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Brambles (*Rubus*) of the Bohemian Forest, central Europe: chorological and taxonomical assessment

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Abstract: This paper presents the first comprehensive overview of the currently known *Rubus* taxa of the Bohemian Forest (= Böhmerwald, Bayerischer Wald, Šumava), a mountain range located in central Europe that extends across Austria, Czechia and Germany. The study is based on a detailed field survey conducted between 2019 and 2023 and subsequent evaluation of published and database records. A total of 60 species and one hybrid of brambles are accepted for the study area. The treatment of each taxon comprises a reference to a morphological description and illustration, a description of the overall distribution, a characterization of the distribution in the study area, including a classification into regional phytochorotypes, an elevation maximum occurrence, a grid distribution map, and a list of herbarium specimens and accepted records. A total of 30 species are documented for the first time from the study area. Furthermore, the following five species are described as new to science: *R. bicoloristylus*, *R. cammensis*, *R. depressinervius*, *R. parvidentatus* and *R. suavis*. The morphology, drawings, photographs of holotypes and species in situ, taxonomy, ecology and overall distribution including distribution maps of these species are provided. The lectotypes of eight taxa previously described from the Bohemian Forest are designated: *R. heterophyllus* Utsch including its two forms, *R. hirsutus* J. Presl et C. Presl, *R. kuenicus* Utsch including its three varieties and *R. plicatus* f. *brevispinus* Tocl. A critical evaluation of the literature, databases and herbaria revealed that records of 152 taxa previously reported from the Bohemian Forest are not acceptable based on current taxonomic and chorological knowledge. The majority of these erroneous records are attributed to misidentifications, which are explained by a lack of knowledge about the variability and plasticity of individual species and the application of inappropriate taxonomic approaches. The list of unaccepted taxa, accompanied by their original localities, is provided, along with a commentary on the reasons for their rejection. From the perspective of regional biodiversity, brambles represent an essential plant group that is largely a result of regional speciation processes. This is demonstrated by the prevalence of taxa with a central European distribution pattern (44 out of 56 recorded native species). Of these, 25 are endemic to the study area and adjacent areas. Seven other species exhibit a suboceanic distribution pattern, while five taxa show wider Eurasian distribution ranges. Five of the recorded brambles are aliens that have escaped from cultivation. In general, the highest observed abundance of individual species and species richness is found in the lower elevations, with the greatest diversity concentrated in the north-western part of the mountain range. Several bramble species reach their maximum elevation within the area studied. Given that the principal habitat of brambles is the edges of forest roads, it can be surmised that their distribution is positively influenced by human activity (forestry).

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Introduction

The genus *Rubus* is one of the largest and most successful genera in vascular plants, with approximately 1,500 species classified into 10 subgenera and distributed across the globe, with the exception of Antarctica. Three centres of its species diversity can be distinguished: western and central Europe, east of North America and eastern Asia (Huang et al. 2023, POWO 2024). In Europe there are 763 species reported by Kurtto et al. (2010), making it one of the most diverse genera of vascular plants on the continent. As a result of ongoing taxonomic research, additional species are being distinguished (e.g. Király et al. 2013, 2019, Hohla et al. 2021, Jansen & Gregor 2021, Trávníček et al. 2021, van de Beek et al. 2021, Hassler et al. 2024). The majority of European brambles (with the exception of *R. chamaemorus*, *R. idaeus*, *R. saxatilis*, *R. arcticus* and *R. humulifolius*) belong to the subgenus *Rubus*, which includes predominantly polyploid (2n = 3x–7x) and agamospermic species (Krahulcová et al. 2013, Sochor et al. 2019). This highly diverse agamic complex originated from the hybridization of a limited number of sexual European or Eurasian taxa, namely *R. ulmifolius*, *R. sanctus*, *R. canescens*, *R. incanescens*, *R. idaeus*, *R. moschus*, *R. caesius*, some taxa of *R.* ser. *Glandulosi* and an extinct or not yet distinguished species (Sochor et al. 2015, 2024b). It is hypothesized that, in addition to the processes of hybridization (accompanied by polyploidization and agamospermy), the Holocene expansion and Pleistocene fluctuations, along with human-induced changes in natural vegetation, contributed significantly to the enormous species richness of the subgenus in Europe (Sochor et al. 2015, Šarhanová et al. 2017). In certain areas of western and central Europe, the number of species can be considerable, reaching up to 147 species per 50 × 50 km mapping grid cell of the Atlas Florae Europaeae (Kurtto et al. 2010). The flora of such a mapping field may include species that are distributed over a significant part of the continent, for example *R. nessensis* and *R. radula*, but it may also include a considerable number of species with a restricted distribution that are endemic to relatively small areas. This demonstrates that brambles contribute significantly to regional biodiversity, particularly in relatively low-elevation areas where species diversity and endemism are generally low due to the lack of suitable habitats, such as significant rock outcrops and mountain ranges with extensive alpine belts (Kaplan 2012). However, not all bramble biotypes are evaluated by the pragmatic modern taxonomy applied also in this paper (Weber 1996, Holub 1997) and the real diversity may be even higher. Only apomicts with a sufficiently large range and sufficient number of localities are accepted as species today. Earlier efforts to classify all brambles (e.g. Utsch 1894–1896, Sudre 1908–1913), including hybrids, local biotypes or singular shrubs that may occur locally in large numbers, led to the development of artificial and speculative classification systems that have since been abandoned (Kurtto et al. 2010).

The taxonomic and chorological knowledge of brambles in central Europe is currently at a satisfactory level. A fundamental and dependable source of data is provided by works covering wider geographical areas, in particular the Illustrierte Flora von Mitteleuropa

(Weber 1995) and Atlas Florae Europaeae (Kurtto et al. 2010), as well as several state bramble floras (e.g. Holub 1995, Zieliński 2004, Hassler et al. 2024). These compendia enable the production of detailed treatments of bramble floras at smaller geographic units (e.g. Matzke-Hajek 1996, Lepší & Lepší 2004, Jansen et al. 2008, Henker & Kiesewetter 2009, Kosiński 2010, Gapińska & Kosiński 2016, Pagitz et al. 2020, Ferrez & Royer 2021, Jansen & Gregor 2021). This allows for the refinement of knowledge regarding the distribution of individual species, the revision of forgotten or unclear taxa described from the particular area or the distinction of taxa with regional distributions that were overlooked during surveys on a broader geographic scale.

The subject of this study is the Bohemian Forest (= Böhmerwald, Bayerischer Wald, Šumava), a large, mostly forested mountain range located in central Europe. The mountain range plays a crucial role in protecting central European biodiversity, as evidenced by the presence of two national parks within its territory: the Bavarian Forest National Park (Germany) and the Šumava National Park (Czechia). The diversity of vascular plants in this area has been studied in relative detail (Procházka & Štech 2002, Štech et al. 2021, 2022). However, there is still a lack of information on some taxonomically critical groups, such as brambles. The low research interest in the bramble flora of such a botanically attractive area can be explained by the fact that the Bohemian Forest is a mountainous and cold area where a high species diversity of bramble species, which prefer rather low-lying areas, cannot be expected. Conversely, the Bohemian Forest is situated within a broader central European area that exhibits a high diversity of bramble species (Kurtto et al. 2010) and a high frequency of occurrence of singular or local biotypes and hitherto unrecognized species, which are the result of locally occurring speciation processes. This is particularly evident in the case of the *R.* ser. *Radula*, which is particularly diversified. Indeed, one of its three global centres of species diversity is located within this area (Trávníček et al. 2018, Lepší et al. 2023). Consequently, a more comprehensive investigation of the area may reveal that the actual bramble diversity has been underestimated and is considerably higher than previously thought.

The Bohemian Forest is situated across the borders of three countries: Czechia, Austria and Germany. In recent decades, there has been a growing interest in the study of plant distribution in these countries. This is largely due to the development of information technology, which enables the rapid accumulation, presentation and analysis of distribution data through databases. In Czechia, plant distribution is recorded through the Pladias database (Wild et al. 2019, Chytrý et al. 2021) and revised grid-based distribution maps are progressively published (Kaplan et al. 2015, 2016a, b, 2017a, b, 2018a, b, 2019, 2020, 2021, 2022, 2023, 2024, 2025). In the German part of the mountain range, distribution data are stored in the GBIF database (GBIF 2024) and have recently been published in summary in the compendium Flora von Bayern (Meierott et al. 2024).

Between 2019 and 2022, the international project Flora des Böhmerwaldes / Květena Šumavy (Flora of the Bohemian Forest) was conducted. Its principal objective was to collate all available data on the occurrence of vascular plants on the Czech and German sides of the mountain range. The project then proceeded to present the above German and Czech databases to the general public on a common bilingual website in the form of grid maps and regional distribution characteristics of individual species (Flora des Böhmerwaldes 2024). It is planned that the results of the project will serve as a basis for the processing of the Flora of the Bohemian Forest (Štech et al. 2021, Flora des

Böhmerwaldes 2024), which will also include the Austrian part of the mountains, where the Zobodat database is an important source of information on the distribution of plants (ZOBODAT 2024). The authors of this study have worked on the genus *Rubus* within the Flora des Böhmerwaldes / Květena Šumavy project and the results of their study are presented below. The principal objective of this paper is to provide a detailed characterization of the distribution of all accepted bramble taxa for the flora of the Bohemian Forest. This is based on a revision of literature, herbarium and database sources, as well as a detailed field survey. The history of batological research in the defined area is also the subject of detailed elaboration. Finally, basic information on the morphology, distribution and taxonomy of five newly discovered species is provided.

Methods

Taxonomy and nomenclature

As taxonomic species we regard – in accordance with Weber (1996) and also taking into consideration the approach of Holub (1997) – only such agamospermic bramble biotypes that have a sufficiently wide distribution in the countryside, that is, those that have many mutually distant localities and a distribution area at least (20–) 50 km in diameter. The descriptions of the new species were based on fifteen specimens. Each morphological character was measured once per specimen. Only mature and well-developed individuals were analysed. To avoid redundant naming of our newly distinguished brambles, we examined type material by A. Mayer (REG), who validly described 37 brambles with binary names from the Regensburg area (Mayer 1931). All these names are currently not accepted and mostly refer to singular or local biotypes without taxonomic value or are synonyms of previously named species (Weber 2005). For two Mayer's names, *R. hemichlorostachys* and *R. scituliformis*, no type material could be found. The nomenclature follows mostly the database POWO (2024). The exceptions are *Rubus canescens* DC. and *R. nessensis* Hall, for which the old and insufficiently substantiated names *R. aetnicus* Weston (Matzke-Hajek et al. 2024) and *R. polonicus* Weston, respectively, are accepted in the database. Similarly, we use the name *R. laciniatus* Willd. for the widely cultivated and domesticated laciniate form of *R. nemoralis* P. J. Müll., which is synonymized with this species in the database. Based on new biosystematic research (Sochor et al. in prep.), we accept the name *R. glandulosus* Bellardi for the sexual representatives of *R.* ser. *Glandulosi*, which is listed in the database as a synonym of *R. hirtus* Waldst. et Kit.

Delimitation of the study area

The study area (Fig. 1) is situated within the Bohemian Forest, a mountain range of the Bohemian Massif that extends across three central European countries: south-western Czechia (Bohemia), south-eastern Germany (Lower Bavaria) and north-western Austria (Upper Austria). The Czech side is designated as the Šumava Mts, the German side as the Bayerischer Wald Mts and the Austrian side as the Böhmerwald Mts. These names are employed throughout the paper to refer to the relevant parts of the mountain range. In Austria and Czechia, only the higher elevations of the mountain range, excluding the foothills, are included in the study area. In Bavaria, only the main ridge of the

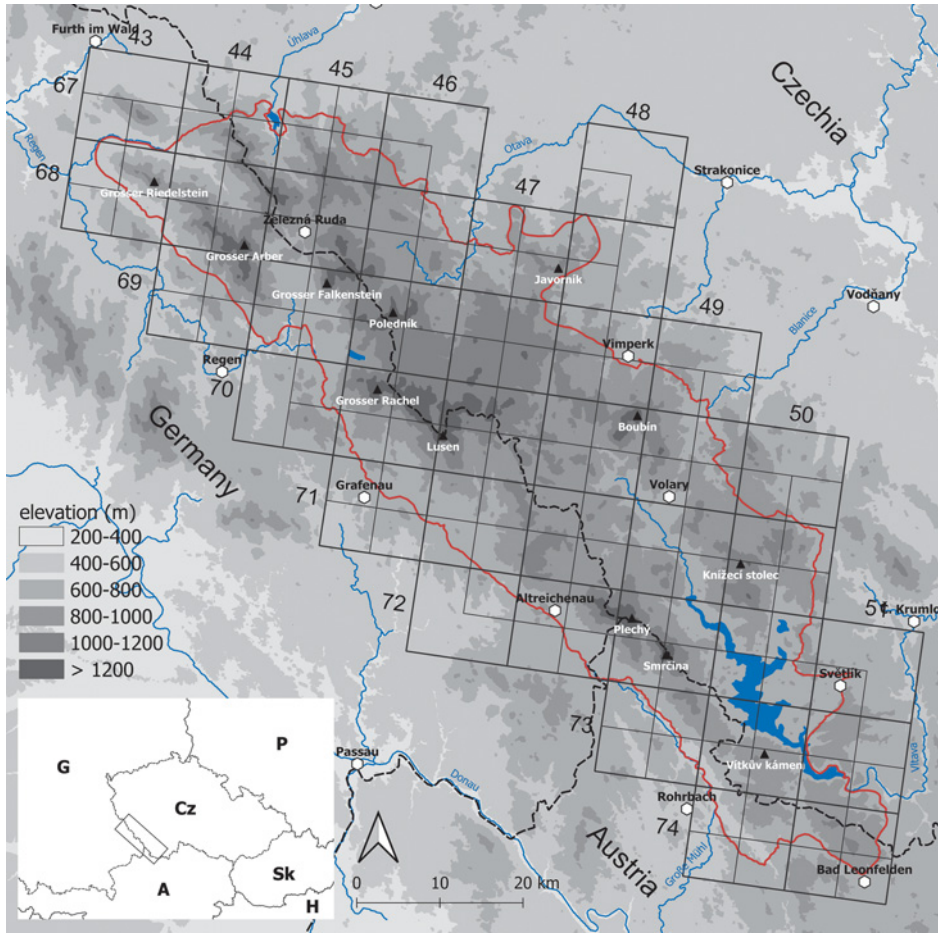

Fig. 1. Delimitation of the study area.

Bayerischer Wald Mts, known as the Hinterer Bayerischer Wald Mts, is included. The study area is of medium elevation, ranging from 450 to 1,456 m a.s.l. It is approximately 125 kilometres long and extends from Bad Kötzting in Germany in the north to Bad Leonfelden in Austria in the south. The mean annual precipitation of the study area ranges between 800 and 1,600 mm, with mean annual air temperature varying from 3 °C on the summits of the mountain range to 6 °C in the low elevations. The basic geochemical types of rock are paragneiss, migmatite, quartzite, mica schist, granite and granulite. The crystalline limestone, erlan and amphibolite are rarely represented and only occur on the edge of the mountains (Babůrek et al. 2013).

The boundary of the study area in Czechia runs from the eastern edge of the mountains at the village of Studánky and continues south-west of the town of Vyšší Brod to the village of Lipno nad Vltavou and from there along the edge of the Lipno reservoir to the town of Frymburk. From there it runs north to the village of Světlík, then west nearly to the village of Černá v Pošumaví and north through the settlements of Květušín, Polná na

Šumavě and Třebovice. There it turns west to the village of Křišťanov, then north-west to the town of Vimperk and on to the village of Jáchymov. From there it turns north-east to the village of Zálesí, then north-west to the village of Soběšice, then south-west to the village of Nezdice na Šumavě, includes the whole massifs of Sedlo, Nadějov and Pustý Hrádek hills and runs south to the town of Kašperské Hory. From there it continues west to the village of Štěpanice, then north-west to the villages of Dolejší Těšov, Chvalšovice, Onen Svět and Divišovice. From there it runs west to the village of Stará Lhota (excluding the Nýrsko reservoir) and the former village of Zadní Chalupy at the German and Czech borders. From there it runs south-west to the village of Ottenzell where it turns west to the village of Grafenwiesen and continues south between the town of Bad Kötzting and the village of Arndorf and then south-east to the village of Außenried. It then runs north of the town of Zwiesel to the villages of Zwieselau and Frauenau. From there it follows the road to the villages of Klingenbrunn and Spiegelau and then the railway line to the village of Rosenau. It then runs south-east to the village of Hohenau, via northern edge of the town of Freyung to the village of Neureichenau. From there it continues through the Große Michelbach/Große Mühl valley to the town of Haslach an der Mühl in Austria. Finally, it rises through the Sternsteiner Mühl valley to the southern foot of the Hirschenstein-Sternstein massif and returns to the Czech border at its eastern foothills (Štech et al. 2021, Flora des Böhmerwaldes 2024).

Procedure of mapping

The maps of most taxa are based mainly on records from field research conducted by the authors between 2019 and 2023. All these records, with the exception of formally undescribed species, are entered into the Pladias (2024), GBIF (2024) and ZOBODAT (2024) databases. If a species was not found in a given mapping field during the survey, a credible literature or database record (GBIF 2024, Pladias 2024, ZOBODAT 2024) was used if available. A list of these records used in the distribution maps is provided in Supplementary Table S1. The map of *Rubus glandulosus* is based solely on data published by Sochor et al. (2024a). All the records used for the mapping are sorted geographically according to the CEBA (Central European Basic Area) grid template (Niklfeld 1999) divided into quadrants of 5 × 3 arc minutes (corresponding to approximately 5.5 × 5.9 km). The study area of the Bohemian Forest is covered by 125 quadrants, of which 52 are completely within the border the defined area. The map sources used for the distribution maps are EEA (2012), OpenStreetMap (2014), Eurostat (2020), and Jarvis et al. (2008).

Unaccepted records

The list of unaccepted records is arranged alphabetically by taxon name. The names are listed unchanged, with the nomenclature used by the authors of the records (e.g. *Rubus tomentosus* instead of *R. canescens*), but with corrected spelling (e.g. *R. guentheri* instead of *R. Güntheri*) and with the corrected author's name according to the IPNI database (IPNI 2024). This name is followed by the name in brackets accepted in the POWO database, but only if it differs from the original name. In the same bracket follows additional taxonomical or nomenclature information from the POWO database: the entry absent – the name is not listed in the database, accepted – name is accepted in the database, unplaced name – the name cannot be accepted for various reasons, and valueless

taxon – taxon is considered to be taxonomically valueless local or singular biotype (POWO 2024). The dash is followed by a transcription of the original localization with spelling corrections and interpretation of historical geographical names in square brackets. For some names there is at the very end a comment explaining why the records were not accepted for the flora of the study area.

Final treatments of accepted taxa

The accepted taxa are systematically arranged according to the infrageneric classification used in the Atlas Florae Europaeae (Kurtto et al. 2010). The treatment of each taxon consists of a text, a list of herbarium specimens, a list of accepted literature records, and a grid distribution map. In addition to the species-level taxa, we distinguished a separate informal group "*Rubus* ser. *Glandulosi* – unrecognized taxa", which includes individuals of *R. glandulosus* and the unrecognized agamospermic brambles of this series. The reason for the introduction of the group is its abundant occurrence in the Bohemian Forest and the resulting bilogical significance.

The text includes the accepted scientific name with a reference to the source where it was published and, where relevant, synonyms used for the species in the study area are given in brackets. This is followed by a reference to a detailed description of the taxon and an illustration that accurately depicts its morphology. The Overall distribution paragraph contains a brief description of the overall distribution of the taxon mainly according to Kurtto et al. (2010) or according to more recent or, in the case of taxa not yet formally described, unpublished sources. The paragraph Distribution in the area studied gives a brief description of the distribution of the taxon in the defined area and if the taxon has up to five localities, the settlements at which the localities are located are listed. In the paragraph entitled Phytochorotype, five groups of species with similar geographic distributions within the Bohemian Forest are ad hoc distinguished as regional phytochorotypes. The definitions and names of individual phytochorotypes are provided in the chapter entitled Regional diversity and phytochorotypes. A phytochorotype was only defined if at least three species exhibited a similar distribution pattern. If a species did not fall into any of the defined phytochorotypes, it remained unclassified, as did species with fewer than three localities in the study area. This paragraph is followed by information on the countries in which the taxon was found within the study area: A – Austria, Cz – Czechia, G – Germany. In the next paragraph, the nearest settlement and the year of the first record of the taxon in the monitored area are given, distinguishing between records that are not considered credible (unaccepted records) and records that are credible (accepted records). For alien taxa, we list the first records of escape from cultivation and, if available, the earliest records of cultivation. The paragraph Maximum elevation indicates the location and elevation where the taxon was found at the highest elevation in the study area. The last paragraph summarizes the most important taxonomical and chorological results obtained in this paper. And where appropriate, comments on the taxonomy, variability and biology are given in the very last paragraph Note.

The lists of herbarium specimens were sorted according to countries and then in Czechia according to the regional-phytogeographical classification system of the Czech flora (Skalický 1988) and then for all three countries according to the quadrant numbers of the Central European grid mapping system (Niklfeld 1999). Information not included on

labels (e.g. coordinates and elevation) was obtained from electronic maps (www.mapy.cz) and are presented in square brackets. Similarly, any necessary corrections or clarifications are included in square brackets. Names of the most frequent collectors are abbreviated as follows: ML – M. Lepší, PL – P. Lepší, VŽ – V. Žíla. For abbreviations of names of public herbaria, see NYBG (2024), abbreviation SHPL refers to the herbarium of P. Lepší. The list of herbarium specimens is followed by a list of accepted literature records, created by excerpting approximately 170 literature sources, including floristic and other papers, monographs, identification keys and local or larger floras. The main sources of literature were two works dealing with the history of botanical research in the Šumava Mts (Procházka 2000) and the brambles in Bavaria (Fürnrohr 1996). The lists of herbarium specimens and accepted literature records are not provided for the common and abundant species *Rubus idaeus*. For newly described species, a list of all known localities, including those outside the study area, is provided.

Results

History of bramble research in the study area

The oldest records of the occurrence of brambles in the Bohemian Forest come from the second half of the 18th century. Johan Mayer, the Prague physician and plant collector described a new bramble species that he observed in the vicinity of the village of Prášily. He designated the alleged new species: "*Rubus, foliis trilobis, caule terreti aculcato bifloro, pedunculis geminis*" and at the same time provided the first data on unspecified representatives of *R.* subgen. *Rubus* and *R. idaeus*, which he listed as accompanying species of the newly distinguished taxon – "…cum aliis Rubi speciebus præcipue R. ideo…" (Mayer 1786). However, the description of the new species is invalid according to the International code of nomenclature for algae, fungi, and plants, as the author used a phrase (polynomial) name instead of a binomial (Turland et al. 2018). Furthermore, the detailed morphological description and colour illustration (Fig. 2) indicate that the specimen on which the description is based is *R. saxatilis*, which was described by C. Linné already in 1753. Another record from the 18th century is a different but this time widely localized record of *R. saxatilis* from the locality "steinigen Stellen des Böhmerwaldes". It was published in the first flora of Bavaria (Schrank 1789) and is the only known record of this species from the Bavarian part of the mountains. Given that the species is currently known only in the Bohemian part of the mountain range, it cannot be excluded that the record originally referred to the Czech part of the range. This hypothesis is also supported by the fact that the record was adopted 25 years later by Filip M. Opiz for the Bohemian territory in his three-volume manuscript Botanische Topographie Böheims (Opiz 1815–1835).

This aforementioned extensive compilation work brings together published and manuscript floristic data from Bohemia for almost the entire first half of the 19th century. Of the brambles species, there are only a few records of common taxa, such as *R. idaeus*, *R.* ser. *Glandulosi* (as *R. hirtus*) and *R.* sect. *Rubus* (as *R. fruticosus*). The authors of these data are mainly Wenzel M. Streinz, Jakub Jungbauer and Kašpar M. Sternberg, who were at that time devoted to the flora of the Šumava Mts to varying degrees (Sternberg 1806, Streinz 1811, Jungbauer 1842). The first records of *R. canescens* (as *R. tomentosus* Willd.) also date back to the first half of the 19th century and were made by the Czech

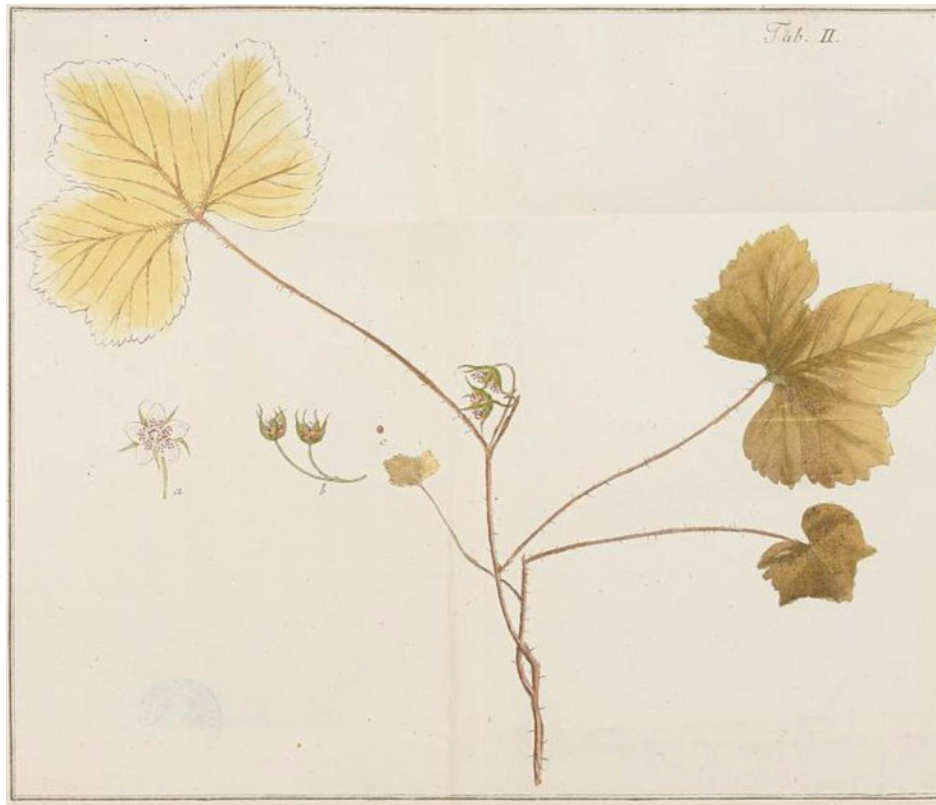

Fig. 2. The illustration of the bramble "*Rubus, foliis trilobis, caule terreti aculcato bifloro, pedunculis geminis*", which was invalidly described as a new species by Johan Mayer in 1786 from the vicinity of the village of Prášily in the Bohemian Forest. The illustration and description correspond to *R. saxatilis*, which was validly described in 1753 by C. Linné. The illustration completes the oldest literary record of the occurrence of *Rubus* in the Bohemian Forest (taken from Mayer 1786).

naturalists Karel B. Presl and Jan S. Presl (Presl & Presl 1819). The record is broadly localized – "Rupestria sylvatica: Ssumawa" and most probably does not come from the area of the Bohemian Forest defined in this paper. In the earlier concept, the Bohemian Forest included the present-day Upper Palatine Forest and the entire foothills of the Bohemian Forest, which are more suitable for the occurrence of this thermophilic species than the mountain areas that are the subject of this study. It should also be noted that the species is not currently documented even from the foothills of the Bohemian Forest and the only currently accepted data on the species' occurrence come from the vicinity of the towns of Domažlice and Klatovy, which raises doubts about the reliability of the old record. The knowledge of brambles was low at that time and the data on the occurrence of most bramble species cannot be accepted without a revision of herbarium specimens. This is also shown by the supposed discovery of a new species *R. hirsutus* from the Šumava Mts – "in sylvaticis montanis Ssumawae Bohemiae" – validly described by the same authors a few years later (Presl & Presl 1822). A detailed study of the type specimen (for details see the paragraph Typification of taxa described from the study area) showed

that it contains the species now referred to as *R. gracilis*, which was described for science by the same authors from another area in the same paper.

In the second half of the 19th century, the first data appeared, which came from botanists who specialized in the genus *Rubus* (so-called batologists). The first botanist who dealt with the genus *Rubus* in more detail in Bavaria was Otto Sendtner (Fürnrohr 1996). In the work Zur Kenntnis der bayerischen Brombeersträucher he provides the first data on *R. nessensis* (as *R. suberectus*) from the Bohemian Forest, which he reports from the villages of Simpering, Bodenmais, St. Oswald and from Kleiner Arbersee Lake (Sendtner 1856). His first record of the cultivation of *R. odoratus* in the village of Rabenstein (Sendtner 1860) is also significant because this species occurs today adventitiously in a number of places in the Bohemian Forest. However, records of the occurrence of *R. nemorosus* and *R. communis* (as *R. vulgaris*) cannot be considered relevant, as these species were not reported later in the area and their occurrence was not confirmed even by our field research. Doubts about the reliability of Sendtner's record of the occurrence of *R. nemorosus* in the Bayerischer Wald Mts and in other areas of Bavaria are commented in more detail by Fürnrohr (1996). Another batologist who worked in the Bohemian Forest at this time was August Progel. He is the author of several bramble names, which he published mainly from the area around Waldmünchen in the Upper Palatine Forest, i.e. the mountain range adjacent to the study area (Progel 1882, 1889). Most of the taxa described by him refer to singular agamospermic or sexual representatives of *R.* ser. *Glandulosi* and are therefore not recognized today. An exception is the accepted regional species *R. sendtneri* from *R.* sect. *Corylifolii*, which A. Progel named in honour of his collaborator O. Sendtner (Progel 1882). In 1884, A. Progel made an excursion to the wider area of the village of Bayerisch Eisenstein, where he recorded 15 species of brambles (Progel 1886). Among them are *R. nigricans* (as *R. bellardii*), *R. bifrons*, *R. fruticosus* (as *R. plicatus*) and *R. sulcatus*, which are present in the area today. Without a revision of the herbarium specimens, the data cannot be considered reliable, however, they represent the first mentions of these species in the Bohemian Forest. In the same work, he provisionally described a new bramble under the name *R. epipsilos* var. *monticola* Progel, nom. inval., which reports from two localities – Große Arber Mt. and the massif of Osser Mt. It is clear from the description that it is a representative of *R.* ser. *Radula*, but a closer taxonomic identity cannot be determined from the mere description.

At the end of the 19th century, Anton Schott, an amateur botanist and author of several floristic works from the Bohemian Forest, attempted to research brambles. In two papers devoted exclusively to the genus *Rubus*, he published 48 names of brambles from the wider area of the former village of Zadní Chalupy near the town of Nýrsko, of which 15 were at the species level, four at the variety level, seven at the form level and 22 hybrid formulas (Schott 1897, 1898). Both papers were based on herbarium specimens collected by him and determined by Jacob Utsch, a German batologist and proponent of the hybrid formulae method. This approach declares a few species as progenitors of all the others and arranged the latter as hybrids of the former. Since hybrid combinations have not been verified experimentally, this method is now considered to be misguided (Kurtto et al. 2010). Schott's data on the occurrence of hybrids cannot therefore be considered relevant. It is also not possible to accept occurrence data on species that have been proven to occur in the area today, such as *R. bifrons*, *R. fruticosus* (as *R. plicatus*), *R. nigricans* (as *R. bavaricus* f. *bellardii*), *R. sulcatus*, *R. bavaricus* and *R. rudis*, let alone data on species

whose occurrence in the area has not been proven and is unlikely due to their known distribution (e.g. the western European species *R. winteri*). Utsch's methodology was already considered flawed during his lifetime (Gelert 1898), and his erroneous determinations (of even widespread and well-known species, such as *R. fruticosus*) were criticized by earlier (Sudre 1912) and contemporary authors (Fürnrohr 1996, Kurtto et al. 2010). The only data that can be taken from A. Schott with a small degree of uncertainty from today's perspective are the first record of *R. caesius* for his broadly defined area of the Bohemian Forest (Schott 1893) and the record of *R. nessensis* (as *R. suberectus*) from Černé jezero (Schott 1897). It is also worth mentioning that J. Utsch, on the basis of Schott's collections, validly described the species *R. kuenicus* Schott ex Utsch from the vicinity of the former village of Zadní Chalupy, within which he distinguished three varieties (Utsch 1898). We found out that the plant on the type specimen of *R. kuenicus* belongs to the species of *R. nigricans*, which Schott (1898) listed based on Utsch's determination as *R. bellardii* also from the vicinity of the village of Zadní Chalupy. This is thus another example of the uncritical attitude of these authors. Finally, J. Utsch described *R. heterophyllus* Utsch, nom. illeg. based on the collections of Otto Prechtelsbauer from the vicinity of the town of Freyung in the Bayerischer Wald Mts (Baenitz 1898). For further details regarding *R. kuenicus* and *R. heterophyllus*, refer to the paragraph entitled Typification of taxa described from the study area.

The first record of brambles in the 20th century belongs to the Czech batologist Karel Tocl, who in his monographic study on the genus *Rubus* in Bohemia describes a new form, *R. plicatus* f. *brevispina* Tocl from the Šumava Mts (Tocl 1903). The type locality is a rocky slope near the village of Boubská near the town of Vimperk, as indicated on the label of the type specimen. This clearly demonstrates that the locality lies just outside the defined area. After a thorough study of the type specimen, we found that it belongs to untypical individual of *R. fruticosus* (for details see the paragraph Typification of taxa described from the study area). The vast majority of other data from the first half of the 20th century refer to the Bayerischer Wald Mts. They were mainly authored by the French batologist Henri L. Sudre, who in his work Rubi bavarici lists 60 taxa of brambles from the studied part of the Bayerischer Wald Mts, including seven species, seven subspecies, 15 microgenes and 31 varieties (Sudre 1912). The study was based on a revision of ~4,000 herbarium specimens sent to him for study by Bavarian collectors. Most of the specimens from the Bayerischer Wald Mts were provided by Otto Prechtelsbauer from the vicinity of the town of Freyung and a few data also came from various places (Lambach, Bodenmais, Freyung and B. Eisenstein) from August Progel and Karl E. Semler. Sudre classified 46 of the reported taxa in *R.* ser. *Glandulosi* and most of the remaining taxa to groups which can be now distinguished as *R.* ser. *Radula* and *R.* ser. *Hystrix*. This shows that on a supraspecific level Sudre's data can be considered informative and roughly corresponding to the current morphological diversity of brambles in the Bayerischer Wald Mts. However, at the species and lower level, the records cannot be accepted. Sudre held a flawed taxonomic concept, which consisted of arranging and naming each bramble as an infraspecific taxon within an artificial system. For example, he assigned brambles from the Alps at different infraspecific levels to a species described from the Pyrenees that was phylogenetically unrelated to the plant in question (Kurtto et al. 2010). His extensive monograph Rubi Europae (Sudre 1908–1913) gave the impression that the taxonomy of brambles in Europe was settled and was, with a few exceptions,

excerpted in national floras including the compendium Flora Europaea by the 1970s (Heslop-Harrison 1968, Kurtto et al. 2010).

Sudre's data, published in Rubi bavarici (Sudre 1912), were also adopted for the flora of Bavaria (Vollmann 1914). The author of the very detailed treatment of the genus *Rubus* in this flora was the German batologist Alfred Ade. He lists a total of 68 taxa of *Rubus* from the studied part of the Bayerischer Wald Mts, including 12 species, 29 subspecies and 27 varieties. In addition to the data taken from the work Rubi bavarici, he also lists other taxa that were not previously reported in the area, e.g. *R. apricus*, *R. koehleri* or *R. scaber*, but the data cannot be accepted for the time being without studying herbarium specimens.

Until the 90s of the 20th century, there are few literature records to the occurrence of brambles in the study area. Most of them come from flora and identification keys and are widely localized to the entire mountain range (Hegi 1923, Tannich 1929, Dostál et al. 1948–1950, Dostál 1989). From the lists of taxa it can be inferred that the authors of these compendia probably adopted records from the works of A. Ade and H. Sudre and only rarely add new taxa for the territory, often with an expression of uncertainty about the plausibility of their occurrence. The majority of precisely localized records from this period originate from the Czech florist František Maloch, who conducted floristic research in the Czech part of the mountains. However, his records of, for example, *R. radula*, *R. nigricans* (as *R. bellardii*), *R. serpens* and *R. gracilis* (as *R. villicaulis*) (Maloch 1933, 1936) cannot be taken into account without the revision of herbarium specimens.

In the 1990s, data from modern batologists first appear. The author of the first critical records from the Bohemian Forest was Heinrich E. Weber, the founder of modern batology in Europe. In a new treatment of the genus *Rubus* in Illustrierte Flora von Mitteleuropa, he lists six species from the Bohemian Forest (Weber 1995). However, records of *R. caflischii*, *R. chaerophyllus* and *R. koehleri* are widely localized and it is uncertain whether relate to the study area. In the same year, the first modern treatment of the genus *Rubus* in Czechia was published as part of the fundamental botanical national compendium Květena České republiky (Holub 1995). The author of this work was Josef Holub a close collaborator of H. E. Weber and a pioneer of modern batology in Czechia. He lists five species of brambles from the Czech part of the mountains including the first report of adventive occurrence of *R. allegheniensis* from the area studied. At the turn of the 20th and 21st centuries, the South Bohemian botanist Vojtěch Žíla established cooperation with J. Holub and participated in the mapping project Atlas ostružiníků České republiky (Trávníček et al. in prep.) and at the same time in the Květena Šumavy project (Kirschnerová & Procházka 1998). From his surveys there are a number of reliable records of the occurrence of brambles in the Šumava Mts, and he discovered some species in the mountains for the first time – *R. dollnensis*, *R. brdensis*, *R. epipsilos*, *R. kuleszae* and *R. mollis* (Pladias 2024). In 2005, together with H. E. Weber, he described *R. perpedatus* from the adjacent Upper Palatine Forest, and in 2009 from the lower elevations of the Bayerischer Wald Mts *R. passaviensis*, which, however, does not occur in the study area (Žíla & Weber 2005, Žíla 2009). At the turn of the millennium, several other batologists were active in the area and its wider surroundings. In Bavaria Friedrich Fürnrohr made a series of records of the occurrence of brambles in the Bayerischer Wald Mts (GBIF 2024) and Hansjörg Gaggermeier provided the first record of *R. sendtneri* in the study area and in 2008 described *R. silvae-bavaricae* from the lower elevations of the

Bayerischer Wald Mts (Gaggermeier 2000, 2007). Josef Danner worked on the Austrian side of the mountain range and provided description of *R. muhelicus* (Danner 2003) and the first and documented records on the occurrence of *R. bifrons*, *R. clusii* and *R. fruticosus* in the study area (ZOBODAT 2024). The authors of this paper also started to focus on brambles around this time and described *R. kletensis* and *R. silvae-norticae* from the foothills of the Šumava Mts, while publishing the first data on their occurrence in the Bohemian Forest (Lepší & Lepší 2006, 2009). Bohumil Trávníček also made a significant contribution to the study of brambles in the area. He brought descriptions of new regional species – *R. jarae-cimrmanii*, *R. perpungens*, *R. silvae-bohemicae* and *R. vatavensis* in cooperation with other Czech bramble researchers (Trávníček & Žíla 2011, Trávníček et al. 2018).

Since 2019, the authors of the paper have started to focus on the area of the Bohemian Forest in detail as part of the Flora des Böhmerwaldes / Květena Šumavy project (Flora des Böhmerwaldes 2024). The results of field research led to the discovery of *R. brdensis* near the village of Bayerisch Eisenstein, which was identified as a new species for Germany (Lepší & Lepší 2021). Similarly, *R. bertramii* was discovered in the area surrounding the former village of Kyselov, representing a new taxon for the Czechia (Lepší & Lepší 2024). Additionally, the discovery and formal description of *R. lentianus* was made, with the locus classicus located near the village of Hintenberg in the Böhmerwald Mts (Lepší et al. 2023).

Literature records

Through a detailed literature review, we obtained 749 records of the occurrence of members of the genus *Rubus* in the study area. From this we do not accept 419 records mostly made before the introduction of modern batology. These earlier records are burdened with a large number of determination errors due to insufficient knowledge of the variability or plasticity of individual species, but also due to application of artificial or speculative taxonomic approaches. The only member of *R.* sect. *Rubus* for which we accept all records is the morphologically distinct *R. nessensis* (in total, 19 records). Furthermore, we accept all records for *R. idaeus* (135), *R. caesius* (8) and *R. saxatilis* (27 records).

The list of unaccepted records contains 196 names at various taxonomic levels, including 68 species, 32 subspecies, 17 microgenes, 49 varieties, 10 forms, and 20 hybrid formulae. By excluding 29 names that are synonyms and an additional 15 names of species that have been recently confirmed in the study area but whose old occurrence records are not reliable, we have identified 152 names relating to taxa whose occurrence in the study area is not acceptable on the basis of current taxonomic and chorological knowledge.

Unaccepted brambles (excluding synonyms) can be divided into six groups. The first group consists of 20 hybrid formulae published from the area by Schott (1897, 1898), based on the untrustworthy determination by J. Utsch (for details see the chapter History of bramble research in the study area). The second group comprises 34 names whose taxonomic identity is unknown. They are not present in the POWO database or are listed as unplaced names for various reasons. For example, the unplaced name may be invalid or illegitimate, the type material may be unknown or insufficient, or it may not have been studied by experts. After studying the type material, we have clarified the taxonomic identity of three unplaced species names from the study area, namely *R. heterophyllus*, *R. hirsutus* and *R. kuenicus* (see the paragraph Typification of taxa described from the

study area). The third group consists of 31 infraspecific names, which are not accepted in the POWO database and are listed as synonyms under taxa at the species level. The fourth group of unaccepted records is represented by 31 names considered in the POWO database and other sources as taxonomically valueless local or singular biotype. The group has been expanded to include four taxa described from the study area: *R. heterophyllus* f. *serpens* and three varieties of *R. kuenicus*, which have been assessed as taxonomically valueless representatives of *R.* ser. *Glandulosi* based on the study of the type material (see the paragraph Typification of taxa described from the study area). The fifth group are 36 names whose taxonomic identity is known, but whose occurrence in the area has not been confirmed in this study and is more or less improbable. Examples of such species are *R. durotrigum* and *R. communis*, the former currently known only from Great Britain, the latter occurring in western part of Germany and Netherlands (Kurtto et al. 2010). The occurrence of these species in the study area is very unlikely due to the considerable distance to their currently accepted range. In contrast species such as *R. canescens* or *R. caflischii* occur in the vicinity of the study area and are therefore likely to occur there. However, due to frequent determination errors in the past, we do not consider these data to be reliable either. Finally, the last group consists of 15 species that we have recently recorded in the study area, but due to frequent identification errors in the past, we do not consider these records to be reliable.

In addition to the unaccepted and mostly old records discussed above, we do not accept records of *R. amphistrophos* and *R. scissoides*, which were reported by modern batologists from the area studied. Our survey did not confirm their occurrence in the area where they were reported, and a revision of the available herbarium specimens or directly of localities in the field (if provided) has shown that these records were probably errors of determination. Similarly, we did not accept selected records listed in the GBIF database for species, which can easily be confused with similar taxa commonly occurring in the study area (e.g. *R. epipsilos* and *R. bertramii*).

An alphabetical review of the names of unaccepted bramble records published from the study area

An explanation of the most frequently used historical geographical names and abbreviations: Arber – Großer Arber Mt., Eisenstein – Bayerisch Eisenstein, Hinterhäuser – former village of Zadní Chalupy, Ossagebietes, Ossagebirge, Osserschlage – massif of Osser Mt., Wb. – Bayerischer Wald Mts. The number after the citation, separated by a colon, refers to the page in the respective work.

R. adenophyllus* G. Braun** (POWO: unplaced name): Fußsteig von Eisenstein zur „großen Tanne“,... 740 m (Peter 1886: 43), in der Nähe der Teufelsseewand [Čertovo jezero Lake] etwa 1100 m über dem Meere (Schott 1898: 87). ***R. adornatus* P. J. Müll. ex Wirtg.** (POWO: syn. of *R. wirtgenii* Auersw. ex Wirtg.): Šumava (Dostál 1989: 422). ***R. amphistrophos* (Focke) H. E. Weber** (POWO: accepted): 6845c (FloraWeb 2024). Our revision of the herbarium specimen on which the record is based (Bayerisch Eisenstein, herb. W. Diewald) revealed that this identification was incorrect. ***R. amplifrons* Sudre** (POWO: valueless taxon): Šumava (Dostál 1989: 424). ***R. anamphiestus* G. Braun** (POWO: syn. of *R. tereticaulis* P. J. Müll.): am Arber und Falkenstein [Mt.] (Progel 1886: 68). ***R. apiculatus* Weihe** (POWO: valueless taxon): Arbergeb. [massif of Großer Arber Mt.] (Ade 1914: 386), …östlich bis in den Böhmerwald (Arbergebiet [massif of Großer Arber Mt.], hier wohl höher ansteigen?) (Hegi 1923: 795), Im Arbergebiet des Böhmerwaldes (Tannich 1929: 254), Šumava (Dostál et al. 1948–1950: 614, Dostál 1989: 419). ***R. apiculatus* var. *molliaversus* Sudre** (POWO: absent): Eisenstein (Sudre 1912: 21). ***R. bavaricus (POWO: *R. bavaricus* (Focke) Utsch): im Lambacher Hüttenwalde [probably

near Lambach] (Schott 1898: 85), Lam und Lamback [Lambach] (888) (Sudre 1911: 43), … und im Bayerischen Walde an ziemlich zahlreichen Standorten (Hegi 1923: 797), Šumava (Dostál et al. 1948–1950: 617, Dostál 1989: 423). ***R. bavaricus* Focke f. *acutifolius* Utsch** (POWO: absent): in einem Exemplare in Hammern [Hamry] auf einem Steinhaufen (Schott 1897: 54). ***R. bavaricus* Focke f. *bellardii* Utsch** (POWO: *R. bavaricus* f. *bellardii* (Weihe) Utsch ex Ant. Schott, syn. of *R. nigricans* Danthoine): im Walde um Hinterhäuser, Schinderbusch [by former Zadní Chalupy], Mitterwiese [by former Zadní Chalupy] (Schott 1898: 85). ***R. bavaricus* Focke f. *bicolor* Utsch** (POWO: absent): im Hüttstatter Walde bei Hinterhäuser (Schott 1897: 54). ***R. bavaricus* Focke f. *curvispina* Utsch** (POWO: absent): im Osserschlage, im Lambacher Hüttenwalde [probably near Lambach] und um Hinterhäuser (Schott 1897: 54). ***R. bavaricus* Focke f. *discolor* Utsch** (POWO: absent): erwähnten Osserschlage, auf der Brandwiese [by former Zadní Chalupy – SW of Na Výšině Mt.], im Hüttstatter Walde [by former Zadní Chalupy] und anderen Orten nicht selten vorkommend (Schott 1897: 54). ***R. bavaricus* Focke var. *bellardii* Utsch** (POWO: absent): So am Rantscherbachl zwischen Hinterhäuser und Glashütten [Skelná Huť] (Schott 1898: 86). ***R. bavaricus* × *guentheri* Utsch**: im Osserschlage (Schott 1897: 55). ***R. bavaricus* × *guentheri* × *serpens* Utsch**: im Schinderbusche bei Hinterhäuser, in lichtem Hochwalde (Schott 1898: 87). ***R. bavaricus* × *pubescens* Utsch**: im Schindlschlage [by former Zadní Chalupy], im Brennetschlage bei Bayereck [Pajrek castle ruins] und in Hammern [Hamry] (Schott 1897: 55). ***R. bayeri*** (POWO: *R. bayeri* Focke, valueless taxon): am Arber und Falkenstein [Mt.] (Progel 1886: 68). ***R. bellardii*** (POWO: *R. bellardii* Weihe, syn. of *R. nigricans* Danthoine): Der Dreisesselberg [Mt.] (Ullepitsch 1882: 228), bei Spitzberg [Špičák Mt. or village of Špičák] (Progel 1886: 68), v průseku smrkového na Kašperk [Kašperk castle ruins], 700–890 m (Maloch 1936: 38), v nádvoří hradu Kašperk [Kašperk castle ruins] (Maloch 1936: 45), kraj smrkového u Zelenohorských chalup [former settlement Zelená Hora] nad 1100 m, na kraji lesa u Prášil (úpatí Steindlbergu [Ždánidla Mt.]) (Maloch 1936: 55). ***R. bellardii* f. *duplicato-serrata* Utsch** (POWO: absent): im Lambacher Hüttenwalde [probably near Lambach] (Schott 1897: 55). ***R. bellardii* f. *micro-adenos* Utsch** (POWO: absent): im Rantscherwalde [Hraničář Mt.] bei Hinterhäuser (Schott 1897: 55). ***R. bellardii* var. *echinaceus* Čelak.** (POWO: as *R. glandulosus* subsp. *echinaceus* Čelak., unplaced name): Šumava: v lese nad silnicí z Vimperka do Vel. Ždikova [Zdíkov] (Tocl 1903: 27). ***R. bellardii* × *guentheri* Utsch**: im Osserschlage (Schott 1897: 56). ***R. bifrons*** (POWO: *R. bifrons* Vest): in der Umgebung von Eisenstein, wie überall im Böhmerwalde (Progel 1886: 68), Böhmerwald [including areas beyond the area studied], nur ein einziges Exemplar auffinden (Schott 1897: 53), quadrant: 7450a (Kraml & Lindbichler 1997: 290). ***R. bifrons* × *bavaricus* Utsch**: Schindlschlag und Rantscherbachl bei Hinterhäuser (Schott 1898: 86). ***R. bifrons* × *bellardii* Utsch**: im Osserschlage (Schott 1897: 55). ***R. bifrons* × *bellardii* × *guentheri* Utsch**: am Waldrande bei der Eberwiese bei Hinterhäuser (Schott 1898: 86). ***R. bifrons* × *guentheri* Utsch** – im Osserschlage (Schott 1897: 56). ***R. caesius* × *bavaricus* Utsch**: Schindleben bei Hinterhäuser (Schott 1898: 87). ***R. caflischii* Focke** (POWO: accepted): an den Böhmerwald [the Bavarian part only] (Weber 1995: 455), … zasahující až na bavorskou stranu Šumavy … (Holub 1995: 138). These two broadly located records appear to be related and are likely to refer to records that lie in the Bayerischer Wald Mts but outside the defined area (see Schönfelder & Bresinsky 1990, GBIF 2024). ***R. canescens* DC.** (POWO: syn. of *R. aetnicus* Weston): quadrant: 6945/2 (Bettinger et al. 2013: 653). *R. canescens* is a thermophilous species that is very rare even in the climatically favourable foothills of the mountain range, so we do not consider the data on its occurrence in the study area to be reliable. See also *R. tomentosus* below. ***R. chamaemorus*** (POWO: *R. chamaemorus* L.): Deschenitz 2000' [Dešenice] (Gistel 1864: 225). Apparently a fictitious record, as the paper contains a number of records of other plants that are unlikely to occur in the Šumava Mts (Procházka 2000). ***R. chlorostachys* P. J. Müll.** (POWO: accepted): …Bayerischer und Oberpfälzer Wald (Hegi 1923: 801), Šumava (Dostál 1989: 424). ***R. clusii*** (POWO: *R. clusii* Borbás): quadrants: 7450a, 7450b (Kraml & Lindbichler 1997: 290). ***R. corylinus* var. *coryliniformis* Sudre** (POWO: absent): Eisenstein (Sudre 1911: 49). ***R. disparatus* P. J. Müll.** (POWO: unplaced name): Eisenstein (Sudre 1912: 19), Wb Eisenstein (Ade 1914: 376). ***R. epipsilos* Focke** (POWO: accepted): ... možný [výskyt] (Volary, ...); pravděpodobný je i starší údaj o výskytu druhu od Černé v Pošumaví (Holub 1995: 158). Holub (1995) does not regard these records as certain, and thus they are not accepted in this context. ***R. epipsilos* Focke var. *monticola* Progel**, nom. inval. (POWO: absent): in allen hoheren Lagen des Arber- und Ossagebietes (Progel 1886: 68). A provisional name (for details see the chapter History of bramble research in the study area). ***R. ferox* Weihe** (POWO: syn. of *R. ferus* (Focke) Focke): ?Šumava [? probably means doubtful occurrence] (Dostál et al. 1948–1950: 628). ***R. foliis trilobis, caule terreti aculcato bifloro, pedunculis geminis*** (POWO: absent): in sylvis subalpinis ad Stubenbach [Prášily] Circul. Prachin. [distr. Prácheň] (Mayer 1786: 52). An invalid name, related to *R. saxatilis* (for details see the chapter History of bramble research in the study area). ***R. furvus* Sudre** (POWO: valueless taxon): Šumava (Dostál et al. 1948–1950: 612, Dostál 1989: 424). ***R. fuscoater* Weihe** (POWO: valueless taxon): Gegen Neutal [Nové Údolí] an Schwemmkanale [Schwarzenberský kanál Channel] (Jungbauer 1842: 342). ***R. fuscus* Weihe**

(POWO: accepted): De Lambach b. Lam. (Sudre 1911: 44), Lambach b. Lam (Ade 1914: 389). ***R. glandulosus*** (POWO: *R. glandulosus* Bellardi, syn. of *R. hirtus* Waldst. et Kit.): Šumava [generally for the whole mountain range] (Purkyně 1859: 29), in den Berggegenden von der Donau (um Passau, 910') bis in die Hauptkette,... Frauenwaldgipfel 2940' [hills around Frauenau], am Eschelberg [hill SW of Haidmühle], endlich am Plateau des Hackel Berges bei Duschelberg [old name of Haidmühle or village of Duschlberg] sehr gemein bei 3200' (Sendtner 1860: 218), Sumawa Gebirges (Gistel 1864: 232), der Dreisesselberg [Mt.] (Ullepitsch 1882: 227), od Šumavy po Jeseníky (Dostál 1989: 424, *R. nigricans* is listed as syn. of *R. glandulosus*). ***R. glandulosus* Bellardi subsp. *hirtus*** (POWO: *R. glandulosus* subsp. *hirtus* (Waldst. et Kit.) Čelak., syn. of *R. hirtus* Waldst. et Kit.): Berg Kum [Chlum Mt.] bei Andreasberg! [former village of Ondřejov], Seewand am Bystřicer See [Černé jezero Lake] im Böhmerwalde (Čelakovský 1875: 642), Hora Kum [Chlum Mt.] u Andreasberku [former village of Ondřejov], Jezerní stěna u Černého jezera v Šumavě (Čelakovský 1877: 629), Fuchswiese bei Ogfolderhaid [former village of Jablonec], Schreiner [summit S of Bobík Mt.] im Kubanigebirge [massif of Boubín Mt.] (Čelakovský 1881: 903), Liščí louka u Ogfolderhaidu [former village of Jablonec], Šreiner [summit S of Bobík Mt.] v Boubínském pohoří [massif of Boubín Mt.] (Čelakovský 1883: 896). ***R. glandulosus* Bellardi var. *pallidus* Sendt.** (POWO: absent): Scheuereck bei Zwiesel 2400' (Sendtner 1860: 218). ***R. glaucellus* microgene *dispectus* (Sudre) Sudre** (POWO: syn. of *R. dispectus* Sudre, unplaced name): Lambach, Ossagebirge (Sudre 1908–1913: 170), de Lambach b. Lam et d'Ossagebirge (Sudre 1911: 42), Bayer. Wald: Lambach (Sudre 1912: 23), Lambach, Lam u. Ossergebirge (Ade 1914: 399, at subspecific level). ***R. granulatus* var. *debilicaulis* Sudre** (POWO: syn. of *R. granulatus* Lefèvre et P. J. Müll): Bodenmais i. Bayer. Wald (Sudre 1912: 21), Bodenmais (Ade 1914: 388). ***R. gremlii* Focke** (POWO: accepted): im Schindelschlage bei Hinterhäuser (Schott 1897: 54), … von den Vogesen bis zu … und des Bayrischen Waldes (Hegi 1923: 789), Šumava (Dostál 1989: 418). ***R. guentheri*** (POWO: *R. guentheri* Weihe): am Arber und Falkenstein [Mt.] (Progel 1886: 68), …im Böhmerwald (Hegi 1923: 802), …údaje... ze Šumavy – Třístoličník [Mt.]... vyžadují revizi… (Holub 1995: 180). ***R. guentheri* × *bavaricus* Utsch**: im Schindlschlage bei Hinterhäuser, im Rantscherwalde [massif of Hraničář Mt.] und in einzelnen Exemplaren auch in den Muckenwäldern, im Osserschlage und in den Rittsteiger Wäldern [S of Rittsteig] in Bayern (Schott 1897: 54), im Brombeergehecke bei der Mitterwiese [probably by former Zadní Chalupy] in lichtem Hochwalde (Schott 1898: 86). ***R. guentheri* × *bavaricus* f. *duplicato-serrata* Utsch**: im Osserschlage (Schott 1897: 55). ***R. guentheri* × *bavaricus* f. *echinaceus* Utsch**: im Lambacher Hüttenwalde in Bayern [probably near Lambach], am Abhange der "Brandwiese" [by former Zadní Chalupy, SW of Na Výšině Mt.] (Schott 1897: 54). ***R. guentheri* × *bavaricus* f. *neglecta* Utsch**: im Lambacher Hüttenwalde [probably near Lambach] (Schott 1897: 55). ***R. guentheri* × *brachystachys* Utsch**: im Ebenschlage [probably S of Rittsteig], im Brombeergehecke bei der sogenannten Mitterwiese in lichtem Hochwalde [probably by former Zadní Chalupy] (Schott 1898: 88). ***R. guentheri* × *heterophyllus* Utsch**: am Gütelplatze [former settlement of Stateček pod Ostrým W of Hojsova Stráž] (Schott 1898: 87). ***R. guentheri* × *serpens* × *bavaricus* Utsch**: am Gütelplatz [former settlement of Stateček pod Ostrým W of Hojsova Stráž], 950–1000 m hoch, zwischen Osser [Mt.] und schwarzem See [Černé jezero Lake] (Schott 1898: 86). ***R. hebecarpos* P. J. Müll. subsp. *bavaricus* Focke** (POWO: *R. hebecarpos* subsp. *bavaricus* (Focke) Sudre, syn. of *R. bavaricus* (Focke) Utsch): … um Lam, Lambach, Osser [Mt.] (Ade 1914: 406). ***R. hebecarpos* P. J. Müll. subsp. *rubriglandulosus* Sudre** (POWO: absent): Lambacher Hüttenwald [probably near Lambach] (Ade 1914: 406). ***R. hebecarpos* P. J. Müll var. *curvispinus* Utsch** (POWO: absent): Lambach, Osserschlag (Ade 1914: 406). ***R. hebecarpos* P. J. Müll. var. *hebecarpoides* Sudre** (POWO: syn. of *R. hebecarpos* P. J. Müll.): Freyung, Bierhütte (Sudre 1908–1913: 182, Sudre 1912: 23), Bierhütte b. Freyung (Ade 1914: 405). ***R. hebecaulis* Sudre** (POWO: valueless taxon): Freyung, Bierhütte, Hohenau (Sudre 1912: 20), Bierhütte u. Hohenau b. Freyung (Ade 1914: 383), … Bayerischer und Oberpfälzer Wald (Hegi 1923: 792). ***R. heterophyllus* Utsch**, nom. illeg. (POWO: absent): am vorerwähnten Gütelplatze [former settlement of Stateček pod Ostrým W of Hojsova Stráž] (Schott 1898: 87). This name is a synonymum of *R. perpungens* (for details see the chapter Typification of taxa described from the study area). ***R. heterophyllus* f. *serpens* Utsch** (POWO: absent): Im Hüttenwald bei Bierhütte (Freyung v. W.) in Bayern, 670 m hoch (Baenitz 1898: 27). ***R. heterophyllus* f. *schleicheri* Utsch** (POWO: absent): im Waldgebüsch bei Unterkreuzberg (Freyung v. W.) in Bayern, 660 m hoch (Baenitz 1898: 27). This name is a synonymum of *R. perpungens* (for details see the chapter Typification of taxa described from the study area). ***R. hirsutus*** (POWO: *R. hirsutus* J. Presl et C. Presl, unplaced name): in sylvaticis montanis Ssumawae Čechiae (Presl & Presl 1822: 222), im Böhmerwald (Opiz 1823: 62). This name is synonymum of *R. gracilis* (for details see the chapter Typification of taxa described from the study area). ***R. hirtus*** (POWO: *R. hirtus* Waldst. et Kit.): Kubani [Boubín Mt.] (Opiz 1815: 426), Sylvestria umbrosa: Ssumawa [Šumava Mts] (Presl & Presl 1819: 104), Seejaegern [Jezerní myslivna or Jezerní chalupy settlement SE of Hojsova Stráž] – gegen See [Černé jezero Lake] (Opiz 1825: 477), Pleschenberg [Plešný Mt.] – auf dem Kl. Pleschenberg [Malý Plešný Mt.] (Opiz 1825: 176), im Walde Linhartssteig

