



*Piotr Kosiński*

## Current distribution of the recently described bramble species, *Rubus guttiferus* (Rosaceae), in Poland

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**Abstract:** *Rubus guttiferus*, known mainly from the Czech Republic, has been found on 25 localities in Lower Silesia (SW Poland). It is as yet a rare bramble there, on the northern border of its range, forming usually very small local populations, and as such should be regarded provisionally as an endangered species in Poland.

**Additional key words:** woody flora, new species, Sudety.

**Addresses:** P. Kosiński, Agriculture University, Department of Botany, Wojska Polskiego 71c, Pl 60-625 Poznań, Poland; Institute of Dendrology, Polish Academy of Sciences, Parkowa 5, Pl 62-035 Kórnik, Poland, e-mail: kosinski@au.poznan.pl

### Introduction

Representatives of *Rubus* ser. *Discolores* are relatively easy to distinguish from the other brambles by erect, high-arching, glabrous stems with uniform prickles and usually without stalked glands, and by grey-white to white-felted sepals and underside of leaves. In the Polish flora this group encompasses up to now about 11 species (Zieliński 2004; Kosiński and Bednorz 2003; Zieliński et al. 2004; Kosiński and Oklejewicz 2006). The latest reports and preliminary investigation show that that this number may be higher. Studies of Czech botanists conducted in the last decade revealed that this group was more differentiated than it was earlier assumed. They recognized and described six new species of *Rubus* ser. *Discolores* (Trávníček and Zázvorka 2005). Some of them are distributed in the immediate vicinity of the Polish-Czech and Polish-Slovak borders and it could be expected that they would also occur in S Poland. Therefore, special attention was paid to this group in field research on brambles of this region.

### Distribution

*Rubus guttiferus* Trávníček et Holub is a triploid, regional species distributed in the southern part of Central Europe. It has been found up to now mainly in the Czech Republic and also on several sites in Slovakia, NE Austria and S Poland (Trávníček and Zázvorka 2005).

Although it was described only in 2005 (Trávníček and Zázvorka 2005), it had been known already earlier under the same provisional name published in Czech botanical literature (e.g. Holub 1999). The first information about the occurrence of *R. guttiferus* in Poland comes from 1998, when it was found in three localities in the Kłodzko Basin (Kosiński 2001; Kosiński and Bednorz 2003). Next year it was collected near the Polish-Czech border, in the Opole Province (Kosiński and Zieliński, 1999, KOR). Three of these sites were mentioned later by Trávníček and Zázvorka (2005).

During the field work on the bramble flora of the Bardzkie Mts. and adjacent regions conducted mainly

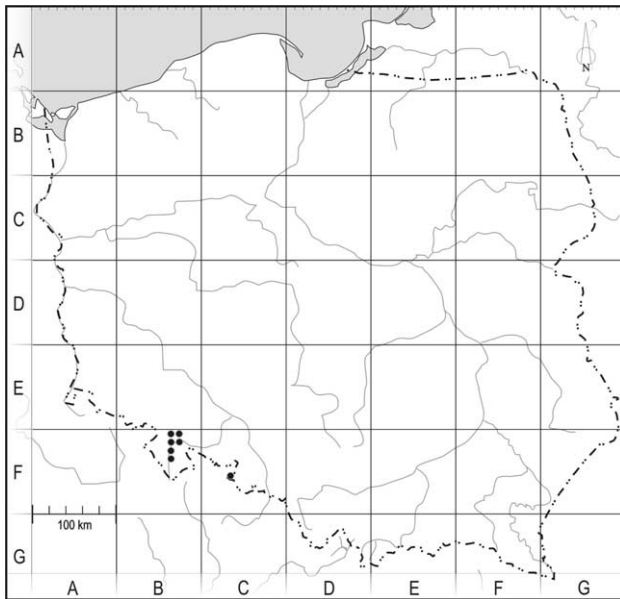


Fig. 1. Distribution of *R. guttiferus* in Poland; 10 km × 10 km grid in accordance with ATPOL grid applied in *Distribution Atlas of Vascular Plants in Poland* (Zajac and Zajac 2001)

in 2004–2006, I found 22 new localities of *R. guttiferus* (Figs. 1, 2). Thus the species can be in fact more widely scattered in warm regions of SW Poland. However, data collected up to now are insufficient to determine the dynamics of the species. It remains as yet a rare bramble, presumably on the northern border of its range, usually forming very small local populations, and as such should be regarded tentatively as an endangered species in Poland.

