce, above Hanojská str., between forest edge and waterworks, ca. 280 m a. s. l.; 48° 45' 40.41" N, 21° 16' 20.35" E.

13 June 2017

leg. V. Mikoláš

Fig. 1. Holotype of *Rubus tenuimollis*.

long and with stipitate and sessile glands (stipitate glands up 10-15 per 5 cm length of rachis in low part and up to 0.6-0.8 mm long). Pedicels up 3-(4) cm long, densely hairy, frequently with more than 30 stipitate glands (up to 0.6 mm long) and sessile glands and with maximally 5-7 little curved prickles, up to 1.5 mm long. Flowers rather big, up to 25 mm in diameter. Sepals (bigger in fruits) usually reflexed after anthesis, white tomentose, rarely with bristles and stipitate glands, frequently with many sessile glands. Sepals (6.5)-7.5 x 3.5-(4) mm big. Petals white, round to ovate, frequently cut out, with 1 mm long claw, (8)-12-(13) mm x 8.5-11-(12) mm. Stamens longer than green styles, filaments 4-5.5 mm long, styles 3-3.5 mm long, anthers glabrous, yellowish-green, 0.9-1.1 mm long. Carpels glabrous, receptacle glabrous or with short dispersed hairs. Composed fruit rather large, ca. 1 cm long and 0.7 cm wide, well-developed, oblong, black. Flowering in VI and fruiting in VII. $2n = ?$.

Holotype: Eastern Slovakia, Košice, estate housing Ťahanovce, above Hanojská street, at road and waterworks, forest edge, ca. 280 m a.s.l., 48°45'40,41" N, 21°16'20,35" N, leg. V.Mikoláš, 13.6.2017 (KO 33389).

Distribution (Fig. 2)

The species is distributed on area 20 x 46 km, with the most distant localities (NW-SE) ca. 50 km. Probably it has bigger distribution in eastern Slovakia (e.g., it can grow in Vihorlat Mts., Šarišská vrchovina Mts., Zemplínske vrchy Mts. etc.) and in Hungary it is possible occurrence in Zempleny hegység Mts. In some localities grows very abundantly, hundreds to thousands exemplars (e.g. Čičky hill, above Hanojská street at housing estate Ťahanovce). Localities: (all collections are in private herbarium of Mikoláš, so far) Obišovce village, central Hornád valley, 1 km SE (Dubník hill) – in upper part of hill, ca. 360 m a.s.l., leg. V.Mikoláš, 26.7.2003 (3081/03), Žakarovce village, Slovenské Rudohorie Mts., above village at touristic path, ca. 640 m a.s.l., leg. V.Mikoláš, 3.8.2006 (8591/06), Žakarovce village, Slovenské Rudohorie Mts., under village, ca. 440 m a.s.l., leg.V.Mikoláš, 3.8.2006 (8694/06), Žakarovce village-Mária huta settlement, Slovenské rudohorie Mts., ca. 400 m a.s.l., leg.V.Mikoláš, 3.8.2006 (8822/06), Košice, 0.8 km N(N)E of Hradová hill, on left side of river Hornád, 245 m a.s.l., leg.V.Mikoláš, 19.11.2006 (7265/06), Košice, in 1/2 of path from quarry on Viničná hill to housing estate Ťahanovce, ca. 350 m a.s.l., leg.V.Mikoláš, 13.8.2005 (1191/05), Košice, 1.8 km NW of later village Ťahanovce, near of Ťahanovský tunnel, ca. 260 m a.s.l., leg. V.Mikoláš, 19.8.2003 (4093/03), Košice, 1.5 km NW of later village Ťahanovce, on left side of river Hornád, ca. 250 m a.s.l., leg.V.Mikoláš, 19.8.2003 (4069/03), Košice, housing estate Ťahanovce, 0.2 km SSE of elevation point 305.1, at nearness of panel path, 280-290 m a.s.l., leg. V.Mikoláš, 28.10.2006 (6444/06), Košice, housing estate Ťahanovce, 1 km S of elevation point 352.4, overgrowing ruderal meadows, 275 m a.s.l., leg. V.Mikoláš, 27.9.2009 (2745/09), Košice, housing estate Ťahanovce, above Hanojská street, at the road and waterworks, N side of road, forest edge, 280 m a.s.l., leg.V.Mikoláš, 6.11.2010 (2548/10), Košice, housing estate