[between Třístoličník Mt. and Schwarzenberský kanál Channel] (Jungbauer 1829a: 552), im nämlichen Walde nach dem sogenannten Linhartssteig vom Dreisesselberge [Mt.] zu dem Schwemmkanale [Schwarzenberský kanál Channel], nach dem Fußsteige vom Kanal der wiener Schwemme [Schwarzenberský kanál Channel] zum plöckensteiner See [Plešné jezero Lake] (Jungbauer 1829b: 689), auf dem Berg Kum [Chlum Mt.] (Jungbauer 1842: 342), Deschenitz 2000' [Dešenice] (Gistel 1864: 225), Lusen [Mt.] (Prantl 1884: 338), am Arber und Falkenstein [Mt.] (Progel 1886: 68), im Rantscherwalde [Hraničář Mt.] gegen Bayereck [Pajrek castle ruins] am Wirtschaftsstrassel (Schott 1897: 56), Eisenstein (Ade 1914: 427), 88. Šumava (roztr.) (Holub 1995: 179). ***R. hirtus fol. ternatis*** (POWO: absent): Deschenizer See [Černé jezero Lake] (Wagner 1828: 536). ***R. hirtus*** **microgene** ***anisacanthoides*** **Sudre** (POWO: syn. of *R. anisacanthoides* Sudre, valueless taxon.): d'Abersee [Großer Arbersee Lake] (Sudre 1911: 57), Von Zwiesler Waldhaus gegen d. Falkenstein [Mt.] (Sudre 1911: 61), Freyung, Zwieseler Waldhaus gegen den Falkenstein [Mt.] (Sudre 1912: 32), Freyung, Zwieseler Waldhaus gegen den Falkenstein [Mt.] (Ade 1914: 432, at subspecific level). ***R. hirtus*** **microgene** ***anoplocladus*** **Sudre** (POWO: syn. of *R. anoplocladus* Sudre, valueless taxon): Bierhütte b. Freyung nach Hohenau (Sudre 1912: 30), Bierhütte-Hohenau (Ade 1914: 428, at subspecific level). ***R. hirtus*** **microgene** ***crassus*** **Holuby** (POWO: syn. of *R. crassus* Holuby, valueless taxon): Bierhütte b. Freyung (Sudre 1912: 30; Ade 1914: 428, at subspecific level). ***R. hirtus*** **microgene** ***interruptus*** **Sudre** (POWO: syn. of *R. interruptus* Sudre, valueless taxon): Bierhütte b. Freyung (Sudre 1912: 31; Ade 1914: 432, at subspecific level). ***R. hirtus*** **microgene** ***minutidentatus*** **Sudre** (POWO: syn. of *R. minutidentatus* Sudre, valueless taxon): Hüttenwald b. Bierhütte b. Fr. [Freyung], Buchbergerleite (Sudre 1912: 31), Hüttenwald b. Bierhütte, Buchbergerleite b. Freyung (Ade 1914: 430, at subspecific level). ***R. hirtus*** **microgene** ***minutiflorus*** **P. J. Müll.** (POWO: syn. of *R. minutiflorus* P. J. Müll., valueless taxon): Bierhütte b. Fr. [Freyung] (Sudre 1912: 31), Bierhütte, Regenhütte b. Schachtenbach (Ade 1914: 431, at subspecific level). ***R. hirtus*** **microgene** ***trachyadenes*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Bierhütte b. Freyung (Sudre 1912: 31; Ade 1914: 432, at subspecific level). ***R. hirtus*** **subsp.** ***guentheri*** **Weihe et Nees** (POWO: *R. hirtus* subsp. *guentheri* (Weihe) Nyman, syn. of *R. guentheri* Weihe): Freyung (Sudre 1912: 30), Hackelberg [hill probably SW of Haidmühle], Arber, Falkenstein [Mt.], Freyung (Ade 1914: 428). ***R. hirtus*** **subsp.** ***kaltenbachii*** **Metsch** (POWO: syn. of *R. kaltenbachii* Metsch, valueless taxon): Keitersberg [mountain range] bei Kötzting [Bad Kötzting] (Erdner 1911: 305), Arber, Falkenstein [Mt.], Ossergebirge (Ade 1914: 430). ***R. hirtus*** **subsp.** ***nigricatus*** **P. J. Müll. et Lefèvre** (POWO: syn. of *R. nigricatus* P. J. Müll. et Lefèvre): de Falkenstein [Mt.] (Sudre 1911: 54), Bierhütte b. Freyung nach Hohenau, Falkenstein [Mt.] (Sudre 1912: 30), Falkenstein [Mt.], Bierhütte (Ade 1914: 429). ***R. hirtus*** **var.** ***adenodon*** **Sudre** (POWO: absent): Bierhütte b. Freyung, Arbersee (Sudre 1912: 30). ***R. hirtus*** **var.** ***arachnites*** **(Boulay et Pierrat) Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Eisenstein (Sudre 1911: 56), Bierhütte b. Freyung, Eisenstein (Sudre 1912: 30). ***R. hirtus*** **var.** ***atricolor*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Freyung (Sudre 1908–1913: 224), Bierhütte nach Hohenau (Sudre 1912: 30), Wb. (Ade 1914: 427). ***R. hirtus*** **var.** ***bakabanyensis*** **(Borbás) Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Freyung (Sudre 1908–1913: 228), Bierhütte b. Freyung (Sudre 1912: 31, Ade 1914: 430). ***R. hirtus*** **var.** ***callicarpus*** **Sudre** (POWO: *R. hirtus* var. *callicarpus* (Kupcsok) Sudre, syn. of *R. hirtus* Waldst. et Kit.): Bierhütte b. Freyung (Sudre 1912: 30), Wb. (Ade 1914: 428). ***R. hirtus*** **var.** ***erythradenes*** **P. J. Müll.** (POWO: syn. of *R. erythradenes* P. J. Müll.): Bierhütte b. Fr. [Freyung] (Sudre 1912: 31). ***R. hirtus*** **var.** ***flaccidifrons*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Bierhütte b. Freyung (Sudre 1912: 29), Wb. (Ade 1914: 427). ***R. hirtus*** **var.** ***gracilentus*** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Freyung (Sudre 1908–1913: 229). ***R. hirtus*** **var.** ***gymnocarpus*** **(Boulay et Pierrat) Sudre** (POWO: syn. of *R. gymnocarpus* Boulay et Pierrat): Bierhütte b. Freyung (Sudre 1912: 29), Wb. (Ade 1914: 427). ***R. hirtus*** **var.** ***horridifactus*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Buchbergleite b. Freyung (Sudre 1912: 31), Wb. (Ade 1914: 431). ***R. hirtus*** **var.** ***iodostachys*** **(Boulay et Pierrat) Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Freyung (Sudre 1908–1913: 224), Freyung: Bierhütte nach Hohenau (Sudre 1912: 30), Wb. (Ade 1914: 428). ***R. hirtus*** **var.** ***melanopsis*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Bierhütte b. Freyung (Sudre 1912: 32), Wb. (Ade 1914: 433). ***R. hirtus*** **var.** ***oblongulus*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Bierhütte b. Fr. [Freyung] (Sudre 1912: 31). ***R. hirtus*** **var.** ***spinifer*** **Sudre** (POWO: syn. of *R. hirtus* Waldst. et Kit.): Bierhütte b. Freyung (Sudre 1912: 31), Wb. (Ade 1914: 431). ***R. hirtus*** **var.** ***tenuidens*** **Sudre** (POWO: *R. hirtus* var. *tenuidens* (Sudre) Sudre, syn. of *R. hirtus* Waldst. et Kit.): d'Eisenstein (Sudre 1911: 58), Eisenstein (Sudre 1912: 30), Wb. (Ade 1914: 428). ***R. homalus*** **Sudre** (POWO: *R. homalus* Ade, unplaced name): Bierhütte b. Freyung (Ade 1914: 396). ***R. hypomalacus*** **Focke** (POWO: accepted): Vom nördlichen Schleswig … zum Erzgebirge und Böhmerwald … (Hegi 1923: 779), im Böhmerwalde (Tannich 1929: 247), Šumava (Dostál et al. 1948–1950: 583, Dostál 1989: 412). ***R. hystrix*** **Weihe et Nees** (POWO: valueless taxon): Šumava? [? probably means doubtful occurrence] (Dostál et al. 1948–1950: 616). ***R. idaeus*** **var.** ***denudatus*** **Spenn.** (POWO: absent): Osserwäldern [massif of Osser Mt.] (Schott 1897: 53). ***R. idaeus*** **var.** ***spinulosus*** **P. J. Müll.** (POWO: absent):

Böhmerwald [including areas beyond the area studied] (Schott 1897: 53). ***R. idaeus* var. *trifoliatus* Bell. Salter** (POWO: absent): Böhmerwald [including areas beyond the area studied] (Schott 1897: 53). ***R. indusiatus* Focke** (POWO: accepted): All published records on the occurrence of *R. indusiatus* in the study area refer to *R. perpungens*. *Rubus indusiatus* does not occur in the area (Trávníček et al. 2018). ***R. irrufatus* P. J. Müll.** (POWO: syn. of *R. schleicheri* Weihe ex Tratt.): Šumava? [? probably means doubtful occurrence] (Dostál et al. 1948–1950: 620). ***R. kaltenbachii* Metsch** (POWO: valueless taxon): am Ossagebirge (Progel 1886: 68), Friedberg [Frymburk], St. Thoma [Svatý Tomáš] (Tannich 1929: 251), … im Bayerischen und Oberpfälzer Wald (Hegi 1923: 802). ***R. koehleri* Weihe** (POWO: accepted): Spiegelau (Ade 1914: 406). ***R. koehleri* Weihe subsp. *apricus* Wimm.** (POWO: *R. koehleri* subsp. *apricus* (Wimm.) Nyman, syn. of *R. apricus* Wimm.): Eisenstein (Ade 1914: 408). ***R. koehleri* var. *brevistamineus* Sudre** (POWO: syn. of *R. koehleri* Weihe): Freyung (Sudre 1908–1913: 187), Freyung: Bierhütte-Hohenau (Sudre 1912: 24), Bierhütte-Hohenau b. Freyung (Ade 1914: 407). ***R. kuenicus* Schott ex Utsch** (POWO: unplaced name): Ostabhängen des Böhmerwaldes (Utsch 1898: 22). This name is a synonymum of *R. nigricans* (for details see the chapter Typification of taxa described from the study area). ***R. kuenicus* var. *bellardii* Utsch** (POWO: absent): Ostabhängen des Böhmerwaldes (Utsch 1898: 22). Valueless taxon, a singular biotype of *R.* ser. *Glandulosi* (for details see the chapter Typification of taxa described from the study area). ***R. kuenicus* var. *güntheri* Utsch** (POWO: absent): Ostabhängen des Böhmerwaldes (Utsch 1898: 22). Valueless taxon, a singular biotype of *R.* ser. *Glandulosi* (for details see the chapter Typification of taxa described from the study area). ***R. kuenicus* var. *schleicheri* Utsch** (POWO: absent): Ostabhängen des Böhmerwaldes (Utsch 1898: 22). Valueless taxon, a singular biotype of *R.* ser. *Glandulosi* (for details see the chapter Typification of taxa described from the study area). ***R. laceratus* P. J. Müll.** (POWO: valueless taxon): Šumava? [? probably means doubtful occurrence] (Dostál et al. 1948–1950: 620), Šumava (?) [? = doubtful occurrence] (Dostál 1989: 424). ***R. laetevirens* Progel** (POWO: unplaced name): am Arber und Falkenstein [Mt.] (Progel 1886: 68). ***R. leptadenes* Sudre** (POWO: syn. of *R. perplexus* P. J. Müll. ex Wirtg.): Šumava (Dostál 1989: 424). ***R. napophiloides* Sudre** (POWO: absent, probably syn. of *R. serpens* Weihe ex Lej. et Courtois): Šumava (Dostál 1989: 424). ***R. nemorosus* Hayne** (POWO: accepted): bei Bodenmais 2000‘ (Sendtner 1860: 219). ***R. nessensis* subsp. *scissoides* H. E. Weber** (POWO: as *R. scissoides* H. E. Weber): Spiegelau, 7046c (Weber 1995: 348, FloraWeb 2024), 6946c (FloraWeb 2024). The details of the Spiegelau, 7046c record could not be located, and it is uncertain whether *R. scissoides* occurred there. In contrast, the record from the mapping field 6946c comes from Lindberger Schachten and is well documented by in situ photographs and herbarium specimens taken by W. Diewald. However, our revision of the specimen and photographs has revealed that it is an atypical individual of *R. nessensis* growing on an extremely sunny and nutrient-poor site at high elevation. It is possible that the record from Spiegelau is the same case, and thus we do not consider the occurrence of the species in the study area to be proven. The most proximate records outside the study area are in the Fichtelgebirge in Bavaria (Weber 1995), in the vicinity of České Budějovice, and in the Czech and Austrian parts of the Novohradské hory Mountains and the Třeboňská pánev Basin (Lepší & Lepší 2004, Pladias 2024). ***R. nigrescens* Focke** (POWO: absent): am Arber und Falkenstein [Mt.] (Progel 1886: 68). According Weber (2003) valueless taxon. ***R. nitidus* Weihe et Nees** (POWO: syn. of *R. divaricatus* P. J. Müll.): Ulrichsberg (Gerstlauer 1925: 62). ***R. obtruncatus* P. J. Müll.** (POWO: valueless taxon): Šumava (?) [? = doubtful occurrence] (Dostál 1989: 422). ***R. omalus* Sudre** (POWO: *R. omalus* (Sudre) Sudre, syn. of *R. rudis* Weihe): Freyung (Sudre 1908–1913: 163), Freyung: Bierhütte (Sudre 1912: 22), snad i Šumava (Dostál 1989: 422). ***R. pedemontanus*** (POWO: syn. of *R. nigricans* Danthoine): Gsenget, (komplex luk) od JJV hory Ždanidla (kota 1308) v areálu bývalé osady, 990–1090 m n. m. (Nesvadbová & Sofron 1994: 34), quadrants: 7248b, 7249c, 7350a, 7450a, 7450b, 7451b (Kraml & Lindbichler 1997: 291). ***R. pilocarpus* Gremli** (POWO: valueless taxon): bei Außergefild [Kvilda] im Böhmerwalde, bei Scheurek [Stodůlky] im Böhmerwalde (Tannich 1929: 249). ***R. plicatus*** (POWO: syn. of *R. fruticosus* L.): Wb (Prantl 1884: 329), in der Umgebung von Eisenstein, wie überall im Böhmerwalde (Progel 1886: 68), Böhmerwald [including areas beyond the area studied], stellenweise recht häufig (Schott 1897: 53), v Šumavě ve výši 700 m n. m. (Tocl 1903: 12), Eisenstein (Sudre 1912: 15), v Prášilech na úpatí Steindlbergu [Ždánidla Mt.] (Maloch 1936: 66). ***R. plicatus* var. *macrander* f. *brevispina* Tocl** (POWO: syn. of *R. fruticosus* L.): na Šumavě v okolí Vimperka (Tocl 1903: 11). The name is synonymous with *R. fruticosus*, based on a study of the type material in PR (for details see the chapter Typification of taxa described from the study area). ***R. pubescens* Weihe et Nees** (POWO: syn. of *R. chloocladus* W. C. R. Watson): auf Rainen in Hinterhäuser (Schott 1897: 53). ***R. radula*** (POWO: *R. radula* Weihe): na svahu Pancíře [Pancíř Mt.] v míšeném nad Železnou Rudou as 1000 m (Maloch 1936: 65). ***R. radula* Sendtn. subsp. *cinerascens*** (POWO: *R. radula* subsp. *cinerascens* Čelak., nom. inval., syn. of *R. radula* Weihe): Im Böhmerwalde: unter den Osserhäusern, dann zwischen dem Osser [Mt.] und Schwarzen See (Čelakovský 1881: 903), Šumava: pod domky Jezerní hory [Jezerní hora Mt.], pak mezi touto horou a Černým jezerem (Čelakovský 1883: 895). Two

herbarium specimens (PR) associated with these records, and the records of *R. radula* subsp. *viridis* below, belong to the species *R. perpungens* (Trávníček et al. 2018). ***R. radula* Sendtn. subsp. *viridis*** [Čelak.] (POWO: absent): Im Böhmerwalde: unter den Osserhäusern, dann zwischen dem Osser [Mt.] und Schwarzen See [Černé jezero Lake] (Čelakovský 1881: 903), Šumava: pod domky Jezerní hory [Jezerní hora Mt.], pak mezi touto horou a Černým jezerem (Čelakovský 1883: 895). See the note for the taxon above. ***R. rivularis* Wirtg. et P. J. Müll.** (POWO: accepted): am Ossagebirge (Progel 1886: 68), Hochfall b. Bodenmais (Sudre 1911: 48, Ade 1914: 418). ***R. rivularis* microgene *angustisetus* Sudre** (POWO: syn. of *R. angustisetus* (Sudre) Y. Hesl.-Harr.): Bierhütte b. Freyung (Sudre 1912: 27), Bierhütte (Ade 1914: 418). ***R. rivularis* microgene *durotrigum* R. P. Murray** (POWO: syn. of *R. durotrigum* R. P. Murray): Bierhütte b. Freyung, Arbersee (Sudre 1912: 28; Ade 1914: 421, at subspecific level). ***R. rivularis* microgene *horridulus* P. J. Müll.** (POWO: syn. of *R. horridulus* P. J. Müll. ex Boulay, valueless taxon): Bierhütte b. Freyung (Sudre 1912: 28; Ade 1914: 421, at subspecific level). ***R. rivularis* microgene *leptobelus* Sudre** (POWO: absent): Eisenstein (Sudre 1911: 51; Ade 1914: 421, at subspecific level). ***R. rivularis* microgene *parvulipetalus* Sudre** (POWO: syn of *R. parvulipetalus* Sudre, valueless taxon): Freyung (Sudre 1908–1913: 209), Freyung: Bierhütte (Sudre 1912: 27), Bierhütte (Ade 1914: 419, at subspecific level). ***R. rivularis* var. *acridentatus* Sudre** (POWO: syn. of *R. rivularis* Wirtg. et P. J. Müll.): Freyung (Sudre 1908–1913: 210), Freyung: Bierhütte (Sudre 1912: 27). ***R. rivularis* var. *crenatus*** (POWO: *R. rivularis* var. *crenatus* Kupcsok ex Sudre, syn. of *R. rivularis* Wirtg. et P. J. Müll.): Freyung (Sudre 1908–1913: 211), Freyung: Bierhütte (Sudre 1912: 28), Bierhütte b. Freyung (Ade 1914: 420). ***R. rivularis* var. *heidewilxensis* (Sprib.) Sudre** (POWO: syn. of *R. rivularis* Wirtg. et P. J. Müll.): Weg. z. Luzen [Lusen Mt.] (Sudre 1908–1913: 209), Weg. z. Lusen [Mt.] (Sudre 1912: 27), Wb. (Ade 1914: 419). ***R. rivularis* var. *hirtiformis* (Borbás) Sudre** (POWO: absent): d'Eisenstein (Sudre 1911: 55), Eisenstein (Sudre 1912: 27), Wb. (Ade 1914: 418). ***R. rivularis* var. *horridipes* Sudre** (POWO: syn. of *R. rivularis* Wirtg. et P. J. Müll.): Bierhütte b. Freyung, Reschbachtal [near Mauth village] (Sudre 1912: 28), Wb. (Ade 1914: 421). ***R. rivularis* var. *oligothrix* (Boulay et Pierrat) Sudre** (POWO: syn. of *R. durotrigum* R. P. Murray): Bierhütte b. Freyung, Hüttenwald (Sudre 1912: 28), Wb. (Ade 1914: 421). ***R. rivularis* var. *spiculifer* Sudre** (POWO: syn. of *R. rivularis* Wirtg. et P. J. Müll.): Freyung (Sudre 1908–1913: 208), Freyung: Hüttenwald b. Bierhütte (Sudre 1912: 27), Wb. (Ade 1914: 418). ***R. rudis* Weihe et Nees** (POWO: accepted): im Rantscherwalde [Hraničář Mt.] bei Hinterhäuser (Schott 1897: 54). ***R. rutilus* Caflisch** (POWO: unplaced name): am Arber und Falkenstein [Mt.] (Progel 1886: 68). ***R. scaber* Weihe** (POWO: accepted): im Böhmerwald (Ade 1914: 414), im … und Böhmerwald... (Hegi 1923: 800), im Böhmerwalde (Tannich 1929: 249), Šumava (Dostál et al. 1948–1950: 612). ***R. serpens* Weihe** (POWO: *R. serpens* Weihe ex Lej. et Courtois): am Arber und Falkenstein [Mt.], am Ossagebirge (Progel 1886: 68), Böhmerwald [including areas beyond the area studied] (Schott 1897: 56), im Lambacher Hüttenwalde [probably near Lambach] (Schott 1898: 87), Eisenstein (Sudre 1912: 28, Ade 1914: 422), u Turnerské chaty [Turnerova chata chalet], Otyglu [Antýgl] nad 800 m (Maloch 1936: 56). ***R. serpens* microgene *elongatifolius* Boulay et Gillot** (POWO: syn. of *R. elongatifolius* Boulay et Gillot): Freyung (Sudre 1908–1913: 219), Bierhütte b. Freyung (Sudre 1912: 29; Ade 1914: 425, at subspecific level). ***R. serpens* microgene *longiglandulosus* Sudre** (POWO: syn. of *R. perplexus* P. J. Müll. ex Wirtg.): d'Eisenstein (Sudre 1911: 47, Sudre 1912: 29). ***R. serpens* microgene *longisepalus* P. J. Müll.** (POWO: syn. of *R. longisepalus* P. J. Müll., valueless taxon): Bierhütte b. Freyung (Sudre 1912: 28; Ade 1914: 422, at subspecific level). ***R. serpens* subsp. *angustifrons* Sudre** (POWO: syn. of *R. angustifrons* Sudre, valueless taxon): Bierhütte b. Freyung (Sudre 1912: 29), Lambacher Hüttenwald, Bierhütte b. Freyung (Ade 1914: 424). ***R. serpens* Weihe subsp. *egeniflorus* (Progel) Ade** (POWO: as *R. egeniflorus* Progel, syn. of *R. decurtatus* P. J. Müll., valueless taxon): Eisenstein (Ade 1914: 426). ***R. serpens* subsp. *leptadenes* Sudre** (POWO: syn. of *R. perplexus* P. J. Müll. ex Wirtg.): am Arbersee (Sudre 1911: 48, Sudre 1912: 29, Ade 1914: 425). ***R. serpens* subsp. *napophiloides* Sudre** (POWO: syn. of *R. serpens* Weihe ex Lej. et Courtois): Arbersee (Sudre 1911: 48, Ade 1914: 423). ***R. serpens* subsp. *vepallidus* Sudre** (POWO: syn. of *R. vepallidus* (Sudre) W. C. R. Watson, valueless taxon): Bierhütte b. Freyung (Sudre 1912: 29, Ade 1914: 424). ***R. serpens* var. *cerchoviensis* (Progel) Ade** (POWO: absent, as *R. cerchoviensis* Progel): Wb. (Ade 1914: 422). ***R. serpens* var. *deflexispinus* Sudre** (POWO: syn. of *R. perplexus* P. J. Müll. ex Wirtg.): Bierhütte b. Freyung (Sudre 1912: 29), Wb. (Ade 1914: 424). ***R. serpens* var. *heterophylloides* Sudre** (POWO: syn. of *R. perplexus* P. J. Müll. ex Wirtg.): Freyung (Sudre 1912: 28). ***R. serpens* var. *leptopetalus* (Focke) Sudre** (POWO: syn. of *R. chlorostachys* P. J. Müll.): Freyung (Sudre 1908–1913: 218), Freyung: Hüttenwald bei Bierhütte (Sudre 1912: 29), Wb. (Ade 1914: 425). ***R. serpens* var. *membranaceus* Sudre** (POWO: syn. of *R. membranaceus* Sudre, unplaced name): Eisenstein (Sudre 1908–1913: 216), Freyung, Eisenstein (Sudre 1912: 29). ***R. serpens* var. *puripulvis* Sudre** (POWO: syn. of *R. perplexus* P. J. Müll. ex Wirtg.): Bierhütte b. Freyung (Sudre 1912: 28), Wb. (Ade 1914: 422). ***R. serpens* × *bavaricus* Utsch**: im Helmschlage bei Hinterhäuser, im "Holperloche" ebendort und in den Rittsteiger Wäldern [S of Rittsteig] oft häufig, Brandwiese [by former Zadní Chalupy, SW of Na Výšině Mt.]

(Schott 1897: 55), am Rantscherbachl [by former Zadní Chalupy], im Schindlschlage [by former Zadní Chalupy], im Brombeergehecke bei der Mitterwiese [probably by former Zadní Chalupy] in lichtem Hochwalde (Schott 1898: 86). ***R. serpens* × *bellardii* Utsch**: im Lambacher Hüttenwalde [probably near Lambach] (Schott 1897: 55). ***R. serpens* × *guentheri* Utsch**: in Wäldern um Hinterhäuser (Schott 1897: 56). ***R. schleicheri* subsp. *humifusus* Weihe** (POWO: syn. of *R. humifusus* Weihe, valueless taxon): Bierhütte b. Freyung (Sudre 1912: 26, Ade 1914: 413). ***R. schleicheri* var. *laceratiformis* Sudre** (POWO: syn. of *R. schleicheri* Weihe ex Tratt.): Freyung (Sudre 1908–1913: 204), Buchberger Mühle b. Freyung (Sudre 1912: 26), Wb. (Ade 1914: 413). ***R. schleicheri* × *bellardii* Utsch**: im Rantscherwalde [Hraničář Mt.] bei Hinterhäuser (Schott 1897: 56). ***R. silvestris* Kaltenb.** (POWO: syn. of *R. foliosus* Weihe): im "Holperloch" bei Hinterhäuser (Schott 1897: 56). ***R. suberectiformis* Sudre** (POWO: unplaced name): Šumava (Dostál et al. 1948–1950: 629). ***R. sulcatus*** (POWO: *R. sulcatus* Vest): Wb (Prantl 1884: 329), in der Umgebung von Eisenstein, wie überall im Böhmerwalde (Progel 1886: 68), Böhmerwald [including areas beyond the area studied], stellenweise recht häufig (Schott 1897: 53), quadrant: 7450b (Kraml & Lindbichler 1997: 291). ***R. tereticaulis* P. J. Müll.** (POWO: accepted): Bierhütte bei Freyung (Sudre 1912: 25, Ade 1914: 414), …Bayerischer und Oberpfälzer Wald (Hegi 1923: 801), Šumava (Dostál et al. 1948–1950: 610). ***R. tereticaulis* microgene *finitimus* Sudre** (POWO: syn. of *R. tereticaulis* P. J. Müll.): d'Eisenstein (Sudre 1911: 57), Eisenstein (Ade 1914: 416, at subspecific level). ***R. tereticaulis* var. *cordiger* Sudre** (POWO: syn. of *R. tereticaulis* P. J. Müll.): Freyung (Sudre 1908–1913: 194), Wb. (Ade 1914: 414). ***R. tereticaulis* var. *subserpens* Sudre** (POWO: absent): Freyung (Sudre 1908–1913: 195, Ade 1914: 415). ***R. thyrsiflorus* Weihe** (POWO: valueless taxon): Freyung (Sudre 1908–1913: 152, Sudre 1912: 22, Ade 1914: 392). ***R. thyrsiflorus* subsp. *chloranthus*** (POWO: syn. of *R. chloranthus* (Sabr.) Fritsch): Freyung: Bierhütte (Sudre 1912: 22, Ade 1914: 393). ***R. thyrsoideus* Wimm.** (POWO: syn. of *R. grabowskii* Weihe ex Günther, Grab. et Wimm.): Böhmerwald [including areas beyond the area studied] (Schott 1893: 40). ***R. tomentosus* Borkh.** (POWO: syn. of *R. occidentalis* L.): podle Presla v Šumavě (Čelakovský 1877: 631). The name "*R. tomentosus* Borkh." was formerly used for the species *R. canescens* DC. See note above for *R. canescens*. ***R. tomentosus* Willd.** (POWO: syn. *R. aetnicus* Weston): Rupestria sylvatica: Ssumawa [Šumava Mts] (Presl & Presl 1819: 104), im Böhmerwald (Tannich 1929: 252). The name "*R. tomentosus* Willd." was formerly used for the species *R. canescens* DC. See note above for *R. canescens*. ***R. villicaulis*** (POWO: *R. villicaulis* Köhler ex Weihe, syn. of *R. gracilis* J. Presl et C. Presl): Böhmerwald [including areas beyond the area studied] (Schott 1893: 40), Hojsova Stráž, svahový bor před Stornem [former settlement of Storn], ~950 m, na svoru (Maloch 1933: 129). ***R. villicaulis* var. *glandulosus* Beclar.** (POWO: absent): Böhmerwald [including areas beyond the area studied] (Schott 1893: 40). ***R. villicaulis* var. *silvaticus* Weihe et Nees.** (POWO: syn. of *R. silvaticus* Weihe et Nees): Böhmerwald [including areas beyond the area studied] (Schott 1893: 40). ***R. vulgaris* Weihe** (POWO: syn. of *R. communis* Bayer): Im Bayerischen Walde am Arber (Gscheidenberg) bei NO 3469' (Sendtner 1856: 203), am Arber (Gscheidenberg bei SO.) 3469' [= 1,130 m a.s.l.] (Sendtner 1860: 219). ***R. winteri* P. J. Müll.** (POWO: *R. winteri* (P. J. Müll. ex Focke) A. Först.): im sogenannten Hüttstatter Walde bei Hinterhäuser (Schott 1897: 53).

Typification of taxa described from the study area

Nine taxonomically unclear bramble names have been validly published from the study area. Three at species level – *R. heterophyllus*, *R. hirsutus* and *R. kuenicus*, three varieties of the latter species – var. *bellardii*, var. *guentheri* and var. *schleicheri* and three forms – *R. plicatus* – f. *brevispina*, *R. heterophyllus* f. *schleicheri* and *R. heterophyllus* f. *serpens*. Below we select lectotypes for these names.

Rubus heterophyllus Utsch in Baenitz, Herb. Eur. No. 9531 (1898), nom. illeg., non *Rubus heterophyllus* Willd. Berlin. Baumz., ed. 2: 413 (1811). Type: "Dr. C. Baenitz, Herbarium Europaeum. No.: 9531, *Rubus heterophyllus* Utsch, n. hybr. = *R. bavaricus* × *serpens*, f. *Schleicheri* = *R.* (*bifrons* × *Bellardii* × *Schleicheri*) × *serpens*, Flora Bavarica: Freyung v. W.; Waldgebüsch bei Unterkreuzberg. 8. [18]97 – 660 m., leg. O. Prechtelsbauer". (**lectotype, designated here: LECB0001515**, JSTOR 2024, Supplementary Fig. S1)

In the absence of an indication of a holotype or any syntypes for *R. heterophyllus*, it is evident that both validly published names *R. heterophyllus* f. *serpens* and f. *schleicheri* collectively encompass the entire circumscription of the species. In typifying the name *R. heterophyllus*, we used a specimen that was attributed to *R. heterophyllus* f. *schleicheri*. Consequently, the correct name for this form is *R. heterophyllus* f. *heterophyllus*, and not *R. heterophyllus* f. *schleicheri* (Turland et al. 2018, Art. 26.2.). The plants on the selected lectotype and isolectotypes (FR0036909, BR0000013348342, JE00014351) are clearly *Rubus perpungens* M. Lepší, P. Lepší & Trávn., Preslia 90: 392 (2018). Therefore, *R. heterophyllus* Utsch is a taxonomic synonym of this species. However, the name is illegitimate because the name *R. heterophyllus* was already used by C. L. Willdenow in 1811.

Rubus heterophyllus f. *schleicheri* Utsch in Baenitz, Herb. Eur. No. 9531 (1898). Type: as above for *R. heterophyllus*.

Rubus heterophyllus f. *serpens* Utsch in Baenitz, Herb. Eur. No. 9532 (1898). Type: "Dr. C. Baenitz, Herbarium Europaeum. No.: sine num., *Rubus heterophyllus* Utsch, n. hybr. = *R. bavaricus* × *serpens*, f. *serpens* = *R.* (*bifrons* × *Bellardii* × *Schleicheri*) × *serpens*, Flora Bavarica: Freyung v. W.; Hüttenwald bei Bierhütte. 6./8. 97 [= 6 VIII 1897] – 670 m., leg. O. Prechtelsbauer". (**lectotype, designated here: FR0036910**, JSTOR 2024, Supplementary Fig. S1)

The morphology of the lectotype and isolectotypes (JE00014353, DAO000418462, BR0000013348458) of *R. heterophyllus* f. *serpens* indicates that it is a taxonomically insignificant member of the *R.* ser. *Glandulosi* and therefore does not require taxonomic evaluation. The holotypes of f. *schleicheri* and f. *serpens* have not been located, and it is uncertain if they ever existed. It is possible that K. G. Baenitz selected the holotypes by marking them with the respective numbers of the Herbarium Europaeum collection, specifically 9531 for f. *schleicheri* and 9532 for f. *serpens* (Baenitz 1898). It should be noted, however, that these numbers are absent from the known type material or were added subsequently by other authors, as is the case with the lectotype of *R. heterophyllus*.

Rubus hirsutus J. Presl et C. Presl, Delic. Prag. 221 (1822), nom. illeg., non *R. hirsutus* Thunb. De Rubo 7 (1813). Type: "*Rubus Pyracantha*. Presl, *Rubus hirsutus*. Presl del. non Weihe, In sylvis Šsumawae. ♄. fl Jul Aug.", sine dato, sine coll. (**lectotype, designated here: PRC 456144**, JACQ 2024, Supplementary Fig. S2)

The protologue provides a single, broadly defined locality – "in sylvaticis montanis Ssumawae Čechiae", and brief information on the life form and phenology of the species – "♄, fl. Jul. Aug.". This information matches that on the label written by C. Presl. The name "*R. pyracantha* Presl" on the label is not relevant as it was written by unknown author partly over and thus later than the name "*Rubus hirsutus*". The plant on the lectotype clearly belongs to *R. gracilis* J. Presl et C. Presl Delic. Prag. 220. (1822), which was described in the same paper as *R. hirsutus* but based on a different herbarium specimen (Weber 1984). This leads to the conclusion that *R. hirsutus* J. Presl et C. Presl is the later homonym of *R. hirsutus* Thunb. and the taxonomic synonym of *R. gracilis* J. Presl et C. Presl.

Rubus kuenicus Ant. Schott ex Utsch, Deutsche Bot. Monatsschr. 16: 22 (1898). Type: "Flora des böhmisch-bayerischen Waldgebirges. *Rubus*: *Kuenicus mihi* f. *typicus* Utsch. Gefunden: Ebenschlag. bei Hinterhäuser bei Neuern. am 2. Aug. 1897. leg. Anton Schott". Other notes on specimen by A. Schott: "Staubg. [Staubgefäß] > als die am Gr. [Grunde] röthl. [röthlicher] Griffel. Bl. [Blatt] drüsigrandig. ohne Schößling, Ebenschlag, 2. Aug. 97". (**lectotype, designated here: LI 04016601**, ZOBODAT 2024, Supplementary Fig. S3)

All indications are that the selected specimen is a suitable lectotype. The specimen was collected and the taxon name written by A. Schott, to whom the name was attributed and the locality on the label falls within the broad location given in the protologue – "Osthänge des Böhmerwaldes" (Utsch 1898). The plant on the lectotype clearly belongs to *Rubus nigricans* Danthoine J. Sci. Utiles 2: 223. (1791), so we conclude that *R. kuenicus* is a taxonomic synonym of this species.

Rubus kuenicus var. *schleicheri* Utsch, Deutsche Bot. Monatsschr. 16: 22 (1898). Type: "Flora des böhmisch-bayerischen Waldgebirges. *Rubus*: *Kuenicus mihi* var. *Schleicheri* Utsch. Gefunden: Ebenschlag. bei Hinterhäuser bei Neuern. am 2. Aug. 1897. leg. Anton Schott". (**lectotype, designated here: LI 04016595**, ZOBODAT 2024, Supplementary Fig. S4)

Rubus kuenicus var. *guentheri* Utsch, Deutsche Bot. Monatsschr. 16: 22 (1898). Type: "Flora des böhmisch-bayerischen Waldgebirges. *Rubus*: *Kuenicus mihi* var. *Guntheri* Utsch. Gefunden: Ebenschlag. bei Hinterhäuser bei Neuern. am 2. Aug. 1897. leg. Anton Schott". (**lectotype, designated here: LI 04016588**, ZOBODAT 2024, Supplementary Fig. S5)

Rubus kuenicus var. *bellardii* Utsch, Deutsche Bot. Monatsschr. 16: 22 (1898). Type: „Flora des böhmisch-bayerischen Waldgebirges. *Rubus*: *Kuenicus mihi* var. *Bellardii* Utsch. Gefunden: Au bei Hinterhäuser bei Neuern. am 27. Juli. 1897. leg. Anton Schott". (**lectotype, designated here: LI 04016571**, ZOBODAT 2024, Supplementary Figs S6–S7)

All available evidence indicates that the specimens selected for the lectotype designation for all three names of varieties of *R. kuenicus* are appropriate. The specimens were collected and the text written by A. Schott, to whom the species name was attributed. The locality on the label falls within the broad location given in the protologue, namely "Osthänge des Böhmerwaldes" (Utsch 1898). The morphology of the three specimens suggests that all three specimens belong to taxonomically insignificant representatives of the *R.* ser. *Glandulosi*, and thus do not warrant taxonomic evaluation.

Rubus plicatus f. *brevispinus* Tocl, Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1903(24): 11 (1904). Type: "*Rubus plicatus* Wh. N. v. *macrander* (Focke) f. *brevispina* Tocl, Šumava: Kamenitý svah u Boubské nedaleko Vimperka, Ad fine VII 1901. Lgt. K. Tocl", only the inflorescence and the primocane leaf on the right. (**lectotype, designated here: PR 996270**, Supplementary Fig. S8)

The specimen fulfils all the criteria to be selected as a lectotype. It was labelled with the corresponding name directly by its author, it was collected before the name was published, and the locality given in the protologue – "na Šumavě v okolí Vimperka", matches

the locality on the label. The specimen comprises two taxa, namely the leaf and inflorescence on the left, which belongs to *R. nessensis*, and the leaf and inflorescence on the right, which we identify as *R. fruticosus*. In order to adhere to the original intention of the author (to describe a new form of *R. fruticosus*), we selected parts on the right as the lectotype. The inflorescence of the lectotype is typical for *R. fruticosus*, but the short prickles on the primocane stem are indeed atypical for *R. fruticosus* as described by the author of the name. However, we believe that this is due to the collection of an unsuitable or damaged part of the shrub, and that the description of the new form is therefore unwarranted. Consequently, we propose a synonymization of the form *brevispinus* with the nominal form of *R. fruticosus*.

Annotated systematic review of accepted taxa in the study area

As a result of the conducted research, a total of 62 bramble taxa were recorded and accepted in the study area, comprising 60 species, one series (*R.* ser. *Glandulosi*), and one hybrid (*R.* ×*idaeoides*). A total of 32 taxa were previously reported as occurring in the study area, and our research confirmed their presence. The remaining 30 brambles were documented for the first time in the study area. The majority of the taxa enumerated below are currently accepted within the framework of contemporary taxonomy (POWO 2024). However, five brambles are formally described herein as new species, while four others remain undescribed and are accordingly listed under provisional names. Their formal description will be provided in subsequent publications.

Rubus subgen. _Idaeobatus_ Focke

Rubus idaeus L., Sp. Pl.: 492 (1753)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: Eurasia and North America (POWO 2024).
Phytochorotype: unclassified.
Distribution in the area studied: ubiquitous (Fig. 3).
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): in sylvis subalpinis ad Stubenbach [Prášily], 1785 (Mayer 1786: 52).
Maximum elevation: 1,380 m, Großer Arber Mt. near Bayerisch Eisenstein (A. Schmidt in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Rubus subgen. _Anoplobatus_ (Focke) Focke

Rubus odoratus L., Sp. Pl.: 494 (1753)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: native in eastern North America, introduced into Europe (POWO 2024).
Distribution in the area studied: rare alien in the northern and central part, escaping near settlements (Fig. 4).
Phytochorotype: unclassified.

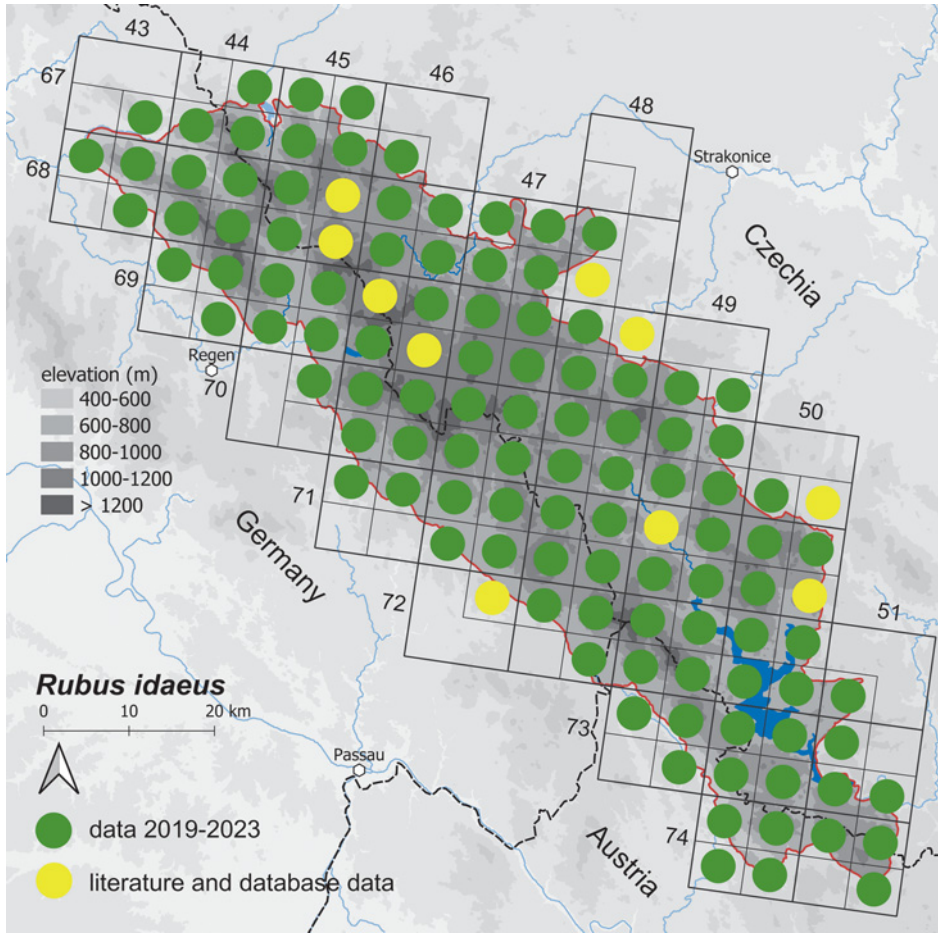

Fig. 3. Distribution of *Rubus idaeus* in the Bohemian Forest.

Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): cultivated – Rabenstein, 1847 (Sendtner 1860: 219), escaped – Horní Vltavice, 1990 (J. Kováříková & F. Procházka in Procházka & Kováříková 1999).
Maximum elevation: 1,000 m, Mitterfirmiansreut (M. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.
Note: An escaped white-flowered population was recorded in the village of Unterseilberg east of the town of Freyung.

Herbarium specimens: **Germany, 7147d:** Unterseilberg (distr. Freyung-Grafenau): N edge of village, in scrub, tens of stems, escaped, 48.80231°N, 13.63203°E, 670 m a.s.l., leg. ML, PL 16 VIII 2020 CB 87559.
Accepted literature records: Noch cultivirt und mit reifen Früchten! (10. Oct. 1847) im Garten des H. Steigernwald zu Rabenstein. O [Oberer Wald] 2050' (Sendtner 1860: 219). – Horní Vltavice, v obci, ~790 m n. m., 1990, not. Kováříková J. & Procházka F. – Hojsova Stráž, nádraží, ~740 m n. m., 1997, leg V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 58).

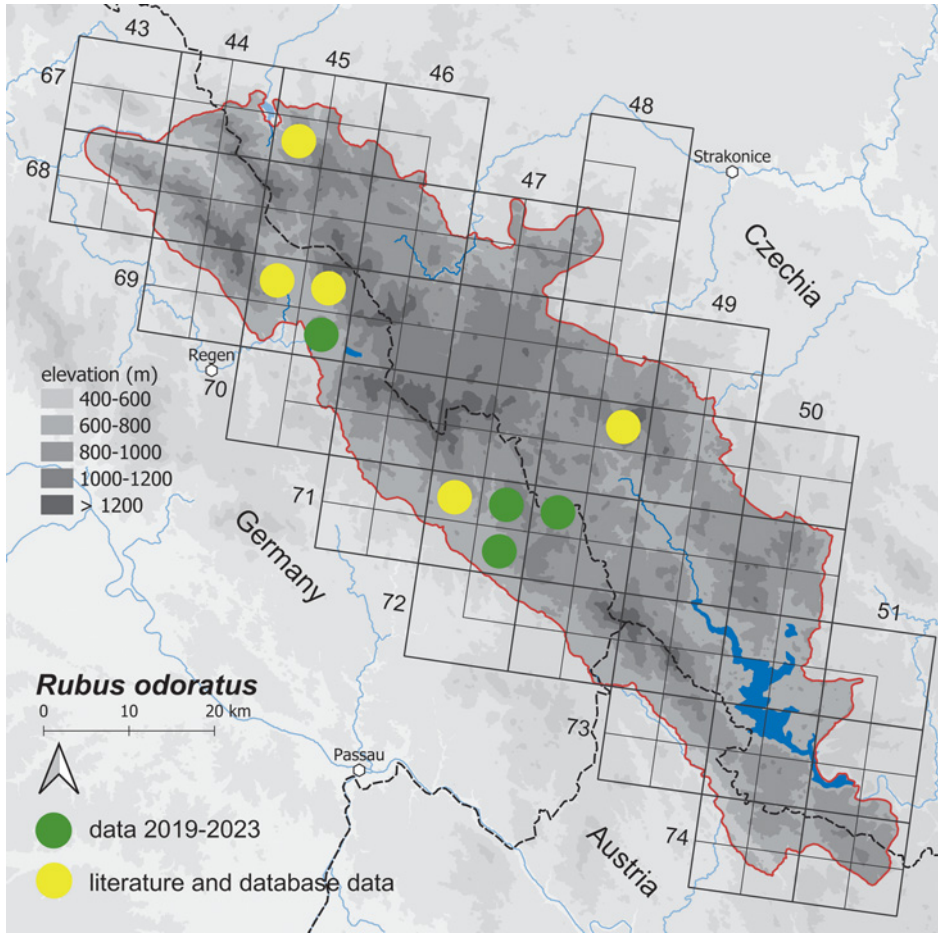

Fig. 4. Distribution of adventitious occurrences of *Rubus odoratus* in the Bohemian Forest.

Rubus subgen. *Cylactis* (Raf.) Focke

Rubus saxatilis L., Sp. Pl.: 494 (1753)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: Eurasia, Greenland (POWO 2024).
Distribution in the area studied: rare in the Czech part (Fig. 5).
Phytochorotype: *Rubus dollnensis – R. saxatilis*.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): in sylvis subalpinis ad Stubenbach [Prášily], 1785 (Mayer 1786: 52, as *Rubus, foliis trilobis, caule terreti aculcato bifloro, pedunculis geminis*).
Maximum elevation: 1,150 m, Boubín Mt. near Kubova Huť (R. Paulič in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 37a. Horní Pootaví, 6847c:** Kašperské Hory (distr. Klatovy): ~670 m SE of chapel in Kavrlík village, in young growth of *Ulmus glabra*, *Acer pseudoplatanus* and *Fraxinus excelsior* at

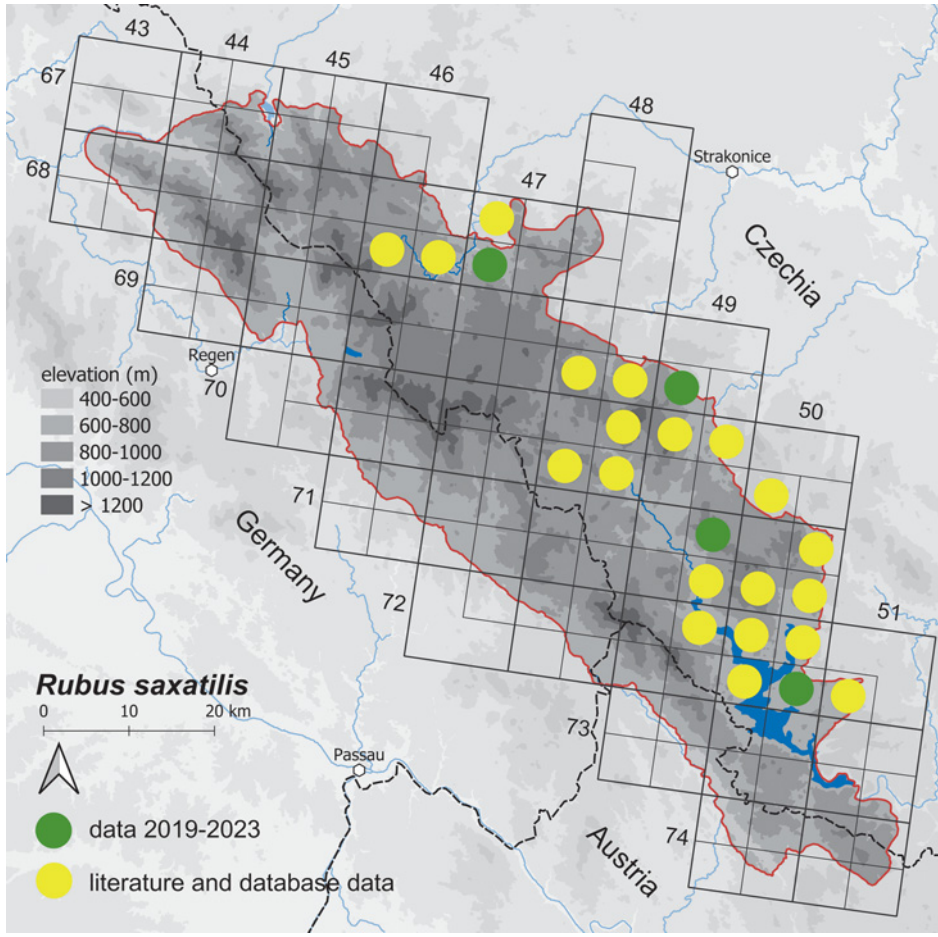

Fig. 5. Distribution of *Rubus saxatilis* in the Bohemian Forest.

road edge, rare, 49.14658°N, 13.57629°E, 770 m a.s.l., leg. ML 28 VIII 2020 CB 87311. – **88f. Želnavská hornatina, 7149b:** Pěkná (distr. Prachatice): ~260 m NW of summit of Hůrka hill, grassy edge of road, growth of ~3 square meters, 48.86248°N, 13.94026°E, 855 m a.s.l., leg. ML 11 X 2023 CB 90115. – **88g. Horno-vltavská kotlina, 7250d:** Černá v Pošumaví (distr. Český Krumlov): ~780 m SE of Neposkvrněné početí P. Marie church in village, peat bog, rare, 48.73458°N, 14.12031°E, 735 m a.s.l., leg. ML 19 V 2020 CB 87126. Accepted literature records: in sylvis subalpinis ad Stubenbach [Prášily] Circul. Prachin. [distr. Prácheň] (Mayer 1786: 52). – auf steinigen Stellen des Böhmerwaldes (Schrank 1789: 44). – Šumava [in general for the entire mountain range, potentially including Blanský les Mts] (Opiz 1815: 105). – Wälder bei den Salnauer [Želnava] Jägerahäusern im Böhmerwalde! (Čelakovský 1888: 670). – Kuschwarda [Strážný] (Drude 1902: 117). – Obermoldau [Horní Vltavice] (Drude 1902: 173). – J svah Hůreckého vrchu 803 m u obce Hůrka (Holub & Skalický 1959: 402). – les od J Mokré. – lesík nad horním rybníčkem mezi obcemi Polečnice a Mladoňov. – lesík při cestě k obci Lštín nad nádražím Polečnice. – smíšený les SV od Staré Huti, 950 m. – smíšený les na kótě 835 m S od obce Hodňov. – v lískovém křoví nad vápencovým lomem na kótě 818 m J od Černé [Černá v Pošumaví]. – v křoví na S svahu vrchu kóty 796 m J od obce Polečnice. – vápencové pahorky mezi dvorem Jestřebí a obcemi Bližná a Černá [Černá v Pošumaví] (Holub & Skalický 1959: 408). – 5. Kašperské Hory: Zlatý potok, včetně přítoku, který pramení pod Chlumem, protéká částí obce Kašperských Hor zv. Prádlo a vlévá se do Zlatého potoka (Vaněček 1984: 100). – 88. Šumava (Vimperk, Želnava) (Holub 1995: 88). – Černá v Pošumaví, okraj vápencového lomu J obce, ~790 m n. m., 1997, leg. V. Žíla, herb., det

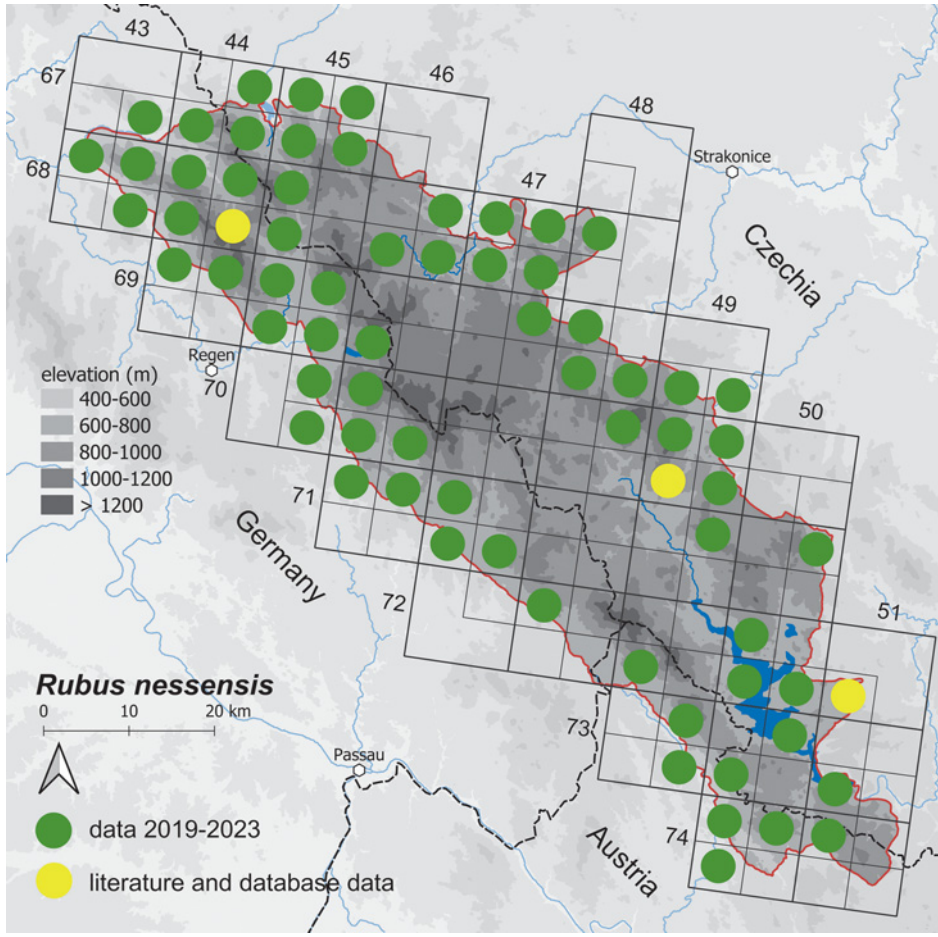

Fig. 6. Distribution of *Rubus nessensis* in the Bohemian Forest.