## Habitat

*R. guttiferus* occurs at altitudes of 300–460 m (mean 392 m). It grows on sunny places in shrub communities, mainly along roads, on forest margins,

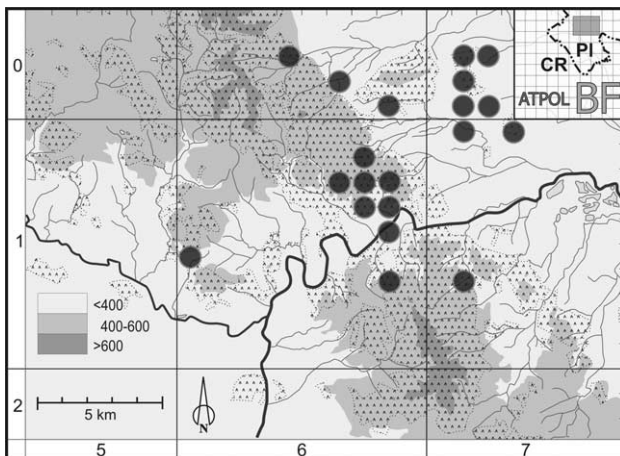


Fig. 2. Distribution of *R. guttiferus* in Bardzkie Mts; 1 km × 1 km grid based on a method applied in *Distribution Atlas of Vascular Plants in Poland* (Zajac and Zajac 2001)

roads and clearings, preferring rather fertile, well-drained soils.

## Description of the species based on collected material (Figs 3–8)

Stems erect or suberect, about 1.5 m tall, usually with slightly furrowed sides or angled, glabrous, relatively weak suffused purplish (even on sunny places); prickles uniform, on angles, up to 4–6 per 5 cm, 5–8 mm long, nearly straight or a little curved, broad-based (5–7 mm), slightly declining. Leaves 5-foliolate, digitate, green and glabrous above, green-grey felted beneath, with thin layer of stellate hairs (in the shade stellate hairs much less numerous and the lower leaflet surface almost green) and with few short simple hairs. Leaflets usually three-dimensional (somewhat arcuate and concave), not contiguous; terminal ones on mid-long petiolules (28–39% of their lamina), often, particularly when young, resembling outline of drop (hence Latin name of the species), narrowly to broadly ovate (sometimes subelliptical), rounded or truncated at the base (rarely subcordate), with a gradually acuminate apex, sometimes asymmetrically bent, up to 10–25 mm long; leaflets margins usually more or less regularly serrate (sometimes slightly undulate), incisions up to 2–3(–4) mm deep. Petiolules of basal leaflets (2–)4–5(–7) mm long. Petioles 52–81 mm long (mean 64 mm), usually a little shorter than the basal leaflets (on the average 97% of their length), patent-hairy to nearly glabrous, with (6–)11–14(–17) strongly curved prickles. Stipules narrowly lanceolate to filiform. Inflorescence paniculate, narrowly conical to almost cylindrical (in the upper part), usually truncate at the apex, with relatively short patent branches, with 1–3-foliolate leaves below and leafless above. Inflorescence axis usually stiff and quite thick, pubescent with long simple and tufted hairs, also with underlayer of stellate hairs and subsessile glands hidden in hairs (more numerous in the upper part); prickles more or less curved, usually 3–5(–6) mm long. Pedicels 5–20 mm long, felted, with protruding hairs, (1–)2–5(–7) and slightly curved prickles 1–2(–3) mm long. Sepals grey-felted, unarmed, reflexed after anthesis. Petals white, elliptical or obovate, 9–12 mm long. Ovaries distinctly hairy. Receptacle hairy. Stamens exceeding styles. Flowering (VI–)VII(–VIII).

## Similar species

*R. guttiferus* is most similar at first glance to the most common Polish representatives of the series *Discolores*: *R. grabowskii* Weihe and *R. montanus* Lib. ex Lej. However, *R. grabowskii* can be distinguished from