Ťahanovce, above Hanojská street, under little bridge across canal, ca. 275 m a.s.l., leg.V.Mikoláš, 12.11.2004 (6813/04), Košice, housing estate Ťahanovce, Belehradská/Hanojská street, 270 m a.s.l., leg. V.Mikoláš, 30.10.2005 (1328/05), Košice, housing estate Furča, avenue of L.Svobodu, N part, above left side of brook Moňok, 260 m a.s.l., leg.V.Mikoláš, 17/18.2003 (3915/03), Košice, ca. 0.7 km E of Dolný Bankov hill (427.1), 245 m a.s.l., leg.V.Mikoláš, 10.11.2006 (6948/06), Dargov village, Slanské vrchy Mts., Bačkovská valley, 3 km NNW of village, 340 m a.s.l., leg.V.Mikoláš, 8.7.2009 (without number), Dargov village, Slanské vrchy Mts., 0.5 km NW, meadow edge, ca. 260 m a.s.l., leg.V.Mikoláš, 8.7.2009 (Y/575), Vyšný Klatov village, Slovenské Rudohorie Mts., at road, 480 m a.s.l., leg.V.Mikoláš, 16.8.2003 (3863/03), Košice, Botanical Garden of University of P.J.Šafarik, forest aisle, ca. 300 m a.s.l., leg.V.Mikoláš, 9.9.2003 (4570/03), Košice, Botanical Garden of P.J.Šafarik University, in upper part, ca. 350 m a.s.l., leg.V.Mikoláš, 15.11.2005 (1549/05), Košice, Rozálska str., 230 m a.s.l., leg.V.Mikoláš, 20.9.2006 (5117/06), Košice, a marsh above spring of Račí brook, ca. 280 m a.s.l., leg.V.Mikoláš, 3.6.2003 (1868/03), Košice, right side of Račí brook, uppermost part, 275 m a.s.l., leg.V.Mikoláš, 5.11.2006 (6795/06), Košice, Čičky hill, ca. 0.25 km NW, forest edge, ca. 365 m a.s.l., leg.V.Mikoláš, 7.11.2006 (6862/06), Košice, 0.3 km W of Čičkovský brook at garden settlement, 310 m a.s.l., leg.V.Mikoláš, 30.10.2006 (6529/06), Košice, Čičky hill, ca. 0.7 km S, 325 m a.s.l., leg.V.Mikoláš, 1.9.2006 (4265/06), Košice, South, Táborská str., W side of street, 220 m a.s.l., leg.V.Mikoláš, 16.8.2009 (KO 30 347), Košice, later village Lorinčík, forest edge of *Quercus-Carpinetum* in locality „Medzi lúkami“, ca. 340 m a.s.l., 4.12.2004 (7110/04).

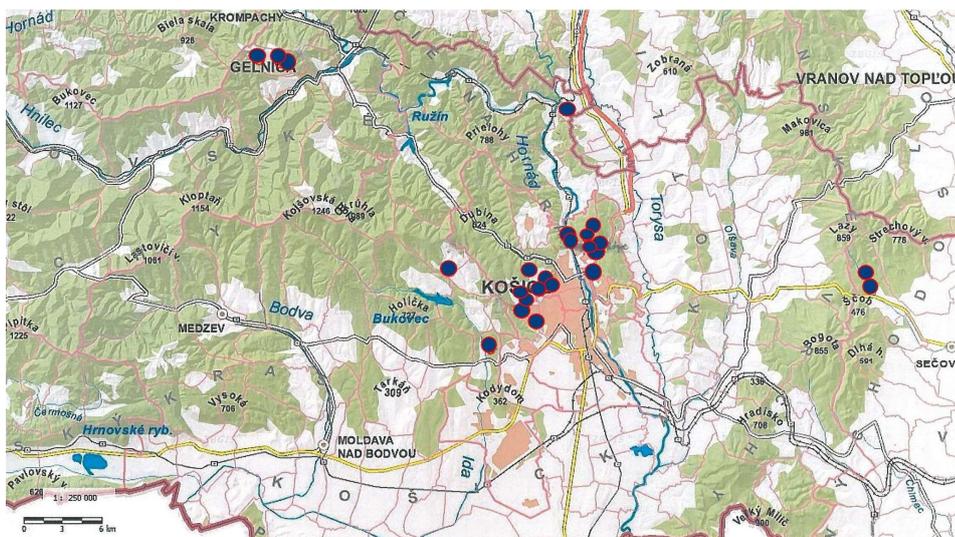


Fig. 2. Map of known distribution of *Rubus tenuimollis*.