J. Holub. – Ondřejov, Jógl, smíšený les při okraji cesty asi 1 km SSZ kóty Příčník [Mt.] (961,2), ~880 m n. m., 1998, A. Pavlíčko & V. Šuk. – Svojše, rozcestí k Rejštejnu, ~580 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 58). – Želnava (Chán 1999: 247). – Nová Pec, jižní až jihozápadní úpatí Hajného vrchu nad silnicí Nová Pec – Jelení vrchy, světlý borový les, několik kolonií, 17 IX 2022, not. V. Grulich. – Nová Pec, kóta 781 asi 1,2 km Z od nádraží, na světlinách ve vrcholové části několik kolonií, 30 IX 2002, not. V. Grulich. – Dlouhý Bor SZ Nové Pece. – Pestřický vrch [hill] u Zadní Zvonkové [Zadní Zvonková] (Hadinec et al. 2003: 280).

Rubus subgen. *Rubus*, sect. *Rubus*, subsect. *Rubus*

Rubus ser. *Nessenses* H. E. Weber

Rubus nessensis Hall, Trans. Roy. Soc. Edinburgh 3: 21 (1794) (syn.: *R. suberectus* Anders.)
Description and illustration: Weber (1995).
Overall distribution: western, north-western, central and eastern Europe (Kurtto et al. 2010).
Distribution in the area studied: scattered in low to medium elevations (Fig. 6).

Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): Hohenwarth, Bodenmais, Kleiner Arbersee, Sankt Oswald, 1856 (Sendtner 1856: 195, as *R. suberectus* Anders.).
Maximum elevation: 1,121 m, Lindberger Schachten (W. Diewald in GBIF 2024, herb. W. Diewald).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Austria, 7451a:** Vorderweißenbach (distr. Urfahr-Umgebung): ~890 m NE of church in village, edge of forest road, several individuals, 48.55913°N, 14.22466°E, 790 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87552. – **Czechia, 37g. Libínské Předšumaví, 7049b:** Albrechtovice (distr. Prachatice): 980 m WNW of summit of Albrechtovický kopec hill, edge of forest road through clearing, large growth, Coll. No. 1161, 48.97555°N, 13.94663°E, 800 m a.s.l., leg. ML 5 X 2021 CB 87776. – **37h. Prachatické Předšumaví, 6949c:** Škarez 2. díl (distr. Prachatice): ~200 m NNE of summit of Skalní hora Mt., edge of forest road through *Picea abies* plantation and clearings, several shrubs, Coll. No. 1189, 49.0303°N, 13.88506°E, 805 m a.s.l., leg. ML 8 X 2021 CB 87785. – **88d. Boubínsko-stožecká hornatina, 7049a:** Zvěřenice (distr. Prachatice): ~510 m NE of summit of Krejčovický vrch hill, edge of *Picea abies* plantation and clearing, growth of ~20 square meters, 48.98895°N, 13.90650°E, 705 m a.s.l., leg. ML 4 X 2023 CB 90118. – **88h. Svatotomášská hornatina, 7350c:** Pasečná (distr. Český Krumlov): ~1.5 km NNW of summit of U Horní Ureše hill, scrub below power lines, abundant, 48.6208°N, 14.06417°E, 745 m a.s.l., leg. ML 3 IX 2020 CB 87491.
Accepted literature records: am Regen bei Simpering [part of Hohenwarth village]. – Bodenmais. – im bayerischen Waldgebirge bis am kleinen Arbersee 2986'. – St. Oswald [Sankt Oswald] (Sendtner 1856: 195). – um Bodenmais, St. Oswald by 2480' [Sankt Oswald, 806 m a.s.l.], am Regen bei Simpering [part of Hohenwarth], am kleinen Arbersee bei 2986' [= 970 m a.s.l.] (Sendtner 1860: 214). – Sumawa Gebirges (Gistel 1864: 232). – in der Umgebung von Eisenstein [Bayerisch Eisenstein], wie überall im Böhmerwalde (Progel 1886: 68). – in der Nähe des "Schwarzen Sees" [Černé jezero Lake] (Schott 1897: 53). – … na Šumavě je uváděn až z výšky 1000 m (Holub 1995: 90). – Lazny J Strašína, ~610 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Lipka, okraj lesa při silnici do Klášterce, 1,5 km SV obce, 810 m n. m., 1996, leg. & det. V. Žíla. – Zelená Lhota: u nádraží 1 km SV obce, ~640 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 58). – při lesní silnici od Statečku směrem k Bucharu, 850 m [W of Hamry] (Procházka et al. 2001: 177).

Rubus ser. *Alleghenienses* (L. H. Bailey) H. E. Weber

Rubus allegheniensis Porter, Bull. Torrey Bot. Club 23: 153 (1896)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: native in eastern North America, introduced into Europe, Japan, South Africa, Australia and New Zealand (POWO 2024)
Distribution in the area studied: rare alien, escaping near settlements (Fig. 7).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): escaped – Kubova Huť, 1992 (Holub 1992).
Maximum elevation: 1,163 m, Hoher Filzberg Mt. near Waldhäuser (P. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the Bavarian part.

Herbarium specimens: **Czechia, 88b. Šumavské pláně, 6947b:** Michalov (distr. Prachatice): ~1.2 km ESE of summit of Popelná hora hill, edge of forest road in *Picea abies* plantation clearing, small growth, escaped, 49.09514°N, 13.63690°E, 945 m a.s.l., leg. ML 28 IX 2023 CB 90108. – **Germany, 6945c:** Lindberg (distr. Regen): ~500 m WNW of church in village, edge of meadow road, three individuals, Coll. No. 629, 49.03748°N, 13.24803°E, 660 m a.s.l., leg. ML 5 IX 2022 CB 90009. – **7047c:** Neuschönau (Freyung-Grafenau), Bayerischer Wald NP, Waldhäuser, near path below Hoher Filzberg Mt., ~650 m SW of top, path in clearing, ~1.5 m square, escaped, 48.93112°N, 13.51887°E, 1,163 m a.s.l., leg. PL 6 X 2011 herb. P. Lepší SHPL 3003.
Accepted literature records: Kubova Huť (Holub 1992: 107). – Šumava, Kubova Huť, asi 1000 m (Holub 1995: 92).

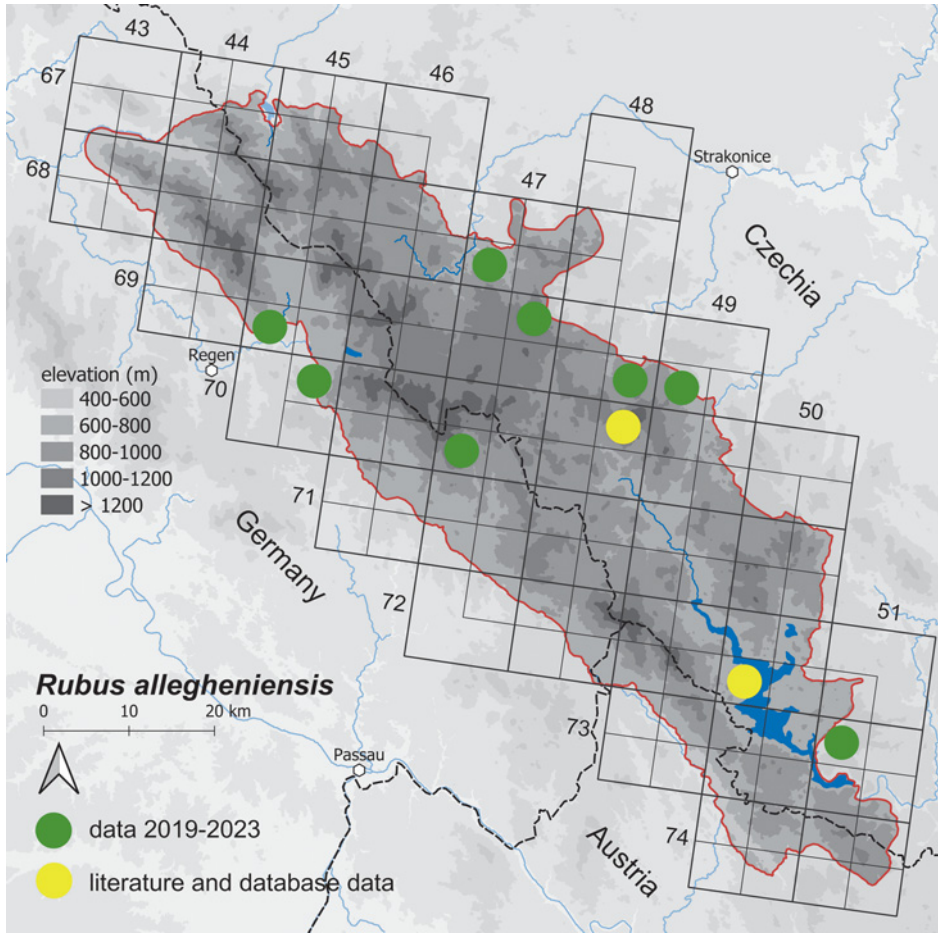

Fig. 7. Distribution of adventitious occurrences of *Rubus allegheniensis* in the Bohemian Forest.

Rubus ser. *Canadenses* (L. H. Bailey) H. E. Weber

Rubus canadensis L., Sp. Pl.: 494 (1753)
Description and illustration: Holub (1995).
Overall distribution: native in eastern North America, introduced into Europe (POWO 2024).
Distribution in the area studied: rare alien, one locality in the central part (Grainet) (Fig. 8).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G.
The first record (settlement, year): escaped – Grainet, 2020 (M. Lepší & P. Lepší in GBIF 2024).
Maximum elevation: 670 m, Grainet (M. Lepší & P. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimen: **Germany, 7247b:** Grainet (distr. Freyung-Grafenau): ~1.5 km SE of St. Nikolaus church in village, ruderal scrub, one large shrub, 48.78626°N, 13.66538°E, 670 m a.s.l., leg. PL, ML 16 VIII 2020 CB 87562.

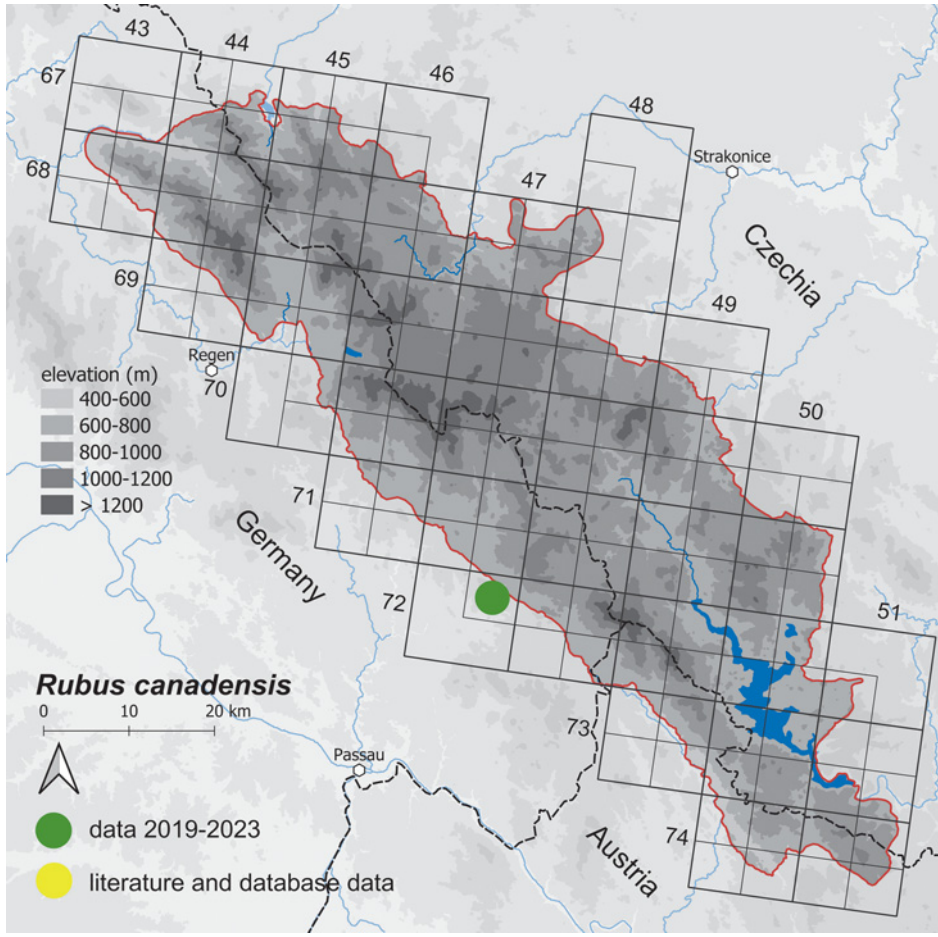

Fig. 8. Distribution of adventitious occurrences of *Rubus canadensis* in the Bohemian Forest.

Rubus ser. *Rubus*

Rubus bertramii G. Braun, Exsicc. (Herb. Rub. Germ.) 1877: no. 21 (1877)
Description and illustration: Weber (1995), Lepší & Lepší (2024).
Overall distribution: western, north-western and central Europe (Kurtto et al. 2010).
Distribution in the area studied: rarely in the central part (two localities near Grainet) and one locality in the southern part (Kyselov) (Fig. 9).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): unaccepted – quadrants: 6845c, 6945b, d, 6946c, 7046a, 1996 (W. Diewald, R. Zimmer, R. Hofmann in GBIF 2024), accepted – Grainet, 2020 (M. Lepší & P. Lepší in GBIF 2024).
Maximum elevation: 740 m, Kyselov (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

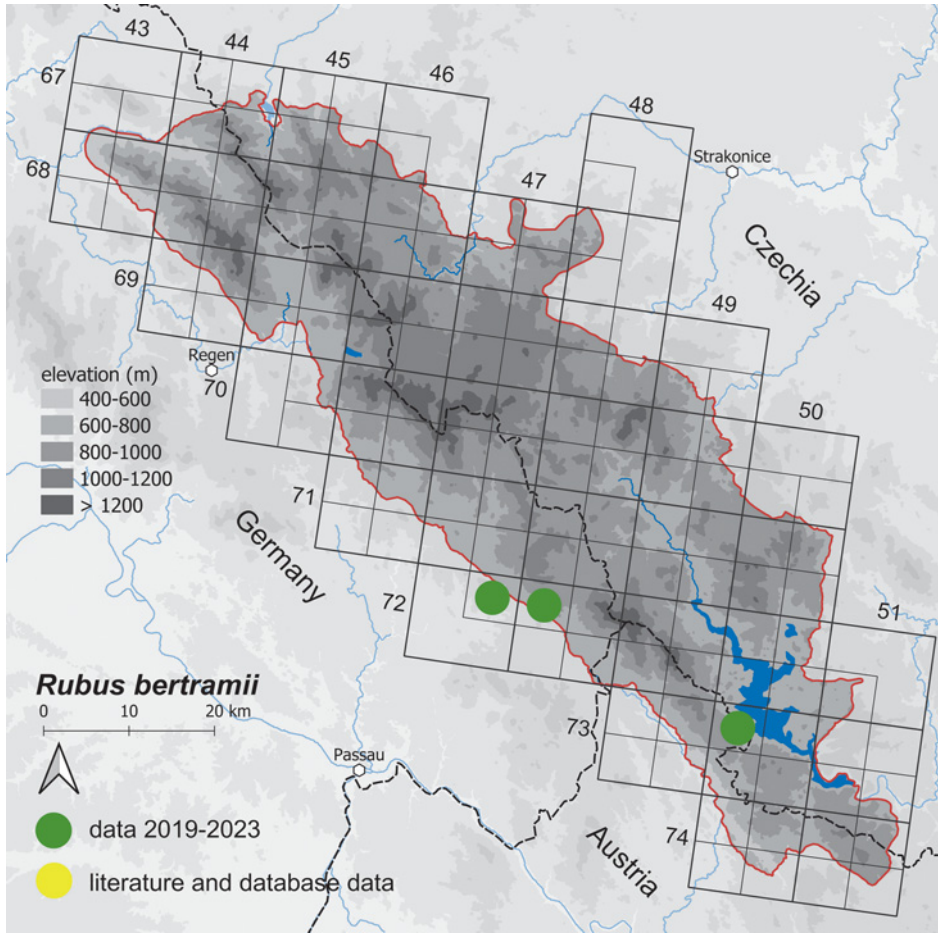

Fig. 9. Distribution of *Rubus bertramii* in the Bohemian Forest.

Note: The locality near the former village of Kyselov is the only known locality of the species in the Czech Republic (Lepší & Lepší 2024). Given the frequent confusion between this species and *R. plicatus*, we do not accept database records in GBIF (2024).

Herbarium specimens: **Czechia, 88g. Hornovltavská kotlina, 7350a:** Kyselov (distr. Český Krumlov): ~480 m ENE of Kyselov/Diendorf border crossing, in growth of *Salix caprea*, one shrub, 48.67857°N, 14.04378°E, 735 m a.s.l., leg. ML 13 VII 2023 CB 90144. – Kyselov (distr. Český Krumlov): ~570 m ENE of Kyselov/Diendorf border crossing, edge of *Betula pendula*, *Picea abies*, *Salix aurita* and *Salix cinerea* mixed growth at edge of road, two large growths – 68 and 115 square meters, Coll. No. 685, 48.67933°N, 14.04464°E, 740 m a.s.l., leg. ML, PL 15 IX 2022 CB 89928. – **Germany, 7247b:** Grainet (distr. Freyung-Grafenau): ~1.5 km SE of St. Nikolaus church in village, abandoned meadow, one large growth, 48.78626°N, 13.66538°E, 670 m a.s.l., leg. PL, ML 16 VIII 2020 CB 87561. – **7248a:** Grainet (distr. Freyung-Grafenau): ~2 km SE of church in village, forest edge along road, several individuals, 48.78453°N, 13.67258°E, 710 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87563.
Accepted literature records: Kyselov, Grainet (Lepší & Lepší 2024: 175).

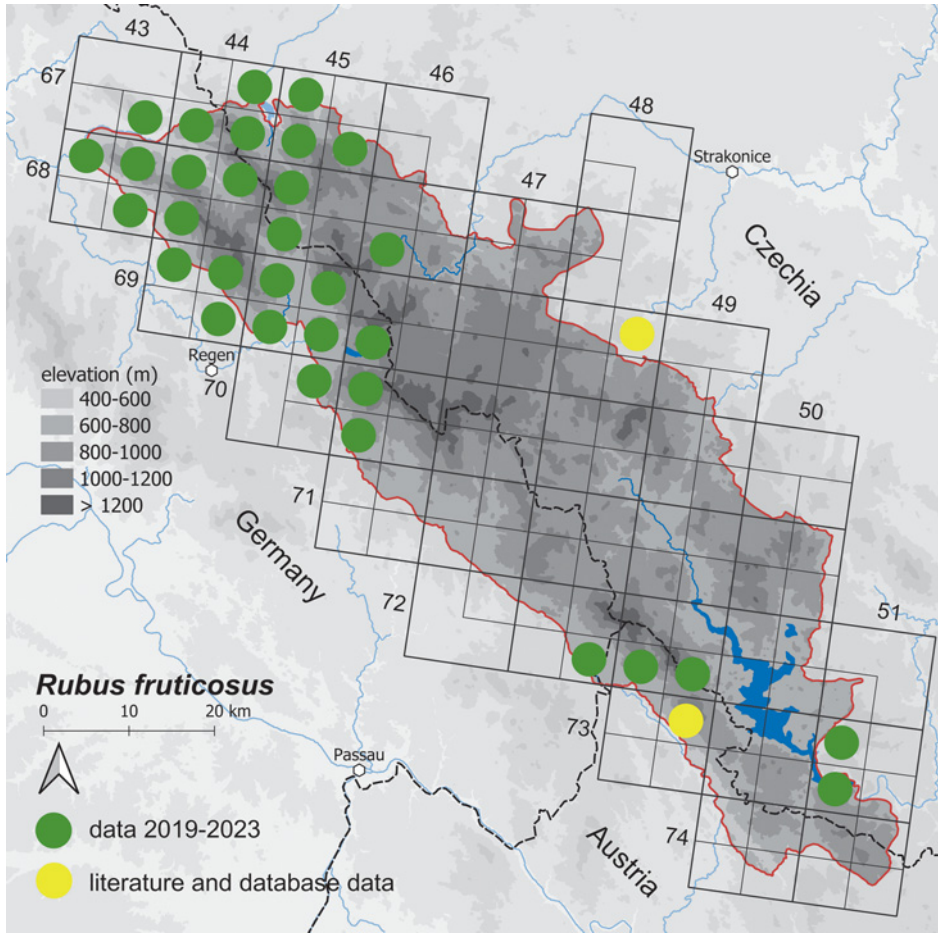

Fig. 10. Distribution of *Rubus fruticosus* in the Bohemian Forest.

Rubus fruticosus L., Sp. Pl.: 493 (1753) (syn.: *R. plicatus* Weihe et Nees)
Description and illustration: Weber (1995).
Overall distribution: western, north-western, central and eastern Europe (Kurtto et al. 2010).
Distribution in the area studied: scattered in the northern part, rare or absent in the central part, rare in the southern part (Fig. 10).
Phytochorotype: *Rubus fruticosus – R. sulcatus*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): unaccepted – in der Umgebung von Eisenstein [Bayerisch Eisenstein], wie überall im Böhmerwalde (Progel 1886: 68), accepted – Aigen-Schlägl, 1987 (J. Danner in ZOBODAT 2024).
Maximum elevation: 1,250 m, Enzian Mt. near Bodenmais (K. Boublík et al. 2019 in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 88h. Svatotomášská hornatina, 7351c:** Loučovice (distr. Český Krumlov): ~860 m NW of summit of Uhlířský vrch, edge of forest clearing and young plantation, one shrub, 48.61383°N, 14.24230°E, 725 m a.s.l., leg. ML 27 IV 2020 CB 86942. – **Germany, 6845c:** Bayerisch Eisenstein (distr. Regen): near Debrník CZ/D border crossing, along Grosse Deffernik brook, abandoned alluvial meadow, large growth, 49.11183°N, 13.23595°E, 720 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87573. – **7045b:** Frauenau (distr. Regen): ~1.1 km SE of Assumption of Blessed Virgin Mary church, grassy edge of forest road, medium-sized growth, Coll. No. 860, 48.98155°N, 13.30844°E, 690 m a.s.l., leg. ML, PL 4 IX 2021 CB 88503. – **7046c:** Jägerfleck (distr. Freyung-Grafenau): ~1.1 km SE of centre of settlement, forest clearing, medium-sized growth, Coll. No. 853, 48.92042°N, 13.38052°E, 770 m a.s.l., leg. PL, ML 3 IX 2021 CB 88509.
Accepted literature records: 88. Šumava (Hojsova Stráž, Vimperk) (Holub 1995: 99). – Hojsova Stráž, okraj lesa asi 0,5 km JV obce, 900 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 58). – při lesní silnici od Statečku směrem k Bucharu, 850 m [W of Hamry] (Procházka et al. 2001: 177).

Rubus sulcatus Vest, Steiermärk. Z. 1: 162 (1821)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: western, north-western, central, southern and eastern Europe (Kurtto et al. 2010).
Distribution in the area studied: rare in lower elevations of northern and southern part, absent in the central part (Fig. 11).
Phytochorotype: *Rubus fruticosus – R. sulcatus*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): unaccepted – in der Umgebung von Eisenstein [Bayerisch Eisenstein], wie überall im Böhmerwalde (Progel 1886: 68), accepted – Bodenmais, 1994 (F. Fürnrohr in GBIF 2024).
Maximum elevation: 765 m, Frauenau (P. Lepší & M. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the Austrian part.

Herbarium specimens: **Austria, 7450b:** St. Stefan-Afiesl (distr. Rohrbach): ~1.4 km WNW of church in village, edge of forest road, several shrubs, 48.57081°N, 14.08378°E, 690 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87549. – **Czechia, 34. Plánický hřeben, 6745a:** Divišovice (distr. Klatovy): along road to Městiště village, in scrub along road, Coll. No. 342/19, 49.25348°N, 13.23579°E, 615 m a.s.l., leg. ML, PL 6 IX 2019 CB 86215. – **88g. Hornovltavská kotlina, 7350a:** Kyselov (distr. Český Krumlov): ~610 m ENE of Kyselov/Diendorf border crossing, grassy edge of road, large shrub, Coll. No. 684, 48.6793°N, 14.04528°E, 740 m a.s.l., leg. ML, PL 15 IX 2022 CB 89927. – **88h. Svatotomášská hornatina, 7350b:** Frymburk (distr. Český Krumlov): ~1.9 km NW of summit of Malý Plešný hill, forest clearing near road, large growth, Coll. No. 589, 48.66108°N, 14.12483°E, 740 m a.s.l., leg. ML 1 IX 2022 CB 90055. – **Germany, 6744c:** Rittsteig (distr. Cham): ~690 m SE of church in village, in *Betula pendula*, *Salix caprea* and *Acer pseudoplatanus* growth, medium-sized growth, Coll. No. 701, 49.24285°N, 13.05472°E, 760 m a.s.l., leg. ML, PL 24 IX 2022 CB 89835. – **7045b:** Frauenau (distr. Regen): ~2.1 km SE of Assumption of Blessed Virgin Mary church in village, edge of forest road, three shrubs, Coll. No. 866, 48.97501°N, 13.31848°E, 760 m a.s.l., leg. ML, PL 4 IX 2021 CB 88534.
Accepted literature records: při lesní silnici od Statečku směrem k Bucharu, 850 m [W of Hamry] (s. coll., s. d.). – St. Stefan am Walde, nad silnicí asi 1,5 km západně obce 660 m, 1996, leg. V. Žíla & F. Procházka (Procházka et al. 2001: 177).

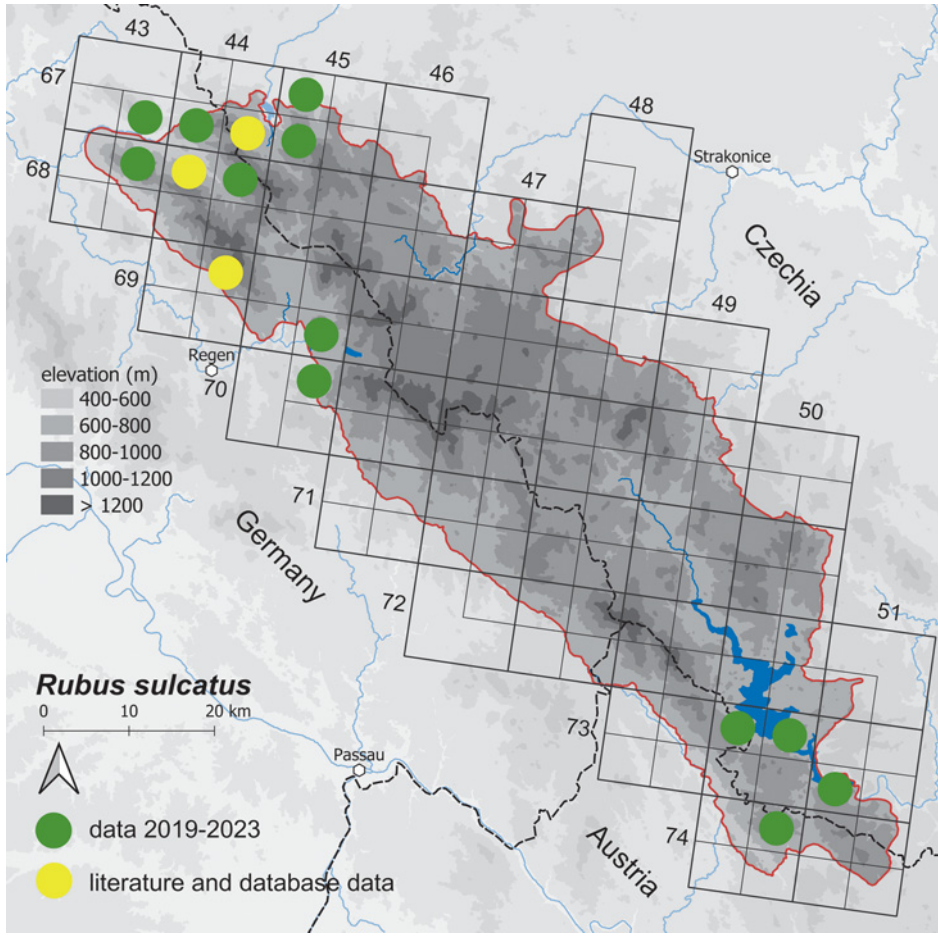

Fig. 11. Distribution of *Rubus sulcatus* in the Bohemian Forest.

Rubus subsect. *Hiemales* E. H. L. Krause

Rubus ser. *Discolores* (P. J. Müll.) Focke

Rubus armeniacus Focke, Abh. Naturwiss. Vereins Bremen 4: 183 (1874)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: native to the Caucasus, introduced into Europe, North America, South Africa etc. (Kasalkheh et al. 2024, POWO 2024)
Distribution in the area studied: rare alien, absent in the Czech part (Fig. 12).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: A, G.
The first record (settlement, year): escaped – Schönanger, 2000 (F. Fürnrohr in GBIF 2024).
Maximum elevation: 770 m, Vorderweißenbach (M. Lepší & P. Lepší in ZOBODAT 2024).

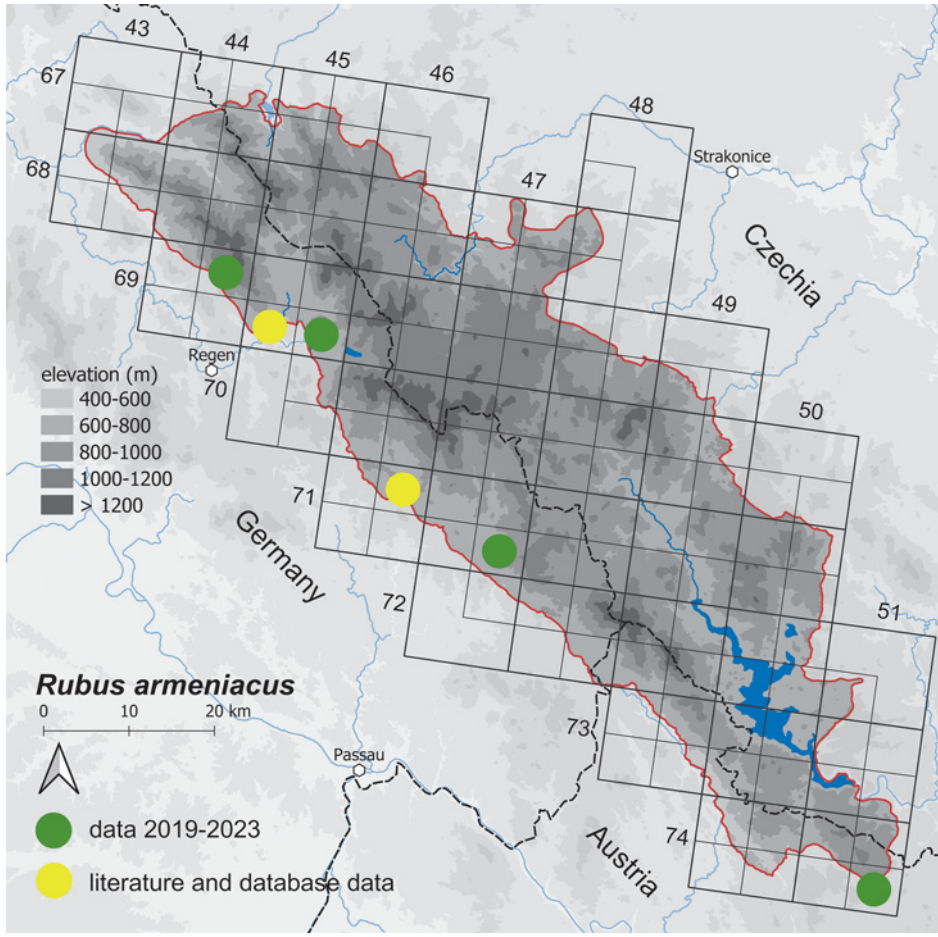

Fig. 12. Distribution of adventitious occurrences of *Rubus armeniacus* in the Bohemian Forest.

Taxonomic and floristic conclusions reached in this paper: a new taxon for the Austrian part.

Herbarium specimens: **Austria, 7451d:** Vorderweißenbach (distr. Urfahr-Umgebung): between villages of Amesschlag and Amesberg, scrub along brook, one small growth, escaped, 48.53689°N, 14.26085°E, 770 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87553. – **Germany, 6945d:** Buchenau (distr. Regen): ~710 m SSE of church in village, at edge of road in alley of trees, large growth, Coll. No. 623, 49.02502°N, 13.32575°E, 750 m a.s.l., leg. ML 5 IX 2022 CB 90012.

Rubus bicolor Opiz, Lotos 4: 70 (1854)
Description and illustration: Király et al. (2017).
Overall distribution: western, central and eastern Europe (Király et al. 2017).
Distribution in the area studied: five localities, in the northern (Městiště, Divišovice, Malý Radkov, Dobrá Voda u Hartmanic) and in the southern part (Lichtenau im Mühlkreis) (Fig. 13).

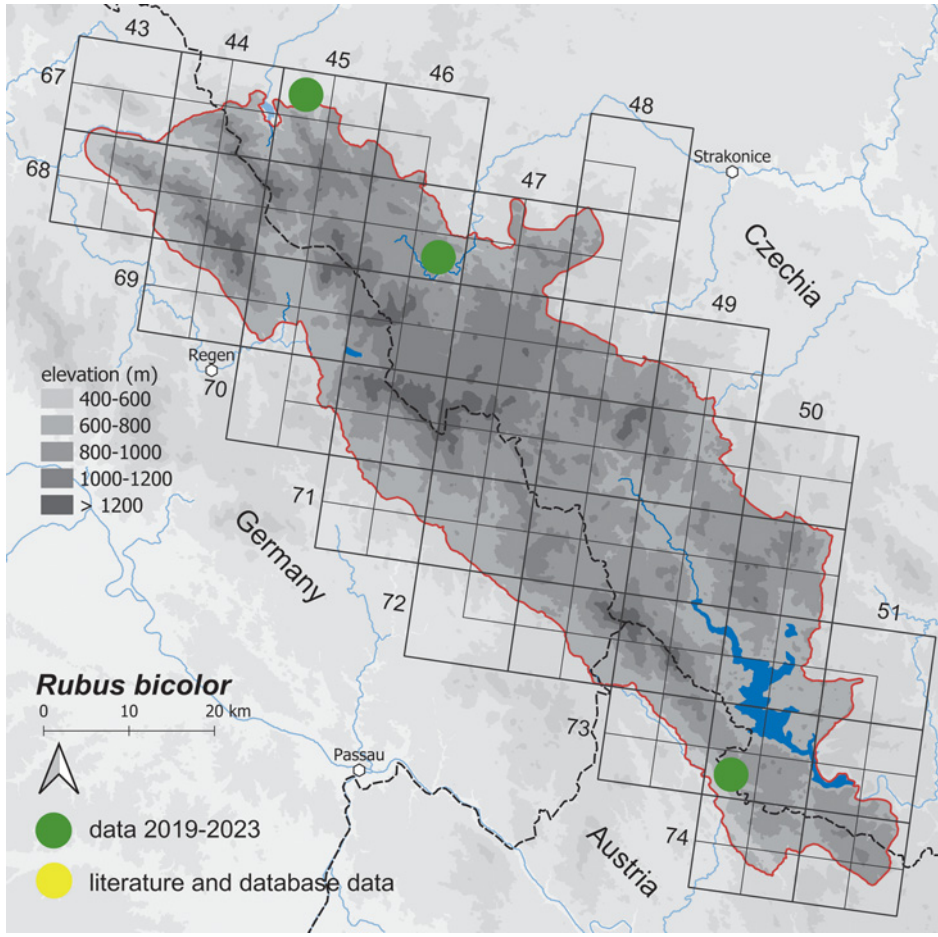

Fig. 13. Distribution of *Rubus bicolor* in the Bohemian Forest.

Phytochorotype: *Rubus fruticosus – R. sulcatus*.
Occurrence in countries within the area studied: A, Cz.
The first record (settlement, year): Divišovice, 2019 (M. Lepší & P. Lepší in Pladias 2024).
Maximum elevation: 950 m, Dobrá Voda u Hartmanic (M. Lepší et al. in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Austria, 7350c:** Lichtenau im Mühlkreis (distr. Rohrbach): ~1.7 km N of castle in village, scrub on slope above road, one large shrub, 48.6045°N, 14.03702°E, 550 m a.s.l., leg. PL, ML 15 VIII 2020 CB 87545. – **Czechia, 34. Plánický hřeben, 6745a:** Divišovice (distr. Klatovy): in village, *Galio-Urticetea*, 49.26603°N, 13.23564°E, 580 m a.s.l., leg. ML, PL 6 IX 2019 CB 86213. – **37a. Horní Pootaví, 6846d:** Malý Radkov (distr. Klatovy): ~1.4 km NW of summit of Radkovský vrch hill, forest clearing, one small growth, Coll. No. 506, 49.1456°N, 13.47439°E, 720 m a.s.l., leg. ML, J. Velebil 23 VIII 2022 CB 83686.

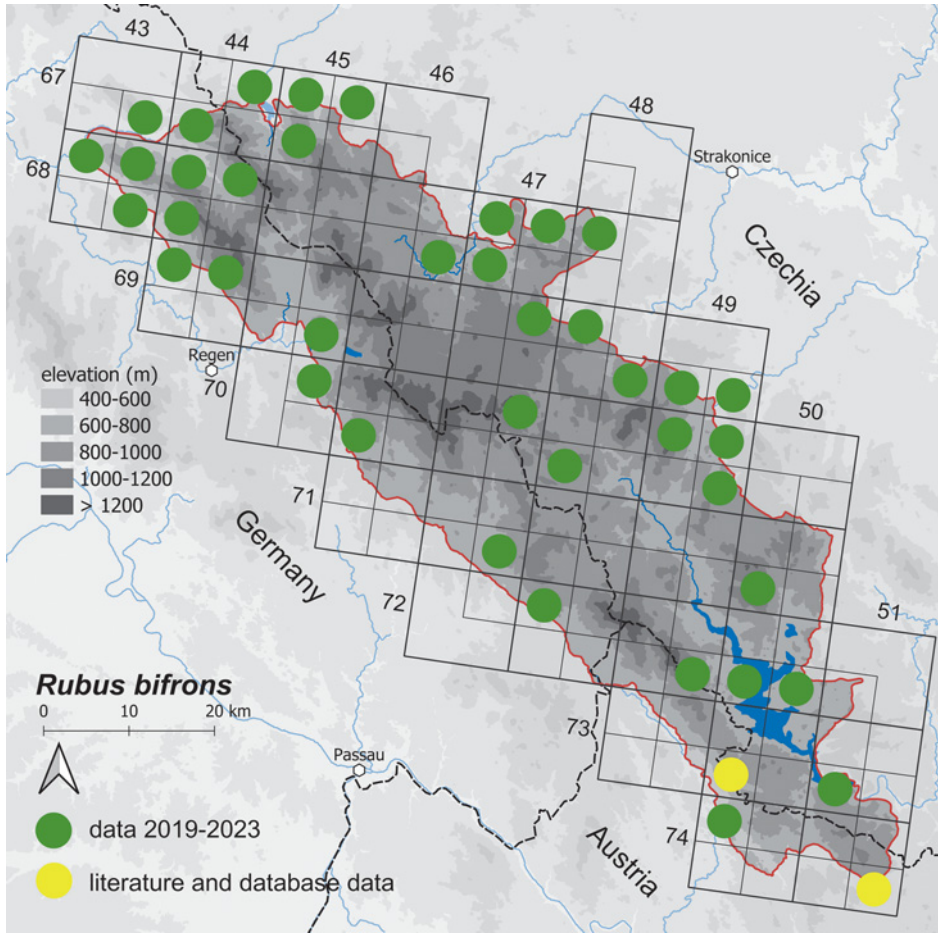

Fig. 14. Distribution of *Rubus bifrons* in the Bohemian Forest.

Rubus bifrons Vest, Steiermärk. Z. 3: 163 (1821)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: western, central and south-eastern Europe (Kurtto et al. 2010).
Distribution in the area studied: rare to scattered mostly in low elevations (Fig. 14).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): unaccepted – in der Umgebung von Eisenstein [Bayerisch Eisenstein], wie überall im Böhmerwalde (Progel 1886: 68), accepted – Haslach an der Mühl, 1992 (J. Danner in ZOBODAT 2024).
Maximum elevation: 1,045 m, Větrný Mt. near Volary (J. Velebil & M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 37h. Prachatické Předšumaví, 6949c:** Škarez 1. díl (distr. Prachatice): S edge of settlement, edge of forest road, scattered, Coll. No. 1194, 49.02789°N, 13.89344°E, 800 m a.s.l., leg. ML 8 X 2021 CB 87782. – **88b. Šumavské pláně, 6947b:** Michalov (distr. Prachatice): ~1 km ESE of summit

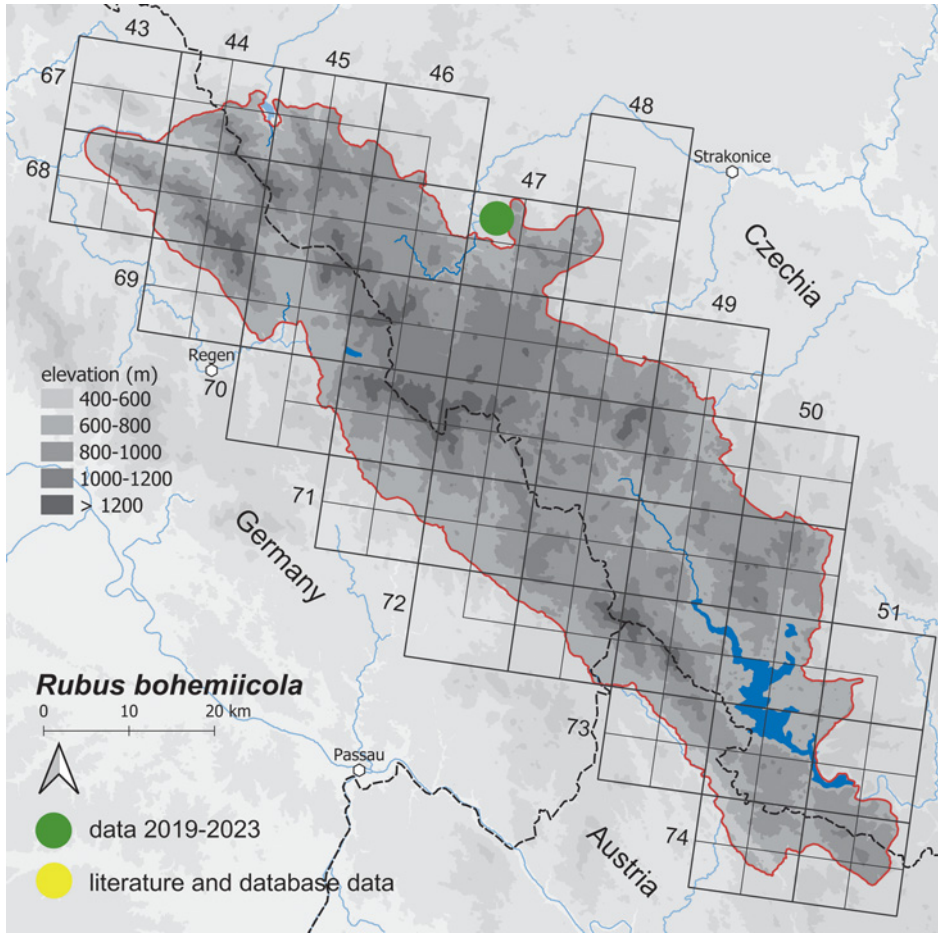

Fig. 15. Distribution of *Rubus bohemiicola* in the Bohemian Forest.

of Popelná hora hill, forest clearing, growth of several square meters, 49.09686°N, 13.63534°E, 930 m a.s.l., leg. ML 28 IX 2023 CB 90110. – **7047b:** Knížecí Pláně (distr. Prachatice): ~1.1 km WNW of remains of church in former village, road edge, several shrubs, 48.95517°N, 13.60166°E, 1,040 m a.s.l., leg. ML, PL, K. Boublík 4 VII 2018 CB 85800. – **88c. Javorník, 6848a:** Maleč (distr. Klatovy): ~1.3 km SE of chapel in village, forest clearing, one small shrub, 49.16396°N, 13.68765°E, 785 m a.s.l., leg. ML 28 VIII 2020 CB 87321.
Accepted literature records: Lazny J Strašína, ~610 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Zelená Lhota: okraj obce při silnici směr Hojsova Stráž, ~560 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 56).

Rubus bohemiicola Holub et Palek ex Holub, Folia Geobot. Phytotax. 26: 333 (1991)
Description and illustration: Holub (1995).
Overall distribution: central Europe, endemic to the Czech Republic (Kurtto et al. 2010).
Distribution in the area studied: one locality in the northern part (Kašperské Hory) (Fig. 15).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.

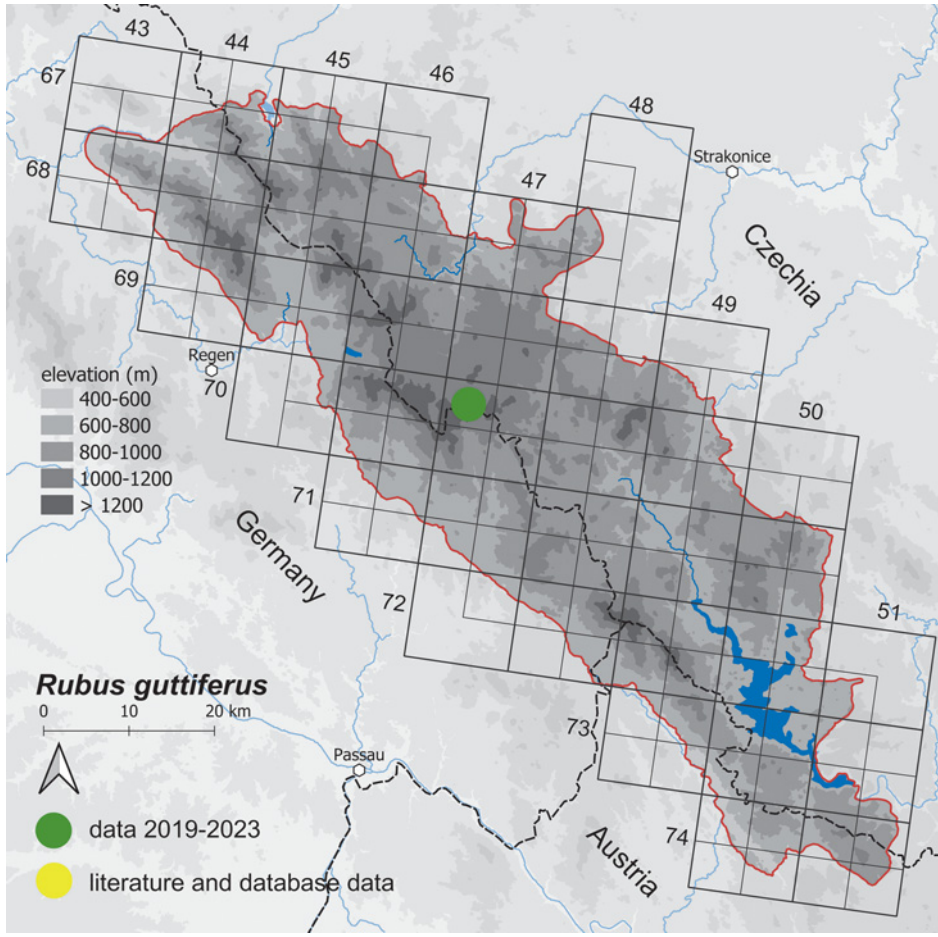

Fig. 16. Distribution of *Rubus guttiferus* in the Bohemian Forest.

The first record (settlement, year): Kašperské Hory, 2020 (M. Lepší in Pladias 2024).
Maximum elevation: 855 m, Kašperské Hory (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimen: **Czechia, 37a. Horní Pootaví, 6847a:** Kašperské Hory (distr. Klatovy): ~610 m NE of chapel in Kavrlík village, verge of road, one shrub, 49.1548°N, 13.57904°E, 855 m a.s.l., leg. ML 28 VIII 2020 CB 87310.

Rubus guttiferus Trávn. et Holub, Preslia 77: 42 (2005)
Description and illustration: Trávníček & Zázvorka (2005).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: one locality in the central part (Kvilda) (Fig. 16).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Kvilda, 2019 (J. Velebil in Pladias 2024).

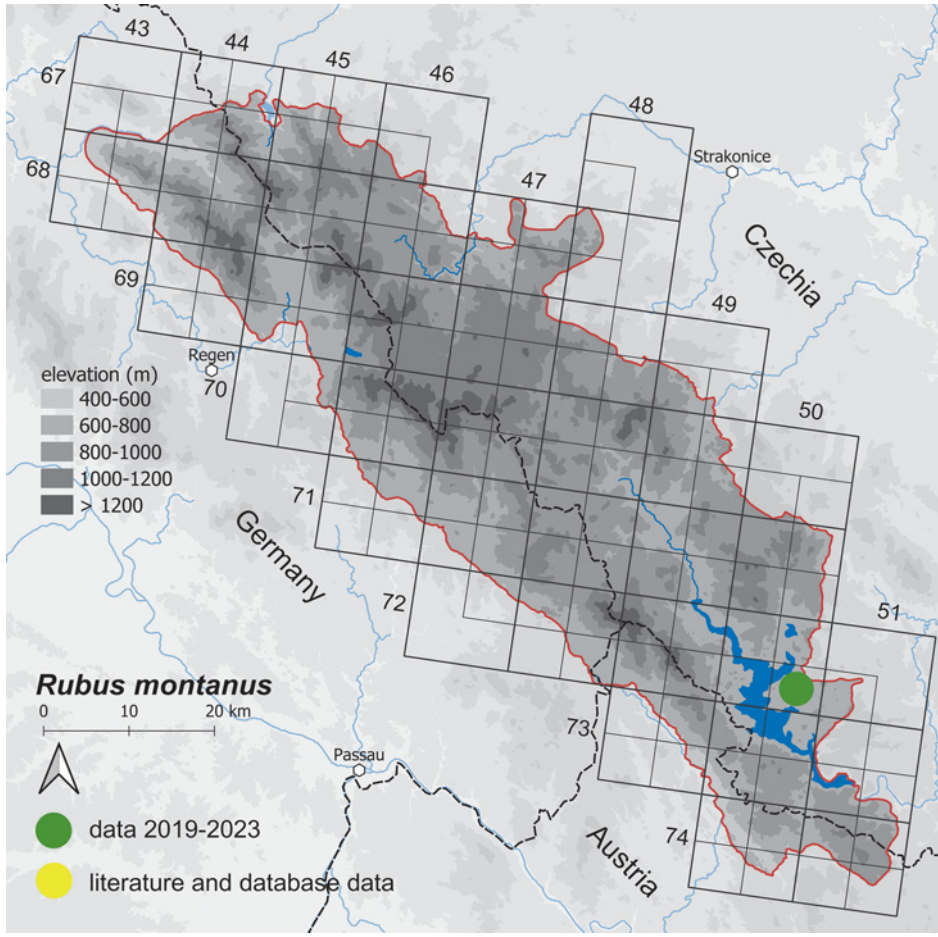

Fig. 17. Distribution of *Rubus montanus* in the Bohemian Forest.

Maximum elevation: 1,145 m, Kvilda (J. Velebil in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied, unconfirmed occurrence in 2023, probably extinct.

Herbarium specimen: **Czechia, 88b. Šumavské pláně, 7047a:** Kvilda (Prachatice distr.): along road from Kvilda to the Pramen Vltavy protected area about 1 km NE of the Černá hora mountain (1,315 m), 48.98594°N, 13.56130°E, 1,145 m a.s.l., leg. J. Velebil 10 IX 2019 herb. J. Velebil, rev. B. Trávníček.

Rubus montanus Lib. ex Lej., Fl. Spa 2: 317 (1813)
Description and illustration: Király et al. (2017).
Overall distribution: western and central Europe (Király et al. 2017).
Distribution in the area studied: one locality in the southern part (Milná) (Fig. 17).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Milná, 2022 (M. Lepší & P. Lepší in Pladias 2024).

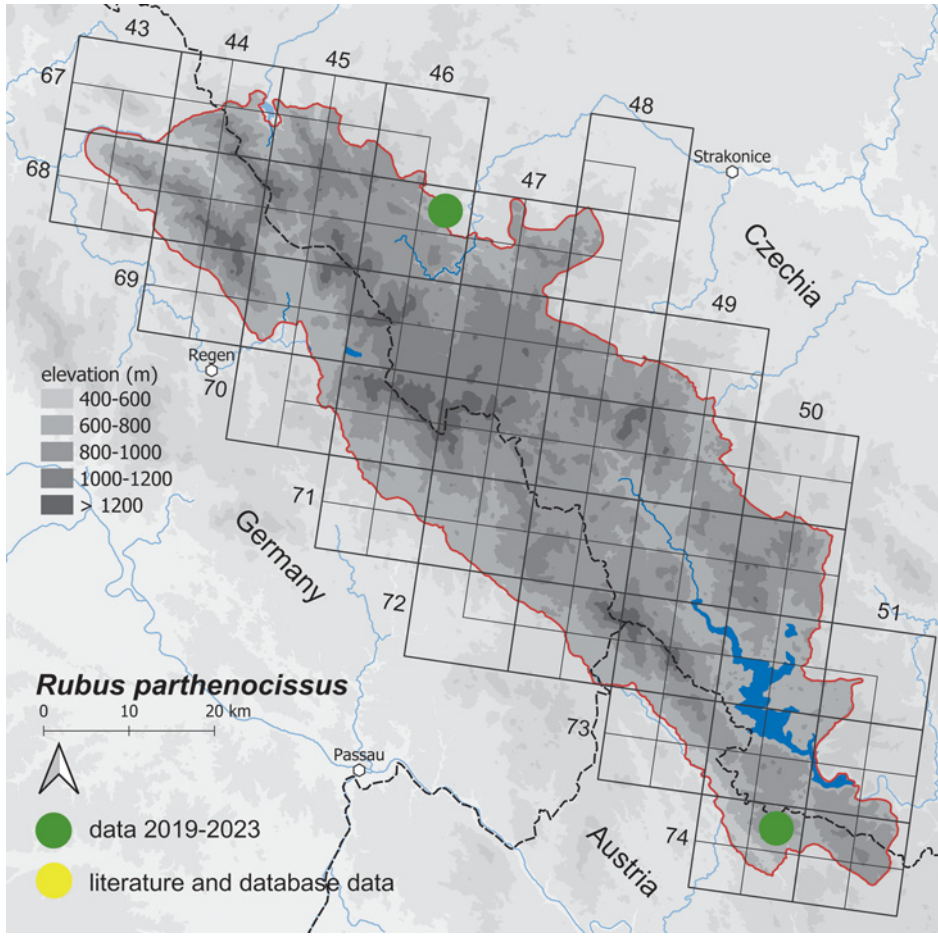

Fig. 18. Distribution of *Rubus parthenocissus* in the Bohemian Forest.

Maximum elevation: 745 m, Milná (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimen: **Czechia, 88g. Hornovltavská kotlina, 7250d:** Milná (distr. Český Krumlov): ~1.3 km SW of summit of Kozlík hill, in *Salix aurita* scrub at edge of forest road, one large shrub, 48.71147°N, 14.15492°E, 745 m a.s.l., leg. ML, PL 19 X 2022 CB 89948.

Rubus parthenocissus Trávn. et Holub, Preslia 77: 60 (2005)
Description and illustration: Trávníček & Zázvorka (2005).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: two localities, in the northern (Hartmanice) and in the southern part (St. Stefan-Afiesl) (Fig. 18).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: A, Cz.