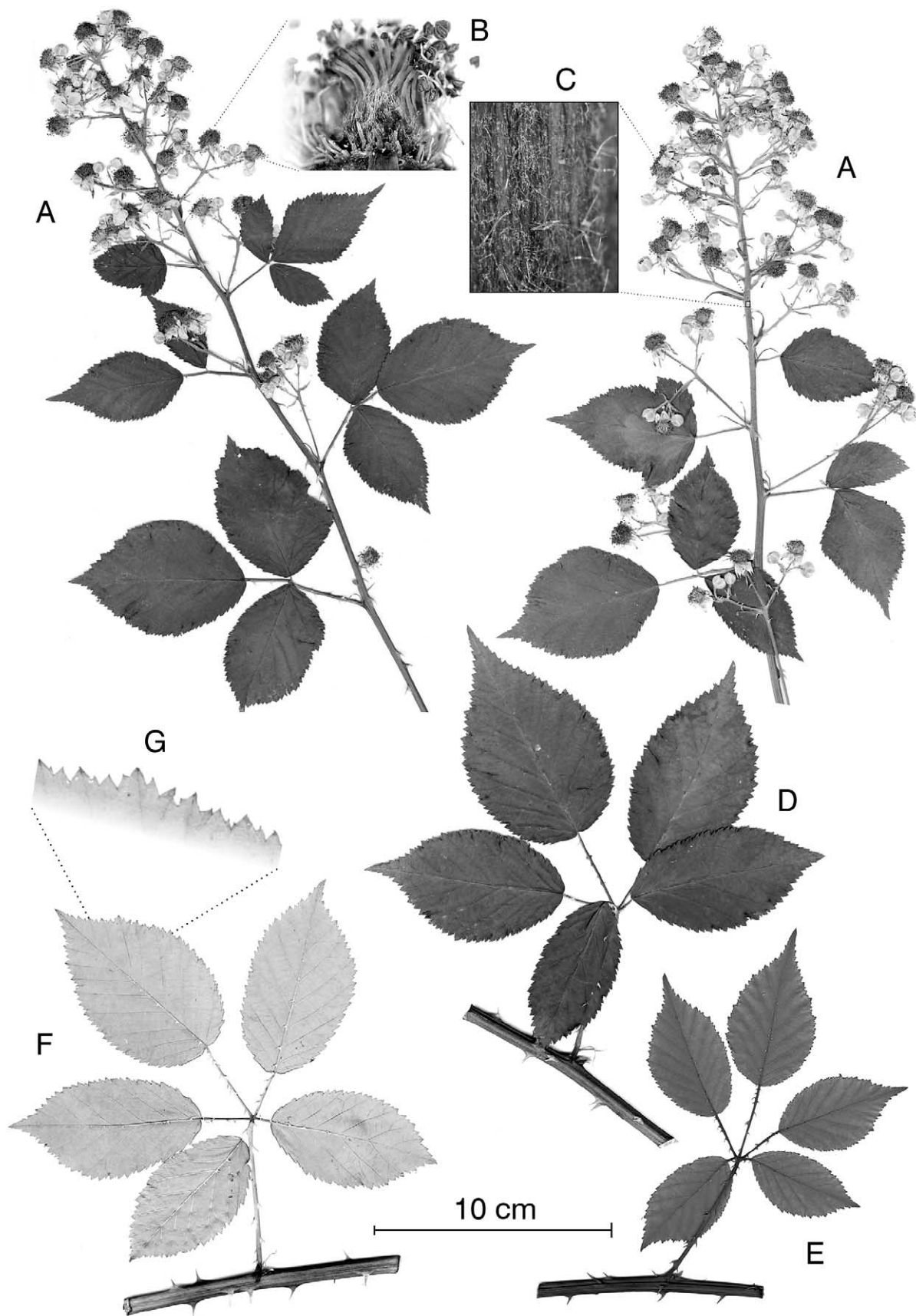


Fig. 3. Morphology of *R. guttiferus*: A = inflorescence; B = apocarpous gynoecium with hairy ovaries; C = fragment of inflorescence axis; D = part of vegetative shoot, upperside of leaf; E = young leaf from vegetative stem; F = part of sterile stem, underside of leaf; G = margin of terminal leaflet (Kosiński, KOR 43972)





Fig. 4. *R. guttiferus* – fragment of vegetative shoot (photo by P. Kosiński)

*R. guttiferus* by the following characters: nearly flat leaves, broader terminal leaflet with shorter and abrupt apex, slightly periodic serration of leaf margins, often contiguous leaflets, and pink flowers. *R. montanus* differs from *R. guttiferus* in: flat leaves, narrower terminal leaflets with parallel margins, coarser, more periodic serration of leaf margins, and glabrous ovaries.



Fig. 5. *R. guttiferus* – leaf from vegetative shoot with drop-shaped terminal leaflet (photo by P. Kosiński)