Notes on taxonomy of the species

The species belongs probably to the ser. *Subcanescentes* H.E.Weber. It is characteristic by glabrous sterile stems, with dispersed stipitate glands, by prickles of the same form, blades on surface of leaflets shortly hirsute and on reverse of leaflets soft tomentose. Ser. *Clivicola* A.Beek has also similar characters, however, with stipitate glands on sterile stems maximally ca. 0.2 mm long. Ser. *Corylifolii* (Lindl.)Focke has sterile stems usually glabrous, with stipitate glands, light prickles, almost of the same form and terminal leaflet is almost rotundous, apex short, stipulae lanceolate, anthereae glabrous. The species is characteristic by dispersed stipitate glands on sterile stems, without hairs, rather densely hairy upper leaflet surface and by stipitate glands on rhachis and especially on flower stalks. Inflorescence is sparse, flower stalks rather long. Flowers rather big, with white petals and sepals usually reflexed adpressed to syncarpium. Filaments are longer than styles, anthers glabrous, carpels glabrous and receptacle glabrous or with short dispersed hairs. *R. fasciculatus* P.J.Mueller, growing in eastern Slovakia, is slightly similar, however, it has sterile stems without stipitate glands, curved prickles, upper surface of leaflets is very densely hirsute and grey-green. It has periodical indentation with incisions, petiole with up to 20 prickles, stipulae narrowly lanceolate. Rhachis is without stipitate glands or with these up 0.1 mm long, prickles longer. Flower stalks shorter (up to 15 mm long), stipitate glands on these up to 0.1 mm long and stalks with more prickles. Sepals patent to subdeflexed. Receptacle with numerous hairs. The new bramble is probably a local species with the tendency to regional distribution and occurs frequently in Košice and wide environment of the town.

Rubus tenuimollis is a local species with regional tendency. Weber (e.g., 2002) does not recommend to describe these species in majority of cases, however, Ryde (2011) described in his paper many very local species. He outlines that undescribed species are ignored and confused with the described ones and this results is chaos. Also the species can be local, however, very frequent in their area of distribution (and regional ones vice versa). Moreover it is important that undescribed (very) local species can be destroyed in the locality, because the localities are not protected. In comparison with sexual species, Weber pursues opposite opinion to apomictic ones (sexual species with some tens of exemplars are very protected, the apomictic ones with very local distribution have to be undescribed). More in other apomictic genera (e.g., *Taraxacum*, *Alchemilla* etc.) there are species with minimal area of distribution described, however, Weber (e.g., 1995) recommends to describe only regional species with minimum area of distribution 50 x 50 km or in some cases local species with the tendency to regional species. In this way, Ryde (2011) supports the description of all species. It is, of course, clear that the description of species with singular distribution area is somewhat problematical. Haveman et de Ronde (2013) also support the description even of narrowly local species, if they are stabilized by apomixis (they refuse, of course, the description of only partially stabilized hybrid swarms and primary hybrids).

Notes on ecology and protection of the species

Rubus tenuimollis is a subxerothermous species, growing on forest and bush edges. It occurs usually on acid soils in hilly countries up to submontane belts. The highest locality is ca. 640 m a.s.l. at Žakarovce village in Slovenské Rudohorie Mts., the lowest locality is in 220 m a.s.l. Košická kotlina basin in Košice (Táborská str.). The species is frequently present (hundreds and thousands of exemplars) in some localities (e.g. Čičky hill, above Hanojská str. in housing estate Ťahanovce etc.), else, it grows sparsely or as a single bush. Currently the species is not endangered.

Acknowledgements

I am obliged to L.Mártonfiová (Košice) for the correction of English, to G. Lešínský (Janík) for technical help, to P. Hrbáč (Brno) for notes to the paper, to V.McMichael (St.Louis) and J.Kliment (Blatnica) for the help with literature and to P. Mártonfi (Košice) and V.Kolarčík (Košice) for the scan of holotype of *Rubus tenuimollis*.

References

- HAVEMAN R. & DE RONDE I. (2013): The role of the Weberian reform in European *Rubus* research and the taxonomy of locally distributed species – which species should we describe ? – Nord.J.Bot. 31: 145-150.
- KURTTO A., WEBER H.E., LAMPINEN R. & SENNIKOV A.N. (2010): Atlas Florae Europaeae. Distribution of vascular plants in Europe. *Rosaceae (Rubus)*.
- RYDE U. (2011): Arguments for a narrow species concept in *Rubus* sect. *Corylifolii*. – Nord.J.Bot. 29: 708-721.
- WEBER H.E. (1995): 4. *Rubus*. – In: Weber H.E.(ed.), Gustav Hegi Illustrierte Flora von Mitteleuropa. Band IV.Teil 2A. Spermatophyta: Angiospermae: Dicotyledones 2(2), p. 284-595, Blackwell Wissenschafts-Verlag, Berlin, Oxford, Edinburgh, Boston, London, Melbourne, Paris, Wien, Yokohama.
- WEBER H.E. (2002): Entwicklung und Stand der *Rubus*-Forschung in Europa. – Ber.Bayer.Bot.Ges. 72: 177-185.

Received: December 3rd 2015
Revised: June 27th 2017
Accepted: June 29th 2017