The first record (settlement, year): St. Stefan-Afiesl, 2020 (M. Lepší & P. Lepší in ZOBODAT 2024).
Maximum elevation: 690 m, St. Stefan-Afiesl (M. Lepší & P. Lepší in ZOBODAT 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Austria, 7450b:** St. Stefan-Afiesl (distr. Rohrbach): ~1.4 km WNW of church in village, open forest, several shrubs, 48.57081°N, 14.08378°E, 690 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87567. – **Czechia, 37a. Horní Pootaví, 6846b:** Hořejší Těšov (distr. Klatovy): ~960 m S of summit of Na Čihadle hill, edge of forest road through forest clearing, several shrubs, Coll. No. 1113, 49.17787°N, 13.44306°E, 670 m a.s.l., leg. ML 25 IX 2021 CB 87752.

Rubus ser. *Rhamnifolii* (Bab.) Focke

Rubus gracilis J. Presl et C. Presl, Delic. Prag.: 220 (1822) (syn.: *R. villicaulis* Köhler ex Weihe, *R. hirsutus* J. Presl et C. Presl)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central and eastern Europe (Kurtto et al. 2010).
Distribution in the area studied: rare in low elevations of the northern and of the central part (Fig. 19).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G, Cz.
The first record (locality or settlement, year): broadly localized record – in sylvaticis montanis Ssumawae Čechiae [in the mountain forests of the Šumava Mts, Czechia; the record very probably comes from the foothills of Šumava Mts, i.e. from outside the study area] (Presl & Presl 1822, sub. *R. hirsutus*), accurately localized record – Arrach, 2019 (M. Lepší & P. Lepší in GBIF 2024).
Maximum elevation: 820 m, Vimperk (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the Bavarian part.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6744b:** Stará Lhota (distr. Klatovy): ~1.2 km SE of Panna Marie chapel in village, shrubby cut of railway, one large shrub, Coll. No. 1068, 49.26122°N, 13.15819°E, 600 m a.s.l., leg. ML 24 IX 2021 CB 88407. – **37g. Libínské Předšumaví, 7049d:** Zbytiny (distr. Prachatice): ~850 m S of St. Vít church in village, forest clearing, one small shrub, Coll. No. 817, 48.93498°N, 13.97782°E, 810 m a.s.l., leg. ML 1 XI 2022 CB 89940. – **88b. Šumavské pláně, 6847c:** Červená (distr. Klatovy): ~1.1 km S of Panny Marie Pomocné chapel in village, gap in *Picea abies* plantation, several weak individuals, Coll. No. 1061, 49.11049°N, 13.57737°E, 760 m a.s.l., leg. ML 21 IX 2021 CB 87757. – **88d. Boubínsko-stožecká hornatina, 6948d:** Vimperk (distr. Prachatice): ~1.6 km NW of summit of Medník hill, edge of forest road in *Picea abies* plantation, small shrub, 49.04051°N, 13.76429°E, 820 m a.s.l., leg. ML 28 IX 2023 CB 90103. – **Germany, 6843b:** Arrach (distr. Cham): forest at W edge of Vogelwiese village, 49.19673°N, 12.97160°E, 500 m a.s.l., leg. ML, PL 8 IX 2019 CB 86176.

Rubus laciniatus Willd., Hort. Berol. Icon. 2: t. 82 (1806)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: native range unknown, alien in Europe, North America, Australia and New Zealand (POWO 2024).
Distribution in the area studied: rare alien, cultivated and escaping near settlements (Fig. 20).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): escaped – Lohberg, 2016 (L. Meierott in GBIF 2024).

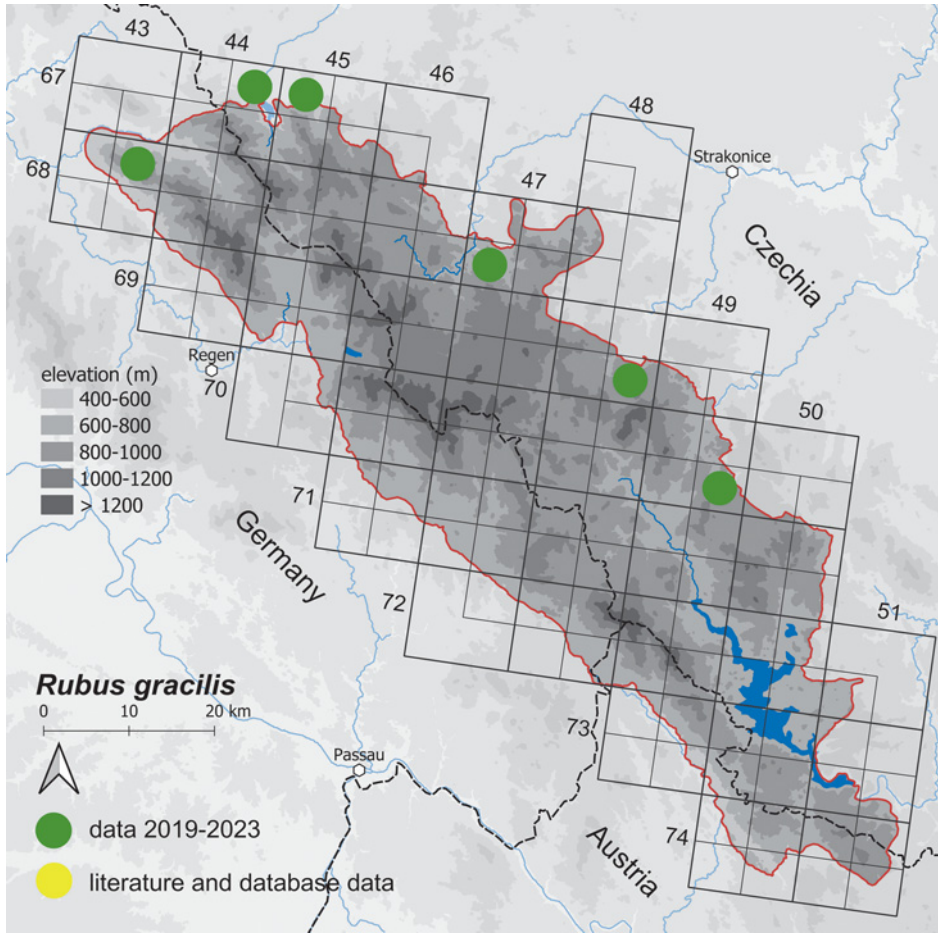

Fig. 19. Distribution of *Rubus gracilis* in the Bohemian Forest.

Maximum elevation: 950 m, Guglöd (K. Boublík 2019 in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for Austrian and Czech part.

Herbarium specimens: **Austria, 7350c:** Lichtenau im Mühlkreis (distr. Rohrbach): ~1.7 km N of castle in village, scrub on slope above road, one shrub, escaped, 48.6045°N, 14.03702°E, 550 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87546. – **Czechia, 88b. Šumavské pláně, 6845d:** Nová Hůrka (distr. Klatovy): ~1 km SE of summit of U školky hill, edge of forest road, large growth, Coll. No. 438, 49.14851°N, 13.31282°E, 910 m a.s.l., leg. ML, A. Lepší 10 VIII 2022 CB 90073. – **Germany, 7046b:** Guglöd (distr. Freyung-Grafenau): along the tourist path above Racheldiensthütte ~3.3 km N of the village, 48.95827°N, 13.42823°E, 900–1,000 m a.s.l., leg. K. Boublík 9 VIII 2019 CB 104734.

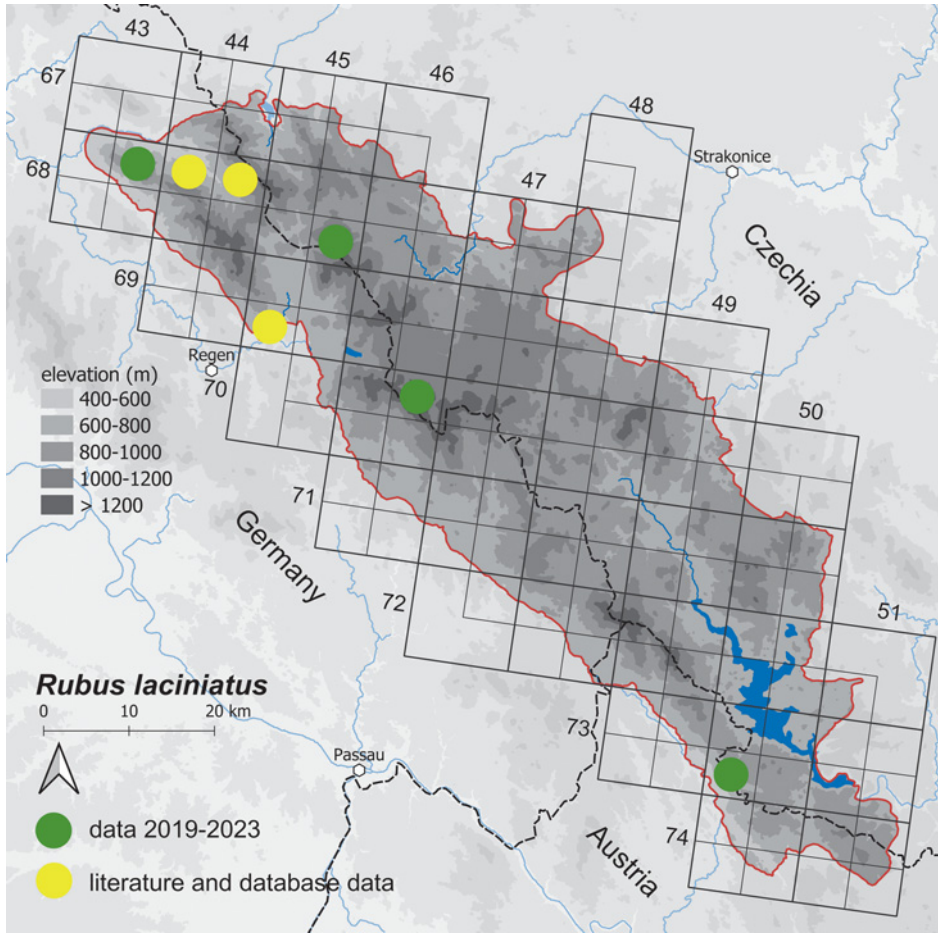

Fig. 20. Distribution of adventitious occurrences of *Rubus laciniatus* in the Bohemian Forest.

Rubus ser. *Micantes* Sudre

Rubus bicoloristylus M. Lepší & P. Lepší, this paper
Description and illustration: see below.
Overall distribution: central Europe (see below).
Distribution in the area studied: rare in the northern part (Fig. 21).
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Unterried, 2002 (see below).
Maximum elevation: 690 m, Bodenmais (see below).
Taxonomic and floristic conclusions reached in this paper: taxonomic novelty.

Herbarium specimens: see below.

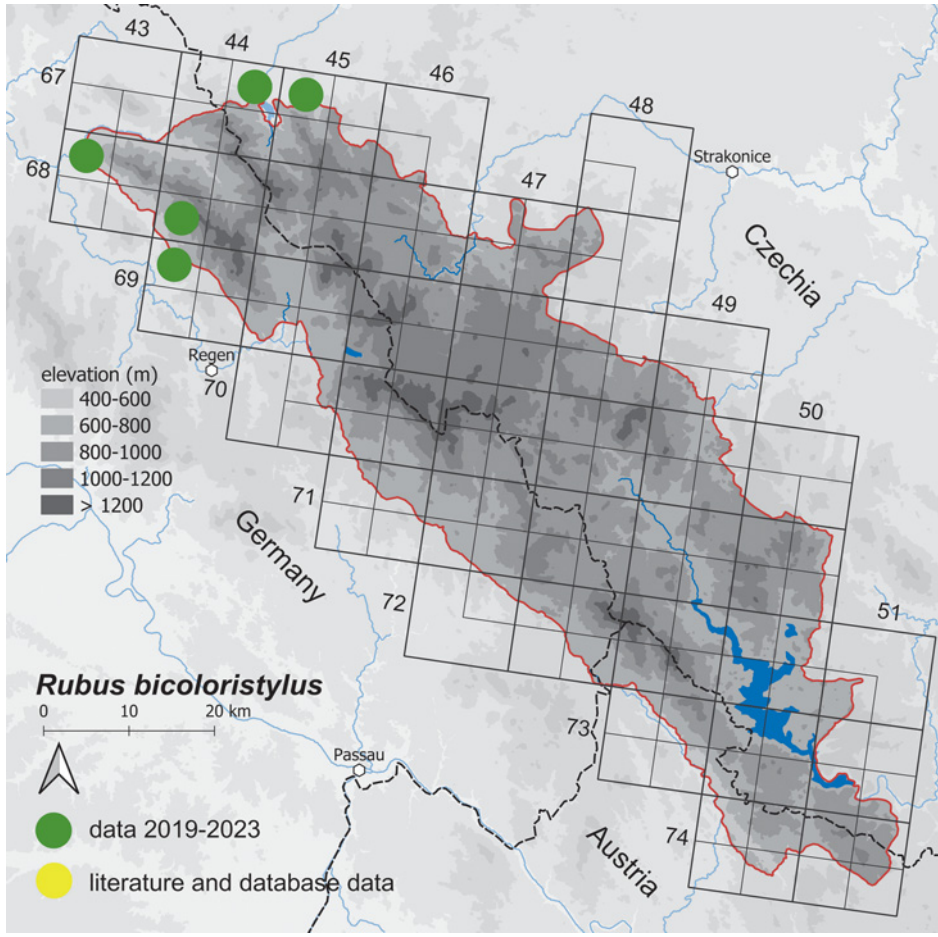

Fig. 21. Distribution of *Rubus bicoloristylus* in the Bohemian Forest.

Rubus chaerophyllus Sagorski et W. Schultze, Deutsche Bot. Monatsschr. 12: 1 (1894)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: five localities, in the northern (Hartmanice) and in the central part (České Žleby, Mlynářovice, Albrechtovice, Buk) (Fig. 22).
Phytochorotype: *Rubus dollnensis – R. saxatilis*.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): broadly localized record – zerstreut im Bayerischen Wald und Böhmerwald (Weber 1995: 462), accurately localized record – Hartmanice, 2020 (M. Lepší in Pladias 2024).
Maximum elevation: 865 m, České Žleby (J. Velebil & M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

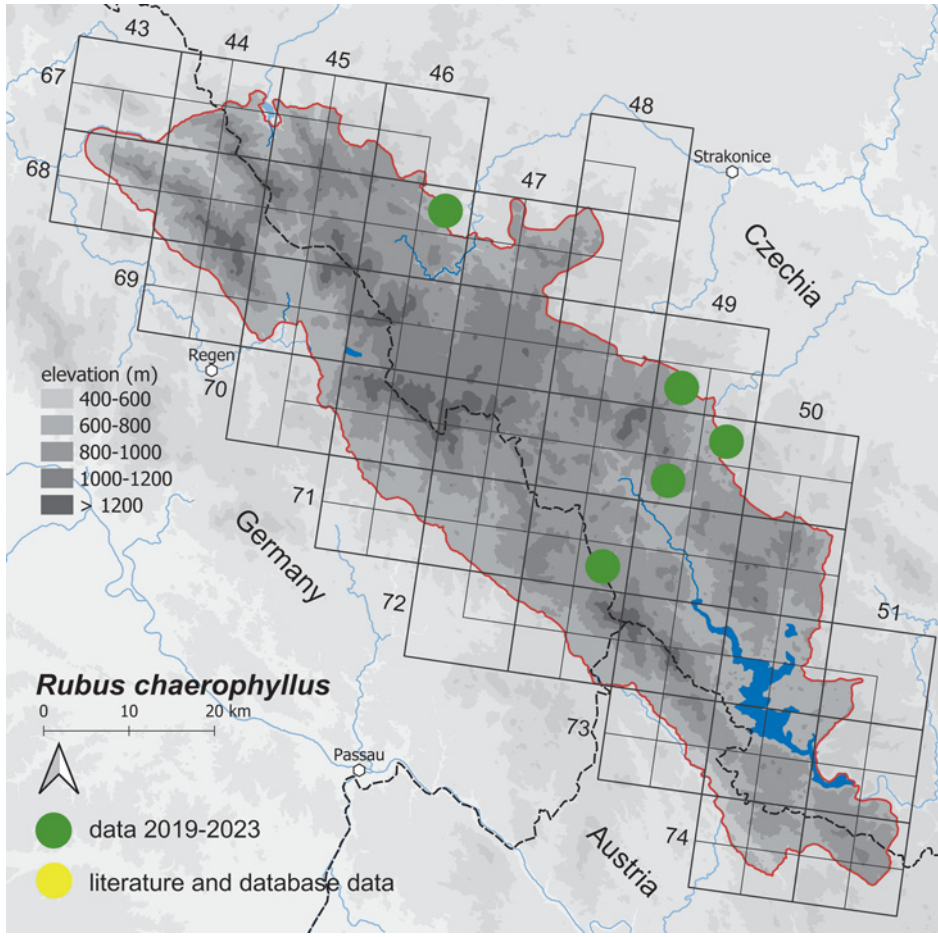

Fig. 22. Distribution of *Rubus chaerophyllus* in the Bohemian Forest.

Herbarium specimens: **Czechia, 37g. Libínské Předšumaví, 7049b:** Albrechtovice (distr. Prachatice): ~620 m SE of summit of Albrechtovický kopec hill, in *Betula* growth at edge of forest road, medium-sized growth, Coll. No. 1171, 48.96917°N, 13.96368°E, 805 m a.s.l., leg. ML 5 X 2021 CB 87772. – **7049c:** Mlynářovice (distr. Prachatice): ~790 m SSW of summit of Kádrův kopec hill, edge of forest road in *Picea abies* plantation, one shrub, 48.94777°N, 13.91580°E, 825 m a.s.l., leg. ML 5 X 2023 CB 90084. – **88b. Šumavské pláně, 6846b:** Hartmanice (distr. Klatovy): ~380 m NNW of Karlov castle, forest clearing, several shrubs, 49.16666°N, 13.42636°E, 720 m a.s.l., leg. ML 26 VIII 2020 CB 87335. – **88d. Boubínsko-stožecká hornatina, 7148d:** České Žleby (distr. Prachatice): ~1.5 km SW of summit of Kaprať hill, growth of *Salix caprea* in pasture, growth of ~9 square meters, Coll. No. 549, 48.84377°N, 13.76492°E, 865 m a.s.l., leg. J. Velebil, ML 26 VIII 2022 CB 89574.

Rubus clusii Borbás, Erdész. Lapok 24: 401 (1885)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare to scattered in the southern part, rare in the central and in the northern part (Fig. 23).

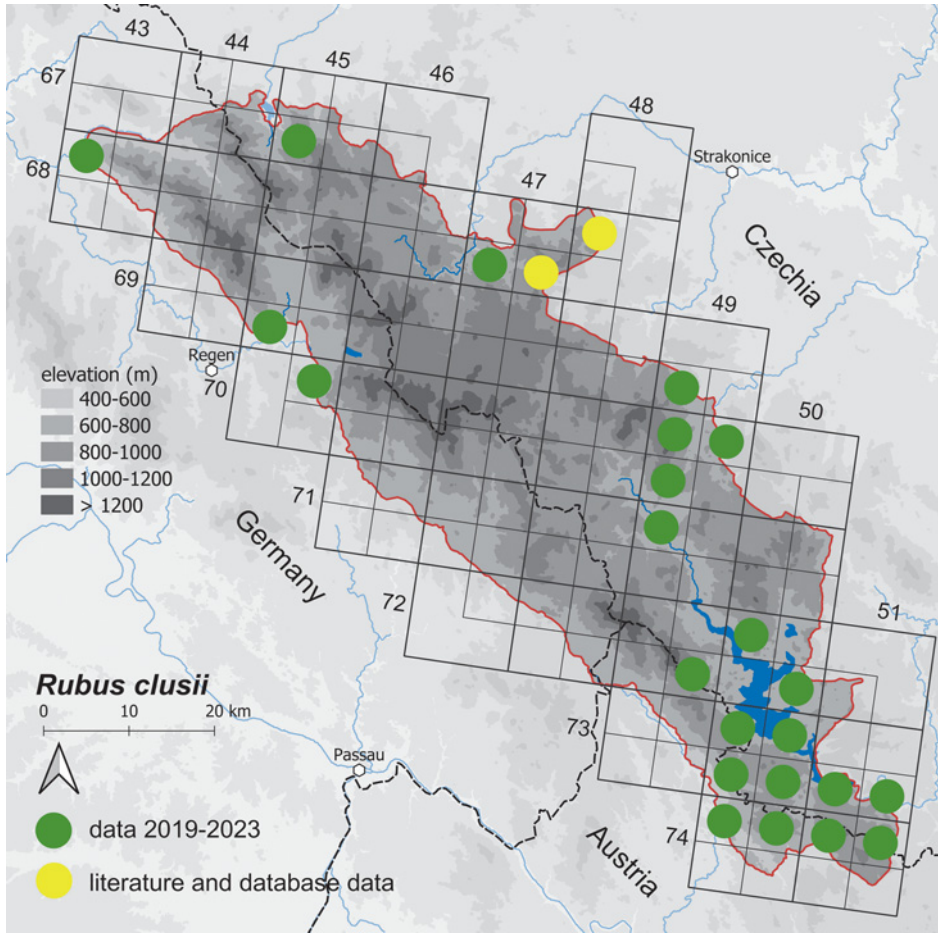

Fig. 23. Distribution of *Rubus clusii* in the Bohemian Forest.

Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): Sankt Oswald bei Haslach, 1991 (J. Danner in ZOBODAT 2024).
Maximum elevation: 1,060 m, Fleischhackerberg Mt. near Ulrichsberg (M. Lepší & P. Lepší in ZOBODAT 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Austria, 7451a:** Schönegg (distr. Rohrbach): ~200 m SE of Guglerkappele chapel, edge of forest road, one small shrub, 48.577°N, 14.17981°E, 710 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87550. – **Czechia, 88d. Boubínsko-stožecká hornatina, 6949c:** Včelná pod Boubínem (distr. Prachatice): ~2.3 km SSE of centre of village, 49.00386°N, 13.87160°E, 900 m a.s.l., leg. ML 16 VIII 2019 CB 86136. – **7049a:** Řepešín (distr. Prachatice): ~450 m SSW of summit of Březový kopec hill, edge of forest road in *Pinus sylvestris* plantation, growth of ~20 square meters, 48.99645°N, 13.89229°E, 755 m a.s.l., leg. ML 4 X 2023 CB 90090.
Accepted literature records: Javorník, V okraj obce, 950 m n. m., 1997, leg. & det. V. Žíla. – Řepešín Z Záblatí, 630 m n. m., 1997, leg. V. Žíla (Procházka & Kováříková 1999: 57).

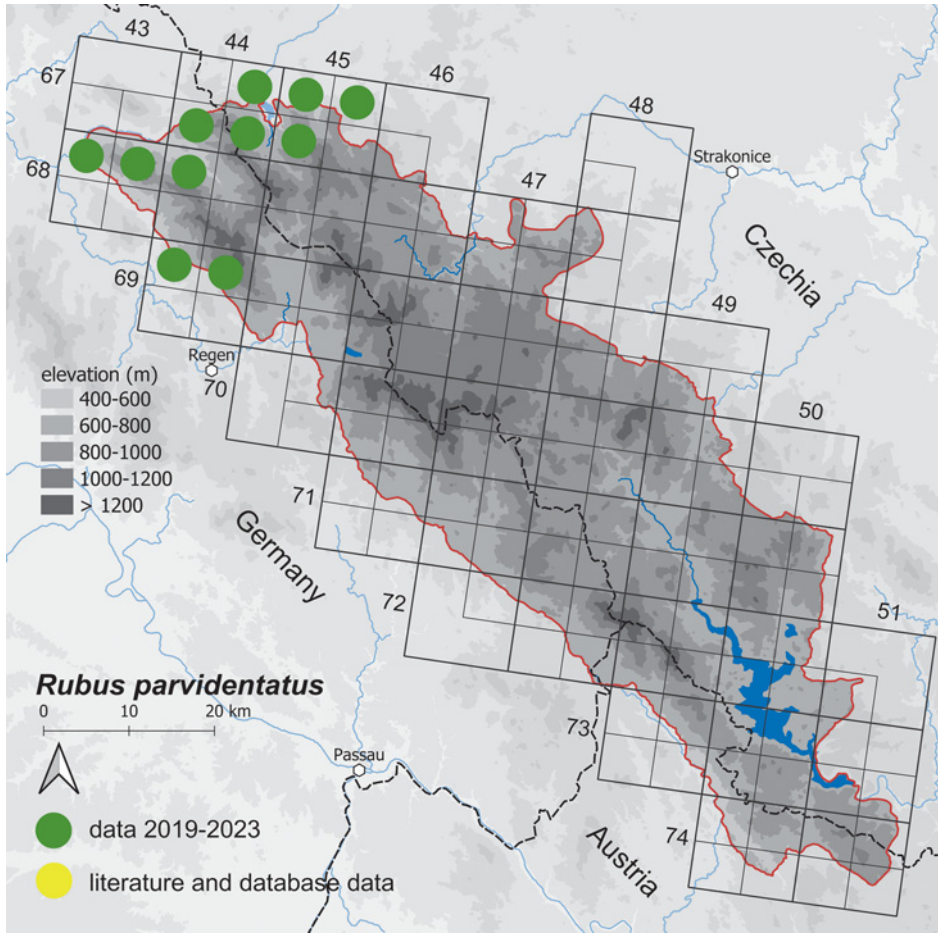

Fig. 24. Distribution of *Rubus parvidentatus* in the Bohemian Forest.

Rubus parvidentatus M. Lepší et P. Lepší, this paper
Description and illustration: see below.
Overall distribution: central Europe (see below).
Distribution in the area studied: rare to scattered in the northern part (Fig. 24).
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
Occurrence in countries within the area studied: Cz, G.
The first record (settlement, year): Hojsova Stráž, 2019 (see below).
Maximum elevation: 880 m, Bodenmais (see below).
Taxonomic and floristic conclusions reached in this paper: taxonomic novelty.

Herbarium specimens: see below.

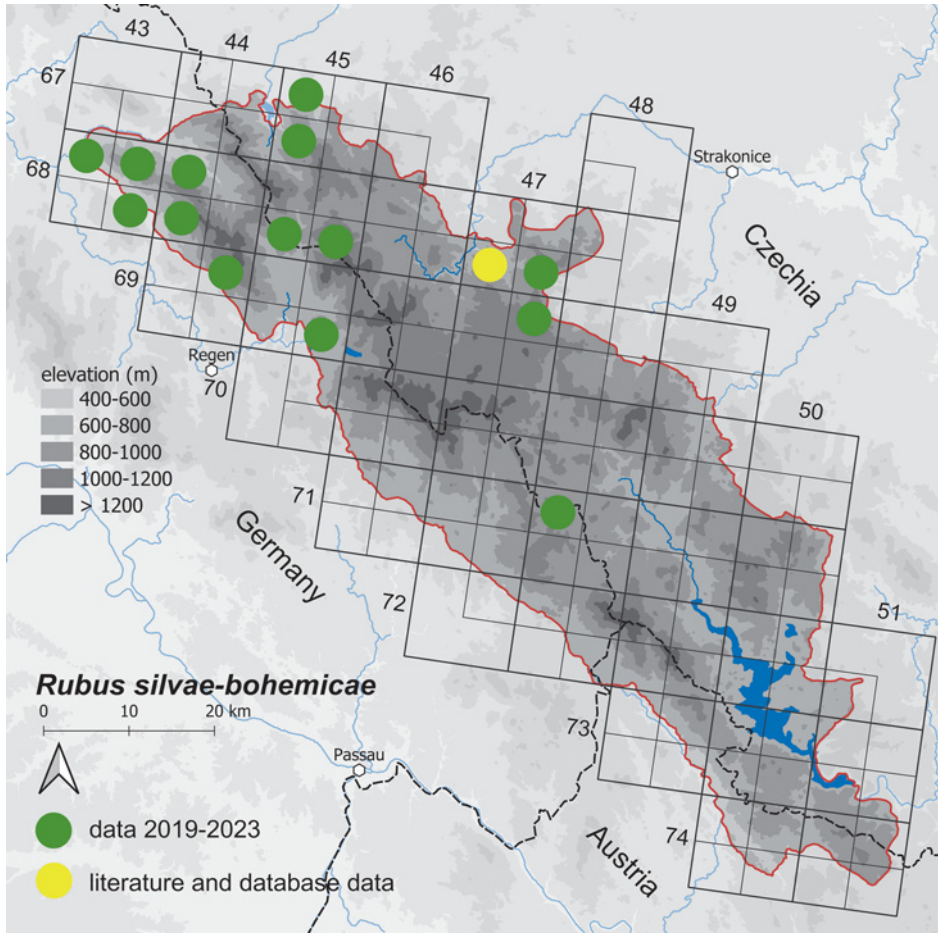

Fig. 25. Distribution of *Rubus silvae-bohemicae* in the Bohemian Forest.

Rubus silvae-bohemicae Holub ex Trávn. et Žíla, Preslia 83: 100 (2011)
Description and illustration: Trávníček & Žíla (2011).
Overall distribution: central Europe (Trávníček & Žíla 2011).
Distribution in the area studied: rare to scattered in the northern part, rare in the central part (Fig. 25).
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Svojše, Řetenice, Kašperské hory, 1996 (J. Holub in Pladias 2024).
Maximum elevation: 1,030 m, Churáňov (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745c:** Oldřichovice (distr. Klatovy): ~450 m NW of chapel in Datelov, along forest road, Coll. No. 346/19, 49.24835°N, 13.22101°E, 725 m a.s.l., leg. ML, PL 6 IX 2019 CB 86220. – **37a. Horní Pootaví, 6847d:** Červená (distr. Klatovy): ~470 m NNW of summit of Suchý

hill, clearing in *Picea abies* plantation, large growth, Coll. No. 1060, 49.12149°N, 13.59604°E, 885 m a.s.l., leg. ML 21 IX 2021 CB 87758. – **88a. Královský hvozd, 6845c:** Železná Ruda (distr. Klatovy): along railway between town and train stop in Alžbětín, in ditch of railway, 49.13435°N, 13.22028°E, 745 m a.s.l., leg. ML, PL 7 IX 2019 CB 86165. – **88b. Šumavské pláně, 6947b:** Churáňov (distr. Prachatice): ~1.3 km NNE of summit of Churáňovský vrch hill, clearing along forest road, medium-sized growth, Coll. No. 789, 49.07965°N, 13.61874°E, 1,030 m a.s.l., leg. ML 27 VIII 2021 CB 87792. – **88d. Boubínsko-stožecká hornatina, 7148a:** Strážný (distr. Prachatice): ~460 m SW of summit of Silnická hora hill, clearing in *Picea abies* plantation, scattered, Coll. No. 778, 48.88574°N, 13.69109°E, 935 m a.s.l., leg. ML 27 VIII 2021 CB 87798. – **Germany, 6843a:** Bad Kötzting (distr. Cham): ca 390 m NNE of centre of village of Bärndorf, edge of forest road in *Picea abies* plantation, one large shrub, 49.16196°N, 12.91423°E, 500 m a.s.l., leg. ML, PL 14 VIII 2020 CB 87580. – **6843b:** Arrach (distr. Cham): between the village and Drittenzell settlement, 49.18419°N, 12.99665°E, 600 m a.s.l., leg. ML, PL 8 IX 2019 CB 86202. – Arrach (distr. Cham): forest at W edge of Vogelwiese village, 49.19673°N, 12.97160°E, 500 m a.s.l., leg. ML, PL 8 IX 2019 CB 86177. – Eck (distr. Cham): ca 580 m SE of centre of village, fringe of forest road, 49.16006°N, 12.99639°E, [895 m a.s.l.], leg. ML, K. Boublík, M. Kotilínek 20 VI 2019 CB 86294. – **6844a:** Eck (distr. Cham): ca 950 m SE of centre of settlement, fringe of forest road, 49.15996°N, 13.00223°E, 950 m a.s.l., leg. ML, K. Boublík, M. Kotilínek 20 VI 2019 CB 86301. – Lam (distr. Cham): N edge of Hinteröd settlement, 49.17344°N, 13.04154°E, 755 m a.s.l., leg. ML, PL 8 IX 2019 CB 86199. – **6845c:** Zwieslerwaldhaus (distr. Regen): ca 1.7 km NW of centre of village, along forest road, 49.10003°N, 13.22566°E, [735 m a.s.l.], leg. ML, K. Boublík 17 VI 2019 CB 86280. – Bayerisch Eisenstein (distr. Regen): ca 340 m SW of St. Johannes Nepomuk church in village, edge of forest road, small growth, 49.11714°N, 13.19553°E, 740 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87570. – **6845d:** Zwieslerwaldhaus (distr. Regen): 1.7 km NE of centre of village, along forest road, 49.10309°N, 13.26515°E, [985 m a.s.l.], leg. ML, K. Boublík, 18 VI 2019 CB 86288. – **6945d:** Lindberg (distr. Regen): ca 1.5 km SW of summit of Riesberg, edge of forest road, medium-sized growth, Coll. No. 875, 49.03075°N, 13.27238°E, 690 m a.s.l., leg. PL, ML 4 IX 2021 CB 88533.

Accepted literature records: 6843.22: Lam, pagus Arrach, apud viam publicam ad marginem pagi, 495 m s. m., 26 IX 2004, leg. V. Žíla, herb. Žíla (Trávníček & Žíla 2011: 109).

Rubus silvae-norticae M. Lepší et P. Lepší, Preslia 81: 45 (2009)

Description and illustration: Lepší & Lepší (2009).

Overall distribution: central Europe (Kurtto et al. 2010).

Distribution in the area studied: rare to scattered in the southern part, rare in the central and in the northern part (Fig. 26).

Phytochorotype: *Rubus muhelicus – R. silvae-norticae*.

Occurrence in countries within the area studied: A, Cz.

The first record (settlement, year): Afiesl, 1997 (J. Danner in Lepší & Lepší 2009).

Maximum elevation: 980 m, Lipka (M. Lepší & P. Lepší in Pladias 2024).

Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Austria, 7451d:** Bad Leonfelden (distr. Urfahr-Umgebung): ~1.4 km NNW of church in centre of town, *Picea abies* plantation, one large growth, 48.53482°N, 14.28678°E, 840 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87555. – **Czechia, 37n. Kaplické mezihoří, 7351a:** Frymburk (distr. Český Krumlov): ~2.5 km NNE of St. Bartoloměj church in town, in open *Picea abies* plantation, scattered, 48.68008°N, 14.18100°E, 810 m a.s.l., leg. ML, PL 19 X 2022 CB 89947. – **88a. Královský hvozd, 6745d:** Onen Svět (distr. Klatovy): ~500 m SE of centre of village, forest clearing, Coll. No. 334/19, 49.22911°N, 13.286836°E, 770 m a.s.l., leg. ML, PL 6 IX 2019 CB 86164. – **88b. Šumavské pláně, 6846a:** Kochánov (distr. Klatovy): ~1.3 km WNW of summit of Kamenáč hill, edge of forest road, one shrub, Coll. No. 1097, 49.19828°N, 13.36547°E, 905 m a.s.l., leg. ML 25 IX 2021 CB 88400. – **88d. Boubínsko-stožecká hornatina, 6948c:** Lipka (distr. Prachatice): Michlova Huť settlement, ~1.6 km NNE of summit of Bukovec hill, edge of forest road in *Picea abies* plantation, growth of ~6 square meters, Coll. No. 746, 49.02188°N, 13.70208°E, 960 m a.s.l., leg. ML, PL 14 X 2022 CB 89958. – **88h. Svatotomášská hornatina, 7450b:** Pasečná (distr. Český Krumlov): ~1.3 km SE of summit of Jelení vrch hill, young *Picea abies* plantation, one shrub, 48.59954°N, 14.14149°E, 790 m a.s.l., leg. ML 3 IX 2020 CB 87493.

Accepted literature records: Afiesl, 1,1 km S der Löfflersäge, Piceetum, Silikat, [7450b, 48°34'44"N, 14°09'49"E], 779 m ü. NN., leg. J. Danner 2 VIII 1997, LI 304526 (Lepší & Lepší 2009: 55).

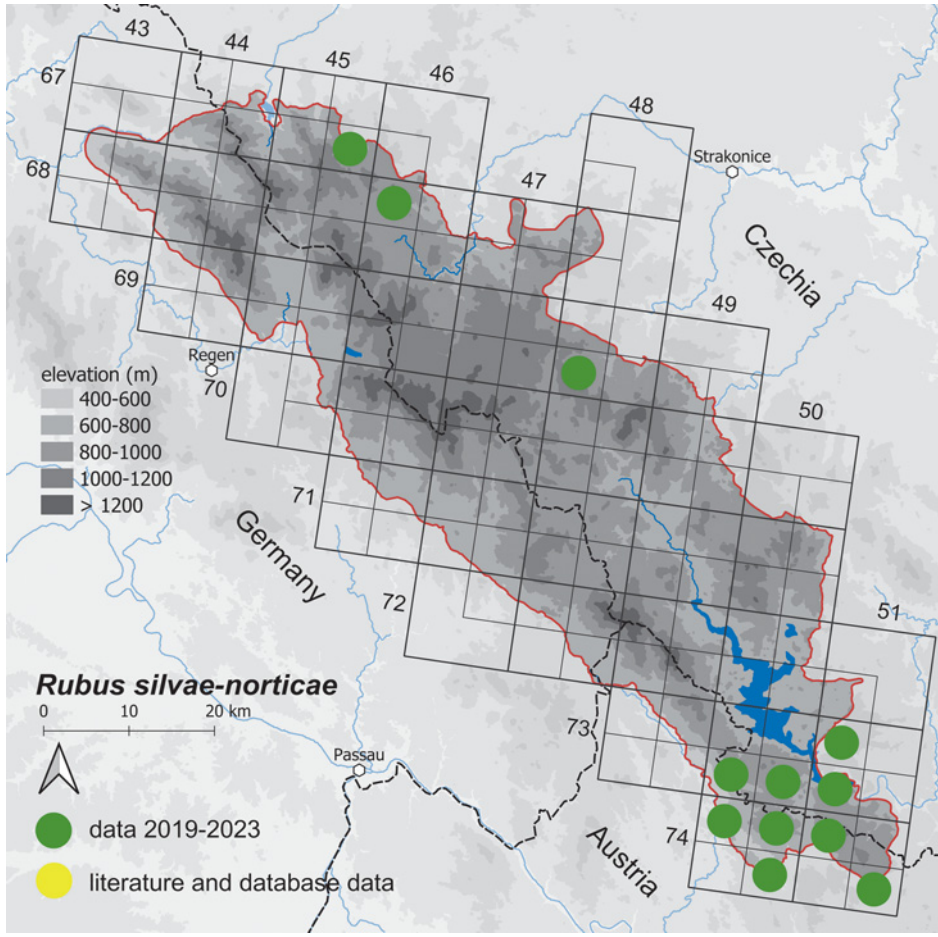

Fig. 26. Distribution of *Rubus silvae-norticae* in the Bohemian Forest.

Rubus suavis M. Lepší et P. Lepší, this paper
Description and illustration: see below.
Overall distribution: central Europe, endemic to the Czech Republic (see below).
Distribution in the area studied: two localities in the central part (Strážný, Škarez 2. díl) (Fig. 27).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Strážný, 2019 (see below).
Maximum elevation: 910 m, Strážný (see below).
Taxonomic and floristic conclusions reached in this paper: taxonomic novelty.

Herbarium specimens: see below.

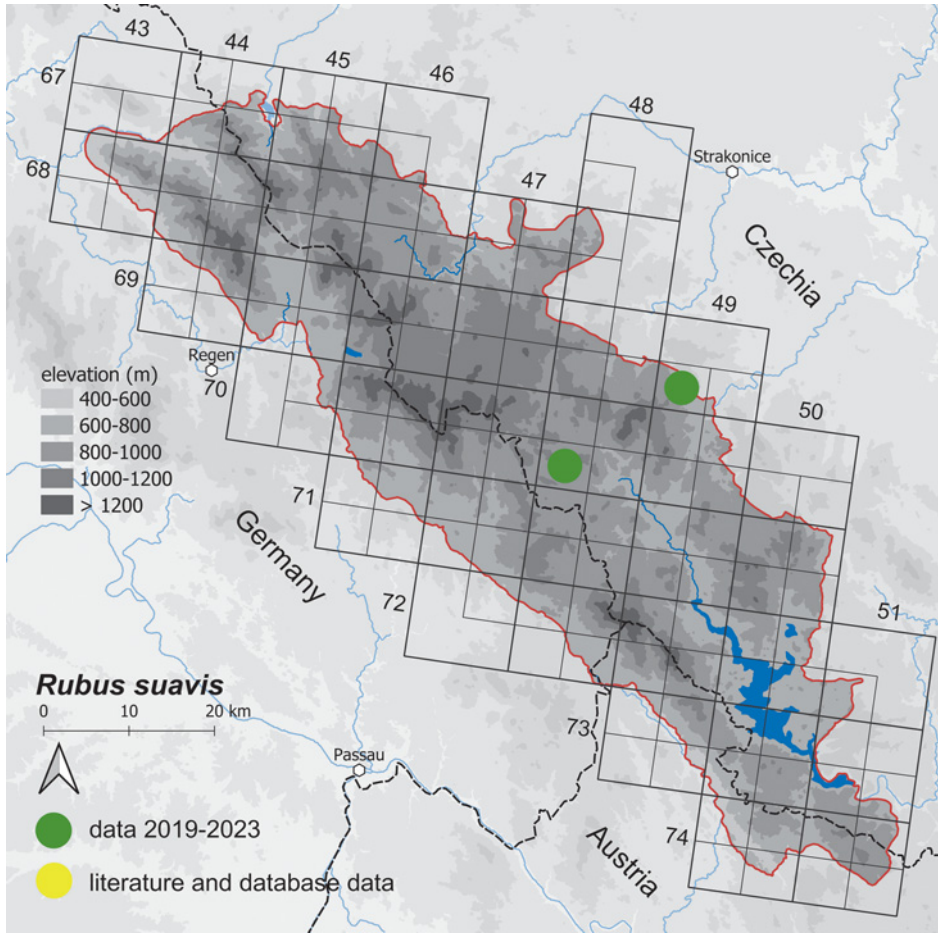

Fig. 27. Distribution of *Rubus suavis* in the Bohemian Forest.

Rubus tabanimontanus Figert, Allg. Bot. Z. Syst. 11: 178 (1906)
Description and illustration: Holub (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare in low elevations of the central and of the northern part (Fig. 28).
Phytochorotype: *Rubus dollnensis – R. saxatilis*.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Kašperské Hory, 2020 (M. Lepší & P. Lepší in Pladias 2024).
Maximum elevation: 985 m, Kamenná hora Mt. near Zdíkov (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 37a. Horní Pootaví, 6847c:** Kašperské Hory (distr. Klatovy): along road to Radešov village, ~1.3 km WNW of St. Markéta church in town, abandoned meadow, one large shrub, 49.14825°N, 13.53954°E, 690 m a.s.l., leg. ML, PL 14 VIII 2020 CB 87350. – **37h. Prachatické Předšumaví,**

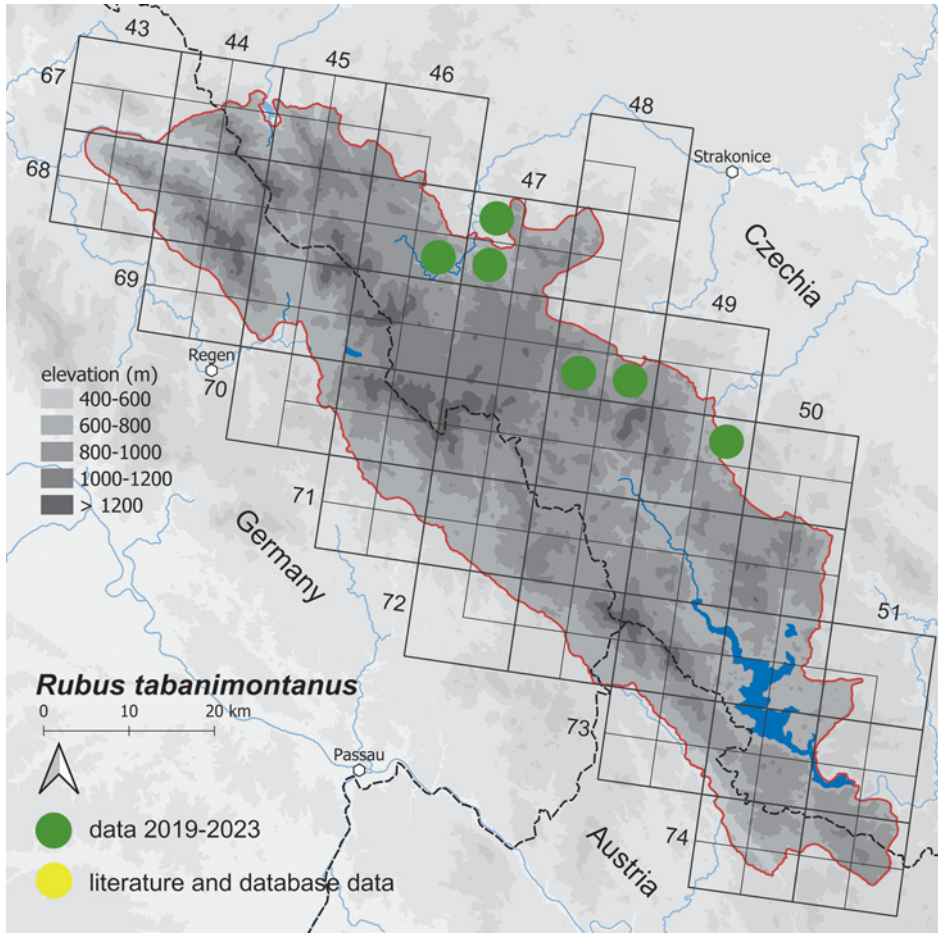

Fig. 28. Distribution of *Rubus tabanimontanus* in the Bohemian Forest.

7049b: Křišťanovice (distr. Prachatice): ~200 m W of centre of dam of Křišťanovický rybník pond, growth of pioneer trees at edge of forest road through *Picea abies* plantation, large growth, Coll. No. 1157, 48.96739°N, 13.93511°E, 780 m a.s.l., leg. ML 5 X 2021 CB 87779. – **88b. Šumavské pláně, 6948c:** Zdíkov (distr. Prachatice): ~430 m SSW of summit of Kamenná hora hill, forest clearing, large growth, 49.04741°N, 13.70212°E, 985 m a.s.l., leg. ML 28 IX 2023 CB 90098. – **88d. Boubínsko-stožecká hornatina, 6948c:** Lipka (distr. Prachatice): ~720 m NE of railway station in village, edge of road in spruce plantation, medium-sized growth, Coll. No. 541, 49.02271°N, 13.74466°E, 840 m a.s.l., leg. ML, J. Velebil 25 VIII 2022 CB 89560.

Rubus ser. *Radula* (Focke) Focke

Rubus cammensis M. Lepší et P. Lepší, this paper
Description and illustration: see below.
Overall distribution: central Europe, endemic to Bavaria (see below).
Distribution in the area studied: one locality in the northern part (Bärndorf) (Fig. 29).
Phytochorotype: unclassified.

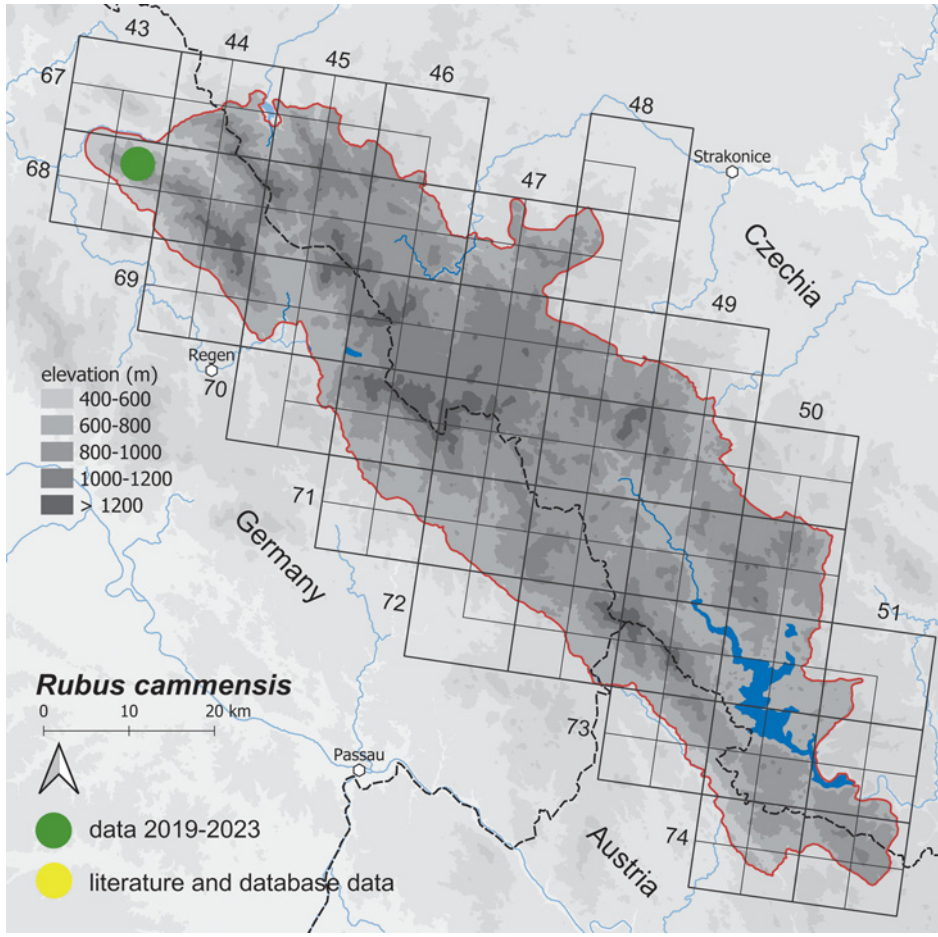

Fig. 29. Distribution of *Rubus cammensis* in the Bohemian Forest.

Occurrence in countries within the area studied: G.
The first record (settlement, year): Bärndorf, 2020 (see below).
Maximum elevation: 540 m, Bärndorf (see below).
Taxonomic and floristic conclusions reached in this paper: taxonomic novelty.

Herbarium specimens: see below.

Rubus depressinervius M. Lepší et P. Lepší, this paper
Description and illustration: see below.
Overall distribution: central Europe (see below).
Distribution in the area studied: rare to scattered in the northern part (Fig. 30).
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Sommerau, 2002 (see below).

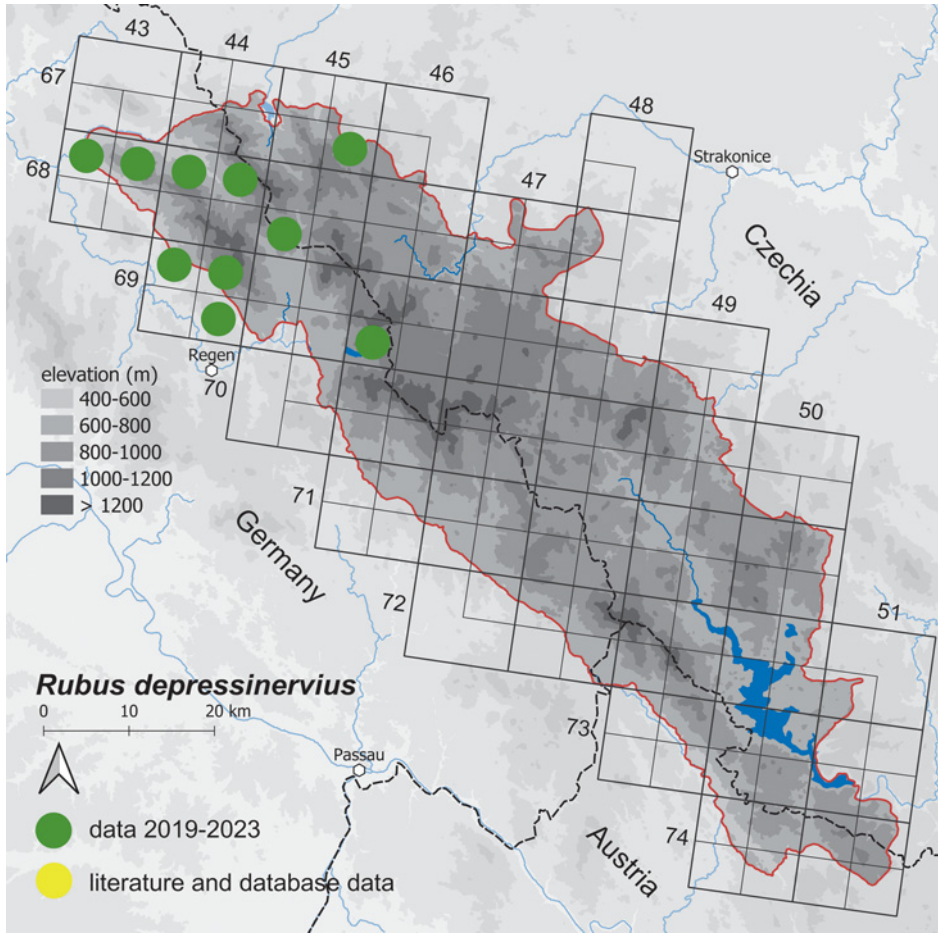

Fig. 30. Distribution of *Rubus depressinervius* in the Bohemian Forest.

Maximum elevation: 1,046 m, Bayerisch Eisenstein (see below).
Taxonomic and floristic conclusions reached in this paper: taxonomic novelty.

Herbarium specimens: see below.

Rubus epipsilos Focke, Syn. Rub. Germ.: 258 (1877)
Description and illustration: Holub (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare to scattered, absent in the northern part of the Czech side (Fig. 31).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): Záhvozdí, 1996 (V. Žíla in Pladias 2024).
Maximum elevation: 1,045 m, Volary (J. Velebil & M. Lepší in Pladias 2024).

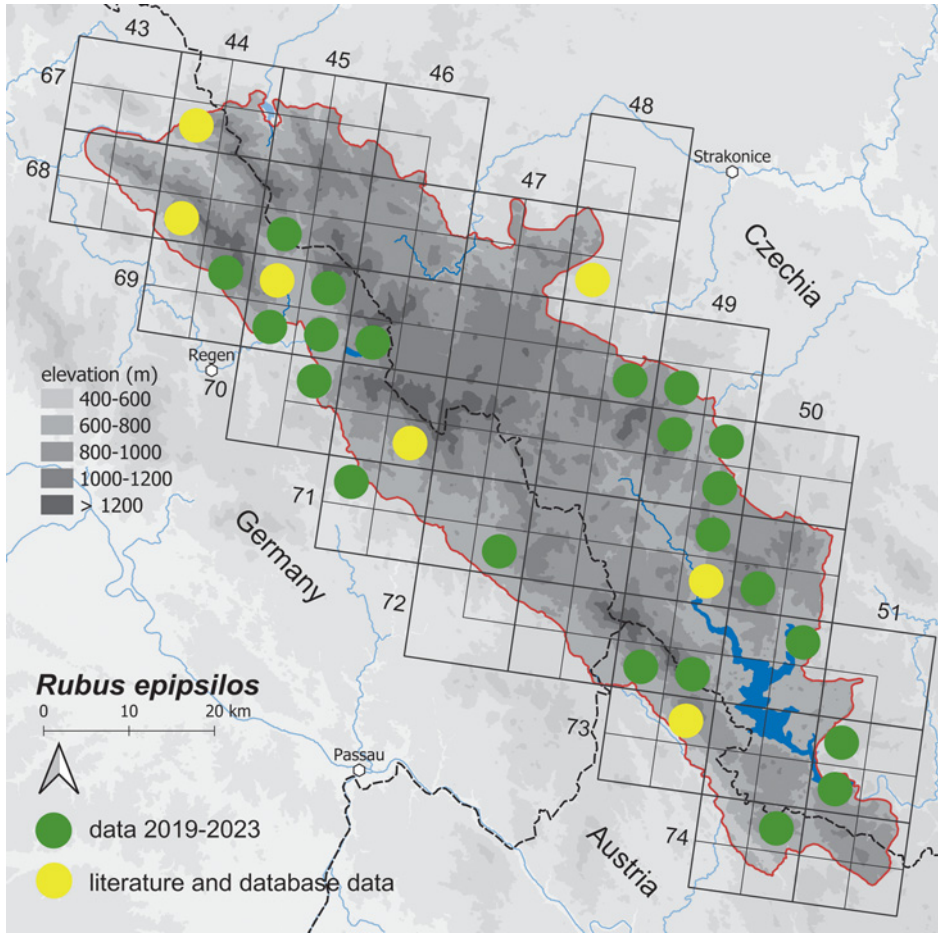

Fig. 31. Distribution of *Rubus epipsilos* in the Bohemian Forest.

Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Austria, 7249c:** Pfaffetschlag (distr. Rohrbach): ~1.5 km NNE of summit of Kühberg, edge of road in *Fagus sylvatica* and *Picea abies* mixed forest, one growth, 48.71468°N, 13.89952°E, 740 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87542. – Schwarzenberg am Böhmerwald (distr. Rohrbach): ~1.9 km SE of church in village, edge of forest road and forest clearing, several shrubs, 48.71591°N, 13.84339°E, 650 m a.s.l., leg. ML, PL 16 VIII 2020 CB 87566. – **Czechia, 37g. Libínské Předšumaví, 7049b:** Albrechtovice (distr. Prachatice): ~370 m WSW of summit of Albrechtovický kopec hill, edge of forest road through *Picea abies* plantation, large growth, Coll. No. 1150, 48.97373°N, 13.95490°E, 805 m a.s.l., leg. ML 5 X 2021 CB 87780. – **88d. Boubínsko-stožecká hornatina, 6948d:** Vimperk (distr. Prachatice): ~1.6 km NW of summit of Medník hill, forest clearing, growth of several square meters, 49.04051°N, 13.76429°E, 820 m a.s.l., leg. ML 28 IX 2023 CB 90104. – **6949c:** Řepešín (distr. Prachatice): ~680 m NNW of summit of Březový kopec hill, edge of forest road in forest clearing, large growth, 49.0062°N, 13.89199°E, 665 m a.s.l., leg. ML 4 X 2023 CB 90088. – **88f. Želnavská hornatina, 7049d:** Volary (distr. Prachatice): ~1 km NE of summit of Větrný vrch hill, edge of forest road, small shrub, Coll. No. 553, 48.91253°N, 13.94633°E, 955 m a.s.l., leg. ML, J. Velebil 26 VIII 2022 CB 89571. – **88g. Hornovltavská kotlina, 7149b:** Pěkná (distr. Prachatice): ~670 m S of summit of Hůrka hill, edge of forest road in *Picea abies* plantation, scattered, 48.85498°N, 13.94298°E, 765 m a.s.l., leg. ML 11 X

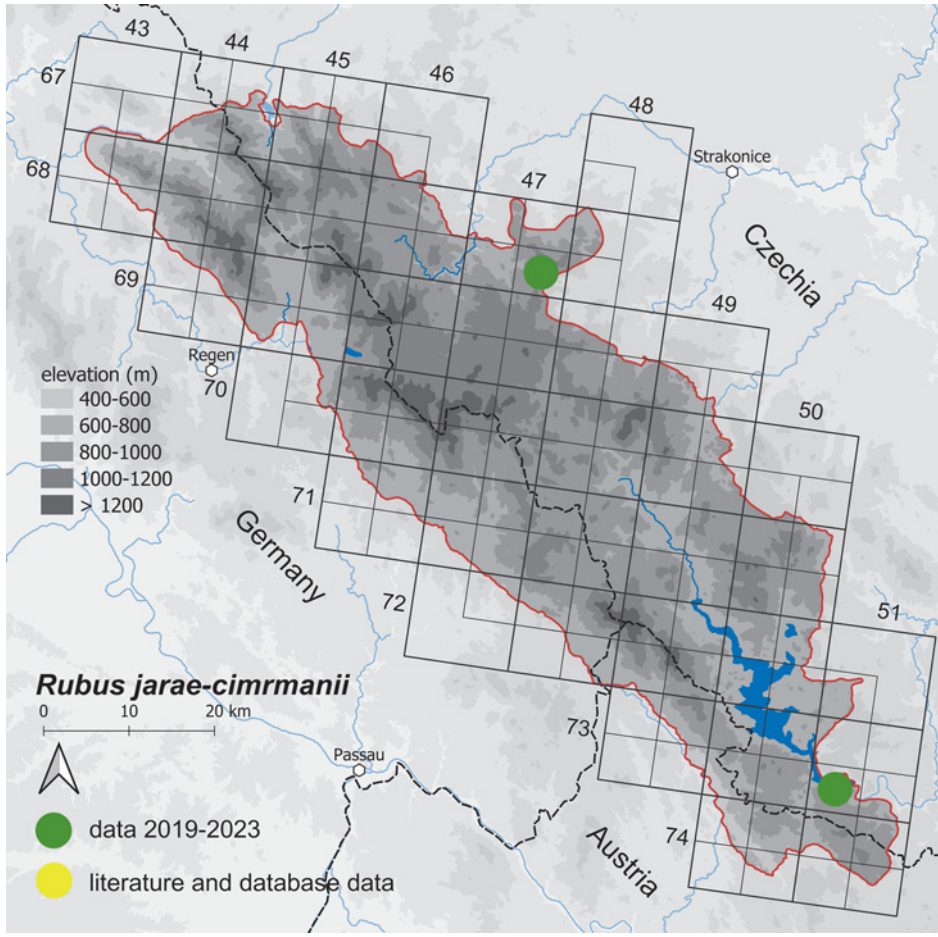

Fig. 32. Distribution of *Rubus jarae-cimrmanii* in the Bohemian Forest.

2023 CB 90117. – **88h. Svatotomášská hornatina, 7450b:** Pasečná (distr. Český Krumlov): ~2.3 km SE of summit of Jelení kopec hill, forest clearing near road, one shrub, 48.59949°N, 14.15961°E, 750 m a.s.l., leg. ML 3 IX 2020 CB 87298. – **Germany, 6845c:** Bayerisch Eisenstein (distr. Regen): ca 720 m SE of summit of Hochberg Mt., edge of forest road, one small growth, 49.10472°N, 13.21485°E, 760 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87571. – **6945b:** Ludwigsthal (distr. Regen): along road between Schleicher and Kreuzstraßl settlements, forest fringe, 49.05967°N, 13.25662°E, [610 m a.s.l.], leg. ML, K. Boublík 19 VI 2019 CB 86289. – **6946c:** Frauenau (distr. Regen): ca 770 m ENE of centre of dam of Frauenau Trinkwassertalsperre water reservoir, cut of forest road, medium-sized shrub, Coll. No. 620, 49.01397°N, 13.34400°E, 790 m a.s.l., leg. ML 5 IX 2022 CB 90013. – **7146a:** Höhenbrunn (distr. Freyung-Grafenau): ca 810 m NE of summit of Bienstand hill, edge of forest, large growth, Coll. No. 850, 48.89697°N, 13.40374°E, 840 m a.s.l., leg. ML, PL 3 IX 2021 CB 88511.

Accepted literature records: Černý les [Mt.] (Želnavská vrchovina). – Javorník (Chán 1999: 219). – Javorník, V okraj obce, 950 m n. m., 1997, leg. et det. V. Žíla. – Záhvozdí, Černý les [Mt.], ~770 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 57).

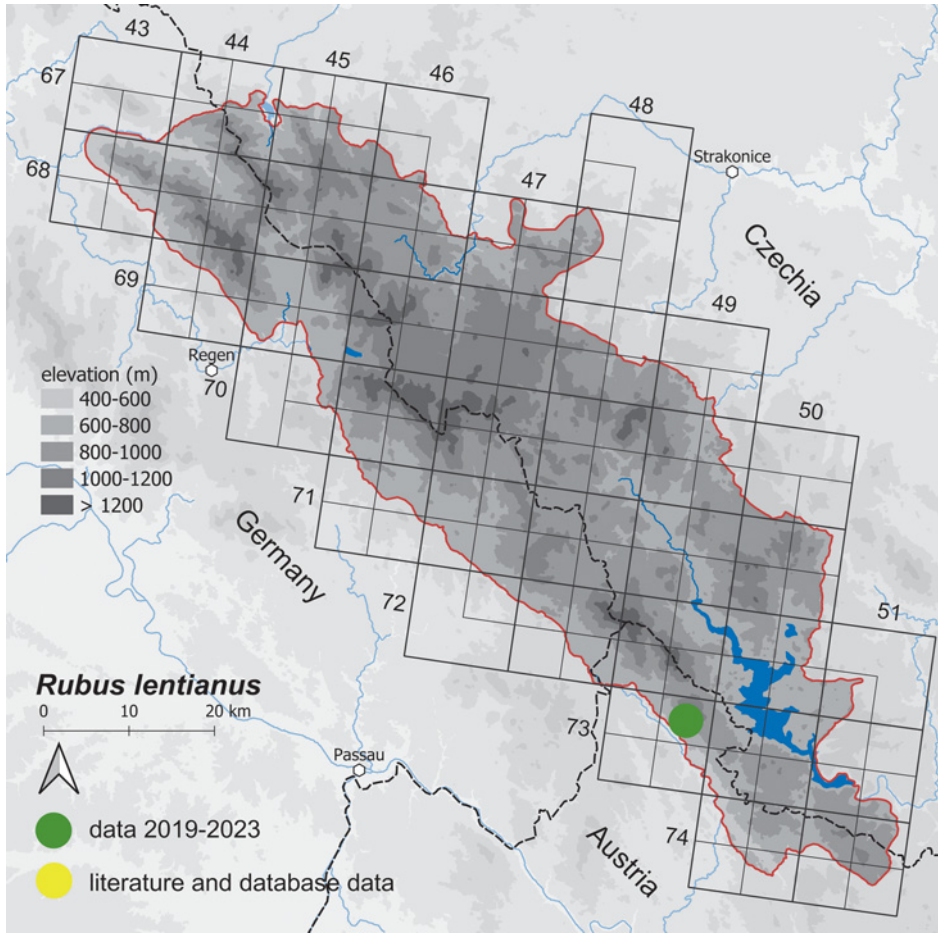

Fig. 33. Distribution of *Rubus lentianus* in the Bohemian Forest.

Rubus jarae-cimrmanii M. Lepší et al., Preslia 90: 405 (2018)
Description and illustration: Trávníček et al. (2018).
Overall distribution: central Europe, endemic to the Czech Republic (Trávníček et al. 2018).
Distribution in the area studied: two localities, in the central (Javorník) and in the southern part (Frymburk) (Fig. 32).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Javorník, 2021 (Lepší M. in Pladias 2024).
Maximum elevation: 980 m, Javorník (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 88c. Javorník, 6847d:** Javorník (distr. Prachatice): ~860 m NE of summit of Javorník Mt., edge of forest road through forest clearing, medium-sized growth, Coll. No. 1056, 49.14254°N, 13.66252°E, 980 m a.s.l., leg. ML 21 IX 2021 CB 87762. – **88h. Svatotomášská hornatina, 7351c:** Frymburk (distr. Český Krumlov): ~2.7 km SSE of church in town, in old forest clearing at edge of bicycle trail, small growth, Coll. No. 573, 48.63719°N, 14.17989°E, 700 m a.s.l., leg. ML 1 IX 2022 CB 90058.

Rubus lentianus Hohla et al., Phytotaxa 594(1): 44 (2023)
Description and illustration: Lepší et al. (2023).
Overall distribution: central Europe (Lepší et al. 2023).
Phytochorotype: unclassified.
Distribution in the area studied: one locality (*locus classicus*) in the southern part (Hintenberg) (Fig. 33).
Occurrence in countries within the area studied: A.
The first record (settlement, year): Hintenberg, 2020 (M. Lepší & P. Lepší in Lepší et al. 2023).
Maximum elevation: 730 m, Hintenberg (M. Lepší & P. Lepší in Lepší et al. 2023).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimen: **Austria, 7349b:** Hintenberg (distr. Rohrbach): ~1.2 km ESE of chapel in village, in scrub, one large growth, 48.68312°N, 13.94098°E, 730 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87544, ISOTYPE (HOLOTYPE: LI 03455388).
Accepted literature record: Hintenberg (Lepší et al. 2023: 44).

Rubus muhelicus Danner, Neilreichia 2–3: 165 (2003)
Description and illustration: Lepší & Lepší (2009).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare to locally scattered in the southern part (Fig. 34).
Phytochorotype: *Rubus muhelicus – R. silvae-norticae*.
Occurrence in countries within the area studied: A, Cz.
The first record (settlement, year): Haslach an der Mühl, 2020 (M. Lepší & P. Lepší in ZOBODAT 2024).
Maximum elevation: 850 m, Hodňov (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Austria, 7450a:** St. Stefan-Afiesl (distr. Rohrbach): ~1.6 km NW of church in village, gap in *Picea abies* plantation, small growth, Coll. No. 671, 48.57369°N, 14.08237°E, 730 m a.s.l., leg. ML 7 IX 2022 CB 89997. – **7450d:** Kasten (distr. Rohrbach): ~1.9 km SE of centre of village, forest clearing, abundant, 48.53874°N, 14.09506°E, 620 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87548. – **Czechia, 88f. Želnavská hornatina, 7250a:** Hodňov (distr. Český Krumlov): ~1.1 km SE of summit of Nad Starou hutí hill, old forest clearing, one large shrub, 48.79733°N, 14.06511°E, 850 m a.s.l., leg. ML, PL 15 X 2022 CB 89952.

Rubus perpedatus Žíla et H. E. Weber, Preslia 77: 433 (2005)
Description and illustration: Žíla & Weber (2005).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare to scattered in the northern part (Fig. 35).
Phytochorotype: *Rubus bavaricus – R. parvidentatus.*
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Divišovice, Javorná, Datelov, 2019 (M. Lepší & P. Lepší in Pladias 2024).
Maximum elevation: 935 m, Mochov (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745c:** Oldřichovice (distr. Klatovy): ~500 m NW of centre of Datelov, along forest road, Coll. No. 345/19, 49.25171 °N, 13.22066 °E, [695 m a.s.l.], leg. ML, PL 6 IX 2019 CB 86218. – **88a. Královský hvozd, 6745d:** Javorná (distr. Klatovy): E edge of village, along road edge, 49.2193°N, 13.31042°E, 850 m a.s.l., leg. ML, PL 6 IX 2019 CB 86163. – **88b. Šumavské pláně, 6746c:** Keply (distr. Klatovy): ~540 m SSE of summit of Svinenský vrch hill, verge of road in young plantation, one

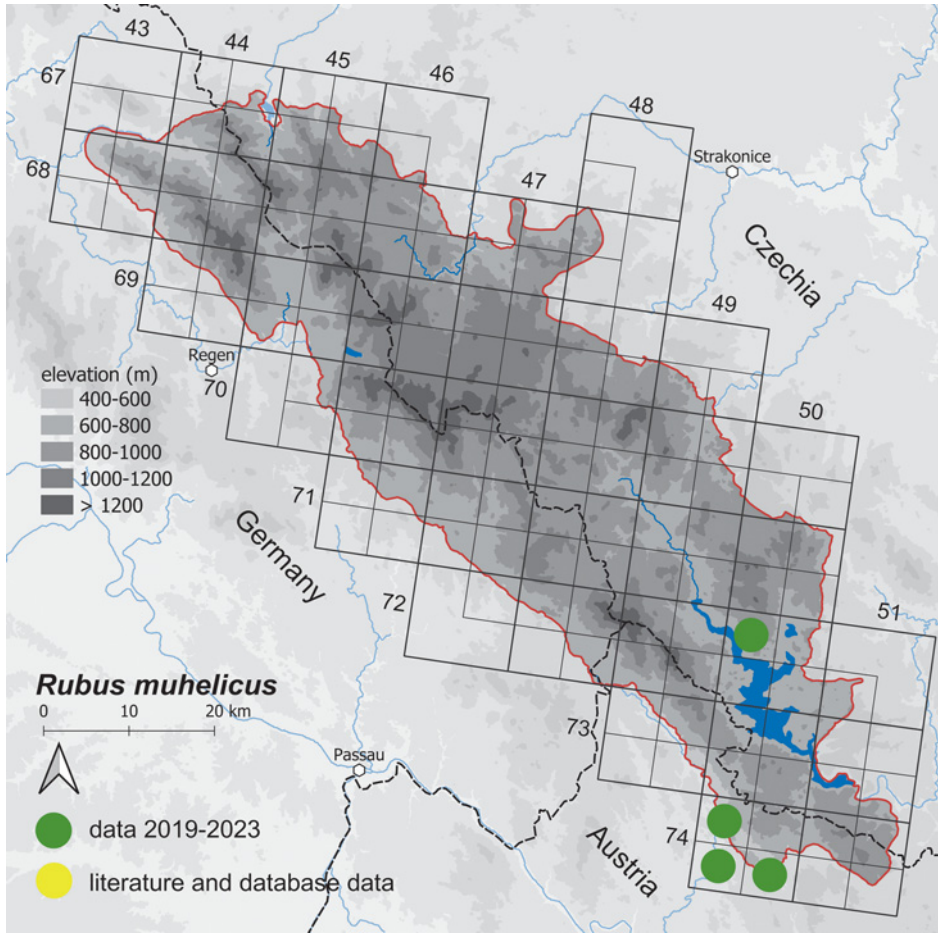

Fig. 34. Distribution of *Rubus muhelicus* in the Bohemian Forest.

small shrub, 49.21146°N, 13.35072°E, 930 m a.s.l., leg. ML 26 VIII 2020 CB 87333. – Keply (distr. Klatovy): ~660 m SSW of summit of Svinenský hill, on forest road in *Picea abies* plantation, large growth, 49.20989°N, 13.34529°E, 900 m a.s.l., leg. ML, PL, et al. 11 VII 2023 CB 90136. – **Germany, 6845c:** Bayerisch Eisenstein (distr. Regen): ~790 m SW of St. Johannes Nepomuk church in village, edge of forest road, two large growths, 49.11385°N, 13.19163°E, 730 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87568. – **6945d:** Lindberg (distr. Regen): ~1.6 km SW of summit of Riesberg, in growth of pioneer woody plants, medium-sized growth, Coll. No. 876, 49.02917°N, 13.27423°E, 650 m a.s.l., leg. ML, PL 4 IX 2021 CB 88532.

Rubus perpungens M. Lepší et al., Preslia 90: 392 (2018) (syn.: *R. heterophyllus* Utsch, *R. heterophyllus* f. *schleicheri* Utsch, *R. indusiatus* auct. non Focke, *R. radula* sensu Čelakovský non Weihe)
Description and illustration: Trávníček et al. (2018).
Overall distribution: central Europe (Trávníček et al. 2018).
Distribution in the area studied: scattered to locally abundant in the northern part, rare to scattered in the central part, rare in the southern part (Fig. 36).
Phytochorotype: *Rubus bavaricus – R. parvidentatus.*

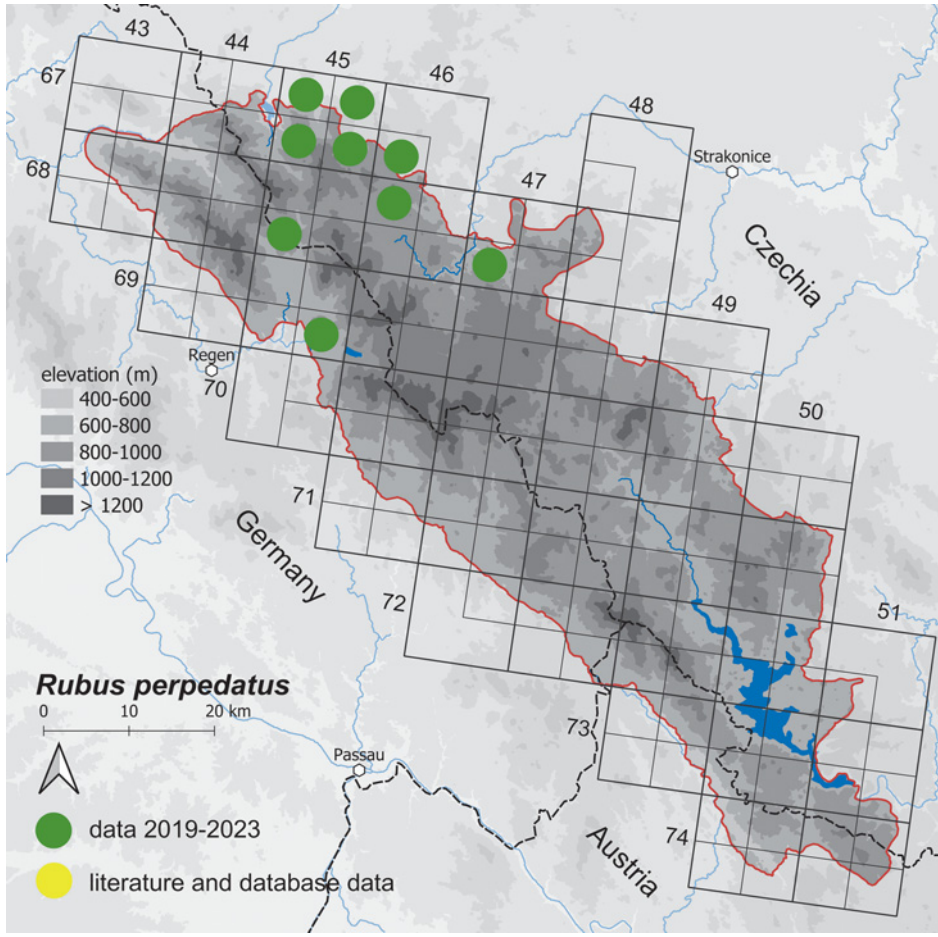

Fig. 35. Distribution of *Rubus perpedatus* in the Bohemian Forest.

Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Železná Ruda, the vicinity of Černé jezero Lake, 1880 (leg. L. Čelakovský, two specimens in PR, as *R. radula*, Trávníček et al. 2018).
Maximum elevation: 1,265 m, Guglöd (K. Boublík & M. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745a:** Divišovice (distr. Klatovy): ~710 m SE of chapel in village, along forest road, 49.26093°N, 13.24040°E, 640 m a.s.l., leg. ML, PL 6 IX 2019 CB 86210. – **6745c:** Zelená Lhota (distr. Klatovy): ~630 m SSE of train stop in village, road edge, abundant, 49.24455°N, 13.18286°E, 635 m a.s.l., leg. ML 10 VII 2020 CB 87441. – **37a. Horní Pootaví, 6847d:** Kašperské Hory (distr. Klatovy): ~730 m S of summit of Chlum Mt., verge of forest road in *Picea abies* plantation, several shrubs, 49.13678°N, 13.58657°E, 815 m a.s.l., leg. ML 26 VIII 2020 CB 87325. – **88a. Královský hvozd, 6745d:** Onen Svět (distr. Klatovy): ~730 m S of centre of village, road edge, 49.22694°N, 13.28789°E, 775 m a.s.l., leg. ML, PL 6 IX 2019 CB 86188. – **88b. Šumavské pláně, 6846b:** Hartmanice (distr. Klatovy): ~460 m N of Karlov castle, verge of forest road, 49.16752°N, 13.42792°E, 700 m a.s.l., leg. ML 26 VIII 2020 CB 87337. – **6746c:** Keply (distr. Klatovy): ~680 m SE of summit of Svinenský vrch hill, verge of forest road on forest clearing, one small shrub, 49.21063°N, 13.35247°E, 920 m a.s.l., leg. ML 26 VIII 2020 CB 87331. – **88d.**

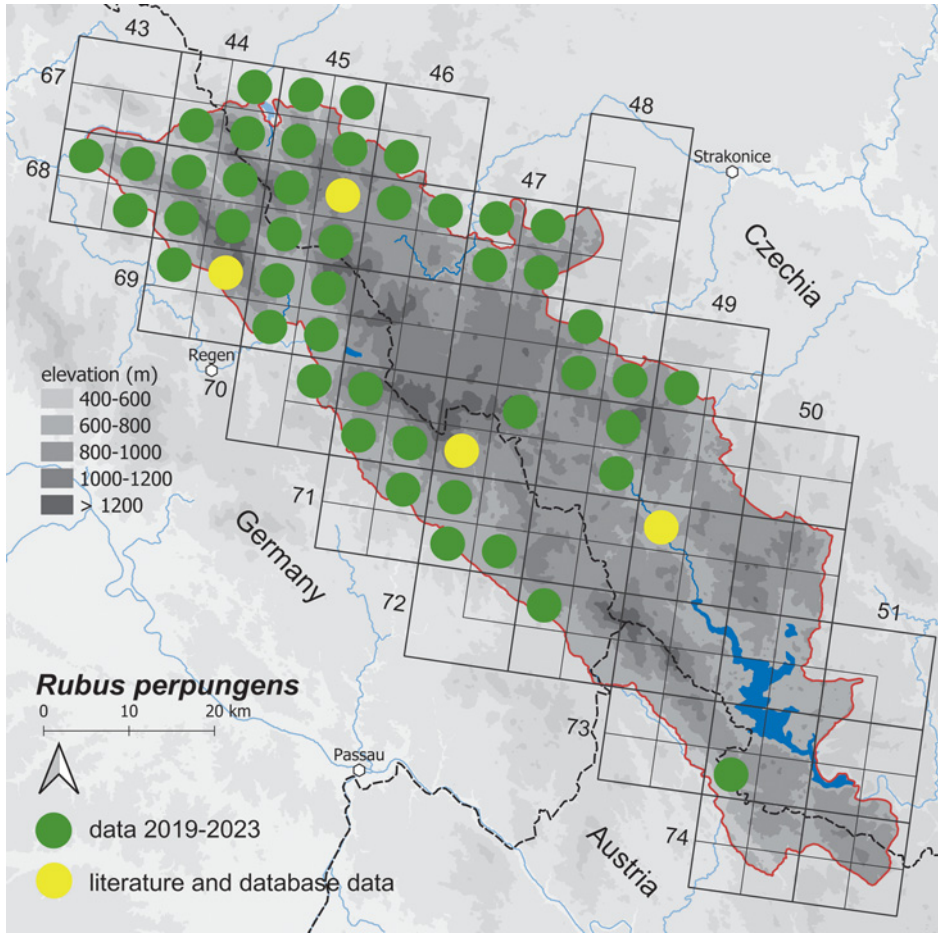

Fig. 36. Distribution of *Rubus perpungens* in the Bohemian Forest.

Boubínsko-stožecká hornatina, 6949c: Řepešín (distr. Prachatice): ~680 m NNW of summit of Březový kopec hill, edge of forest road in forest clearing, small growth, 49.0062°N, 13.89199°E, 665 m a.s.l., leg. ML 4 X 2023 CB 90089. – **88g. Hornovltavská kotlina, 7048d:** Zátoň (distr. Prachatice): in E part of village, grassland at edge of road, small shrub, Coll. No. 781, 48.94466°N, 13.79909°E, 820 m a.s.l., leg. ML 27 VIII 2021 CB 87793. – **88h. Svatotomášská hornatina, 7350c:** Pasečná (distr. Český Krumlov): ~1.5 km NNW of summit of U Horní Ureše hill, scrub below power lines, large growth, 48.6208°N, 14.06417°E, 745 m a.s.l., leg. ML 3 IX 2020 CB 87490. – **Germany, 6844a:** Lam (distr. Cham): N edge of Hinteröd settlement, 356/19, 49.17344°N, 13.04154°E, 755 m a.s.l., leg. ML, PL 8 IX 2019 CB 86200. – **6844c:** Arnbruck (distr. Regen): ca 660 m NE of church in village, edge of scrub, one shrub, 49.13624°N, 13.00220°E, 630 m a.s.l., leg. ML, PL 14 VIII 2020 CB 87574. – **7046a:** Frauenau (distr. Regen): ca 1.7 km E of summit of Großer Rachel, very young open spruce forest, small growth, 48.98016°N, 13.41144°E, 1270 m a.s.l., leg. ML, K. Boublík 12 X 2019 CB 86143. – **7046c:** Jägerfleck (distr. Freyung-Grafenau): ca 1.1 km SE of centre of settlement, forest clearing, large growth, Coll. No. 853, 48.92042°N, 13.38052°E, 770 m a.s.l., leg. PL, ML 3 I X 2021 CB 88508. Accepted literature records: Hojsova Stráž, okr. KT [Klatovy]: Pod Statečkem (k. 823,4 m), 2,5 km JZ od stanice ČD Hojsova Stráž, s. coll., 27 IX 1997, PL, det. J. Holub (Čížek 2011: 5). – Hojsova Stráž, okraj lesa asi 0,5 km JV obce, 900 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Svojše, rozcestí k Rejštejnu, ~580 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Hojsova Stráž, obnažená plocha na lyžařské sjezdovce mezi obcí a železniční

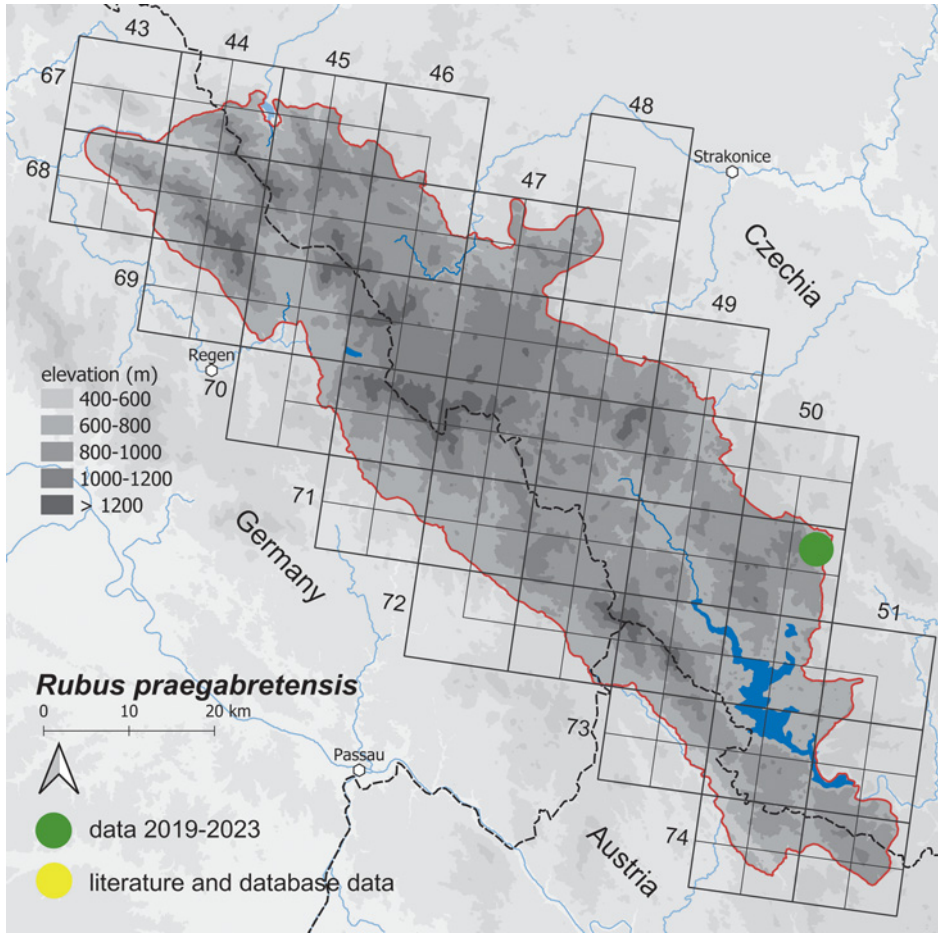

Fig. 37. Distribution of *Rubus praegabretensis* ined. in the Bohemian Forest.

stanicí, ~800 m n. m., 1998, leg. J. Vondrák, det. V. Žíla (Procházka & Kováříková 1999: 57). – Hamry. – Hojsova Stráž. – Ostrý [Mt.]. – Špičák [Mt. or village] (Chán 1999: 246). – při lesní silnici od Statečku směrem k Bucharu, 850 m [W of Hamry] (Procházka et al. 2001: 177). Additional records from the area under study can be found in the protologue (Trávníček et al. 2018).

Rubus praegabretensis M. Lepší et P. Lepší ined.
Description and illustration: published only in situ photograph in Lepší et al. (2013).
Overall distribution: central Europe, endemic to the foothills of the Šumava Mts (Lepší et al. 2013).
Distribution in the area studied: one locality in the southern part (Ktiš) (Fig. 37).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Ktiš, 2021 (see below).
Maximum elevation: 745 m, Ktiš (see below).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

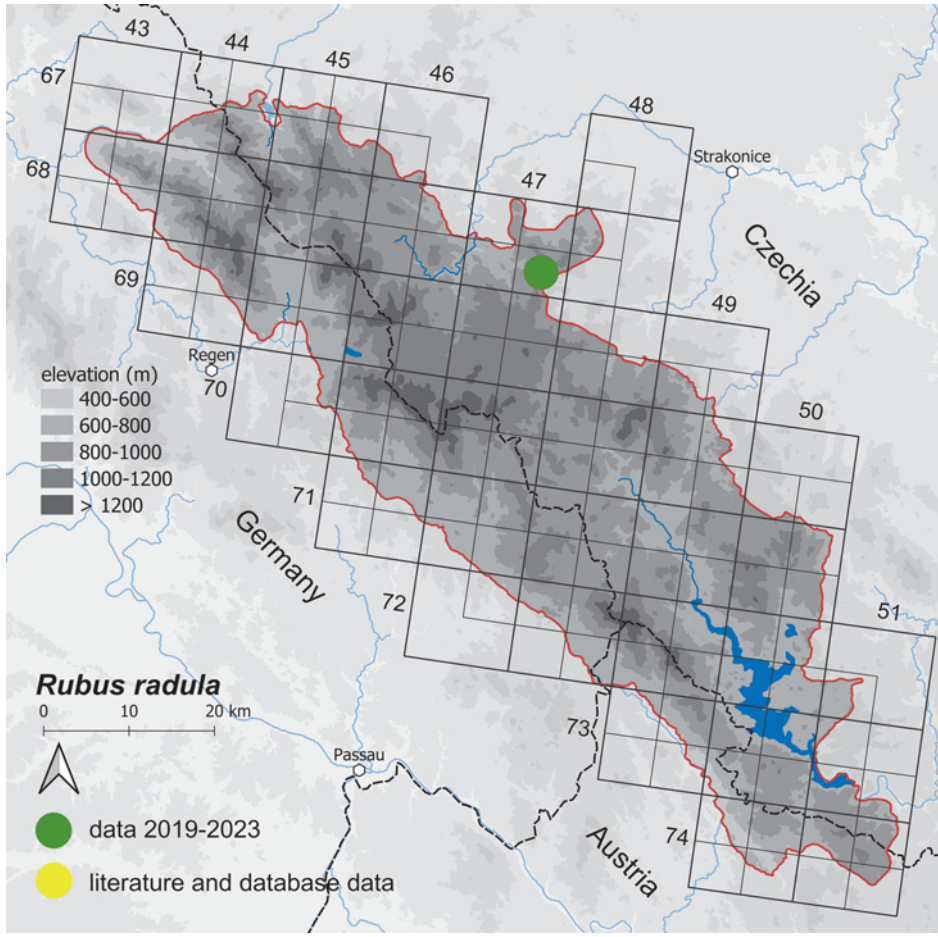

Fig. 38. Distribution of *Rubus radula* in the Bohemian Forest.

Herbarium specimen: **Czechia, 37g. Libínské Předšumaví, 7150b:** Tisovka (distr. Prachatice): forest road ~1.27 km SSE of centre of settlement, edge of road in deciduous forest, small bush, 48.89667°N, 14.10556°E, [745 m a.s.l.], leg. PL, ML 17 X 2021 herb. P. Lepší SHPL 3863.

Rubus radula Weihe, Boenninghausen, Prodr. Fl. Monast. Westphal.: 152 (1824)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: western, north-western, central and southern Europe (Kurtto et al. 2010).
Distribution in the area studied: one locality in the central part (Nicov) (Fig. 38).
Occurrence in countries within the area studied: Cz.
Phytochorotype: unclassified.
The first record (settlement, year): unaccepted – na svahu Pancíře [Pancíř Mt.] v míšeném nad Železnou Rudou as 1000 m (Maloch 1936: 65), accepted – Nicov, 2021 (M. Lepší in Pladias 2024).
Maximum elevation: 910 m, Nicov (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

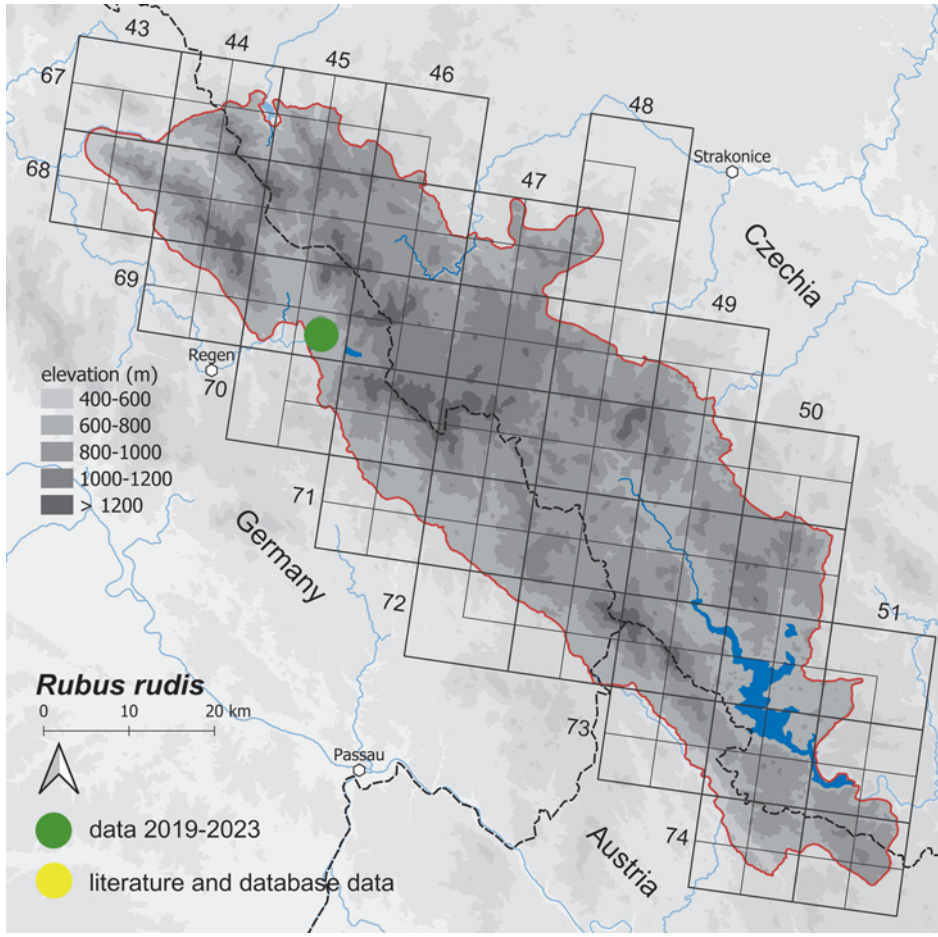

Fig. 39. Distribution of *Rubus rudis* in the Bohemian Forest.

Herbarium specimen: **Czechia, 37a. Horní Pootaví, 6847d:** Nicov (distr. Prachatice): ~940 m SSW of St. Martin church in village, edge of forest road through *Picea abies* plantation, large growth, Coll. No. 1059, 49.11759°N, 13.61532°E, 910 m a.s.l., leg. ML 21 IX 2021 CB 87759.

Rubus rudis Weihe, Comp. Fl. German. 1: 687 (1825) [syn.: *Rubus omalus* (Sudre) Sudre)]
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: north-western and central Europe (Kurtto et al. 2010).
Distribution in the area studied: one locality in the northern part (Frauenau) (Fig. 39).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G.
The first record (settlement, year): unaccepted – im Rantscherwalde [Hraničář Mt.] bei Hinterhäuser [former Zadní Chalupy] (Schott 1897: 54), accepted – Frauenau, 2022 (Lepší M. in GBIF 2024).
Maximum elevation: 730 m, Frauenau (Lepší M. in GBIF 2024).

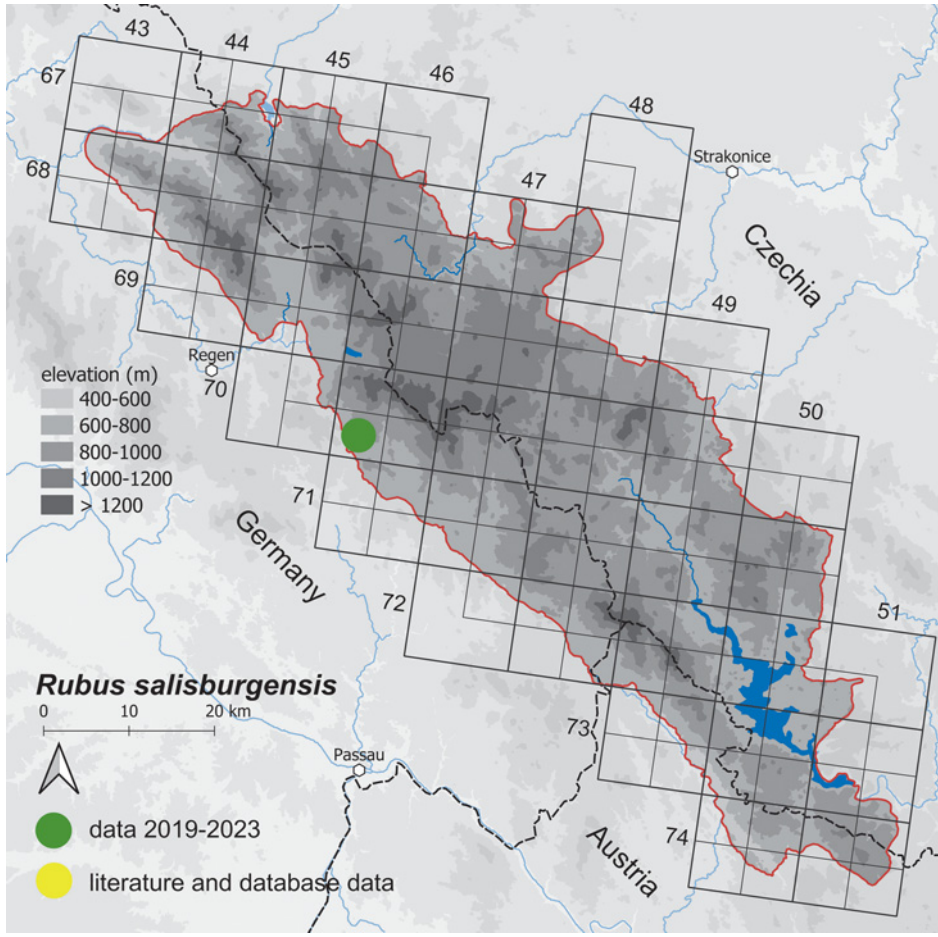

Fig. 40. Distribution of *Rubus salisburgensis* in the Bohemian Forest.

Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimen: **Germany, 6945d:** Frauenau (distr. Regen): ~440 m WSW of centre of dam of Frauenau Trinkwassertalsperre water reservoir, edge of forest road and forest clearing, medium-sized growth, Coll. No. 619, 49.01342°N, 13.32752°E, 730 m a.s.l., leg. ML 5 IX 2022 CB 90014.

Rubus salisburgensis Focke ex Caflisch, Exkurs.-Fl. Südöstl. Deutschland: 93 (1878)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: one locality in the central part (Spiegelau) (Fig. 40).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G.
The first record (settlement, year): Spiegelau, 2021 (M. Lepší & P. Lepší in GBIF 2024).
Maximum elevation: 770 m, Spiegelau (M. Lepší & P. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

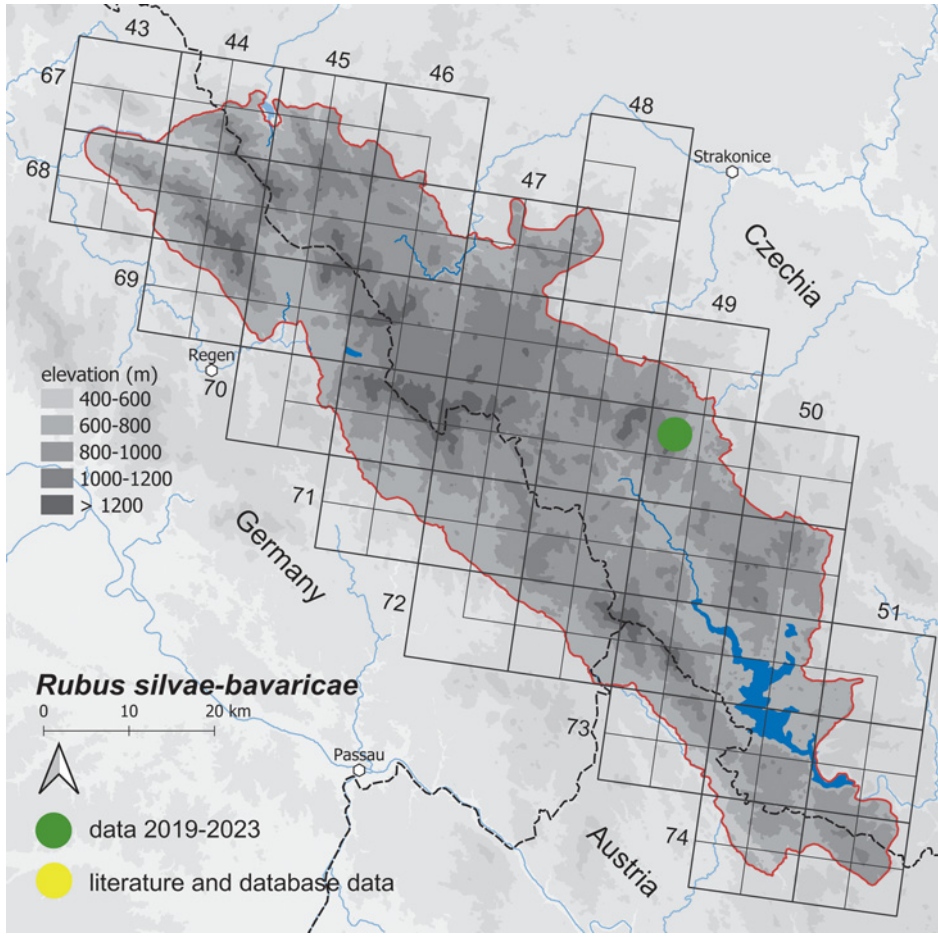

Fig. 41. Distribution of *Rubus silvae-bavaricae* in the Bohemian Forest.

Herbarium specimen: **Germany, 7046c:** Jägerfleck (distr. Freyung-Grafenau): ~1.1 km SE of centre of settlement, forest clearing, small shrub, Coll. No. 853, 48.92042°N, 13.38052°E, 770 m a.s.l., leg. ML, PL 3 IX 2021 CB 88507.

Rubus silvae-bavaricae Gaggerm., Hoppea 68: 70 (2008)
Description and illustration: Gaggermeier (2007), Lepší & Lepší (2020).
Overall distribution: central Europe (Lepší & Lepší 2020).
Distribution in the area studied: one locality in the southern part (Mlynářovice) (Fig. 41).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Mlynářovice, 2023 (M. Lepší in Pladias 2024).
Maximum elevation: 770 m, Mlynářovice (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

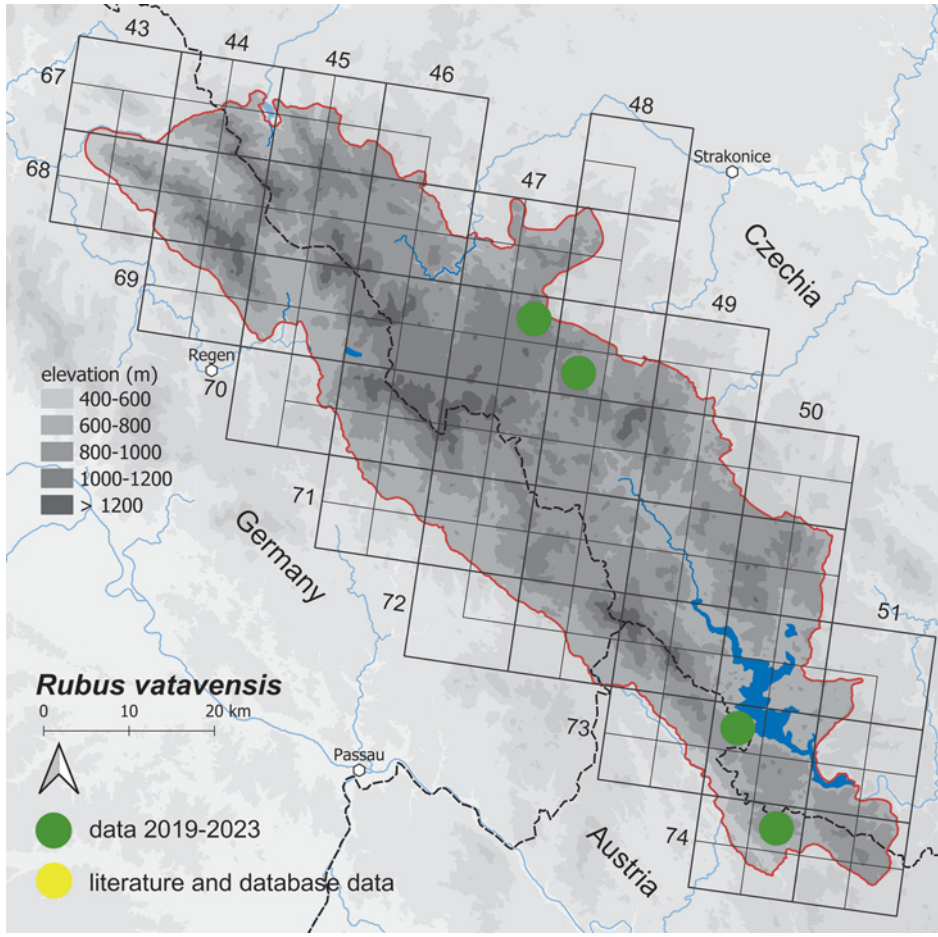

Fig. 42. Distribution of *Rubus vatavensis* in the Bohemian Forest.

Herbarium specimen: **Czechia, 37h. Prachatické Předšumaví, 7049a:** Mlynářovice (distr. Prachatice): ~600 m NW of summit of Kádrův kopec hill, edge of forest road in young *Picea abies* plantation, growth of ~20 square meters, 48.95882°N, 13.91209°E, 770 m a.s.l., leg. ML 4 X 2023 CB 90080.

Rubus vatavensis Žíla et Trávn., Preslia 90: 399 (2018)
Description and illustration: Trávníček et al. (2018).
Overall distribution: central Europe (Trávníček et al. 2018).
Distribution in the area studied: four localities in the central (Stachy, Vimperk) and in the southern part (Kyselov, Sankt Stefan am Walde) (Fig. 42).
Phytochorotype: *Rubus muhelicus – R. silvae-norticae*.
Occurrence in countries within the area studied: A, Cz.
The first record (settlement, year): Sankt Stefan am Walde, 2020 (M. Lepší & P. Lepší in ZOBODAT 2024).
Maximum elevation: 930 m, Popelná hora Mt. near Stachy (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Austria, 7450b:** St. Stefan-Afiesl (distr. Rohrbach): E edge of Herrnschlag settlement, edge of forest and road, one shrub, 48.56903°N, 14.11056°E, 820 m a.s.l., leg. ML, PL 15 VIII 2020 CB 87539. – **Czechia, 88b. Šumavské pláně, 6947b:** Michalov (distr. Prachatice): ~1 km ESE of summit of Popelná hora hill, forest clearing, growth of several square meters, 49.09686°N, 13.63534°E, 930 m a.s.l., leg. ML 28 IX 2023 CB 90109. – **88d. Boubínsko-stožecká hornatina, 6948c:** Vimperk (distr. Prachatice): in valley of Volyňka stream, ~1.2 km SW of summit of Vodník hill, edge of forest road in *Picea abies* plantation, small shrub, 49.04628°N, 13.73698°E, 770 m a.s.l., leg. ML 28 IX 2023 CB 90101. – **88g. Hornovltavská kotlina, 7350a:** Dolní Vltavice (distr. Český Krumlov): ~2.1 km NNW of summit of Soví vrch hill, forest clearing at edge of road, one large growth, 48.68445°N, 14.05397°E, 735 m a.s.l., leg. ML 3 IX 2020 CB 87489.

Rubus ser. *Hystrix* Focke

Rubus apricus Wimm., Jahresber. Schles. Ges. Vaterl. Cult. 33: 87 (1856) [syn.: *Rubus koehleri* subsp. *apricus* (Wimm.) Nyman]
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: western and central Europe (Kurtto et al. 2010).
Distribution in the area studied: several localities in low elevations (Fig. 43).
Phytochorotype: *Rubus nessensis* – *R. nigricans*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): unaccepted – Eisenstein [Bayerisch Eisenstein] (Ade 1914: 407, as *Rubus koehleri* subsp. *apricus* Wimm.), accepted – Hohenau, 2021 (M. Lepší & P. Lepší in GBIF 2024).
Maximum elevation: 850 m, Vícemily (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6744b:** Stará Lhota (distr. Klatovy): ~1.2 km SE of Panna Marie chapel in village, shrubby cut of railway, one large growth, Coll. No. 1068, 49.26122°N, 13.15819°E, 600 m a.s.l., leg. ML 24 IX 2021 CB 88408. – **88d. Boubínsko-stožecká hornatina, 6949c:** Trpín (distr. Prachatice): ~390 m NNW of summit of Loučová hill, forest clearing, one medium-sized growth, Coll. No. 1198, 49.02289°N, 13.89407°E, 775 m a.s.l., leg. ML 8 X 2021 CB 87781. – **Germany, 7147c:** Hohenau (distr. Freyung-Grafenau): ~1.4 km [SE] of St. Peter and Paul chapel in village, edge of forest, small growth, Coll. No. 845, 48.84386°N, 13.50404°E, 760 m a.s.l., leg. ML, PL 3 IX 2021 CB 88512.

Rubus bavaricus (Focke) Utsch, Jahres-Ber. Westfäl. Prov.-Vereins Wiss. 23: 194 (1895) [syn.: *R. hebecarpos* subsp. *bavaricus* (Focke) Sudre]
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: scattered to abundant in the northern part (Fig. 44).
Phytochorotype: *Rubus bavaricus* – *R. parvidentatus*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): unaccepted – Im Lambacher Hüttenwalde [probably near Lambach] (Schott 1898: 85), accepted – Čeňkova Pila, 1992 (Holub 1992).
Maximum elevation: 950 m, Hamry (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745c:** Oldřichovice (distr. Klatovy): ~420 m WNW of chapel in Datelov village, along forest road, Coll. No. 347/19, 49.2493694°N, 13.2206306°E, 715 m a.s.l., leg. ML, PL 6 IX 2019 CB 86219. – Hojsova Stráž (distr. Klatovy): Hojsova Stráž (distr. Klatovy): ~1.1 km NW of church in village, along forest road, Coll. No. 349/19, 49.21493°N, 13.18711°E, 780 m a.s.l., leg. ML, PL 6 IX 2019 CB 86222. – **88b. Šumavské pláně, 6946b:** Srní (distr. Klatovy): ~2.4 km SSE of church in village, along road to Antýgl settlement, edge of forest road, one shrub, 49.06592°N, 13.49084°E, 875 m a.s.l., leg. ML, PL

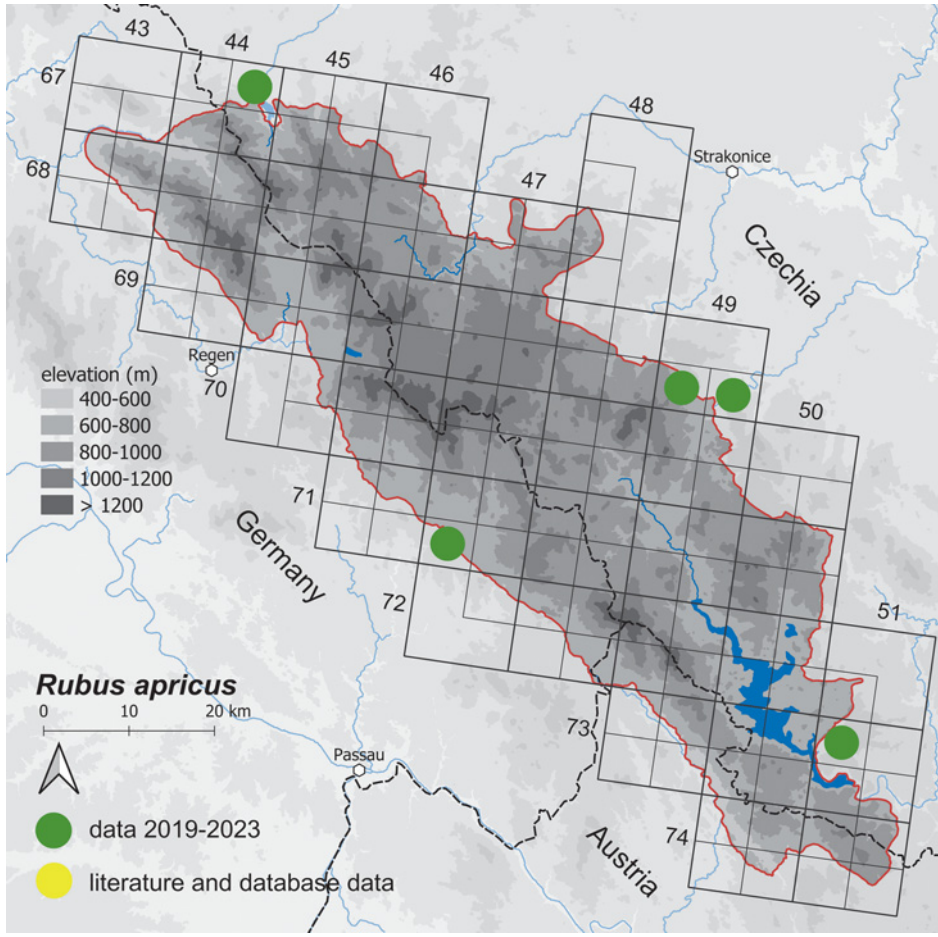

Fig. 43. Distribution of *Rubus apricus* in the Bohemian Forest.

13 VIII 2020 CB 87585. – **Germany, 6843a:** Schönbuchen (distr. Cham): SW edge of village ca 260 m SW of church in village, 49.19417°N, 12.90096°E, 550 m a.s.l., leg. ML, PL 8 IX 2019 CB 86179. – **6843b:** Arrach (distr. Cham): forest at W edge of Vogelwiese village, 49.19673°N, 12.97160°E, 500 m a.s.l., leg. ML, PL 8 IX 2019 CB 86175. – **6845c:** Zwieslerwaldhaus (distr. Regen): ca 2.3 km NW of centre of village, along forest road, 49.10924°N, 13.22518°E, 850 m a.s.l., leg. ML, K. Boublík 17 VI 2019 CB 86304. – Bayerisch Eisenstein (distr. Regen): near Debrník CZ/D border crossing, edge of forest path in *Picea abies* forest, poor growth, 49.11324°N, 13.23608°E, 730 m a.s.l., leg. PL, ML 13 VIII 2020 CB 87572. – **7045b:** Frauenau (distr. Regen): ca 1.8 km SE of Assumption of Blessed Virgin Mary church, edge of forest road, small shrub, Coll. No. 863, 48.9766°N, 13.31408°E, 730 m a.s.l., leg. ML, PL 4 IX 2021 CB 88501.