## Herbarium specimens seen

Poland, Prov. Lower Silesia, Bardzkie Mts., Distr. Stoszowice: – BF0674, edge of Żdanów village, thicket on scarp above the road, 420 m, Budzówka River valley, singly (Kosiński, 04 Oct 2004, KOR); – BF0674, Srebrna Góra town, E slope of Mt Ostróg, thicket by the tourist path along remains of rack railway, 460 m, sparsely (Kosiński, 04 Oct 2004, KOR); – BF0686, Mikołajów village, thicket along the road to the village, gentle E slope, 375 m, quite numerous (Kosiński, 19 Aug 2005, KOR); Distr. Bardo: – BF1617, Brzeźnica village, by the bicycle path in the spruce forest on E slope of Wielka Cisowa Góra Mt, 415 m, singly (Kosiński, 17 Aug 2005, KOR); – BF1626, Brzeźnica village, mixed (hornbeam-oak-spruce) forest on steep S slope of Mt Klimek, 460 m, singly (Kosiński, 17 Aug 2005, KOR); – BF1627, Brzeźnica village, clearing in spruce forest on SE slope of Mt Leszek (viewpoint by the bicycle path), 435 m, quite numerous (Kosiński, 17 Aug 2005, KOR); – BF1628, Brzeźnica village, by the bicycle path in thinned mixed forest stand (oak, lime, pine) on the E slope of Mt Suszyna, 455 m, singly (Kosiński, 17 Aug 2005, KOR); – BF1637, Opolnica village, beech forest on the local hill 700 m SW from Mt Suszyna, S slope,





Fig. 6. Inflorescence of *R. guttiferus* (photo by P. Kosiński)



Fig. 7. Infructescence of *R. guttiferus* (photo by P. Kosiński)

convex relief, 360 m, quite numerous (Kosiński, 21 Aug 2005, KOR); – BF1638, Brzeźnica village, sessile oak forest on gentle S slope of Mt Suszyna, 445 m, sparsely (Kosiński, 17 Aug 2005, KOR); – BF1648, S edge of Bardo town, forest margin along the road to Kłodzko (on the gentle NW slope), 325 m, quite numerous (Kosiński, 02 Aug 2002, KOR); – BF1668, Dębowina Dln. village, birch wood on N slope of Mt Strażnik, 405 m, singly (Kosiński, 22 Aug 2005, KOR); Distr. Kłodzko: – BF1650, Łączna village,



Fig. 8. *R. guttiferus* – the growth habit of the bush (photo by P. Kosiński)

spruce forest on gentle SW slope of Mt Goliniec, 395 m, quite numerous (Kosiński, 05 Aug 2002, KOR); – BF1761, Distr. Kłodzko, Wojciechowice village, beech forest on the gentle S slope of Mt Jodłowa, 440 m, singly (Kosiński, 04 Aug 2002, KOR); Paczków Foothills, Distr. Ząbkowice Śląskie: – BF0771, Grochów village, NE slope below the summit. of Mt Grochowiec, 430 m, pine-oak forest, singly (Kosiński, 08 Jul 2005, KOR); – BF0772, Tarnów village, pine forest margin on E slope of Mt Grochowiec, 325 m, quite numerous (Kosiński, 08 Jul 2005, KOR); – BF0781, Grochów village, pine-oak forest on gentle SE slope of Mt Grochowiec, 380 m, sparsely (Kosiński, 08 Jul 2005, KOR); Otmuchów Depression, Distr. Stoszowice: – BF0698, Budzów village, in the neighbourhood of the forester's lodge Tarnawa, gentle S slope of Mt Brzeźnica, 320 m, thicket along the road, sparsely (Kosiński, 07 Oct 2004, KOR); Distr. Bardo: – BF0791, Braszowice village, in neighbourhood of the magnesite mine, field wood on gentle NW slope of Bukowczyk hill, 310 m, sparsely (Kosiński, 23 Aug 2005, KOR); – BF0792, Braszowice village, thicket along the road on W slope of Bukowczyk hill, 340 m, quite numerous (Kosiński, 23 Aug 2005, KOR); – BF1701, Braszowice village, near magnesite mine, thicket along the road on SW gentle slope of Mt Bukowczyk, 300 m, sparsely (Kosiński, 23 Aug 2005, KOR); – BF1703, Braszowice village, forest margin along the road on the gentle SW slope of Mt Bukowczyk, 340 m, singly (Kosiński, 23 Aug 2005, KOR); Kłodzko Basin, Distr. Kłodzko: – BF2695, Żelazno village, margin of spruce monoculture on steep S slope of Mt. Sośnina, 405 m, quite numerous (Kosiński, 17 Jul 1998, KOR); Distr. Bystrzyca Kłodzka: – BF3675, Pławnicza Nowa village, margin of spruce monoculture on steep SW slope of Mt. Pasikoń, 410 m, quite numerous (Kosiński and Zieliński, 13 Sep 1999, KOR); – BF3696, Idzików village, roadside thicket on SW slope of Mt. Sośnina, 1.5 km SE from the summit, 423 m, quite numerous (Kosiński, 13 Sep 1998, KOR); Prov. Opole, Opawskie Mts., Distr.

Głubczyce: – CF5385, 1 km W of Pietrowice village, forest edge, 430 m, singly (Kosiński and Zieliński, 12 Sep 1999, KOR).

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