Accepted literature records: Čeňkova Pila (Holub 1992: 117). – im nördlichen Böhmerwald (Weber 1995: 499). – Hojsova Stráž, okraj lesa asi 0,5 km JV obce, 900 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Hojsova Stráž, u železničního nádraží 1,5 km Z obce, 740 m n. m., 1997, leg. et det. V. Žíla (Procházka & Kováříková 1999: 56). – Hojsova Stráž, okr. KT [Klatovy]: Pod Statečkem (k. 823,4 m), 2,5 km JZ od stanice ČD Hojsova Stráž, s. coll., 27 IX 1997, PL, det. J. Holub (Čížek 2011: 4). – Čeňkova Pila. – Hamry. – Hojsova Stráž (Chán 1999: 182). – při lesní silnici od Statečku směrem k Bucharu, 850 m [W of Hamry] (Procházka et al. 2001: 177).

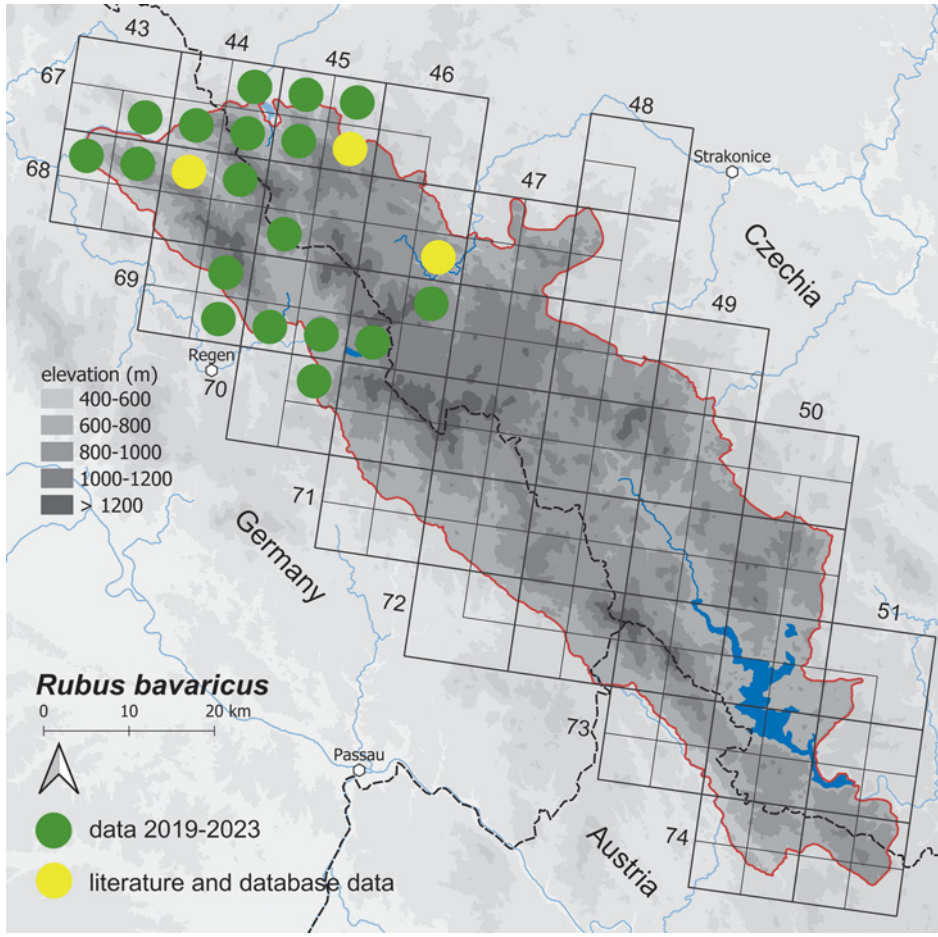

Fig. 44. Distribution of *Rubus bavaricus* in the Bohemian Forest.

Rubus brdensis Holub, Folia Geobot. Phytotax. 26: 338 (1991)
Description and illustration: Holub (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: four localities in the northern part (Javorná, Javorník, Lhota pod Kůstrým, Bayerisch Eisenstein) (Fig. 45).
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Lhota pod Kůstrým, 1996 (J. Holub, B. Trávníček, V. Žíla in Pladias 2024).
Maximum elevation: 990 m, Javorná (M. Lepší & A. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.
Note: The locality in the vicinity of the village of Bayerisch Eisenstein represents the sole known occurrence of the species in Germany (Lepší & Lepší 2021).

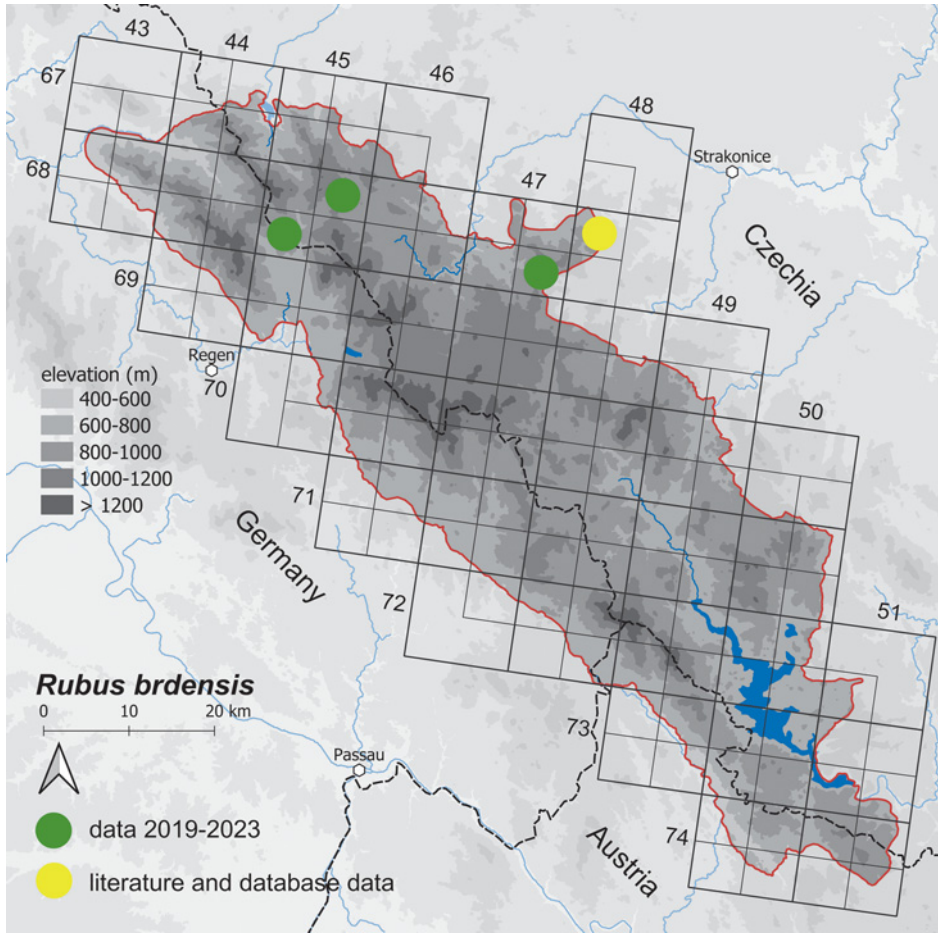

Fig. 45. Distribution of *Rubus brdensis* in the Bohemian Forest.

Herbarium specimens: **Czechia, 88a. Královský hvozd, 6845b:** Javorná (distr. Klatovy): ~280 m SSE of summit of Sup hill, ditch of forest road in *Picea abies* plantation, growth of ~6 square meters, Coll. No. 417, 49.19975°N, 13.29545°E, 990 m a.s.l., leg. ML, A. Lepší 9 VIII 2022 CB 90076. – **88c. Javorník, 6847d:** Javorník (distr. Prachatice): ~890 m NE of summit of Javorník Mt., forest clearing in *Picea abies* plantation, medium-sized growth, Coll. No. 1057, 49.1426°N, 13.66302°E, 975 m a.s.l., leg. ML 21 IX 2021 CB 87761. – **Germany, 6845c:** Bayerisch Eisenstein (distr. Regen): ~1.1 km NNW of summit of Hochberg Mt., forest clearing, small shrub, 49.11665°N, 13.20055°E, 800 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87498.
Accepted literature records: severní úpatí masívu Kůstrého [Kůstrý Mt.], Žíla [leg. V. Žíla] (Holub 1999: 6). – Bayerisch Eisenstein (Lepší & Lepší 2021: 184).

Rubus koehleri Weihe, Comp. Fl. German. 1: 681 (1825)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: three localities, in the northern (Matějovice), in the central (Stožec) and in the southern part (Dolní Sněžná) (Fig. 46).

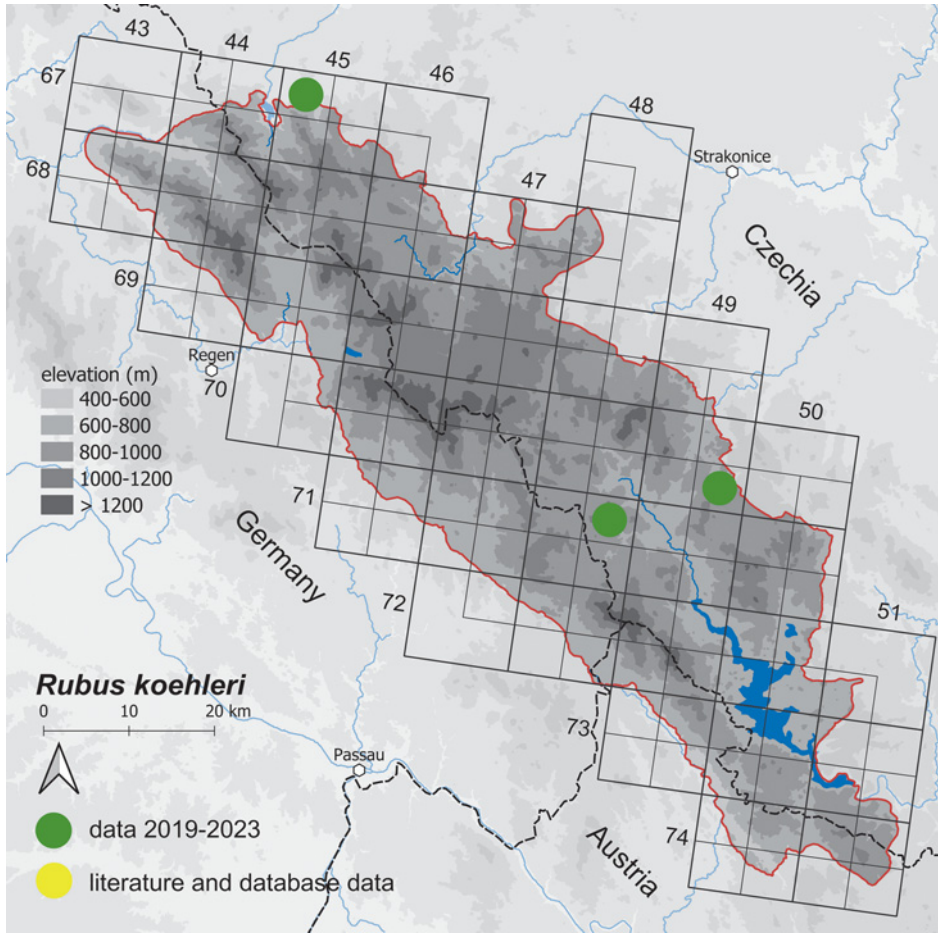

Fig. 46. Distribution of *Rubus koehleri* in the Bohemian Forest.

Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): unaccepted – Spiegelau (Ade 1914: 406), accepted broadly localized record – Bayerischer Wald bis Deggendorf (Weber 1995: 498), accurately localized record – Stožec, 2020 (Lepší M. in Pladias 2024).
Maximum elevation: 940 m, Dolní Sněžná (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745a:** Matějovice (distr. Klatovy): ~1 km E of Panna Marie chapel in village, edge of road in *Picea abies* plantation, poor growth, Coll. No. 1071, 49.26025°N, 13.19081°E, 655 m a.s.l., leg. ML 24 IX 2021 CB 88406. – **88e. Trojmezenská hornatina, 7148b:** Stožec (distr. Prachatice): ~600 m S of train stop, railway embankment, large growth, 48.85387°N, 13.82187°E, 780 m a.s.l., leg. ML 3 IX 2020 CB 87488. – **88f. Želnavská hornatina, 7049d:** Volary (distr. Prachatice): Dolní Sněžná settlement, ~1.1 km ENE of summit of Větrný hill, edge of road in pasture, large growth, 48.90767°N, 13.95162°E, 940 m a.s.l., leg. ML 11 X 2023 CB 90113.
Accepted literature records: Bayerischer Wald bis Deggendorf (Weber 1995: 498).

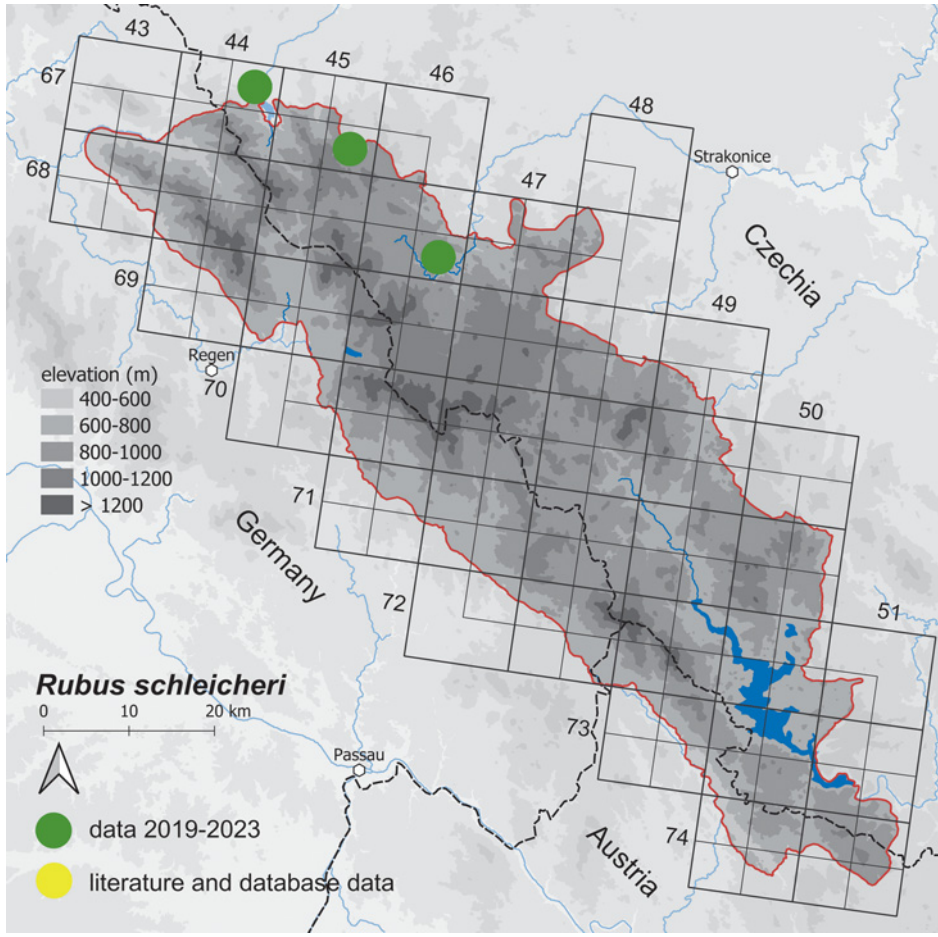

Fig. 47. Distribution of *Rubus schleicheri* in the Bohemian Forest.

Rubus schleicheri Weihe ex Tratt., Rosac. Monogr. 3: 22 (1823) (syn.: *R. irrufatus* P. J. Müll.)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: western and central Europe (Kurtto et al. 2010).
Distribution in the area studied: three localities in the northern part (Zelená Lhota, Javorná, Štěpanice) (Fig. 47).
Occurrence in countries within the area studied: Cz.
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
The first record (settlement, year): unaccepted – Šumava? [? probably means doubtful occurrence] (Dostál et al. 1948–1950: 620, as *R. irrufatus*), accepted – Zelená Lhota, 2020 (M. Lepší in Pladias 2024).
Maximum elevation: 1,040 m, Javorná (M. Lepší et al. in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6744b:** Stará Lhota (distr. Klatovy): ~1.2 km SE of Panna Marie chapel in village, shrubby cut of railway, one large growth, Coll. No. 1068, 49.26122°N, 13.15819°E, 600 m a.s.l., leg. ML 24 IX 2021 CB 88407. – **88b. Šumavské pláně, 6745d:** Javorná (distr. Klatovy): ~640 m E of summit of Jedlová Mt., edge of forest road, rare, medium-sized shrub, Coll. No. 990, 49.20662°N, 13.27322°E, 1,040 m a.s.l., leg. ML, K. Boublík, D. Půbal 10 IX 2021 herb. CB 88393. – **6846d:** Štěpanice (distr. Klatovy): ~830 m SW of Kříženec settlement, forest clearing in *Picea abies* plantation, medium-sized growth, Coll. No. 1006, 49.14465°N, 13.45089°E, 825 m a.s.l., leg. ML 13 IX 2021 CB 87766.

Rubus ser. *Glandulosi* (Wimm. et Graeb.) Focke

Rubus coronae-aurae M. Lepší & P. Lepší ined.
Description and illustration: Sochor et al. in prep.
Overall distribution: central Europe (Sochor et al. in prep.).
Distribution in the area studied: one locality in the southern part (Loučovice) (Fig. 48).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Loučovice, 2019 (see below).
Maximum elevation: 685 m, Loučovice (see below).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 37m. Vyšebrodsko, 7351c:** Lipno nad Vltavou (distr. Český Krumlov): along railway to Loučovice, ~1 km SE of centre of dam of Lipno water reservoir, slope above railway, one shrub, 48.62563°N, 14.24570°E, 685 m a.s.l., leg. ML, PL 4 VIII 2019 CB 86388. – Loučovice (distr. Český Krumlov): ~750 m NNE of St. Oldřich church in village, cut of railway in forest, one large growth, 48.62563°N, 14.24570°E, 685 m a.s.l., leg. ML 3 IX 2020 CB 87299.

Rubus glandulosus Bellardi, App. Fl. Pedem.: 24 (1792)
Description and illustration: Sochor et al. in prep.
Overall distribution: western, southern, central and eastern Europe, western Asia – the Caucasus, Hyrcania (Sochor et al. 2024a, in prep.).
Distribution in the area studied: 15 localities (Sochor et al. 2024a), locally probably scattered (Fig. 49).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): unaccepted – Frauenau, Haidmühle etc. (Sendtner 1860: 218), accepted – Plešné jezero Lake near Nová Pec, 2013 (Sochor et al. 2024a).
Maximum elevation: 1,090 m, Plešné jezero Lake (Sochor et al. 2024a).
Taxonomic and floristic conclusions reached in this paper: accepted.
Note: Recent studies have shown that sexual and agamospermic representatives of *R.* ser. *Glandulosi* are mutually evolutionarily and phylogeographically distinct (Sochor et al. 2024a, b). It is therefore appropriate to recognise sexuals at the species level under the name *R. glandulosus* Bellardi (Sochor et al. in prep.). Given the lack of evidence regarding the morphological distinctiveness of *R. glandulosus* and apomicts, only biosystematically determined occurrences of *R. glandulosus* (Sochor et al. 2024a) have been included in the map and the list of herbarium specimens and literature records.

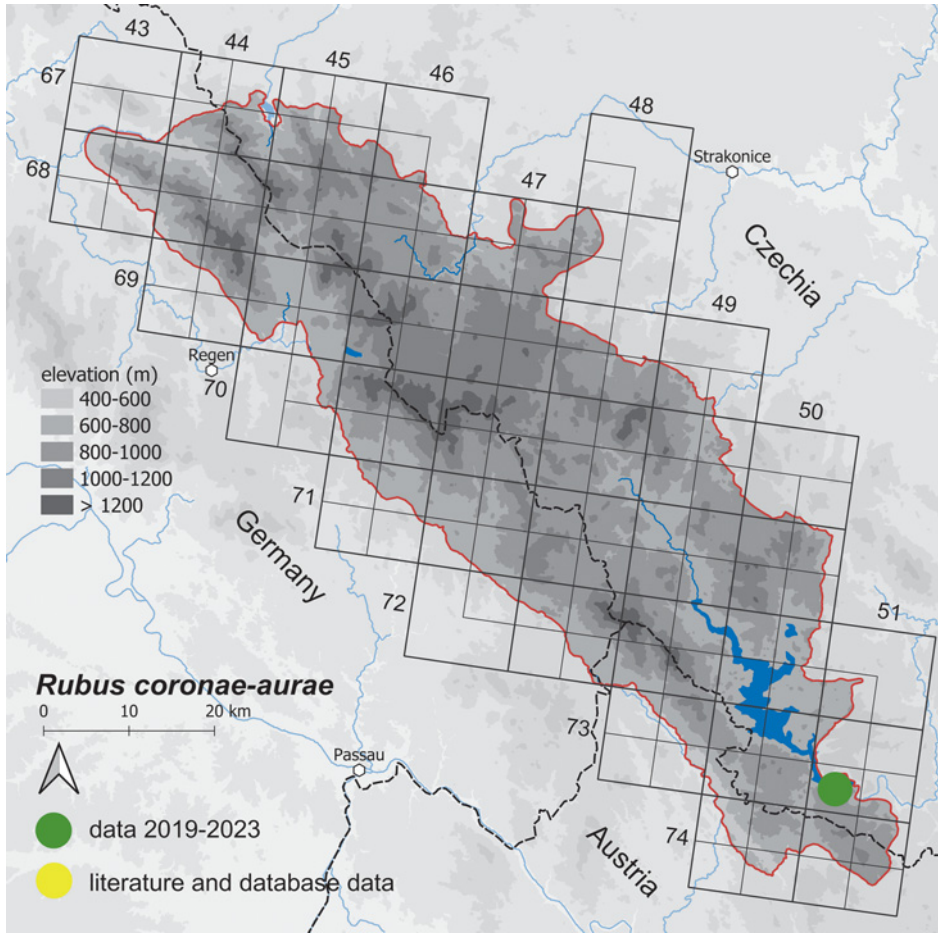

Fig. 48. Distribution of *Rubus coronae-aurae* ined. in the Bohemian Forest.

Herbarium specimens: **Austria, 7349b:** Hintenberg (distr. Rohrbach): ~1.2 km ESE of chapel in village, edge of forest, small shrub, 48.68312°N, 13.94099°E, 730 m a.s.l., leg. PL, ML 15 VIII 2020 CB 87543. – **Germany, 6945b:** Spiegelhütte (distr. Regen): ~1.2 km WNW of St. Stephanus church in village, grassy edge of forest road, large growth, Coll. No. 879, 49.05508°N, 13.28954°E, 680 m a.s.l., leg. ML, PL 4 IX 2021 CB 88531. – **6945c:** Innenried (distr. Regen): ~1 km NW of chapel in village, young *Picea abies* plantation, small shrub, similar to *Rubus* "zlatokorunský typ", Coll. No. 889, 49.0269°N, 13.197°E, 680 m a.s.l., leg. ML, PL 4. IX 2021 CB 88529. – **7147d:** Herzogsreut (distr. Freyung-Grafenau): ~1.2 km NW of St. Oswald church in village, edge of forest road, Coll. No. 842, 48.84508°N, 13.63135°E, 800 m a.s.l., leg. ML, PL 3 IX 2021 CB 88514. – **7248b:** Riedelsbach (distr. Freyung-Grafenau): N edge of village, edge of forest road, large growth, 48.752°N, 13.80371°E, 800 m a.s.l., leg. ML, PL 16 VIII 2020 CB 87565.
Accepted literature records: Czechia, Šumava, Vimperk, Coll. No. Ms125/21, 49.061813°N, 13.730551°E, 920 m a.s.l., 1 VII 2021, leg. M. Sochor, M. Konečná. – Czechia, Šumava, Hamry (distr. Klatovy), Coll. No. Ms132/21, 49.191716°N, 13.154655°E, 941 m a.s.l., 3 VII 2021, leg. M. Sochor, M. Konečná. – Czechia, Šumava, Hamry (distr. Klatovy), Coll. No. Ms133/21, 49.192181°N, 13.183321°E, 936 m a.s.l., 3 VII 2021, leg. M. Sochor, M. Konečná. – Czechia, Loučovice (distr. Český Krumlov), Coll. No. Ms396/21, 48.626094°N, 14.245772°E, 695 m a.s.l., 10 X 2021, leg. M. Sochor. – Czechia, Šumava, Plešné jezero, Coll. No. Ms66/13a, 48.778056°N, 13.867222°E, 10 IX 2013, leg. M. Sochor. – Czechia, Šumava, Horní Vltavice,

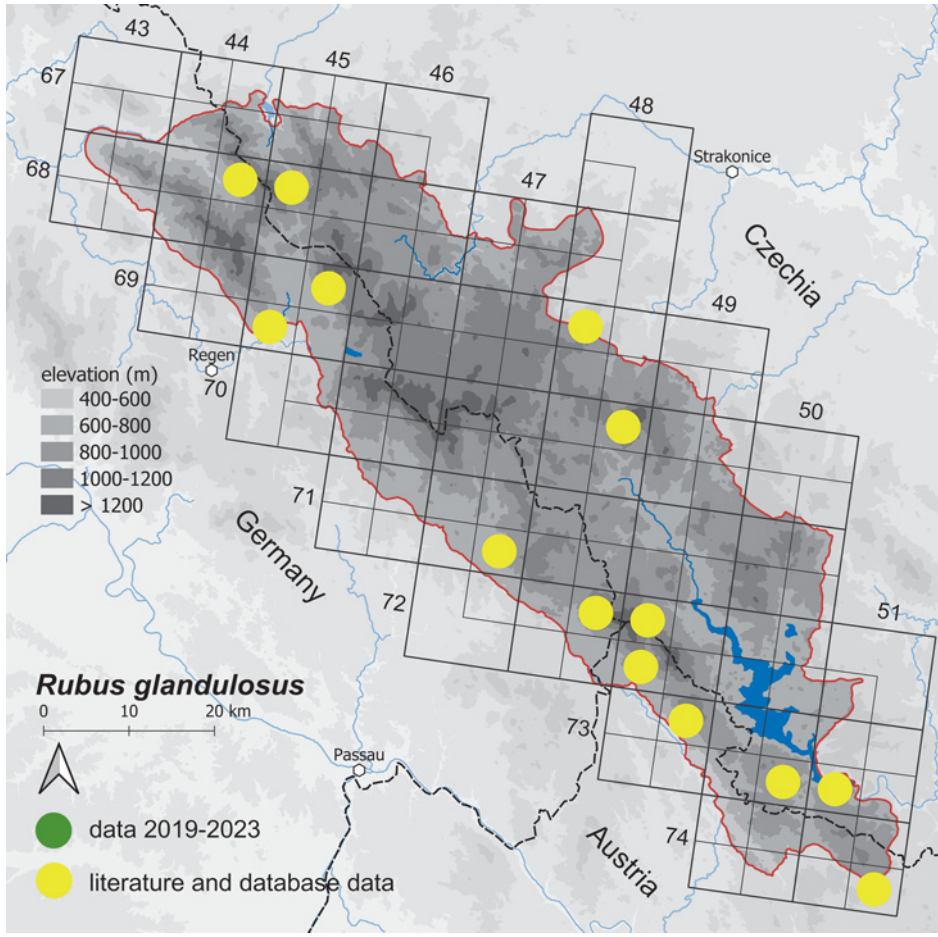

Fig. 49. Distribution of *Rubus glandulosus* in the Bohemian Forest.

Coll. No. Ms67/13, 48.961667°N, 13.774722°E, 14 IX 2013, leg. M. Sochor. – Czechia, Šumava, Přední Výtoň, Coll. No. Ms60/21, 48.639145°N, 14.127661°E, 923 m a.s.l., 14 V 2021, leg. M. Sochor. – Austria, Oberösterreich, Klaffer am Hochficht, Böhmerwald, Holzschlag, 48.729444°N, 13.888056°E, 813 m a.s.l., 8 VIII 2018, leg. M. Hohla LI02760315. – Austria, Oberösterreich, N of Bad Leonfelden, Coll. No. Ms57/21, 48.54486°N, 14.292521°E, 787 m a.s.l., 14 V 2021, leg. M. Sochor (Sochor et al. 2024a).

Rubus nigricans Danthoine, J. Sci. Utiles 2: 223 (1791) [syn.: *R. bavaricus* f. *bellardii* (Weihe) Utsch ex Ant. Schott, *R. bellardii* Weihe, *R. kuenicus* Schott ex Utsch, *R. pedemontanus* Pinkw.]
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: western, north-western and central Europe (Kurtto et al. 2010).
Distribution in the area studied: scattered to abundant in the northern and central part, rare or locally absent in the southern part (Fig. 50).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: G, Cz.

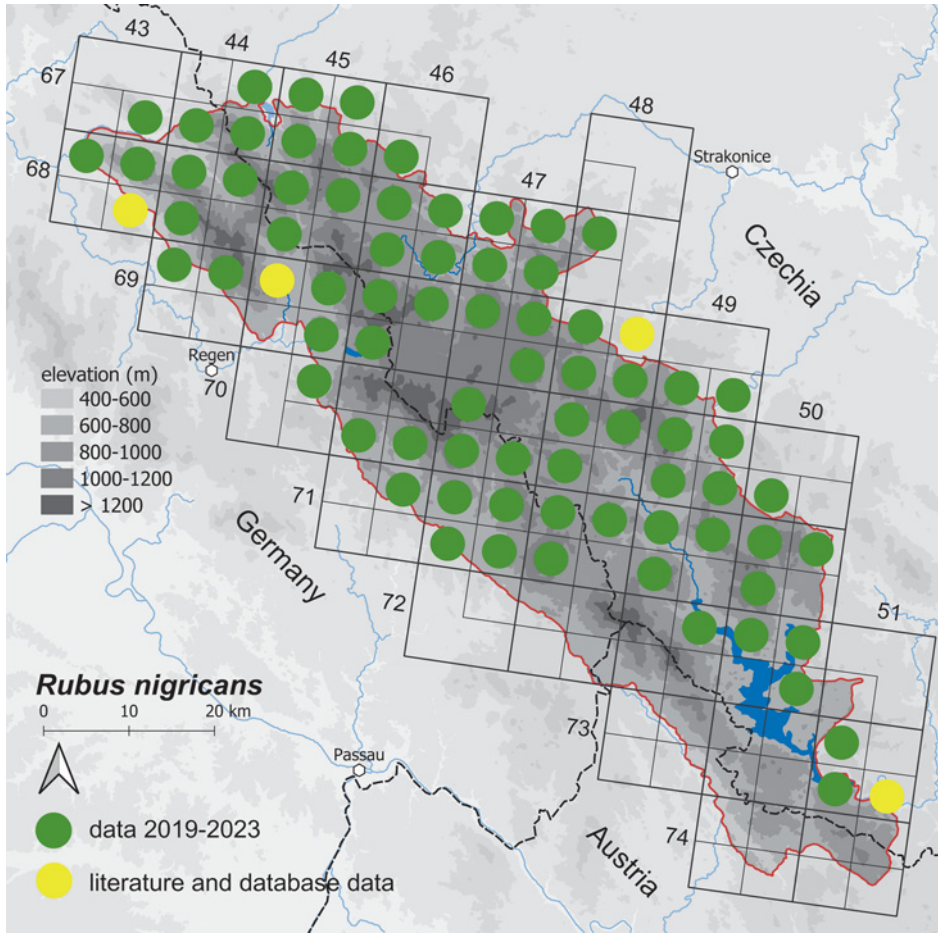

Fig. 50. Distribution of *Rubus nigricans* in the Bohemian Forest.

The first record (settlement, year): unaccepted – Der Dreisesselberg [Mt.] (Ullepitsch 1882: 228, as *R. bellardii* Nees), accepted – bei Hinterhäuser [Zadní Chalupy] bei Neuern [Nýrsko], 1897 (leg. A. Schott, lectotype of *R. kuenicus*, LI).
Maximum elevation: 1,170 m, Kleiner Osser Mt. near Lohberg (M. Lepší & M. Štech in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6846a:** Hartmanice (distr. Klatovy): in Volyňka stream valley, ~1.1 km SE of chapel in Busil settlement, verge of road in *Picea abies* plantation, abundant, 49.17652°N, 13.40115°E, 740 m a.s.l., leg. ML 26 VIII 2020 CB 87336. – **37a. Horní Pootaví, 6847d:** Kašperské Hory (distr. Klatovy): ~730 m S of summit of Chlum Mt., verge of forest road in *Picea abies* plantation, abundant, 49.13678°N, 13.58657°E, 815 m a.s.l., leg. ML 26 VIII 2020 CB 87326. – **37g. Libínské Předšumaví, 7049b:** Albrechtovice (distr. Prachatice): 510 m WSW of summit of Albrechtovický kopec hill, edge of forest road through *Picea abies* plantation, large growth, Coll. No. 1163, 48.97362°N, 13.95304°E, 810 m a.s.l., leg. ML 5 X 2021 CB 87775. – **88b. Šumavské pláně, 6746c:** Keply (distr. Klatovy): ca 520 m SSE of summit of Svinenský vrch hill, verge of road in young plantation, abundant, 49.21169°N, 13.35077°E,

930 m a.s.l., leg. ML 26 VIII 2020 CB 87334. – **6845b:** Železná Ruda (distr. Klatovy): along road to Nová Hůrka settlement, ca 440 m SW of summit of U Školky hill, below overhead power line, large growth, 49.1543°N, 13.30120°E, 940 m a.s.l., leg. PL, ML 13 VIII 2020 CB 87586. – **6846b:** Hartmanice (distr. Klatovy): ca 1.3 km WSW of St. Kateřina church in village, in *Picea abies* plantation, abundant, 49.16668°N, 13.43675°E, 685 m a.s.l., leg. ML 26 VIII 2020 CB 87338. – **6846c:** Prášily (distr. Klatovy): ca 480 m SSW of church in village, forest along brook, 49.1011°N, 13.37597°E, 875 m a.s.l., leg. K. Boublík, ML 13 X 2019 CB 86150. – **6846d:** Štěpanice (distr. Klatovy): ca 830 m SW of Kříženec settlement, forest clearing in *Picea abies* plantation, medium-sized growth, Coll. No. 1006, 49.14465°N, 13.45089°E, 825 m a.s.l., leg. ML 13 IX 2021 CB 87766. – **6947a:** Srní (distr. Klatovy): ca 780 m ENE of Turnerova chata chalet, forest clearing, scattered, Coll. No. 422, 49.08398°N, 13.52571°E, 910 m a.s.l., leg. ML 10 VIII 2022 CB 90070. – **6948c:** Zdíkov (distr. Prachatice): ca 430 m SSW of summit of Kamenná hora hill, forest clearing, large growth, 49.04741°N, 13.70212°E, 985 m a.s.l., leg. ML 28 IX 2023 CB 90099. – **88c. Javorník, 6848a:** Maleč (distr. Klatovy): ca 1.4 km SE of chapel in village, verge of forest road, abundant, 49.16353°N, 13.68938°E, 775 m a.s.l., leg. ML 28 VIII 2020 CB 87322. – **88d. Boubínsko-stožecká hornatina, 6949c:** Včelná pod Boubínem (distr. Prachatice): ca 2.3 km SSE of centre of village, 49.00386°N, 13.87160°E, 900 m a.s.l., leg. ML 16 VIII 2019 CB 86135. – **7148a:** Strážný (distr. Prachatice): ca 460 m SW of summit of Silnická hora hill, clearing in *Picea abies* plantation, large growth, Coll. No. 778, 48.88574°N, 13.69109°E, 935 m a.s.l., leg. ML 27 VIII 2021 CB 87799. **88e. Trojmezenská hornatina, 7149c:** Jelení (distr. Prachatice): ~1.4 km S of summit of Jelenská hora Mt., edge of forest road, medium-sized growth, Coll. No. 678, 48.81648°N, 13.87855°E, 890 m a.s.l., leg. ML 12 IX 2022 CB 89937. – **88f. Želnavská hornatina, 7149a:** Chlum (distr. Prachatice): ~1.5 km SW of summit of Mechový vrch hill, edge of road through *Picea abies* plantation, medium-sized shrub, Coll. No. 775, 48.87521°N, 13.90120°E, 800 m a.s.l., leg. ML 27 VIII 2021 CB 87802. – **7149b:** Pěkná (distr. Prachatice): ~300 m ENE of summit of Křemenná hill, edge of forest road in *Picea abies* plantation, large growth, 48.87961°N, 13.94097°E, 1,020 m a.s.l., leg. ML 11 X 2023 CB 90114. – **Germany, 7147c:** Kreuzberg (distr. Freyung-Grafenau): ~1.6 km SSE of St. Anna church in village, edge of garden and road, medium-sized growth, Coll. No. 851, 48.82495°N, 13.55853°E, 680 m a.s.l., leg. ML, PL 3 IX 2021 CB 88513.
Accepted literature records: – Javorník, ~950 m n m., 1997, leg. V. Žíla, det. J. Holub. – Lazny J Strašína, ~610 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 58). – při lesní silnici od Statečku směrem k Bucharu, 850 m [W of Hamry] (Procházka et al. 2001: 177).

Rubus piceeticola M. Lepší et al. ined.
Description and illustration: Sochor et al. in prep.
Overall distribution: central Europe (Sochor et al. in prep.).
Distribution in the area studied: scattered in the northern part, rare in the central part (Fig. 51).
Phytochorotype: *Rubus bavaricus – R. parvidentatus.*
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Javorník, 2022 (see below).
Maximum elevation: 995 m, Zdíkov (see below).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6846b:** Hořejší Těšov (distr. Klatovy): ~560 m WSW centre of village, edge of forest along a road, medium-sized growth, determination confirmed SSR analyses by M. Sochor 2022, 49.182361°N, 13.424°E, 800 m a.s.l., leg. ML, J. Velebil 23 VIII 2022 CB 83664. – **6745a:** Matějovice (distr. Klatovy): ~560 m N of summit of Křížový vrch hill, in *Picea abies* plantation, growth of several square meters, 49.26026°N, 13.19146°E, 655 m a.s.l., leg. ML 19 VII 2023 CB 90130. – **6745b:** Chřepice (distr. Klatovy): Pohádka settlement, ~1.5 km NNE of summit of Plošina hill, forest clearing, growth of several square meters, 49.26089°N, 13.26067°E, 845 m a.s.l., leg. ML 19 VII 2023 CB 90129. – **6745c:** Hojsova Stráž (distr. Klatovy): ~2 km NNW of Neposkvrněné početí Panny Marie church in village, railway cut, rare, determination confirmed SSR analysis by M. Sochor 2022, 49.22615°N, 13.19057°E, 680 m a.s.l., J. Velebil, ML 22 VIII 2022 CB 83668. – **6745d:** Javorná (distr. Klatovy): ~500 m NW of summit of Hamerský vrch hill, clearing in *Picea abies* plantation, small growth, 49.22853°N, 13.29679°E, 810 m a.s.l., leg. ML 19 VII 2023 CB 90127. – **6846a:** Mochov (distr. Klatovy): ~620 m ESE of summit of Na Zámku hill, edge of *Picea abies* plantation, growth of several square meters, 49.18977°N, 13.40352°E, 875 m a.s.l., leg. ML 19 VII 2023 CB 90126. – **37a. Horní Pootaví, 6846b:** Hořejší Těšov (distr. Klatovy): ~740 m S of summit of Na Čihadle hill, edge of forest road in *Picea abies* plantation, small growth, 49.17996°N, 13.44373°E, 660 m a.s.l., leg. PL, ML,

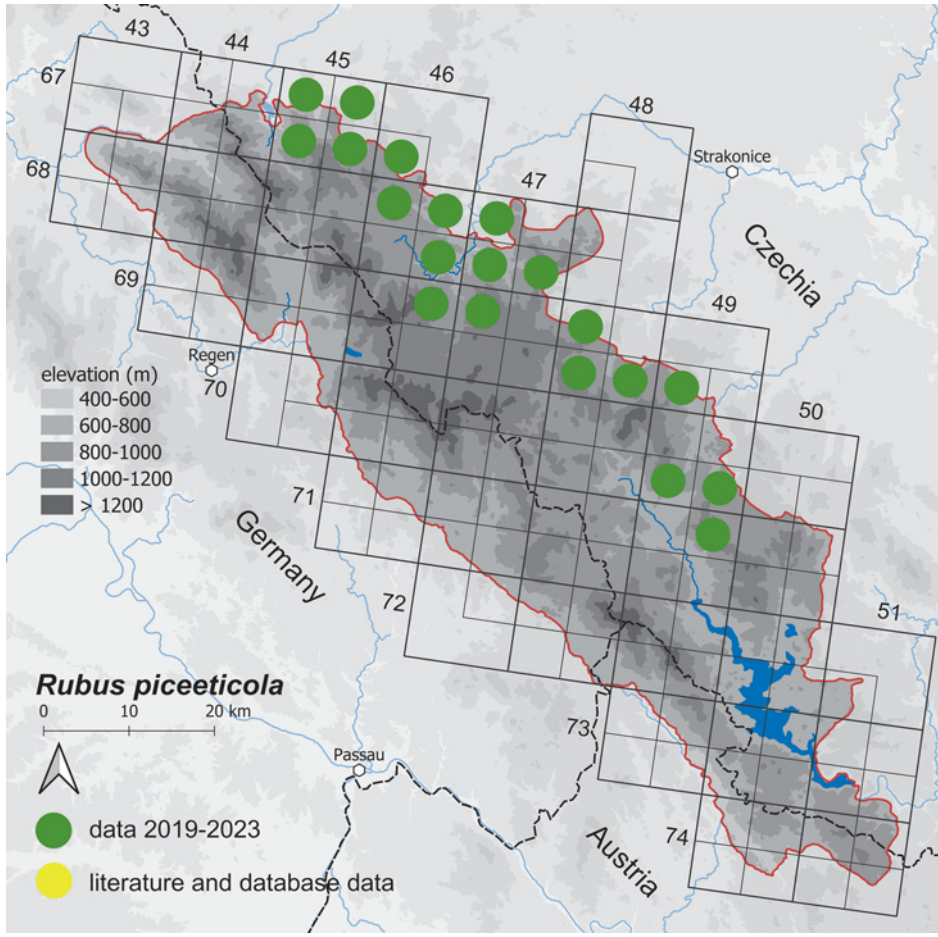

Fig. 51. Distribution of *Rubus piceeticola* ined. in the Bohemian Forest.

et al. 11 VII 2023 CB 90138. – **6846d:** Malý Radkov (distr. Klatovy): ~1.4 km NW of summit of Radkovský vrch hill, edge of forest road, large growth, determination confirmed SSR analyses by M. Sochor 2022, 49.14561°N, 13.47439°E, 720 m a.s.l., ML, J. Velebil 23 VIII 2022 CB 83707. – **6847a:** Kavrlík (distr. Klatovy): ~970 m S of summit of Zámecký vrch hill, edge of *Picea abies* plantation and road, one small shrub, 49.15075°N, 13.57585°E, 760 m a.s.l., leg. PL, ML, et al. 11 VII 2023 CB 90139. – **6847c:** Kašperské Hory (distr. Klatovy): ~240 m SW of summit of Šibeniční vrch hill, old forest clearing in beech forest, small growth, determination confirmed SSR analyses by M. Sochor 2022, 49.14191°N, 13.53996°E, 760 m a.s.l., J. Velebil, ML 25 VIII 2022 CB 83710. – **6847d:** Ždánov (distr. Klatovy): ~860 m WSW of summit of Ždánov hill, under power line in *Picea abies* plantation, large growth, 49.14944°N, 13.59103°E, 925 m a.s.l., leg. ML 19 VII 2023 CB 90124. – **37e. Volyňské Předšumaví, 6948d:** Pravětín (distr. Prachatice): ~800 m ESE of summit of Sviní vrch hill, gap in *Picea abies* and *Larix decidua* mixed plantation, growth of ~150 square meters, 49.03959°N, 13.79599°E, 760 m a.s.l., leg. ML 29 IX 2023 CB 90107. – **37g. Libínské Předšumaví, 7049c:** Mlynářovice (distr. Prachatice): ~630 m SSW of summit of Kádrův kopec hill, edge of forest road in *Pinus sylvestris* plantation, growth of ~50 square meters, 48.94913°N, 13.91647°E, 825 m a.s.l., leg. ML 5 X 2023 CB 90083. – Volary (distr. Prachatice): ~360 m WSW of summit of Vysoký les hill, edge of forest road in *Picea abies* plantation, growth of ~150 square meters, 48.93779°N, 13.91508°E, 880 m a.s.l., leg. ML 5 X 2023 CB 90086. – **7049d:** Zbytiny (distr. Prachatice): ~820 m S of St. Vít church in village, open *Pinus sylvestris* plantation, large

growth, 48.93524°N, 13.97778°E, 810 m a.s.l., ML 1 XI 2022 CB 89941. – **88b. Šumavské pláně, 6746c:** Keply (distr. Klatovy): ~550 m SSW of summit of Svinenský hill, edge of forest road in *Picea abies* plantation, small growth, 49.21176°N, 13.34267°E, 890 m a.s.l., leg. ML, PL, et al. 11 VII 2023 CB 90137. – **6846a:** Kochánov (distr. Klatovy): ~1.2 km WNW of summit of Kamenáč hill, edge of forest road in young *Picea abies* plantation, growth of several square meters, 49.19855°N, 13.36707°E, 890 m a.s.l., leg. ML, PL, et al. 11 VII 2023 CB 90135. – **6948a:** Zdíkov (distr. Prachatice): ~540 m E of summit of Hrb hill, edge of forest road in *Picea abies* plantation, small growth, 49.05511°N, 13.68019°E, 995 m a.s.l., leg. ML 28 IX 2023 CB 90097. – **6948c:** Zdíkov (distr. Prachatice): ~640 m SSE of summit of Kamenná hora hill, edge of forest road in *Picea abies* plantation, growth of ~60 square meters, 49.04585°N, 13.70593°E, 970 m a.s.l., leg. ML 28 IX 2023 CB 90100. – **88c. Javorník, 6847a:** Žihobce (distr. Klatovy): Kakánov settlement, ~700 m SE of summit of Sedlo hill, edge of forest road, medium-sized growth, determination confirmed SSR analyses by M. Sochor 2022, 49.18618°N, 13.579°E, 740 m a.s.l., ML, J. Velebil 25 VIII 2022 CB 89556. – Žlíbek (distr. Klatovy): ~250 m SSE of summit of Zámecký vrch hill, edge of forest road in *Picea abies* plantation, growth of several square meters, 49.15746°N, 13.57825°E, 875 m a.s.l., leg. ML 19 VII 2023 CB 90125. – **6847d:** Javorník (distr. Prachatice): ~850 m NE of summit of Javorník Mt., edge of forest road, scattered, determination confirmed SSR analyses by M. Sochor 2022, 49.14255°N, 13.66252°E, 980 m a.s.l., J. Velebil, ML 25 V 2022 CB 89578. – **88d. Boubínsko-stožecká hornatina, 6948c:** Lipka (distr. Prachatice): ca 820 m WSW of train stop in village, old wet forest clearing, rare; small shaded growth, 49.01761°N, 13.725°E, 880 m a.s.l., ML, PL 14 X 2022 CB 89959. – Lipka (distr. Prachatice): ca 580 m ENE of train stop in village, open *Picea abies* forest, one small growth, 49.0216°N, 13.74318°E, 855 m a.s.l., PL, ML 14 X 2022 CB 89960. – **6948d:** Pravětín (distr. Prachatice): ca 470 m SSW of summit of Na Vrščích hill, edge of forest road in *Corylus avellana* growth, growth of ca 50 square meters, 49.03238°N, 13.81662°E, 870 m a.s.l., leg. ML 29 IX 2023 CB 90105. – **6949c:** Buk (distr. Prachatice): ca 480 m ESE of summit of Výšina hill, edge of forest road in *Pinus sylvestris* forest clearing, growth of several square meters, 49.03234°N, 13.83429°E, 875 m a.s.l., leg. ML 29 IX 2023 CB 90106. – Včelná pod Boubínem (distr. Prachatice): ca 660 m SSW of summit of Skalní hora hill, forest clearing, one shrub, 49.02303°N, 13.88083°E, 700 m a.s.l., PL, ML 14 X 2022 CB 89956. – **88f. Želnavská hornatina, 7149b:** Pěkná (distr. Prachatice): ~320 m WNW of summit of Hůrka hill, edge of forest road in *Picea abies* plantation, small shrub, 48.86185°N, 13.93887°E, 850 m a.s.l., leg. ML 11 X 2023 CB 90116.

Rubus ser. *Glandulosi* – unrecognized taxa

Overall distribution: western, southern, central and eastern Europe, western Asia (the Caucasus, Hyrcania).

Distribution in the area studied: scattered to abundant (Fig. 52).

Phytochorotype: unclassified.

Occurrence in countries within the area studied: A, G, Cz.

The first record (settlement, year): unaccepted – Kubani [Boubín Mt. near Kubova Huť], 1815 (Opiz 1815: 426, as *R. hirtus*), accepted – Hinterhäuser [Zadní Chalupy] bei Neuern [Nýrsko], 1897 (leg. A. Schott, lectotype of *R. kuenicus* var. *bellardii*, LI).

Maximum elevation: 1,275 m, Hraničník Mt. near Nová Pec (M. Lepší et al. in Pladias 2024).

Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Note: This group includes all records of representatives of the *Glandulosi* series except for the distinguished agamospermic species (*R. coronae-aurae*, *R. nigricans*, *R. piceeticola*) and biosystematically determined *R. glandulosus*, which are mapped separately. Some of the literature and database data included here may relate to the distinguished agamospermic species, particularly *R. nigricans* and *R. piceeticola*.

Herbarium specimens: **Austria, 7249d:** Ulrichsberg (distr. Rohrbach): W of Schöneben settlement, ~1.1 km NNW of summit of Sperrbühel hill, edge of forest road, scattered, 48.71446°N, 13.93457°E, 910 m a.s.l., leg. ML, et al. 25 VI 2020 CB 87532. – **Czechia, 34. Plánický hřeben, 6745d:** Javorná (distr. Klatovy): ~690 m NW of summit of Hamerský vrch hill, forest clearing, growth of several square meters, 49.22906°N, 13.29410°E, 805 m a.s.l., leg. ML 19 VII 2023 CB 90128. – **37e. Volyňské Předšumaví, 6948a:** Zdíkov (distr. Prachatice): ~1.9 km SW of St. Ludmila church in village, verge of forest road, medium-sized growth,

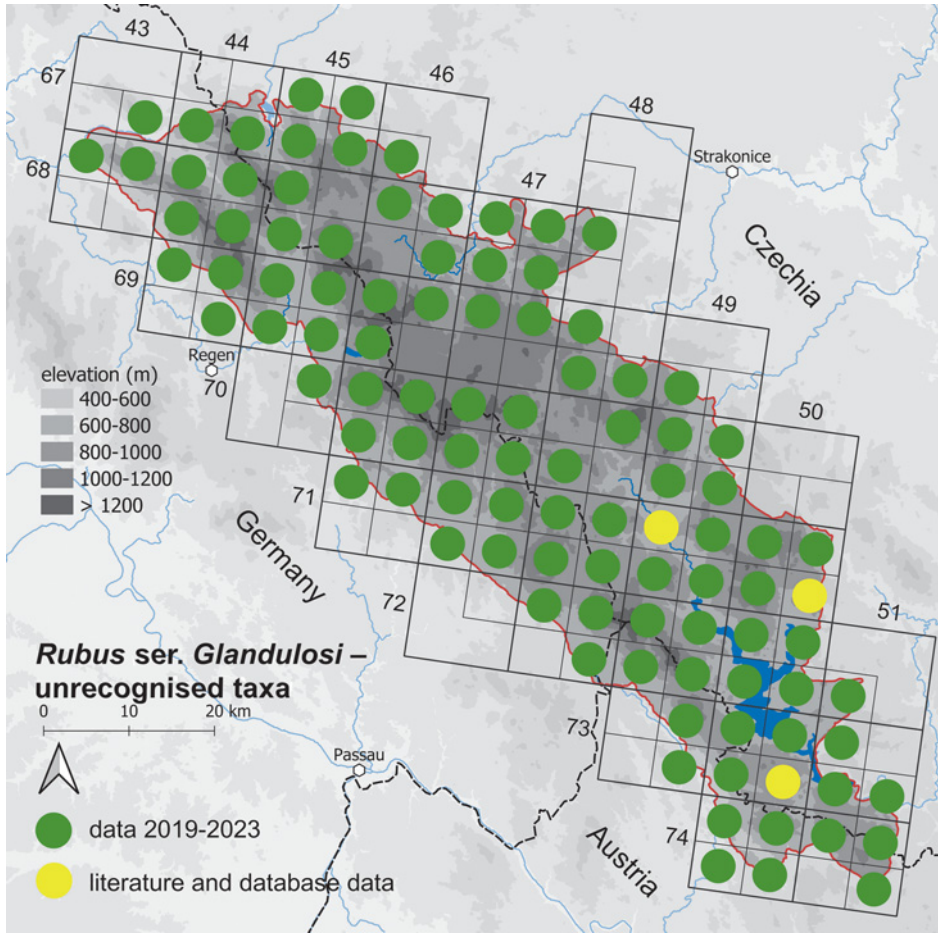

Fig. 52. Distribution of *Rubus* ser. *Glandulosi* – unrecognized taxa in the Bohemian Forest.

49.07164°N, 13.67639°E, 875 m a.s.l., leg. PL, ML 4 IX 2020 CB 87308. – **88d. Boubínsko-stožecká hornatina, 6948c:** Borová Lada (distr. Prachatice): Švajglova Lada settlement, ~650 m SE of summit of Bukovec hill, old forest clearing, abundant, Coll. No. 753, 49.0036°N, 13.69939°E, 1,040 m a.s.l., leg. ML, PL 14 X 2022 CB 89957. – **Germany, 6744c:** Rittsteig (distr. Cham): ~2.2 km ESE of church in village, in open *Picea abies* plantation, large growths, Coll. No. 711, 49.24441°N, 13.07792°E, 750 m a.s.l., leg. ML, PL 24 IX 2022 CB 89837. – **6945d:** Buchenau (distr. Regen): ~630 m NNE of summit of Stierberg hill, edge of forest road, small growth, Coll. No. 624, 49.01762°N, 13.32257°E, 760 m a.s.l., leg. ML 5 IX 2022 CB 90011.
Accepted literature records: Prášily, horský smíšený les 2 km JZ až JJZ obce. – Prášily, les na V úpatí Ždánidel [Ždánidla Mt.] 600 m Z až JZ obce. – Prášily, V, SV a S svahy vrchu Ždánidla Z od obce, 950–1240 m n. m. – Prášily: okraj lesa Z zaniklé osady Dol. Steindlberg, ~0,8 km JZ obce, 950 m n. m. – Prášily, V úpatí Ždánidel. – Prášily, louky v nivě potoka u zaniklé osady Dol. Steindlberg 0,5–1,0 km J obce Prášily, 890 m n. m. – Dobrá Voda, rumiště u stodoly nedaleko Roviny. – Hartmanice, u potůčku od Dobré Vody na okraji lesa 1,2 km ZJZ Hartmanic, ~690 m n. m. (Skalický & Kirschnerová 1993: 71).

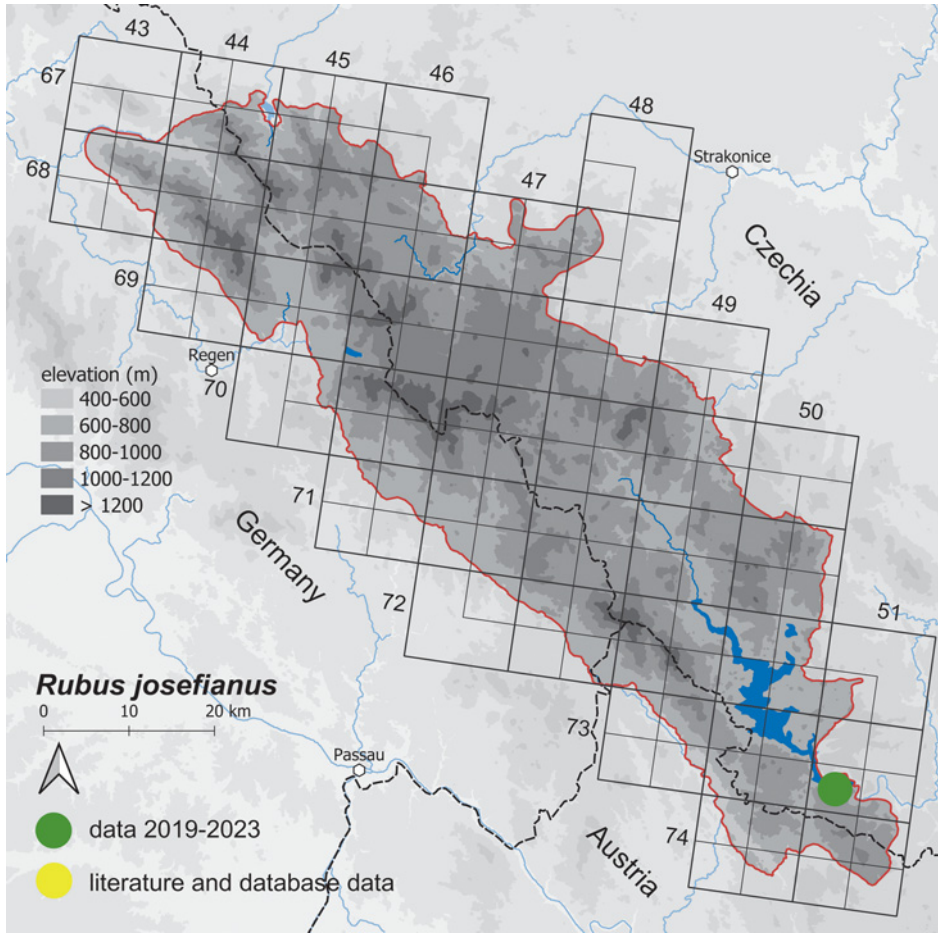

Fig. 53. Distribution of *Rubus josefianus* in the Bohemian Forest.

Rubus sect. *Corylifolii* Lindl., subsect. *Sepincola* (Focke) Hayek

Rubus ser. *Suberectigeni* H. E. Weber

Rubus josefianus H. E. Weber, Preslia 65: 22 (1993)
Description and illustration: Holub (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: one locality in the southern part (Lipno nad Vltavou) (Fig. 53).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Lipno nad Vltavou, 2019 (M. Lepší & P. Lepší in Pladias 2024).

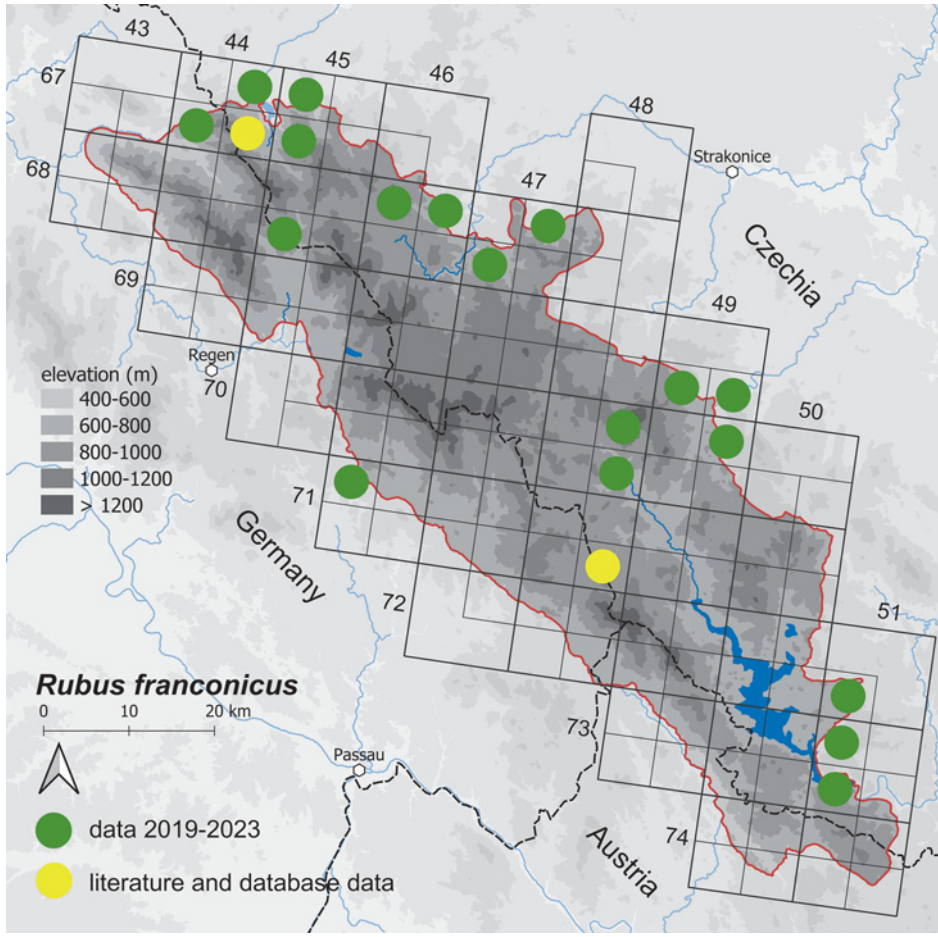

Fig. 54. Distribution of *Rubus franconicus* in the Bohemian Forest.

Maximum elevation: 730 m, Lipno nad Vltavou (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimen: **Czechia, 37m. Vyšebrodsko, 7351c:** Lipno nad Vltavou (distr. Český Krumlov): along bicycle trail between train stop and village, edge of forest, 48.63598°N, 14.23366°E, [730 m a.s.l.], leg. ML, PL 4 VIII 2019 CB 86381.

Rubus ser. *Sepincola* (Focke) E. H. L. Krause

Rubus franconicus H. E. Weber, Ber. Bayer. Bot. Ges. 50: 6 (1979)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rarely in low elevations (Fig. 54).
Phytochorotype: *Rubus nessensis – R. nigricans*.

Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): broadly localized record – pod Třístoličníkem [below Třístoličník Mt.] near Nové Údolí, 1926 (leg. V. Krajina, PRC), accurately localized record – Kašperské Hory, 1996 (J. Holub in Pladias 2024).
Maximum elevation: 860 m, Idina Pila near Zátoň (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the Bavarian part.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745a:** Divišovice (distr. Klatovy): in village, ruderal scrub, Coll. No. 341/19, 49.26603°N, 13.23564°E, 580 m a.s.l., leg. ML, PL 6 IX 2019 CB 86214. – **6745c:** Zelená Lhota (distr. Klatovy): ca 910 m SSE of train stop in village, in growth of pioneer trees along road, rare, 49.24228°N, 13.18440°E, 640 m a.s.l., leg. ML 10 VII 2020 CB 87440. – **6846b:** Dolejší Těšov (distr. Klatovy): ca 380 m SW of summit of Na Větrníku hill, ruderal scrub at verge of road, one large shrub, 49.18905°N, 13.43311°E, 710 m a.s.l., leg. ML 26 VIII 2020 CB 87330. – **88g. Hornovltavská kotlina, 7048d:** Zátoň (distr. Prachatice): SE edge of village, ruderal scrub, one large shrub, 48.94331°N, 13.79941°E, 810 m a.s.l., leg. ML, PL 16 VIII 2020 CB 87587. – **7251c:** Světlík (distr. Český Krumlov): ca 2 km SSW of church in village, 48.71136°N, 14.20565°E, 770 m a.s.l., leg. ML 27 VI 2019 CB 86314. – **Germany, 7146a:** Reichenberg (distr. Freyung-Grafenau): E edge of village, edge of garden and road, medium-sized growth, Coll. No. 851, 48.89883°N, 13.39225°E, 830 m a.s.l., leg. PL, ML 3 IX 2021 CB 88510.
Accepted literature records: Hartmanice, obec, ~730–750 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Lazny J Strašína, ~610 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Záblatí, okraj lesa S obce 630 m n. m., 1997, leg. et det. V. Žíla (Procházka & Kováříková 1999: 57).

Rubus kletensis M. Lepší et P. Lepší, Preslia 78: 104 (2006)
Description and illustration: Lepší & Lepší (2006).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: one locality in the southern part (Haslach an der Mühl) (Fig. 55).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: A.
The first record (settlement, year): Haslach an der Mühl, 2002 (V. Žíla in Lepší & Lepší 2006).
Maximum elevation: 560 m, Haslach an der Mühl (V. Žíla in Lepší & Lepší 2006).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimen: **Austria, 7450b:** St. Stefan-Afiesl (distr. Rohrbach): ~1.5 km SW of church in village, scrubs along road, two large growths, 48.55831°N, 14.08627°E, 560 m a.s.l., leg. PL, ML 15 VIII 2020 CB 87547.
Accepted literature records: Haslach an der Mühl: along the road near to the village of Raiden (between the town of Haslach an der Mühl and the village of Helfenberg), 7450b, 580 m a. s. l., 28 IX 2002 coll. V. Žíla, herb. V. Žíla, CB (Lepší & Lepší 2006: 112).

Rubus ser. *Subthyrsoidei* (Focke) Focke

Rubus holandrei P. J. Müll., Flora 41: 185 (1858) (syn.: *R. grossus* H. E. Weber)
Description and illustration: Weber (1995).
Overall distribution: western and central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare in low elevations of the northern part (Fig. 56).
Phytochorotype: *Rubus bavaricus – R. parvidentatus*.
Occurrence in countries within the area studied: Cz.

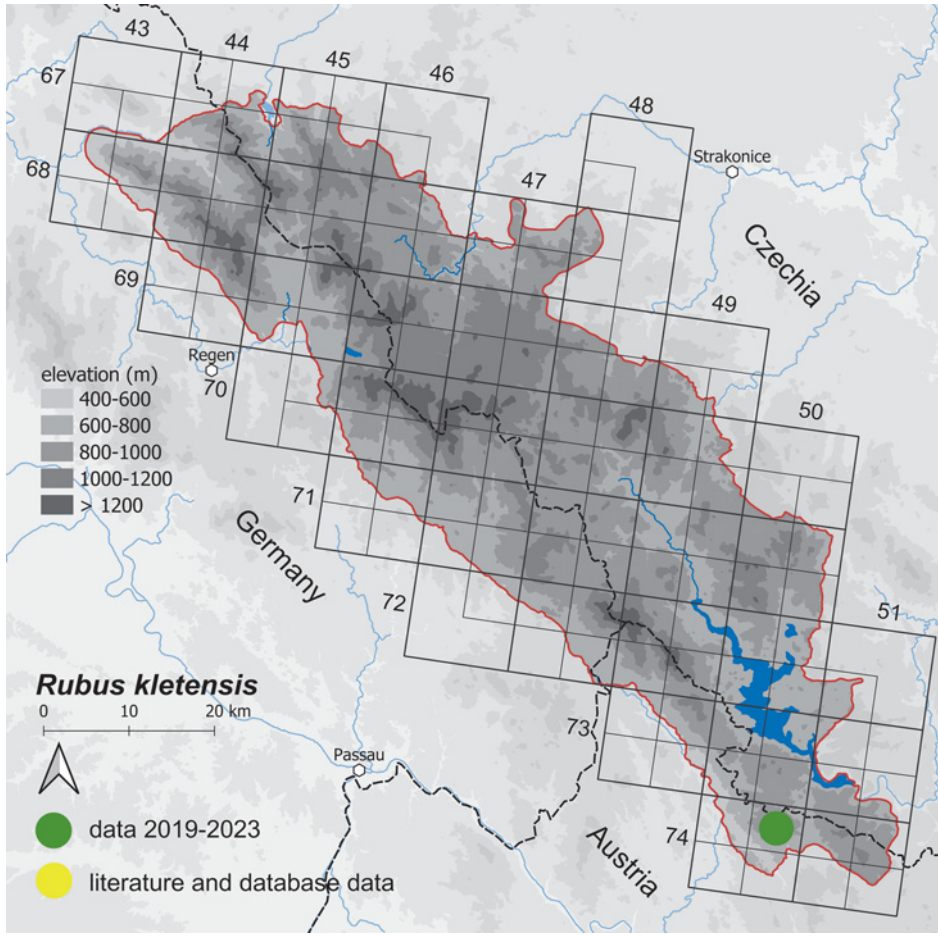

Fig. 55. Distribution of *Rubus kletensis* in the Bohemian Forest.

The first record (settlement, year): Nahořánky, Kašperské Hory, 2020 (M. Lepší in Pladias 2024).
Maximum elevation: 830 m, Kašperské Hory (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6744b:** Stará Lhota (distr. Klatovy): ~290 m NW of Panna Marie chapel in village, shrubby edge of meadow road, scattered, Coll. No. 464, 49.26925°N, 13.14148°E, 510 m a.s.l., leg. J. Velebil, ML 22 VIII 2022 CB 83667, rev. B. Trávníček. – **37c. Nezdické vápence, 6847b:** Straším (distr. Klatovy): ~650 m NE of summit of Stráň hill, ruderal scrub at road edge, small growth, 49.1926°N, 13.65392°E, 670 m a.s.l., leg. ML 28 VIII 2020 CB 87315. – **88c. Javorník, 6847b:** Nahořánky (distr. Klatovy): ~990 m SE of chapel in village, forest edge along road, medium-sized growth, 49.17658°N, 13.66169°E, 785 m a.s.l., leg. ML 28 VIII 2020 CB 87317.

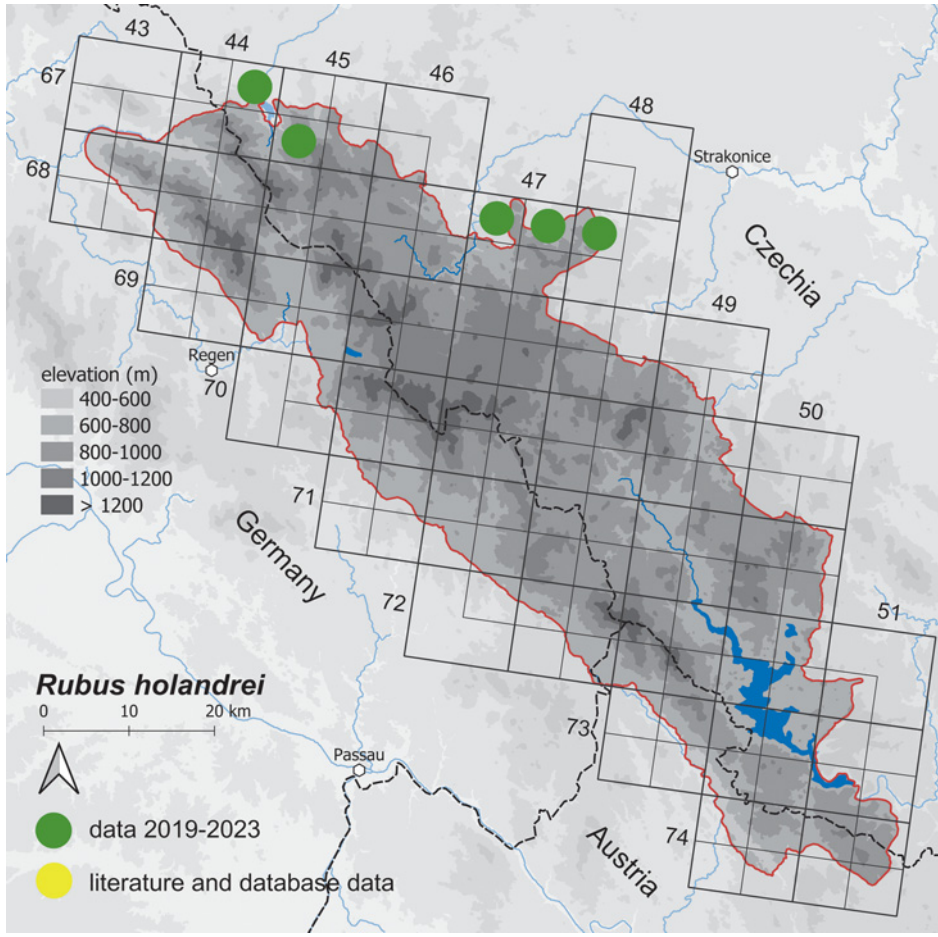

Fig. 56. Distribution of *Rubus holandrei* in the Bohemian Forest.

Rubus kuleszae Ziel., Fragm. Florist. Geobot. 41: 249 (1996)
Description and illustration: Holub (1995: 189, as *R. grossus*), Zieliński (2004).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare in low elevations (Fig. 57).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: G, Cz.
The first record (settlement, year): Hartmanice, 1996 (V. Žíla in Pladias 2024).
Maximum elevation: 880 m, Strážný (K. Boublík & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 34. Plánický hřeben, 6745a:** Divišovice (distr. Klatovy): ~430 m SE of chapel in village, scrub along forest, 49.26415 °N, 13.23980°E, 620 m a.s.l., leg. ML, PL 6 IX 2019 CB 86211. – Zelená Lhota (distr. Klatovy): ~160 m N of train stop in village, cut of road, several shrubs, 49.25096°N, 13.17837°E, 635 m a.s.l., leg. ML 10 VII 2020 CB 87443. – **6846b:** Dolejší Těšov (distr. Klatovy): ~260 m S of summit of Na Větrníku hill, in *Prunus spinosa* scrub at verge of road, one shrub, 49.18785°N, 13.43749°E,

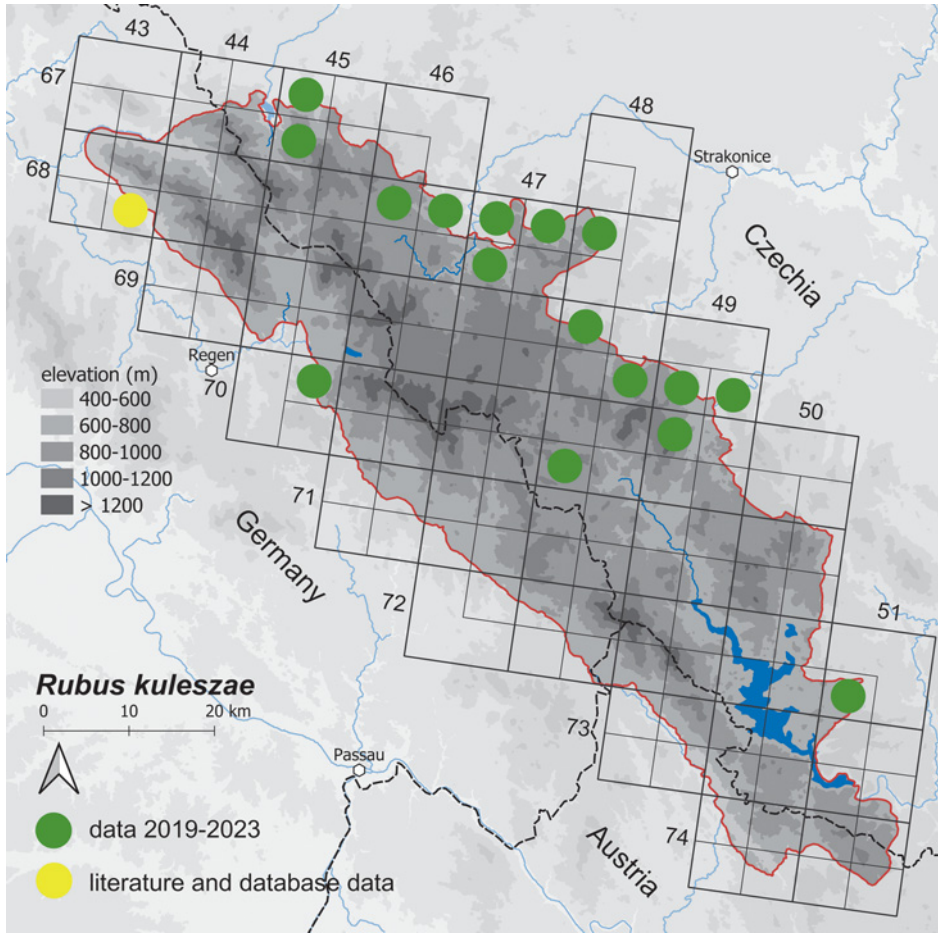

Fig. 57. Distribution of *Rubus kuleszae* in the Bohemian Forest.

690 m a.s.l., leg. ML 26 VIII 2020 CB 87329. – **37a. Horní Pootaví, 6847c:** Červená (distr. Klatovy): ~310 m SSE of Císařský Dvůr settlement, scrub along road at forest edge, medium-sized growth, Coll. No. 1062, 49.123°N, 13.55339°E, 715 m a.s.l., leg. ML 21 IX 2021 CB 87756. – **37h. Prachatické Předšumaví, 6949c:** Škarez 2. díl (distr. Prachatice): ~200 m NNE of summit of Skalní hora Mt., edge of forest road through *Picea abies* plantation and clearings, several shrubs, Coll. No. 1189, 49.0303°N, 13.88506°E, 805 m a.s.l., leg. ML 8 X 2021 CB 87784. – **88c. Javorník, 6847b:** Nahořánky (distr. Klatovy): ~160 m SE of chapel in village, ruderal scrub along road, 49.18047°N, 13.65175°E, 720 m a.s.l., leg. ML 28 VIII 2020 CB 87316. – **6848a:** Maleč (distr. Klatovy): ~510 m SE of chapel in village, in *Corylus avellana* scrub, two small shrubs, 49.17226°N, 13.68355°E, 820 m a.s.l., leg. ML 28 VIII 2020 CB 87318. – **88g. Hornovltavská kotlina, 7048c:** Strážný (distr. Prachatice): along road ~630 m SSW of top of Lískový vrch hill (spot height 1,026 m) (SW of village), edge of forest road, three huge ex., 48.90065°N, 13.69238°E, 880 m a.s.l., leg. PL, K. Boublík 26 X 2019 CB 104477. – **Germany, 7045b:** Frauenau (distr. Regen): ~550 m S of Assumption of Blessed Virgin Mary church, shrubby edge of road, scattered, Coll. No. 858, 48.98441°N, 13.29933°E, 630 m a.s.l., leg. ML, PL 4 IX 2021 CB 88504.

Accepted literature records: Hartmanice, obec, 1997, leg. V. Žíla, det. J. Holub. – Zelená Lhota: u nádraží 1 km SV obce, ~640 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 57).

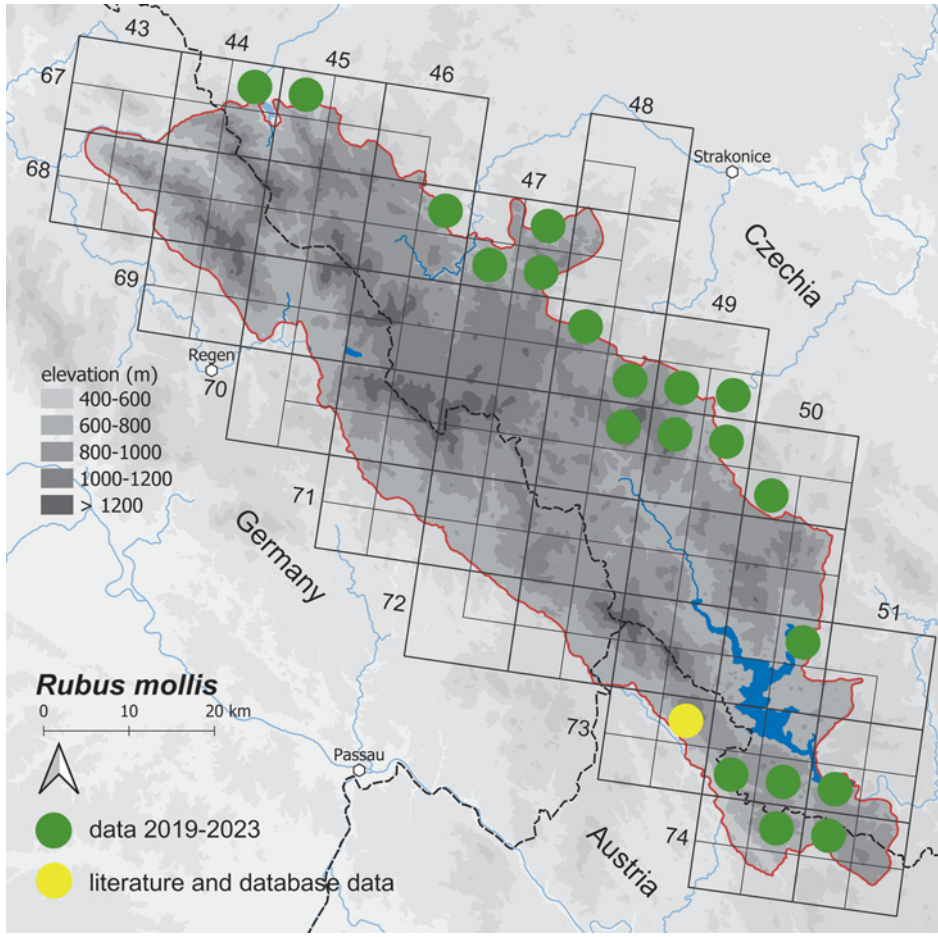

Fig. 58. Distribution of *Rubus mollis* in the Bohemian Forest.

Rubus ser. *Subcanescentes* H. E. Weber

Rubus mollis J. Presl et C. Presl, Delic. Prag.: 218 (1822)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: rare in low elevations, absent in the Bavarian side (Fig. 58).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, Cz.
The first record (settlement, year): Řepešín, 1996 (V. Žíla in Pladias 2024).
Maximum elevation: 960 m, Javorník (V. Žíla in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Austria, 7451a:** Vorderweißenbach (distr. Urfahr-Umgebung): ~520 m NNW of church in village, edge of *Corylus avellana* scrub, one large growth, 48.55638°N, 14.21576°E, 720 m a.s.l., leg. PL, ML 15 VIII 2020 CB 87551. – **Czechia, 34. Plánický hřeben, 6745a:** Divišovice (distr. Klatovy): E edge of village, *Galio-Urticetea*, 49.26511°N, 13.23856°E, 605 m a.s.l., leg. ML, PL 6 IX 2019 CB 86217. – **37a. Horní Pootaví, 6846b:** Hartmanice (distr. Klatovy): ~290 m W of St. Kateřina church in village, ruderal scrub at road edge, several shrubs, 49.16903°N, 13.45035°E, 730 m a.s.l., leg. ML 26 VIII 2020 CB 87339. – **37h. Prachatické Předšumaví, 7049a:** Mlynářovice (distr. Prachatice): ~650 m NW of summit of Kádrův kopec hill, edge of forest road in *Picea abies* plantation, small shrub, 48.95905°N, 13.91153°E, 765 m a.s.l., leg. ML 4 X 2023 CB 90082. – **37m. Vyšebrodsko, 7351c:** Lipno nad Vltavou (distr. Český Krumlov): left-hand bank of Vltava river ~250 m E of centre of dam of Lipno water reservoir, grassy slope above river, large growths, 48.63257°N, 14.24045°E, 705 m a.s.l., leg. PL 4 VIII 2019 CB 86384. – **88d. Boubínsko-stožecká hornatina, 6948d:** Vimperk (distr. Prachatice): in valley of Volyňka stream, ~1.2 km SE of summit of Vodník hill, edge of road, growth of several square meters, 49.04527°N, 13.75541°E, 730 m a.s.l., leg. ML 28 IX 2023 CB 90102. – **7048b:** Zátoň (distr. Prachatice): ~820 m SSW of Idina Pila settlement, grassy edge of road, large growth, Coll. No. 782, 48.95642°N, 13.82294°E, 835 m a.s.l., leg. ML 27 VIII 2021 CB 87795. – **88g. Hornovltavská kotlina, 7250b:** Černá v Pošumaví (distr. Český Krumlov): ~2 km NE of Černá v Pošumaví railway station, bank of Vodní nádrž Lipno reservoir, shrubby slope above the reservoir, one large growth, 48.75128°N, 14.11028°E, 730 m a.s.l., leg. ML 16 IX 2015 CB 83761. – **88h. Svatotomášská hornatina, 7350d:** Pasečná (distr. Český Krumlov): ~1.5 km SW of summit of Jelení kopec hill, growth of *Salix caprea* and *Populus tremula* on slope of road cut, medium-sized shrub, 48.6049°N, 14.11424°E, 805 m a.s.l., leg. ML 3 IX 2020 CB 87492.

Accepted literature records: Hartmanice, obec, ~730–750 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Řepešín Z Záblatí, 630 m n. m., 1997, leg. V. Žíla. – Záblatí, okraj lesa S obce, 630 m n. m., 1997, leg. et det. V. Žíla (Procházka & Kováříková 1999: 57–58).

Rubus permalacus Trávn. et al. ined.
Description and illustration: –
Overall distribution: central Europe (Trávníček in litt.).
Distribution in the area studied: two localities in the northern part (Hohenwarth, Beckendorf) (Fig. 59).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G.
The first record (settlement, year): Beckendorf, 2019 (see below).
Maximum elevation: 515 m, Beckendorf (see below).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Germany, 6843a:** Beckendorf (distr. Cham): ~1.1 km NE of chapel in village, 49.18758°N, 12.88247°E, 515 m a.s.l., leg. ML, PL 8 IX 2019 CB 86182. – **6743d:** Hohenwarth (distr. Cham): ~390 m SW of St. Johann church in village, scrub at edge of road, large growths, 49.20017°N, 12.93168°E, 515 m a.s.l., leg. ML, PL 25 IX 2022 CB 89851.

Rubus ser. *Subradulae* W. C. R. Watson

Rubus fabrimontanus (Sprib.) Sprib., Jahresber. Schles. Ges. Vaterl. Cult. 83: 108 (1905 publ. 1906)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: northern and central Europe (Kurtto et al. 2010).
Distribution in the area studied: two localities in the northern part (Lazny, Srní) (Fig. 60).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Srní, 2022 (M. Lepší in Pladias 2024).

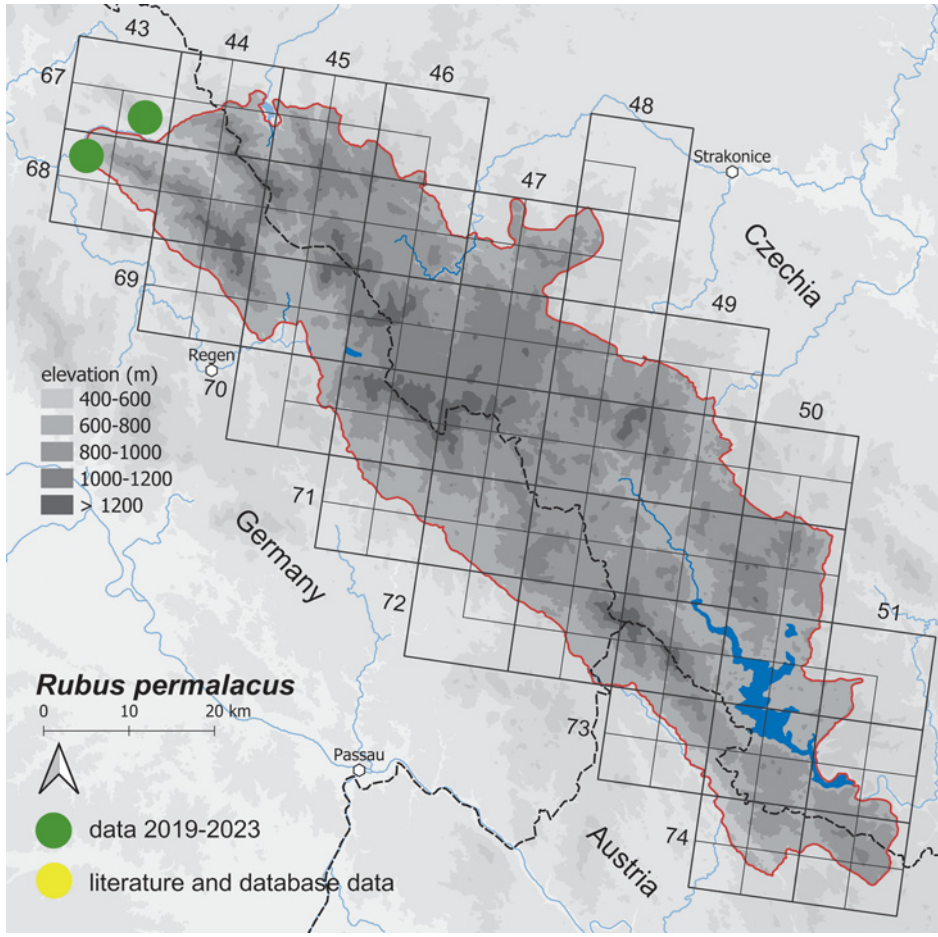

Fig. 59. Distribution of *Rubus permalacus* ined. in the Bohemian Forest.

Maximum elevation: 885 m, Srní (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 88b. Šumavské pláně, 6947a:** Srní (distr. Klatovy): ~650 m ENE of Turnerova chata chalet, edge of forest road, small shrub, Coll. No. 421, 49.08364°N, 13.52402°E, 885 m a.s.l., leg. ML 10 VIII 2022 CB 90065, rev. B. Trávníček. – **88c. Javorník, 6847b:** Lazny (distr. Klatovy): ~830 m SSE of Narození Panny Marie church NW of village, in growth of pioneer woody plants, medium-sized growth, Coll. No. 533, 49.16996°N, 13.63666°E, 625 m a.s.l., leg. ML, J. Velebil 25 VIII 2022 CB 90057, rev. B. Trávníček.

Rubus ser. *Hystricopses* H. E. Weber

Rubus dollnensis Sprib., Verh. Bot. Vereins Prov. Brandenburg 42: 170 (1901)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: central Europe (Kurtto et al. 2010).

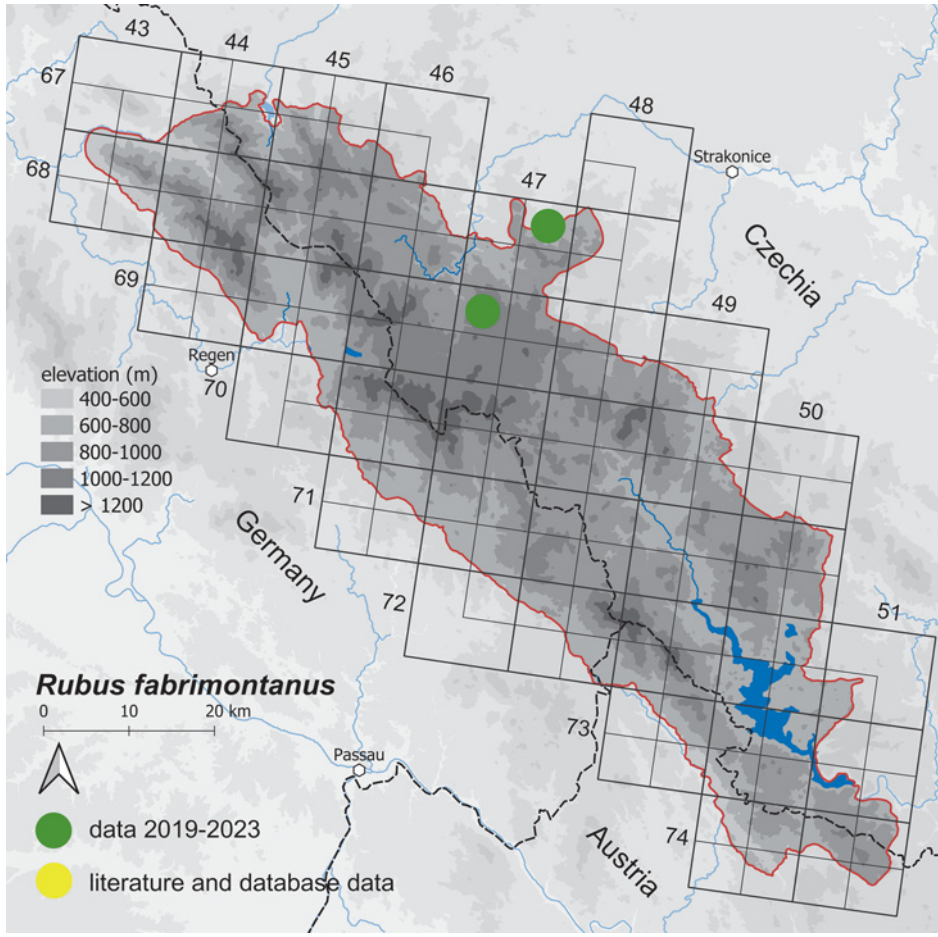

Fig. 60. Distribution of *Rubus fabrimontanus* in the Bohemian Forest.

Distribution in the area studied: rare in low elevations of the Czech side (Fig. 61).
Phytochorotype: *Rubus dollnensis – R. saxatilis*.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Lhota pod Kůstrým, 1999 (V. Žíla in Pladias 2024).
Maximum elevation: 1,070 m, Pancíř Mt. near Železná Ruda (M. Lepší & P. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Czechia, 88a. Královský hvozd, 6845c:** Železná Ruda (distr. Klatovy): in Adolfa Kašpara street, in garden fence, large growth, 49.1381°N, 13.23275°E, 775 m a.s.l., leg. ML, A. Lepší 12 VII 2023 CB 90134. – **88b. Šumavské pláně, 6947a:** Srní (distr. Klatovy): in Rokyta settlement, edge of road, one small growth, 49.06199°N, 13.50498°E, 930 m a.s.l., leg. ML 10 VII 2020 CB 87438. – **88h. Svatotomášská hornatina, 7351c:** Lipno nad Vltavou (distr. Český Krumlov): ~1.5 km WSW of centre of Lipno water reservoir dam, tall herbal vegetation at edge of road, small growth, Coll. No. 581, 48.62955°N, 14.21672°E, 730 m a.s.l., leg. ML 1 IX 2022 CB 90077.

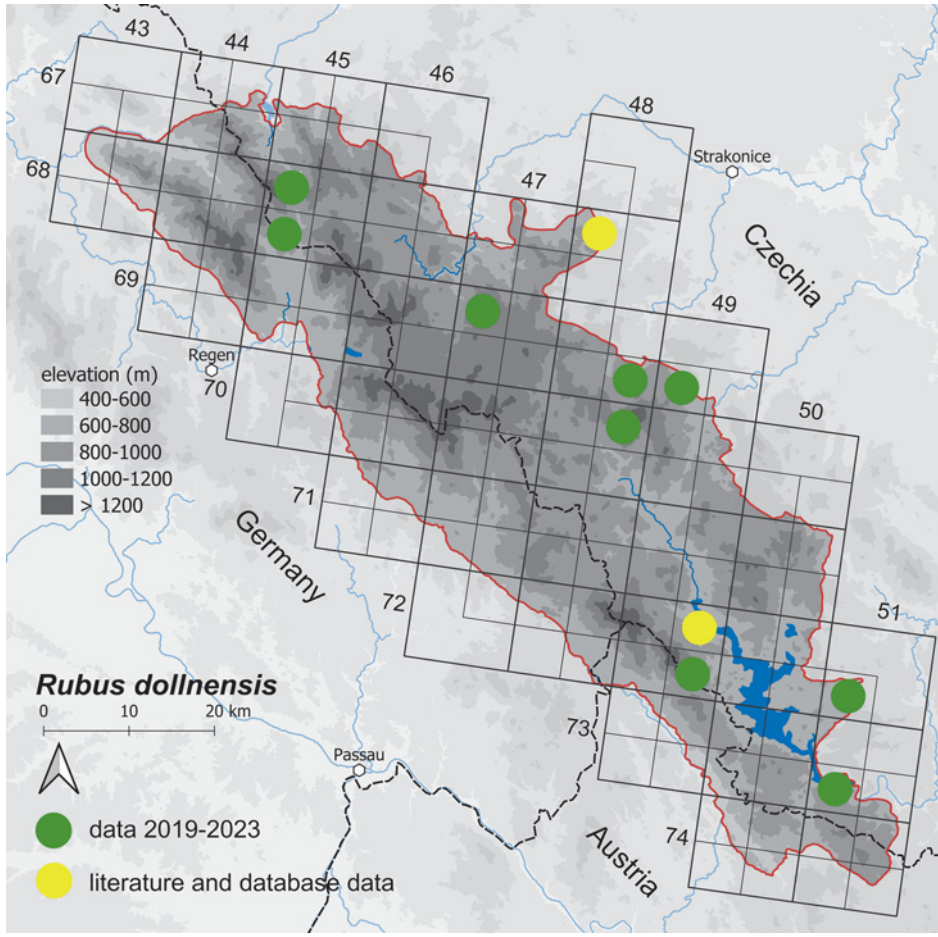

Fig. 61. Distribution of *Rubus dollnensis* in the Bohemian Forest.

Rubus sendtneri Progel, Ber. Bot. Vereines Landshut 8: 109 (1882)
Description and illustration: Gaggermeier (2000).
Overall distribution: central Europe (Kurtto et al. 2010).
Distribution in the area studied: two localities in the northern part (Rittsteig, Lindberg) (Fig. 62).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: G.
The first record (settlement, year): Lindberg, 1997 (Gaggermeier 2000).
Maximum elevation: 770 m, Rittsteig (M. Lepší & P. Lepší in GBIF 2024).
Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Herbarium specimens: **Germany, 6744c:** Rittsteig (distr. Cham): ~610 m SE of church in village, edge of road and *Picea abies* plantation, one small shrub, Coll. No. 714, 49.24322°N, 13.05367°E, 770 m a.s.l., leg. ML, PL 24 IX 2022 CB 89838. – **6945d:** Lindberg (distr. Regen): ~310 m N of church in village, forest clearing, large growth, Coll. No. 631, 49.03925°N, 13.25487°E, 730 m a.s.l., leg. ML 5 IX 2022 CB 90008.

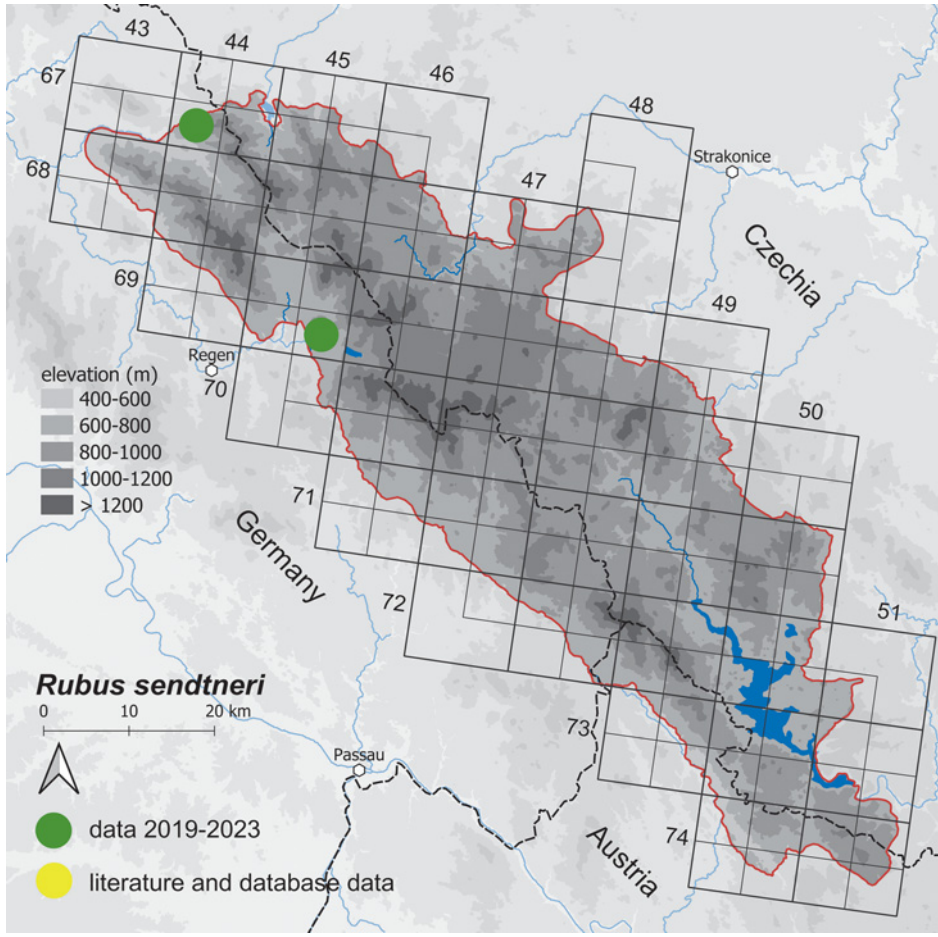

Fig. 62. Distribution of *Rubus sendtneri* in the Bohemian Forest.

Accepted literature records: 6945.41: Lindberg bei Zwiesel, Innerer Bayerischer Wald, 665 m, Hecken u. Waldränder, Gaggermeier 47/97, herb. Ga (Gaggermeier 2000).

Rubus sect. *Caesii* Lej. et Court.

Rubus caesius L., Sp. Pl.: 493 (1753)
Description and illustration: Holub (1995), Weber (1995).
Overall distribution: Europe and western Asia (POWO 2024).
Distribution in the area studied: rare to scattered in low elevations (Fig. 63).
Phytochorotype: *Rubus nessensis – R. nigricans*.
Occurrence in countries within the area studied: A, G, Cz.
The first record (settlement, year): broadly localized record – Böhmerwald [including areas beyond the area studied] (Schott 1893: 40), accurately localized record – Čeňkova pila (Maloch 1936: 37).

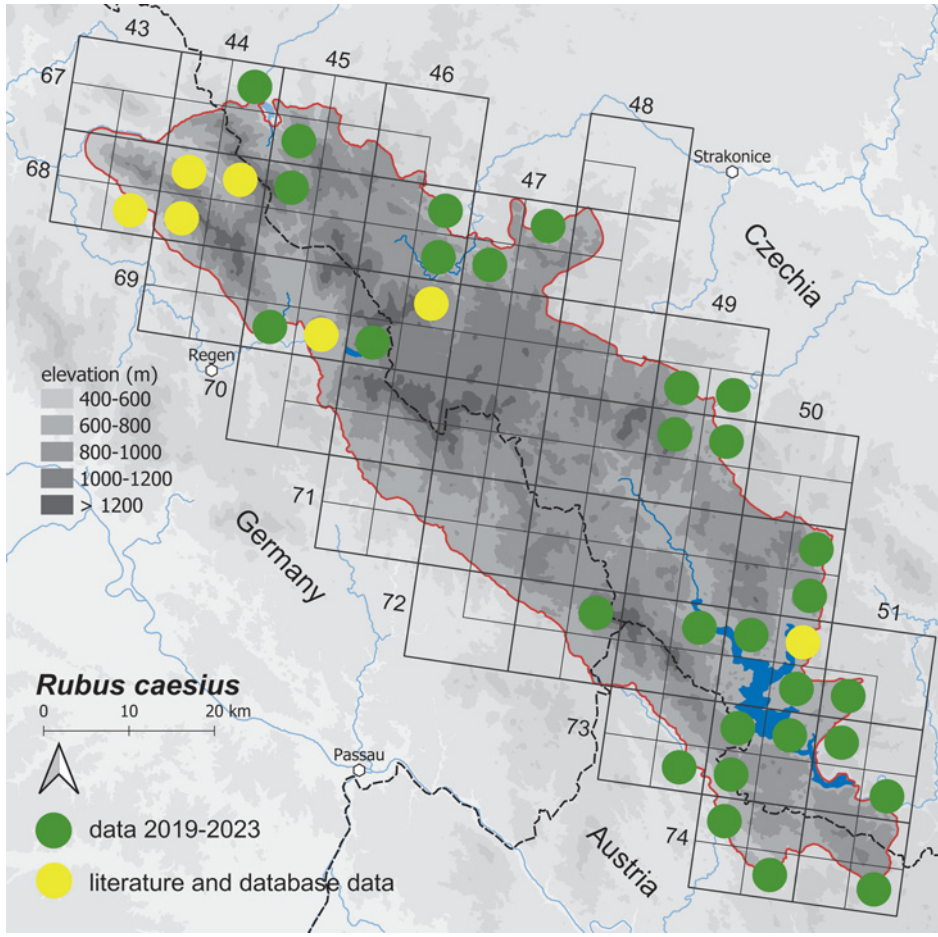

Fig. 63. Distribution of *Rubus caesius* in the Bohemian Forest.

Maximum elevation: 920 m, Oberschwarzenberg (M. Lepší & P. Lepší in GBIF 2024). Taxonomic and floristic conclusions reached in this paper: confirmed occurrence.

Accepted literature records: Böhmerwald [including areas beyond the area studied] (Schott 1893: 40). – od Čeňkovy pily po Turnerovu chatu [Turnerova chalet], nad 600 m (Maloch 1936: 37). – kraj smrkového lesa podle silnice podle Vydry nad Čeňkovou pilou (Maloch 1938: 27). – im Bayerisch-Böhmischen Wald (Weber 1995: 585). – Dolní Vltavice, u přívozu, ~730 m n. m., 1996, not. F. Procházka & J. Hadinec. – Hlásná Lhota, ~750 m n. m., 1997, leg. V. Žíla, det. J. Holub. – Řepešín Z Záblatí, 630 m n. m., 1997, leg. V. Žíla, det. J. Holub (Procházka & Kováříková 1999: 56–57).

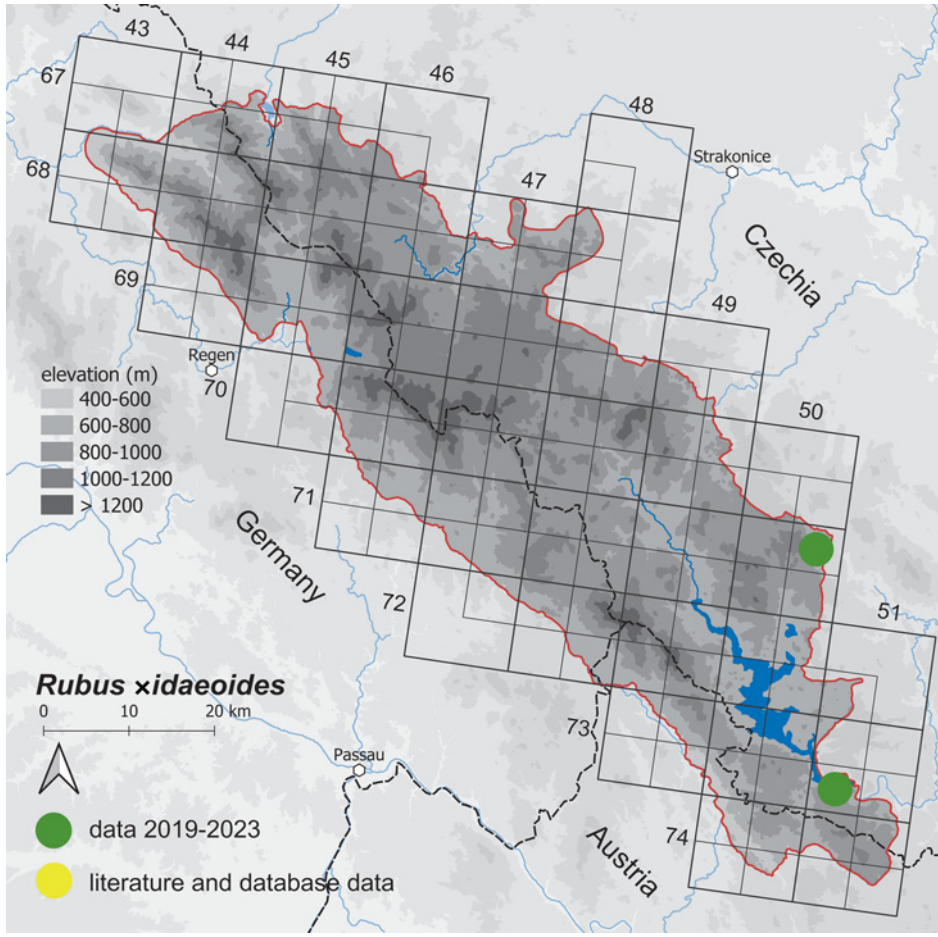

Fig. 64. Distribution of *Rubus* ×*idaeoides* in the Bohemian Forest.

Hybrid

Rubus ×*idaeoides* Ruthe, Fl. Mark Brandenburg: 404 (1834) [syn.: *R. pseudoidaeus* (Weihe) Lej.]
Description and illustration: Holub (1995).
Overall distribution: Eurasia (Holub 1995, POWO 2024).
Distribution in the area studied: two localities in the southern part (Ktiš, Lipno nad Vltavou) (Fig. 64).
Phytochorotype: unclassified.
Occurrence in countries within the area studied: Cz.
The first record (settlement, year): Ktiš, 2021 (M. Lepší & P. Lepší in Pladias 2024).
Maximum elevation: 730 m, Lipno nad Vltavou (M. Lepší in Pladias 2024).
Taxonomic and floristic conclusions reached in this paper: a new taxon for the area studied.

Herbarium specimens: **Czechia, 37i. Chvalšinské Předšumaví, 7150b:** Tisovka (distr. Prachatice): edge of road ~1.15 km SE of centre of settlement, ditch and edge of road and not managed meadow, large growth, ~1.5 high plants, 48.89889°N, 14.11000°E, 730 m a.s.l., leg. PL, ML 17 X 2021 herb. P. Lepší SHPL 3865. – **37m. Vyšebrodsko, 7351c:** Lipno nad Vltavou (distr. Český Krumlov): ~260 m WSW of centre of Lipno water reservoir dam, edge of parking lot, growth of ~15 square meters, Coll. No. 580, 48.63249°N, 14.23350°E, 730 m a.s.l., leg. ML 1 IX 2022 CB 90059.

Phytogeography

The bramble flora of the Bohemian Forest is dominated by agamospermic species, which have a central European distribution area. In total, 44 out of 56 recorded native taxa belong to this group (e.g. *Rubus bifrons*, *R. clusii*, *R. dollnensis*, *R. koehleri* and *R. mollis*). Of these, 18 species have a restricted regional distribution and are endemic to the Bohemian and Upper Palatinate Forests and their foothills (e.g. *R. depressinervius*, *R. parvidentatus*, *R. perpungens*, *R. silvae-norticae*, *R. suavis*). Additionally, three other species (*R. bohemiicola*, *R. brdensis*, and *R. lentianus*) are also narrow endemics, but to areas neighbouring the aforementioned area. They are relatively scarce in the study area, with only a few isolated localities. The remaining seven agamospermic species – *R. bertramii*, *R. fruticosus*, *R. nessensis*, *R. nigricans*, *R. radula*, *R. rudis* and *R. sulcatus* – exhibit a suboceanic distribution pattern. In other words, their range extends from western to central or eastern Europe, while all sexual species (*R. caesius*, *R. glandulosus*, *R. idaeus*, *R. saxatilis*), and the hybrid *R.* ×*idaeoides* show Eurasian distribution ranges. Finally, five brambles are considered to be aliens that have escaped from cultivation. These include European *R. laciniatus*, North American *R. canadensis*, *R. allegheniensis* and *R. odoratus*, and Caucasian *R. armeniacus*. Three additional non-native and potentially alien brambles were observed being cultivated in gardens. One was *R.* ×*loganobaccus* (Dolní Vltavice, leg. M. Lepší & P. Lepší 2024, CB), the second was *R. occidentalis* (Lipno nad Vltavou, leg. M. Lepší & P. Lepší 2024, CB; Volary, not. M. Lepší & P. Lepší 2024) and third was a cultivated taxon that is sold in central Europe under the name "*R. fruticosus* Thornfree" (Volary, leg. M. Lepší & P. Lepší 2024, CB). In many cases, the Bohemian Forest lies at the centre of the distribution of the species in question (*R. bicolor*, *R. bifrons*, *R. clusii*, *R. fruticosus*, *R. holandrei*, *R. montanus*, *R. parthenocissus*, *R. radula*, *R. salisburgensis*, *R. sulcatus*). In some species, the range boundary is situated within or in close proximity to the study area. The southern limit of distribution for the species of *R. chaerophyllus*, *R. fabrimontanus*, *R. gracilis*, *R. guttiferus*, *R. jarae-cimrmanii*, *R. josefianus*, *R. koehleri*, *R. kuleszae*, *R. nigricans*, *R. rudis*, *R. schleicheri*, *R. tabanimontanus* is reached. The northern limit is reached by *R. lentianus* and *R. silvae-norticae*, and the eastern limit is reached by *R. bertramii*.

Regional diversity and phytochorotypes

The greatest diversity and abundance of individual species were recorded in the lower elevations of the north-western part of the mountain range, with an increased diversity also observed in the lower elevations of the south-east (Fig. 65). This distribution pattern is likely caused by a combination of low elevation and more favourable climatic conditions in these areas, as well as their proximity to the Vyšebrodský průsmyk and Všerubský průsmyk Passes, which represent a migration corridor for thermophilic species (Lepší & Lepší 2009). In contrast, the areas exhibiting the lowest species richness for

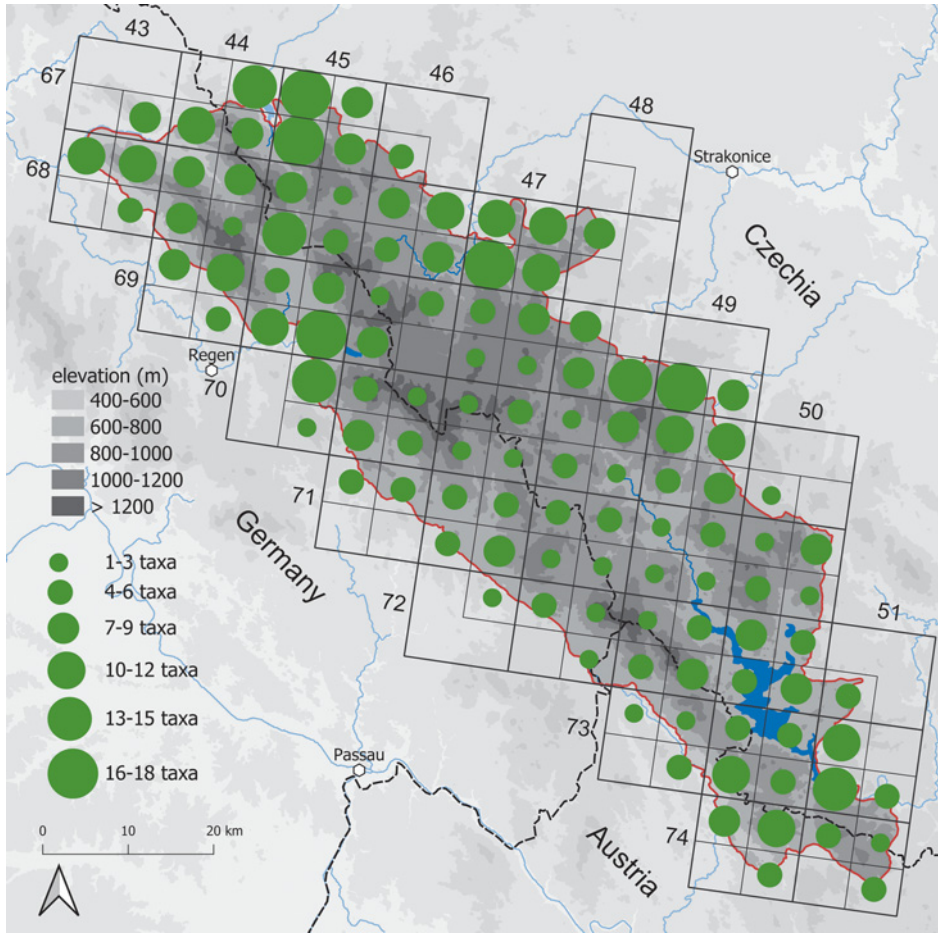

Fig. 65. Taxonomic diversity of the genus *Rubus* in the Bohemian Forest.

brambles are located at the highest elevations. This is particularly evident in the middle part of the mountain range, approximately between the villages of Schwarzenberg am Böhmerwald and Kvilda, where brambles are scarce even at low elevations. This scarcity at elevated elevations can be attributed to the cold climate and paucity of nutrients relative to lower elevations. This distribution pattern is partially reflected in the ad hoc delineation of five regional phytochorotypes within the study area. The *Rubus nessensis* – *R. nigricans* phytochorotype is represented by species that are distributed relatively evenly throughout the area, with the exception of the high elevations where they are either absent or occur with a low frequency (*R. bifrons*, *R. nigricans*, *R. nessensis*, *R. glandulosus*). In contrast, the *R. bavaricus* – *R. parvidentatus* phytochorotype is characterized by a greater abundance of species in the north-west of the territory, which gradually decreases towards the south-east. The species *R. bavaricus*, *R. bicoloristylus*, *R. brdensis*, *R. depressinervius*, *R. parvidentatus*, *R. perpedatus*, *R. perpungens*, *R. piceeticola*, and *R. silvae-bohemicae* are characteristic of this phytochorotype. The *Rubus bavaricus* –

R. parvidentatus phytochorotype is complemented by the *R. muhelicus – R. silvae-norticae* phytochorotype, which encompasses species that are prevalent in the south-east and scarce or absent in the north-west. These include *R. muhelicus*, *R. vatavensis* and *R. silvae-norticae*. The *R. dollnensis – R. saxatilis* phytochorotype encompasses taxa that are geographically restricted to the Czech part of the mountain range. These include *R. chaerophyllus*, *R. dollnensis*, *R. saxatilis* and *R. tabanimontanus*. Finally, *R. fruticosus*, *R. bicolor* and *R. sulcatus* also exhibit a distinctive regional distribution pattern (*R. fruticosus – R. sulcatus* phytochorotype), with scattered occurrences in the north-west and south-east, but no or rare evidence of presence in the central part of the study area.

Altitudinal distribution

In general, brambles are most abundant in the colline vegetation belt. Their frequency of occurrence decreases with elevation, and they are rare or absent in mountainous areas. This is also true in the Bohemian Forest. The thermophilic species that avoid the mountain range but are relatively common in its foothills include, for example, *Rubus barrandienicus*, *R. elatior*, *R. fasciculatus* and *R. perperus*. Some relatively thermophilic species (*R. guttiferus*, *R. radula*, *R. rudis*, *R. salisburgensis* and *R. silvae-bavaricae*) have only isolated localities in the Bohemian Forest. These localities originated as long-distance and accidental outposts from areas of more abundant and continuous distribution. A number of other species are commonly and continuously distributed in the foothills and their altitudinal distribution ends in the lowest elevations of the Bohemian Forest. These include species such as *R. bifrons*, *R. caesius*, *R. clusii*, *R. epipsilos*, *R. franconicus*, *R. kuleszae*, *R. mollis* and *R. sulcatus*. Some taxa still have an ecological optimum in the peripheral parts of the study area and form relatively abundant populations, reaching their altitudinal limit at middle elevations of the mountain range. These are *R. depressinervius*, *R. perpungens*, *R. nigricans*, *R. nessensis* and representatives of *R.* ser. *Glandulosi*. The only species that is widespread regardless of elevation is *R. idaeus*. Numerous species reach their altitudinal maximum in the study area (*R. bicoloristylus*, *R. brdensis*, *R. depressinervius*, *R. jarae-cimrmanii*, *R. parvidentatus*, *R. perpedatus*, *R. perpungens*, *R. silvae-bavaricae*, *R. silvae-bohemicae*, *R. suavis*, *R. vatavensis*) and several species their altitudinal maximum in Czechia (*R. apricus*, *R. bavaricus*, *R. bicoloristylus*, *R. bifrons*, *R. bohemiicola*, *R. brdensis*, *R. chaerophyllus*, *R. depressinervius*, *R. dollnensis*, *R. epipsilos*, *R. fabrimontanus*, *R. franconicus*, *R. gracilis*, *R. guttiferus*, *R. jarae-cimrmanii*, *R. josefianus*, *R. koehleri*, *R. kuleszae*, *R. mollis*, *R. muhelicus*, *R. parvidentatus*, *R. perpedatus*, *R. perpungens*, *R. radula*, *R. schleicheri*, *R. silvae-bavaricae*, *R. silvae-bohemicae*, *R. silvae-norticae*, *R. suavis*, *R. tabanimontanus*, *R. vatavensis*).

Ecology

The primary habitat of brambles in the Bohemian Forest are the edges of forest roads. They are less frequently found in forest gaps, forest clearings and edges of forest and meadows. The species belonging to the *R.* sect. *Corylifolii* and *R. caesius* have a proclivity to occur in human-made environments, such as villages, small settlements and railway stations. In contrast to foothills, brambles do not commonly grow in the understorey of mature forest stands. Therefore, it can be concluded that spread of brambles in the study area is positively influenced by human activities, mainly by the construction of roads and the planting of forests.

Newly distinguished taxa

During the course of the survey, five new species were identified and their formal description, along with other relevant information pertaining to them, is provided below.

Rubus suavis M. Lepší et P. Lepší, **spec. nova** (Figs 66–70)

Description: Shrub up to 1 m tall. Primocanes mostly of medium heigh arching, rooting at apex, their stems angled with ± flat sides, usually (4–) 5–6 (–7) mm in diameter, matt green, at sunny sites suffused brown-red, sparsely hairy with (1–) 2–6 (–10) simple and tufted hairs per 1 cm of stem side, reaching up to the bases of prickles, sessile and subsessile glands scattered, stalked glands, glandular acicles and glandular bristles together rare to scattered, usually (1–) 3–13 (–22) per 1 cm of stem side, up to (0.7–) 1.1–1.3 (–1.8) mm long, pricklets rare. Prickles (18–) 23–33 (–55) per 5 cm of stem length, ± equal, slender, straight, slightly declining or sometimes upright, (4.5–) 5.5–7.0 (–8.0) mm long, with flattened bases (2.5–) 3.5–4.5 (–5.0) mm wide, suffused brown-red, with yellowish tip. Primocane leaves (4–) 5-foliolate, pedate to distinctly pedate, usually flat, somewhat leathery, large, green above, covered with (5–) 8–20 (–38) hairs per 1 cm^2, green or green-grey beneath, felted, with stellate and long simple hairs (distinctly hairy to the touch). Leaflets ± remote from one another, the terminal one with mid-long petiolule [petiolule (29–) 33–36 (–39)% as long as its lamina], broadly elliptical or broadly obovate, round to slightly cordate at base, abruptly narrowing into only (7–) 14–16 (–21) mm long apex; leaflet margins rather undulate, indentation fine, periodically serrate, with incisions (2.2–) 2.8–3.6 (–4.4) mm deep, teeth usually longer than wide, apiculate with a distinct and sometimes retrorse apex. Lateral leaflets usually with round base. Petiolules of the basal leaflets (3–) 4–5 (–6) mm long. Petioles usually (5.5–) 6.0–7.0 (–7.5) cm long, as long as or shorter than the basal leaflets, hairs scattered, sessile, subsessile, stalked glands and glandular acicles scattered, prickles (17–) 19–28 (–30), slender, straight, declining; stipules filiform, (0.5–) 0.6–0.8 (–1.0) mm wide, with scattered long hairs and stalked glands. Inflorescence conical, often voluminous, rounded or truncate at apex, with erecto-patent to (in upper part of inflorescence) ± patent branches, distal (2–) 8–12 (–16) cm long part leafless. Inflorescence leaves ternate (the uppermost 1–5 leaves simple), sparsely hairy above, green or green-grey and felted beneath, terminal leaflets broadly elliptical to broadly obovate, abruptly narrowing into short apex. Inflorescence axis almost straight or slightly flexuous, sparsely felted with stellate to tufted hairs and with scattered long simple hairs, stalked glands, glandular acicles and glandular bristles abundant, prickles (15–) 17–23 (–33) per 5 cm of axis length, ± equal, slender, straight, declining, (4.5–) 5.0–6.5 (–7.5) mm long. Pedicels (0.8–) 1.1–1.4 (–1.8) cm long, densely felted with stellate to tufted hairs and with scattered long simple hairs, sessile and subsessile glands abundant, stalked glands and glandular acicles together scattered, unequal, up to (0.4–) 0.5–0.6 (–0,8) mm long, longer or ± as long as the longest hairs, prickles (11–) 14–19 (–21), acicular, unequal, straight, slightly declining, (1.5–) 2.0–2.5 (–3.5) mm long. Sepals reflexed after anthesis, (7–) 8–10 (–12) mm long (inclusive of the filiform appendix), abaxially green-grey with whitish margin, densely felted with ± stellate hairs and with scattered patent long simple hairs, with scattered stalked glands and with absent or several yellowish or reddish pricklets, adaxially green or suffused red at base. Petals elliptical to broadly elliptical, spatulate, emarginate or rounded at apex, not

touching each other, (8.0–) 9.5–10.0 (–11.5) mm long, 5.0–6.5 (–8.0) mm wide, light pink to pink, adaxially sparsely hairy, abaxially densely hairy. Stamens longer than styles, filaments white, glabrous, anthers yellowish green, with rare hairs. Carpels densely and long hairy, styles greenish. Receptacle moderately hairy with long hairs. Aggregate fruit semiglobose to globose. Reproduction tentatively agamospermic. Flowering (VI)–VII.

Holotype: Southern Bohemia, distr. Strakonice, Bavorov (6850c): W slopes of Lesný hill (E of Javornice village), edge of forest road, 535 m a.s.l., 49°7'14.2"N, 14°0'59.0"E, one polycormon, 5 VIII 2007, leg. M. Lepší, CB (No. 64922) (Figs 66–68). – Isotype: PR.

Etymology

The epithet "suavis" (pretty, nice or likeable) is used to describe the neat appearance of the species, which is characterized by large primocane leaves with broadly elliptical or broadly obovate terminal leaflets with fine indentation, abundant, equal, slender, straight, slightly declining prickles on primocane stems and voluminous inflorescence. We propose the epithet "sličný" for the Czech species name.

Provisional names

The species has two provisional names – *Rubus blanicensis* and *Rubus* "prachatický typ", both nom. invalid., in schedis. Under these names specimens of this species may be preserved in some public herbaria or may have been cited in the literature previously (see Lepší et al. 2013).

Diagnostic characters

Prickles on primocane stems abundant, (18–) 23–33 (–55) per 5 cm of stem length, ± equal, slender, straight, slightly declining to upright, (4.5–) 5.5–7.0 (–8.0) mm long. Primocane leaves large, somewhat leathery, green above, green or green-grey felted beneath and distinctly hairy to the touch, with terminal leaflets broadly elliptical or broadly obovate, abruptly narrowing into short apex and with fine and periodical indentation. Inflorescence voluminous.

Taxonomy and similar species

The classification of *R. suavis* into *R.* ser. *Micantes* is unambiguous and is supported by the following characters: stems with scattered stalked glands, prickles on primocane stems almost equal, primocane leaves green or green-grey beneath, terminal leaflets broadly elliptical or broadly obovate and abruptly narrowing into the apex, and an inflorescence with stalked glands. The species is distinguished from all other members of the *R.* ser. *Micantes* recorded within the Bohemian Forest and adjacent areas by the abundance of prickles on its stems. Due to the similar shape of the terminal leaflets, the presence of soft indumentum beneath the primocane leaves and a high number of prickles on primocane stems, *R. suavis* may be mistaken for *R. perpungens*, a member of the *R.* ser. *Radula*, which may co-occur with the new species. Nevertheless, *R. perpungens* can be distinguished from the new species by the presence of abundant glandular acicles on primocane stems, stronger prickles on these stems and a terminal leaflet of primocane leaves with regular indentation and shallower, (1.0–) 1.5–2.0 mm deep incisions.

Fig. 66. Holotype of *Rubus suavis*: herbarium sheet 1 (infructescence of the holotype).

Fig. 67. Holotype of *Rubus suavis*: herbarium sheet 2 (primocane leaves of the holotype).

Fig. 68. Holotype of *Rubus suavis*: herbarium sheet 3 (primocane leaves of the holotype).

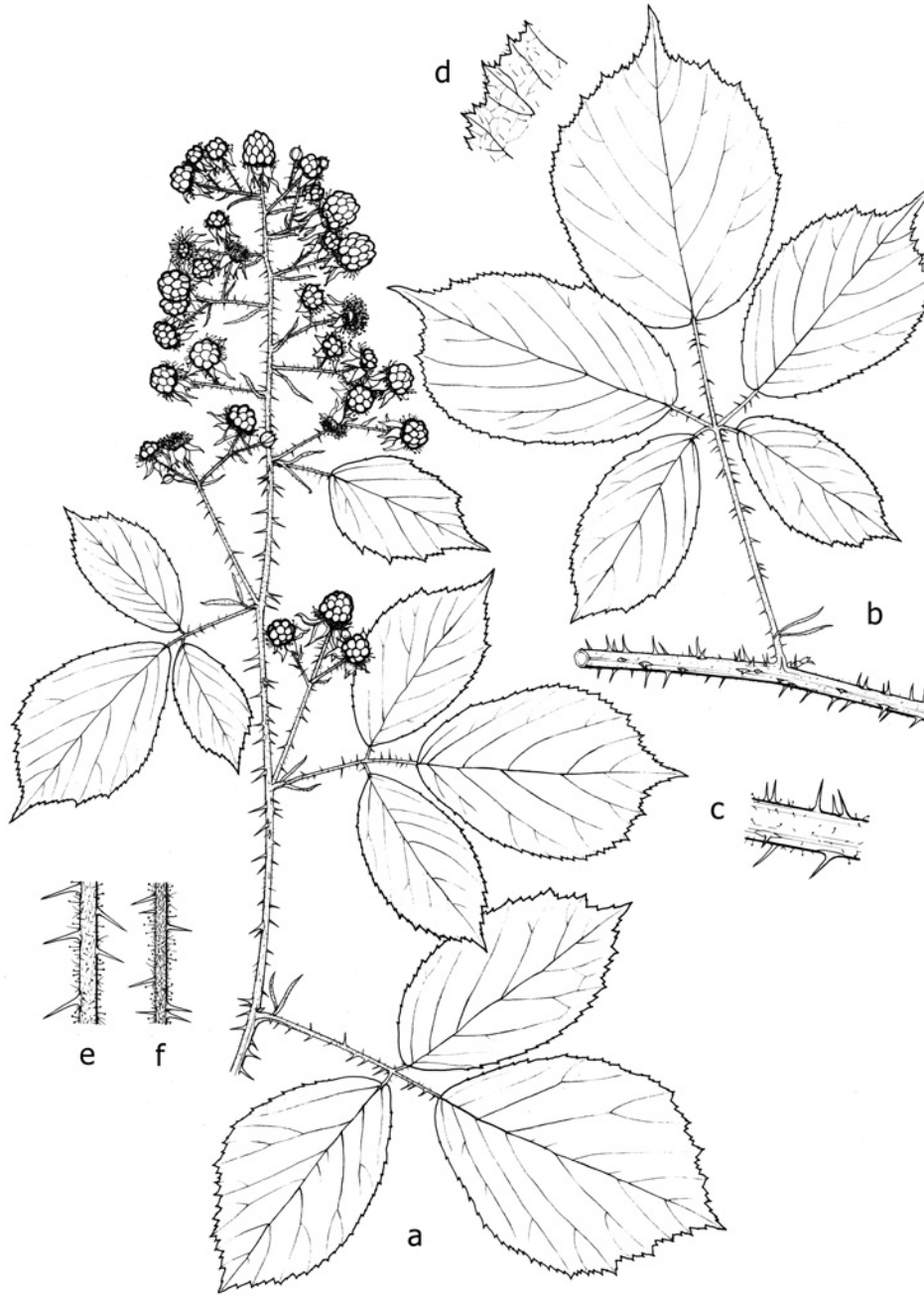

Fig. 69. *Rubus suavis*: a – infructescence, b – primocane leaf with part of stem, c – detail of primocane stem, d – detail of terminal leaflet margin (of primocane leaf), e – detail of infructescence axis, f – detail of peduncle. Drawing by A. Skoumalová.

Fig. 70. *Rubus suavis*: a – leaf of primocane (upper side), b – infructescence, c – flower, d – middle section of primocane stem, e – pedicel, f – infructescence axis. Czechia, Bohemia, Nebahovy, a–d – 20 July 2021, photo A. Lepší, e–f – 1 July 2021, photo M. Sochor.

Ecology

Rubus suavis is most frequently observed in forest habitats, including the edges of forest roads, forest fringes, clearings, and open *Picea abies*, *Pinus sylvestris*, and rarely *Quercus robur* plantations. It has been rarely recorded in non-forest vegetation, along roads, and in scrub. It typically inhabits mesic to mildly dry and slightly acidic soils developed on siliceous bedrocks.

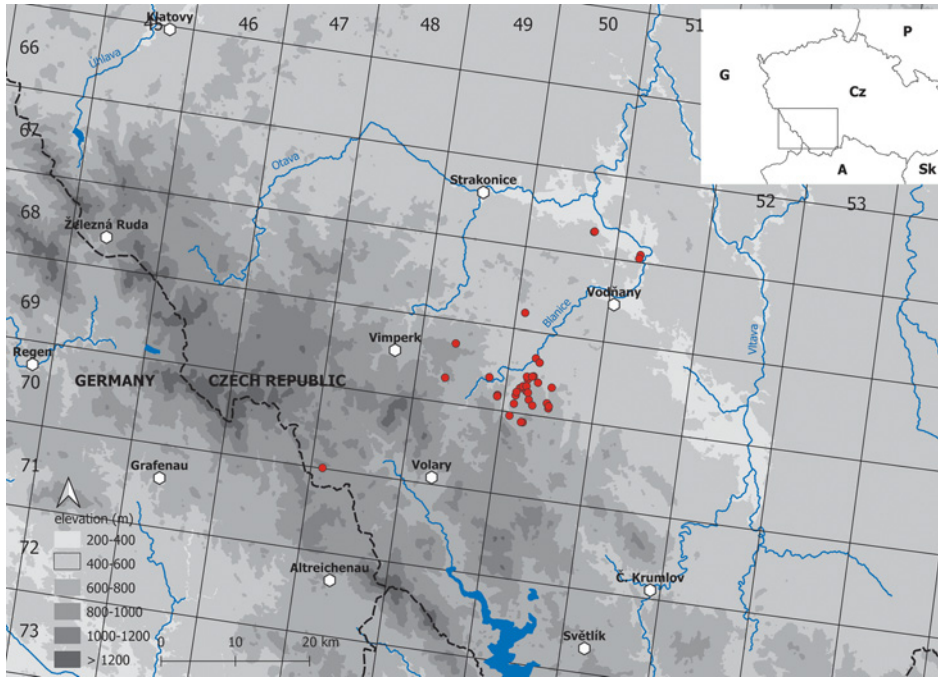

Fig. 71. Distribution map of *Rubus suavis*.

Distribution

Rubus suavis is a regional species endemic to South Bohemia (Czechia). To date, it has been found at 31 localities, with the majority situated between the village of Strážný, located to the west of the town of Volary in the Šumava Mts, and the village of Heřmaň, situated to the north-west of the town of Protivín in the Budějovická pánev basin. The distance between these two furthest apart localities exceeds 51 km (Fig. 71). The occurrence near the village of Strážný represents the southernmost and westernmost locality, while the locality near the village of Heřmaň is the northernmost locality. The easternmost locality is situated at the western edge of the town of Protivín. The distribution centre, with a scattered occurrence of the species, is located in the wide surroundings of the town of Prachatice in the foothills of the Šumava Mts. *Rubus suavis* has been recorded in 11 quadrants (10' × 6') of the central European mapping grid, occurring in four phytogeographical units: Budějovická pánev, Volyňské Předšumaví, Prachatické Předšumaví and Boubínsko-stožecká hornatina. The recorded localities are situated in the colline to mountain vegetation belt, with elevations ranging from 390 m a.s.l. (Protivín, Písek district, Budějovická pánev basin) to 910 m a.s.l. (Strážný, Prachatice district, Šumava Mts). The majority of localities are situated between 500 and 700 m a.s.l. The oldest known herbarium specimen was collected in 1997 by V. Žíla near the village of Heřmaň, northwest of the town of Protivín.

Herbarium specimens: **Czechia, Bohemia, 37e. Volyňské Předšumaví, 6850c:** Bavorov (distr. Strakonice): W slopes of Lesný hill (E of Javornice village), edge of forest road, 49°7'14.2"N, 14°0'59.0"E, 535 m a.s.l., one

polycormon, leg. ML 5 VIII 2007 CB 64922 [HOLOTYPE]. – **6949a:** Libotyně (distr. Prachatice): along forest road through clearing ~1 km SSE of chapel in village (close to U Hajnice National Nature Monument), huge ex., 49°4'22"N, 13°53'51"E, 750 m a.s.l., leg. PL 07 VII 2020 herb. P. Lepší SHPL 3701. – Libotyně (distr. Prachatice): při lesní cestě ~1 km již. od kapličky v Libotyni (poblíž NPP U Hajnice), malý, zastíněný porost, [49°4'22"N, 13°53'52"E], [750 m n. m.], leg. PL 05 VIII 2010 herb. P. Lepší SHPL 2116. – **37h. Prachatické Předšumaví, 6949c:** Škarez 2. díl (distr. Prachatice): ~270 m NE of summit of Skalní hora Mt., edge of forest road through young *Picea abies* plantation, medium-sized shrub, Coll. No. 1188, [49°1'48.0"N, 13°53'13.4"E], 790 m a.s.l., leg. ML 8 X 2021 CB 87786. – **6949d:** Husinec (distr. Prachatice): ~2.2 km SW of town, edge of clearing, scattered, Coll. No. 847, 49°2'17.41"N, 13°58'4.1"E, [630 m a.s.l.], leg. ML 11 VII 2012 CB 82805. – Kahov (distr. Prachatice): ad marginem silvae, ~1,2 km situ orient.-merid.-orient. a pago Kahov, 49°1'3"N, 13°59'12"E, [685 m a.s.l.], leg. VŽ 12 IX 2010 CB 105850. – Prachatice (distr. Prachatice): ~0,25 km SV od vrcholu Dubového vrchu, podél cesty, 49°1'0.6"N, 13°59'12.5"E, 660 m n. m., leg. ML 15 IX 2004 CB 39101. – Prachatice (distr. Prachatice): ~0,4 km SSV od vrcholu Dubového vrchu, smrková kultura, 49°1'6.4"N, 13°59'13.1"E, 690 m n. m., leg. ML 15 IX 2004 CB 39098. – **6950a:** Strunkovice nad Blanicí (distr. Prachatice): ~1,5 km sev. od vrcholu vrchu Kozlov, jako podrost v kulturním borovém lese na levém břehu Blanice, hojně, 49°4'7,9"N, 14°2'51,8"E, [475 m n. m.], leg. ML, PL 16 IX 2007 CB 64799. – Strunkovice nad Blanicí (distr. Prachatice): ~2,3 km již. od kostela v obci, řídký smrkový les, jeden keř, 49°3'51,0"N, 14°3'20,2"E, [520 m n. m.], leg. ML, PL 16 IX 2007 CB 64801, CB 64802. – **6950c:** Husinec (distr. Prachatice): vicus Běleč, ad marginem silvae, ~1 km situ orient.-merid.-orient. a vico, 49°2'48,7"N, 14°2'53,3"E, 615 m a.s.l., leg. VŽ 13 VIII 2008 CB 105852, CB 105853, CB 105854. – Kralovice (distr. Prachatice): ~1,1 km sz. od středu osady, v údolí Zlatého potoka, okraj lesní cesty, 1 okousaný polykormon, Coll. No. 434, 49°1'0,4"N, 14°4'45,3"E, 570 m n. m., leg. ML 16 VIII 2009 CB 73798. – Kralovice (distr. Prachatice): ~1.2 km SSW of summit of U Tří mezníků hill, *Rubus* scrub at edge of forest and road, medium-sized growth, Coll. No. 443, 49°0'39.2"N, 14°4'59.4"E, 655 m a.s.l., leg. ML 17 VIII 2022 CB 90067. – Kralovice (distr. Prachatice): ~830 m SW of summit of U Tří mezníků hill, edge of forest road, large growth, Coll. No. 442, 49°1'0.6"N, 14°4'45.4"E, 555 m a.s.l., leg. ML 17 VIII 2022 CB 90068. – Nebahovy (distr. Prachatice): ~0,7 km s. od středu obce, podél cesty do obce Žernovice, okraj lesa, roztroušeně, Coll. No. 317, 49°0'42,3"N, 14°3'11,6"E, 770 m n. m., leg. PL, ML 28 VII 2009 CB 73254. – Nebahovy (distr. Prachatice): ~1,5 km sz. od středu obce, podél cesty do obce Žernovice, křoviny, roztroušeně, Coll. No. 318, 49°1'4,9"N, 14°2'42,7"E, 710 m n. m., leg. PL, ML 28 VII 2009 CB 73253. – Prachatice (distr. Prachatice): Běleč, u lesních cest 1 km vjv. od obce, 49°2'49"N, 14°2'53"E, 615 m n. m., leg. PL, B. Trávníček, P. Havlíček, VŽ 13 VIII 2008 herb. P. Lepší SHPL 1990. – Prachatice (distr. Prachatice): ~0,5 km již. od kapličky v obci Běleč, kulturní bor, roztroušeně, 49°2'43,2"N, 14°2'9,8"E, [550 m n. m.], leg. ML 08 VIII 2007 CB 64709. – Prachatice (distr. Prachatice): ~0,5 km jv. od středu osady Městská Lhota, v borovém lese, 1 polykormon, 49°1'49,4"N, 14°1'34,6"E, 630 m n. m., leg. ML 08 VIII 2007 CB 64700. – Prachatice (distr. Prachatice): ~0,6 km již. od kapličky v Bělečské Lhotě, v lískových křovinách podél polní cesty, 1 polykormon, 49°1'59,4"N, 14°1'52,9"E, 610 m n. m., leg. ML 08 VIII 2007 CB 64701. – Prachatice (distr. Prachatice): ~0,7 km jv. od kapličky v Bělečské Lhotě, podél polní cesty, 1 polykormon, 49°2'1,9"N, 14°2'16,0"E, 630 m n. m., leg. ML 08 VIII 2007 CB 64702. – Prachatice (distr. Prachatice): ~0,8 km jjv. od kapličky v obci Běleč, paseka a okraj lesa, roztroušeně, 49°2'31,9"N, 14°2'18,0"E, [530 m n. m.], leg. ML 08 VIII 2007 CB 64705. – Prachatice (distr. Prachatice): ~0,9 km jz. od železniční stanice, kulturní smíšený les a jeho okraj, několik polykormonů, 49°0'38,8"N, 14°1'9,2"E, [680 m n. m.], leg. ML 08 VIII 2007 CB 64698. – Prachatice (distr. Prachatice): ~1,3 km sv. od železniční stanice, při lesní cestě v kulturní smrčině, několik polykormonů, 49°1'16,1"N, 14°1'12,9"E, 600 m n. m., leg. ML 08 VIII 2007 CB 64699. – Prachatice (distr. Prachatice): pagus Vitějovice, ad marginem silvae ad viam publicam versus oppidum Prachatice, ~1,5 km situ merid.-occid. a pago, 49°2'24,0"N, 14°3'28,4"E, [585 m a.s.l.], leg. VŽ 3 X 1999 CB 105858, CB 105859, CB 105860. – Prachatice (distr. Prachatice): pagus Žernovice, in pago., 49°1'41,0"N, 14°2'18,0"E, [655 m a.s.l.], leg. VŽ 12 VIII 1999 CB 105849. – Vitějovice (distr. Prachatice): ~2 km Z od středu obce, při lesní cestě, 49°2'46.6"N, 14°2'44.6"E, 590 m n. m., leg. ML, PL 26 VIII 2004 CB 39114, CB 39115. – Žernovice (distr. Prachatice): na jv. okraji obce, okraj silnice podél lesa do obce Nebahovy, okraj silnice a lesa, roztroušeně, Coll. No. 320, 49°1'34,9"N, 14°2'31,1"E, 680 m n. m., leg. PL, ML 28 VII 2009 CB 73250. – Žernovice (distr. Prachatice): pagus Žernovice, ad marginem silvae ad viam publicam ~0,5 km situ occid. a pago, 49°1'30,7"N, 14°1'15,2"E, [620 m a.s.l.], leg. VŽ 12 VIII 1999 CB 105851, CB 105861, CB 105862, CB 105863, CB 105864. – **6950d:** Kralovice (distr. Prachatice): ~0,7 km sz. od středu osady, okraj lesní cesty, 1 neduživý keř, Coll. No. 435, 49°0'48,7"N, 14°5'0,6"E, [640 m n. m.], leg. ML 16 VIII 2009 CB 73797. – Prachatice (distr. Prachatice): pagus Vitějovice, in tramite arvensi ~1 km situ merid.-orient. a pago Vitějovice, 49°2'11,1"N, 14°5'2,7"E, [580 m a.s.l.], leg. VŽ 3 X 1999 CB 105855, CB 105856, CB 105857. – **7050a:** Jelemek (distr. Prachatice):

západní okraj osady, meze a okraje polní cesty, 2 polykormony, Coll. No. 316, [48°59'24,0"N, 14°2'24,1"E], [780 m n. m.], leg. PL, ML 28 VII 2009 CB 73255. – Prachatice (distr. Prachatice): ~1,9 km SSV od vrcholu Libína, při lesní cestě, 48°59'44,9"N, 14°0'51,2"E, 640 m n. m., leg. ML 30 VIII 2004 CB 39088. – Prachatice (distr. Prachatice): Jelemek, u lesní a polní cesty 0,5 km záp. od obce, 48°59'24"N, 14°2'13"E, [765 m n. m.], leg. PL, B. Trávníček 13 IX 2008 herb. P. Lepší SHPL 2099. – **38. Budějovická pánev, 6750d:** Písek (distr. Písek): pagus Heřmaň, in silva ad viam publicam inter pagos Humňany et Heřmaň, ~1 km situ merid.-occid. a pago Heřmaň, 49°13'45,0"N, 14°7'17,2"E, [440 m a.s.l.], leg. VŽ 18 IX 1997 CB 105865. – Ražice (distr. Písek): při silnici mezi Heřmaní a Humňany, na pasece, 49°13'46.9"N, 14°7'20.7"E, 440 m n. m., leg. ML 02 VIII 2006 CB 51252. – **6751c:** Protivín (distr. Písek): ~400 m jjv. od železniční stanice, řídký porost dubu a borovice, Coll. No. 466, 49°12'33.4"N, 14°12'44.9"E, [390 m n. m.], leg. ML, A. Lepší 24 X 2009 CB 73817. – Protivín (distr. Písek): západní okraj města, okraj silnice a lesa, dva drobné polykormony, Coll. No. 439, [49°12'17.6"N, 14°12'39.9"E], 400 m n. m., leg. ML, PL 26 VIII 2010 CB 73969. – **88d. Boubínsko-stožecká hornatina, 7048c:** Strážný (distr. Prachatice): along road ~660 m SW of top of Lískový vrch hill (spot height 1,026 m) (SW of village), 1 ex., [48°54'2.5"N, 13°41'16.0"E], 910 m a.s.l., leg. PL, K. Boublík 26 X 2019 CB 104478. – Strážný (distr. Prachatice): ~790 m SSE of summit of Skalnatý hřbet hill, grassy edge of road, medium-sized shrub, Coll. No. 780, 48°54'2.5"N, 13°41'16.0"E, 910 m a.s.l., leg. ML 27 VIII 2021 CB 87796.

Rubus parvidentatus M. Lepší et P. Lepší, **spec. nova** (Figs 72–75)

Description: Shrub up to 1 m tall. Primocanes low to medium high arching, rooting at apex, their stems angled with ± flat sides, mostly (3.5–) 4.0–5.0 (–6.5) mm in diameter, matt green, at sunny sites suffused brown-red, sparsely hairy with (1–) 8–13 (–20) tufted and simple hairs per 1 cm of stem side, reaching up to the bases of prickles, sessile and subsessile glands scattered, stalked glands, glandular acicles and glandular bristles together scattered, (16–) 22–37 (–49) per 1 cm of stem side, up to (0.7–) 1.1–1.4 (–1.9) mm long, pricklets rare to scattered. Prickles (10–) 14–18 (–20) per 5 cm of stem length, unequal, straight and declining or slightly curved, (4.0–) 5.0–6.0 (–6.5) mm long, with flattened bases (3.5–) 4.0–5.0 (–5.5) mm wide, green, at sunny sites suffused brown-red at the base, with yellowish tip. Primocane leaves medium-sized, (3–) 4–5-foliolate, pedate, flat, matt, dark green and almost glabrous above (up to three hairs per 1 cm^2), green to green-grey, thin felted with stellate hairs and rare to scattered longer patent simple hairs (slightly hairy to the touch) beneath. Leaflets remote from one another, the terminal one with mid-long petiolule [petiolule (28–) 30–34 (–40)% as long as its lamina], elliptical to broadly elliptical or broadly obovate, round to slightly cordate at base, abruptly narrowing into only (11–) 12–15 (–17) mm long apex; leaflet margins almost flat, indentation fine, regularly serrate, with incisions (0.8–) 1.2–1.9 (–2.4) mm deep, teeth usually wider than long, apiculate with a distinct and sometimes retrorse apex. Petiolules of the basal leaflets (in 4–5-foliolate leaves) (1–) 2–3 (–4) mm long. Petioles usually (5–) 6–8 (–10) cm long, longer than the basal leaflets, hairs scattered, sessile, subsessile, and stalked glands scattered, glandular acicles and glandular bristles scattered, prickles (10–) 13–19 (–23), curved to hooked; stipules filiform, (0.3–) 0.4–0.6 mm wide, with scattered hairs and stalked glands. Inflorescence paniculate, mostly truncate at apex, with erecto-patent to (in upper part of inflorescence) ± patent branches, distal (6.5–) 7.5–9.5 (–13.0) cm long part leafless. Inflorescence leaves predominantly ternate (the uppermost 1–2 leaves simple), sparsely hairy above, green to green-grey, felted beneath, terminal leaflets mostly obovate or broadly obovate or rarely elliptical or broadly elliptical. Inflorescence axis flexuous, felted with stellate hairs and patent long simple or tufted hairs, sessile, subsessile and stalked glands scattered, glandular acicles and glandular bristles scattered, prickles (5–) 9–13 per 5 cm of axis length, slender,

mostly curved to hooked or straight and declining, (3.5–) 4.0–5.0 (–6.0) mm long. Pedicels (0.5–) 1.0–1.3 (–1.9) cm long, densely felted with stellate hairs and scattered patent long hairs, sessile and subsessile glands scattered, stalked glands and glandular acicles together scattered, unevenly long, up to 0.5–0.7 (–0.9) mm long, longer or ± as long as the longest hairs, and with (4–) 5–8 (–10) acicular, straight and slightly declining or slightly curved, (1.0–) 1.3–1.7 (–2.2) mm long prickles. Sepals reflexed after anthesis, (6.0–) 6.5–7.5 (–8.0) mm long (inclusive of the filiform appendix), abaxially green-grey, with a whitish felted margin, densely felted with ± stellate hairs and scattered patent long simple hairs, with scattered stalked glands and with absent or very few yellowish pricklets, adaxially green-grey with green and almost glabrous base. Petals elliptical to broadly elliptical, spatulate, rounded or emarginate at apex, not touching each other, (9.5–) 10.5–11.5 (–12.0) mm long, (5.0–) 6.0–6.5 (–7.0) mm wide, slightly pink, adaxially glabrescent, abaxially densely hairy. Stamens longer than styles, filaments white, glabrous, anthers yellowish green, glabrous. Carpels hairy, styles greenish. Receptacle sparsely hairy. Aggregate fruit ± globose. Reproduction tentatively agamospermic. Flowering (VI–)VII.

Holotype: Western Bohemia, distr. Klatovy, Děpoltice (6745a): ~700 m SW of St. Isidor church in village, edge of forest road, 640 m a.s.l., 49°15'37.9"N, 13°12'41.6"E, large growths, Coll. No. 355, 20 VII 2022, leg. M. Lepší, CB (No. 90078) (Figs 72–73). – Isotypes: BP, BRA, BRNM, DR, JE, LI, M, OL, PL, PR, PRA, PRC, W.

Etymology

The epithet “parvidentatus” indicates the fine and diminutive indentation of leaf margins. We propose the epithet “drobnozubý” for the Czech species name.

Provisional names

The species has a provisional name – *Rubus barbar*, nom. invalid. in schedis, under which this species may be preserved in some public herbaria.

Diagnostic characters

Primocane stems with scattered unequal prickles, rare to scattered pricklets, scattered glandular bristles, glandular acicles and stalked glands. Primocane leaves dark green above, green to green-grey, thin felted and therefore slightly hairy to the touch beneath. Terminal leaflet of primocane leaves elliptical to broadly elliptical or broadly obovate abruptly narrowing into short apex. Leaf indentation shallow, fine, regularly serrate, with incisions only (0.8–) 1.2–1.9 (–2.4) mm deep and teeth usually wider than long.

Taxonomy and similar species

Rubus parvidentatus exhibits all the diagnostic characters of the *R.* ser *Micantes*. The most similar species of this series is *R. caflischii*, which differs in having primocane leaves with coarser and irregular indentations, deeper, 2–3 mm deep, incisions, and distinctly grey indumentum beneath. Other members of the series occurring in the area studied cannot be confused with *R. parvidentatus* because they lack the following combination of

Fig. 72. Holotype of *Rubus parvidentatus*: herbarium sheet 1 (infructescence and inflorescence, and primocane leaf of the holotype).

Fig. 73. Holotype of *Rubus parvidentatus*: herbarium sheet 2 (primocane leaves of the holotype).

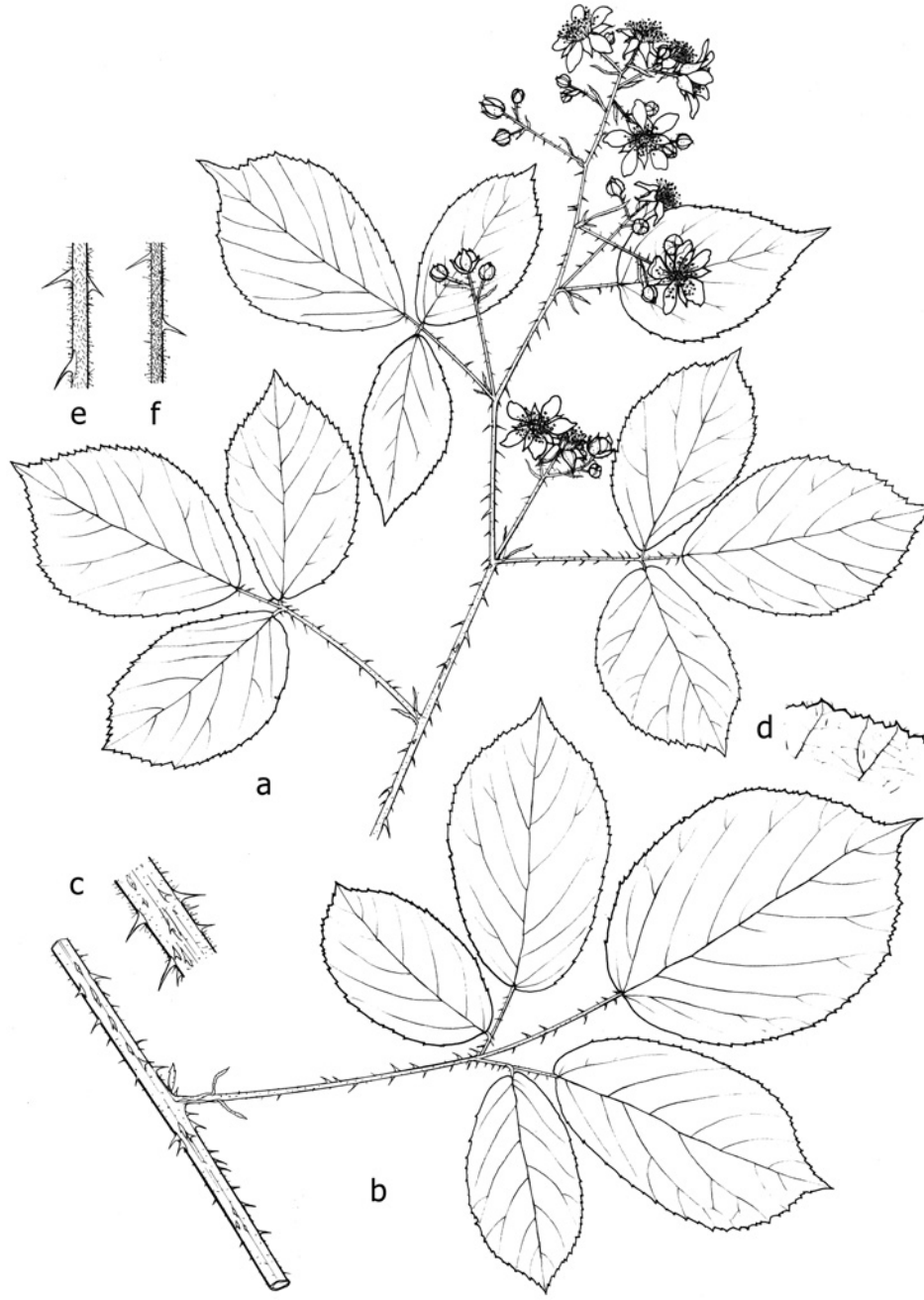

Fig. 74. *Rubus parvidentatus*: a – inflorescence, b – primocane leaf with part of stem, c – detail of primocane stem, d – detail of terminal leaflet margin (of primocane leaf), e – detail of inflorescence axis, f – detail of peduncle. Drawing by A. Skoumalová.

Fig. 75. *Rubus parvidentatus*: a – leaf of primocane (upper side), b – inflorescence, c – flower, d – middle section of primocane stem, e – young aggregate fruits, f – inflorescence axis. a, d, e – Czechia, Bohemia, Hojsova Stráž, 12 August 2020, photo A. Lepší, b, c, f – Germany, Lower Bavaria, Bodenmais 4 July 2022, photo M. Lepší.

morphological characters: primocane stems with unequal prickles, many transitions between stalked glands and prickles, primocane terminal leaflet with fine, shallow and regular indentation and with green to green-grey indumentum beneath. Most of all, *R. parvidentatus* resembles *R. vatavensis*, a representative of *R.* ser. *Radula*. This species, however, differs in having (50–) 90–170 (–240) hairs per 1 cm of primocane stem side,

the absence of transitions between stalked glands and prickles on primocane stems, equal and fewer prickles (6–12 per 5 cm of primocane stem length), and a distinctly voluminous inflorescence. *Rubus perpungens* is another species within the *R.* ser. *Radula* that shares several characteristics with *R. parvidentatus*, including fine, shallow and regular serrature, a short leaf apex and grey indumentum on the underside of primocane leaves. Nevertheless, this bramble is distinguished by primocane stems with more, (19–) 24–29 (–34) prickles per 5 cm of the stem length and longer, (6.5–) 7.0–8.0 (–8.5) mm long prickles, as well as the absence or rare occurrence of transitions between stalked glands and prickles. Other species of the *R.* ser. *Radula*, such as *R. epipsilos*, *R. muhelicus* or *R. cammensis*, may exhibit some resemblance to *R. parvidentatus*. However, these species are distinguished by primocane leaves with periodical indentations, primocane stem with almost equal prickles, and the rare occurrence of glandular bristles and pricklets on these stems.

Ecology

Rubus parvidentatus is a typical forest species that occurs most frequently along forest roads, in forest gaps and clearings and in *Picea abies* plantations. It is less commonly found in stands of early-successional woody vegetation (*Betula pendula*, *Acer pseudoplatanus*, *Sorbus aucuparia*, *Populus tremula* and *Salix caprea*) or *Fagus sylvatica* forests. This species has been rarely recorded in non-forest vegetation such as road and railway edges. It usually inhabits mesic, acidic soils on silicate bedrocks.

Distribution

Rubus parvidentatus is a regional species endemic to eastern Bavaria (Germany) and western Bohemia (Czechia). The species is distributed mainly in the foothills and lower parts of the Bayerischer Wald Mts, the Šumava Mts, the Oberpfälzer Wald Mts and the Český les Mts (Fig. 76). The northernmost locality lies by the village of Muschenried south-east of the town of Oberviechtach in the Oberpfälzer Wald Mts, the southernmost by the village of Pfelling east of the town of Straubing in the foot of the Falkensteiner Vorwald Mts, the easternmost by the village of Kocourov south-east of the town of Klatovy in the Šumavské podhůří foothills, and the westernmost near the village of Gumping south-east of the town of Nittenau in the Falkensteiner Vorwald Mts. In Bavaria, this species is scattered in the north-western half of the Bayerischer Wald Mts and rare to scattered in the southern part of the Oberpfälzer Wald Mts. All known Bavarian localities have been found within the area delineated by the towns of Regen, Straubing, Regensburg, Oberviechtach and the village of Bayerisch Eisenstein. In Czechia, the species occurs scattered in two mutually isolated areas. The first area lies between the towns of Janovice nad Úhlavou and Železná Ruda and the second between the town of Domažlice and the village of Česká Kubice. *Rubus parvidentatus* has been identified at 80 localities, with the distance between the two most distant sites exceeding 80 km. It has been documented in 42 quadrants (10' × 6') of the central European mapping grid. In Czechia, the species occurs in four phytogeographical districts: Český les, Plzeňská pahorkatina, Plánický hřeben and Královský hvozd. The recorded localities are situated within the colline to montane vegetation belt, with elevations ranging from 340 m a.s.l. (Pfelling, Straubing-Bogen district, Falkensteiner Vorwald Mts) to 870 m a.s.l. (Bodenmais, Regen district, Hinterer Bayerischer Wald). The majority of localities are situated in the

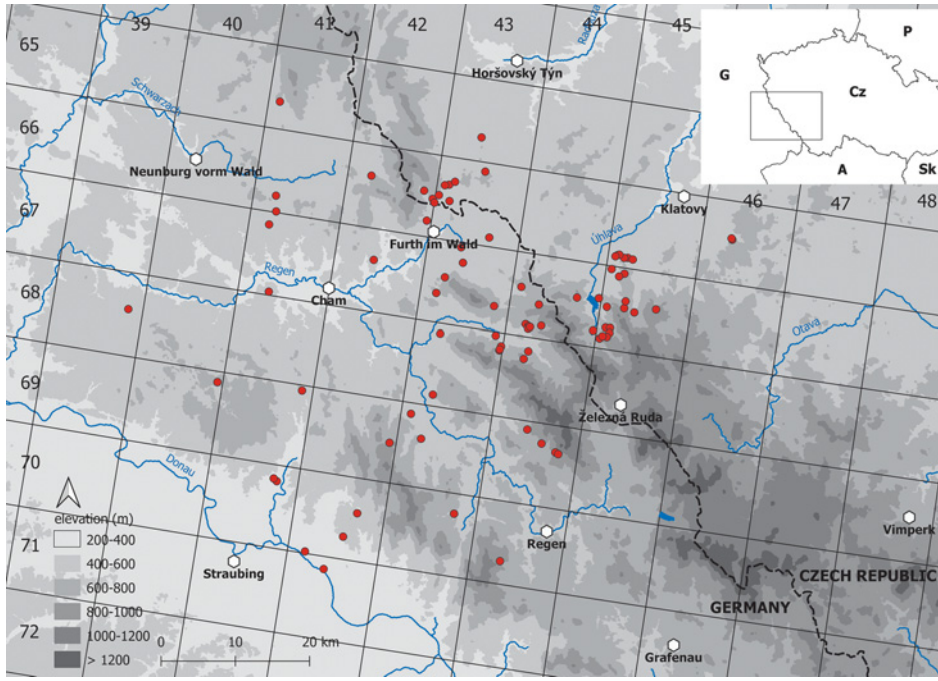

Fig. 76. Distribution map of *Rubus parvidentatus*.

supracolline to submontane belt, between 500 and 700 m a.s.l. To the best of our knowledge, the oldest known herbarium specimens were collected in 1999 by V. Žíla in the vicinity of the village of Pelechy, situated to the south of the town of Domažlice in Czechia.

Herbarium specimens and records: **Germany, Bavaria, 6541c:** Muschenried (distr. Schwandorf): ~710 m SE of summit of Kreuzberg hill, edge of forest road, Coll. No. 319, 49°25'58.9"N, 12°31'14.8"E, 560 m a.s.l., leg. PL, ML 5 VII 2022 CB 89798. – **6641c:** Bernried (distr. Cham): ~1.5 km SW of summit of Gruberberg hill, in *Picea abies* plantation, scattered, Coll. No. 367, 49°19'12.6"N, 12°32'30.0"E, [490 m a.s.l.], leg. ML 27 VII 2022 CB 89827. – Bernried (distr. Cham): ~700 m SW of summit of Schafberg hill, old forest clearing, several shrubs, Coll. No. 368, 49°18'5.1"N, 12°32'47.9"E, [540 m a.s.l.], leg. ML 27 VII 2022 CB 89826. – **6642a:** Herzogau (distr. Cham): ~960 m NW of St. Anna und Sebastian church in village, gap in forest, large growth, Coll. No. 321, 49°21'45"N, 12°42'37.4"E, [570 m a.s.l.], leg. PL, ML 5 VII 2022 CB 89800. – **6642d:** Furth im Wald (distr. Cham): ~190 m SW of summit of Vogelherd hill, edge of road in forest, rare, Coll. No. 357, 49°19'10.3"N, 12°49'29.1"E, 470 m a.s.l., leg. ML 26 VII 2022 CB 89820. – **6643d:** Großaign (distr. Cham): ~1.5 km ENE of church in village, clearing in *Picea abies* plantation, medium-sized growth, Coll. No. 1007, 49°18'40.3"N, 12°56'38.6"E, 430 m a.s.l., leg. PL, ML 15 IX 2021 CB 88567. – **6741a:** Stamsried (distr. Cham): ~210 m WSW of summit of Riedbühl hill, in *Picea abies* plantation, scattered, Coll. No. 369, 49°17'4.2"N, 12°32'15.4"E, 560 m a.s.l., leg. ML 27 VII 2022 CB 89825. – **6741c:** Wetterfeld (distr. Cham): ~800 m SSW of summit of Traubenberg hill, edge of forest road in mixed forest, several poor growths, Coll. No. 1048, 49°12'15.7"N, 12°33'25.2"E, [450 m a.s.l.], leg. PL, ML 17 IX 2021 CB 88590. – **6742a:** Dalking (distr. Cham): ~1.1 km SE of summit of Dachsberg hill, edge of forest road, medium-sized growth, Coll. No. 1051, 49°15'45.2"N, 12°44'21.3"E, [410 m a.s.l.], leg. ML, PL 17 IX 2021 CB 88591. – **6743a:** Eschlkam (distr. Cham): ~740 m NNW of summit of Karpfling hill, forest clearing, abundant, Coll. No. 356, 49°17'39.1"N, 12°53'43.7"E, [450 m a.s.l.], leg. ML 26 VII 2022 CB 89821. – Schwarzenberg (distr. Cham): ~1 km SSW of chapel in Oberdörfl settlement, mixed forest, medium-sized growth, Coll. No. 1010,

49°15'19.3"N, 12°52'27.4"E, [560 m a.s.l.], leg. PL, ML 15 IX 2021 CB 88564. – Schwarzenberg (distr. Cham): ~660 m NNE of St. Wendelin church in village, edge of forest clearing, abundant, Coll. No. 1009, 49°16'33.9"N, 12°54'11.4"E, 520 m a.s.l., leg. ML, PL 15 IX 2021 CB 88565. – **6743c:** Thenried (distr. Cham): ~610 m NE of church in village, edge of road at forest edge, abundant, Coll. No. 1013, 49°14'6.1"N, 12°51'47.0"E, 580 m a.s.l., leg. PL, ML 15 IX 2021 CB 88560. – **6743d:** Höllhöhe (distr. Cham): ~580 m SSE of summit of Kagerstein hill, edge of *Picea abies* forest and road, scattered, Coll. No. 736, 49°13'49.3"N, 12°58'20.8"E, [670 m a.s.l.], leg. ML, PL 25 IX 2022 CB 89855. – **6744a:** Hanger (distr. Cham): ~1 km WNW of centre of village, edge of forest road, abundant, Coll. No. 324, 49°15'30.0"N, 13°1'0.8"E, [620 m a.s.l.], leg. ML, PL 5 VII 2022 CB 89803. – **6744c:** Engelshütt (distr. Cham): along road in Oberschmelz settlement ~1.1 km NE of church of St. Erasmus in village, 49°12'44.6"N, 13°2'38.9"E, 675 m a.s.l., not. ML, PL 25 IX 2022. – Engelshütt (distr. Cham): along road in Oberschmelz settlement ~750 m NE of church of St. Erasmus in village, 49°12'37.5"N, 13°2'26.5"E, 650 m a.s.l., not. ML, PL 25 IX 2022. – Engelshütt (distr. Cham): ~920 m NNE of St. Erasmus chapel in village, in *Populus tremula*, *Betula pendula* and *Salix caprea* growth, large growth, Coll. No. 716, 49°12'53.7"N, 13°2'6.8"E, 650 m a.s.l., leg. ML, PL 25 IX 2022 CB 89839. – Engelshütt (distr. Cham): ~960 m NE of St. Erasmus chapel in village, above Vorderschmelz settlement, edge of forest road in *Picea abies* plantation, scattered, Coll. No. 717, 49°12'47.2"N, 13°2'27.9"E, [600 m a.s.l.], leg. ML, PL 25 IX 2022 CB 89841. – Engelshütt (distr. Cham): W edge of Lambach settlement, in *Picea abies* plantation, scattered, Coll. No. 719, 49°12'57.4"N, 13°3'51.1"E, 700 m a.s.l., leg. ML, PL 25 IX 2022 CB 89842. – Rittsteig (distr. Cham): ~860 m SSE of church in village, in *Picea abies* plantation, scattered, Coll. No. 703, 49°14'26.2"N, 13°3'14.2"E, [770 m a.s.l.], leg. ML, PL 24 IX 2022 CB 89836. – **6839b:** Gumping (distr. Cham): ~660 m NW of centre of village, edge of forest road, medium-sized growth, Coll. No. 1042, 49°9'21.3"N, 12°18'22.2"E, [495 m a.s.l.], leg. PL, ML 17 IX 2021 CB 88584. – **6843a:** Beckendorf (distr. Cham): ~1.1 km NE of chapel in village, edge of forest and meadow, one small shrub, Coll. No. 371, 49°11'15.9"N, 12°52'55.2"E, [515 m a.s.l.], leg. PL, ML 8 IX 2019 CB 86183. – **6843b:** Arrach (distr. Cham): along road ~1.75 km SSW of railway station in village, 49°10'49.4"N, 12°59'42.1"E, 670 m a.s.l., not. ML, PL 25 IX 2022. – Arrach (distr. Cham): between village and Drittenzell, edge of forest and meadow, one growth, Coll. No. 359, 49°11'3.1"N, 12°59'47.9"E, [600 m a.s.l.], leg. ML, PL 8 IX 2019 CB 86206. – Arrach (distr. Cham): ~1.1 km E of chapel in Eschlsaigen settlement, gap in *Picea abies* plantation, scattered, Coll. No. 722, 49°10'44.9"N, 12°59'40.5"E, 670 m a.s.l., leg. ML, PL 25 IX 2022 CB 89845. – Arrach (distr. Cham): forest along road (Lamer Straße) ~1.4 km W of railway station in village, 49°11'45.2"N, 12°59'1.9"E, 500 m a.s.l., not. ML, PL 25 IX 2022. – **6843c:** Lammerbach (distr. Regen): ~900 m S of centre of village, edge of road in forest, medium-sized growth, Coll. No. 1018, 49°6'49.7"N, 12°53'9.9"E, [510 m a.s.l.], leg. PL, ML 15 IX 2021 CB 88556. – **6844a:** Lam (distr. Cham): N edge of Hinteröd settlement, *Picea abies* plantation, abundant, Coll. No. 356, 49°10'24.4"N, 13°2'29.5"E, 760 m a.s.l., leg. ML, PL 8 IX 2019 CB 86207. – Lam (distr. Cham): S of Koppenhof settlement, along forest road, one shrub, Coll. No. 358, 49°11'0.0"N, 13°2'51.9"E, [625 m a.s.l.], leg. ML, PL 8 IX 2019 CB 86208. – **6940b:** Falkenstein (distr. Cham): ~1.3 km SSE of St. Sebastian church in village, edge of forest road, small shrub, Coll. No. 1041, 49°5'14.1"N, 12°29'24.5"E, [615 m a.s.l.], leg. ML, PL 17 IX 2021 CB 88583. – **6941b:** Cham (distr. Cham): pagus Loitzendorf, margo silvae ad viam publicam, ~1,2 km situ bor.-occid. a pago, 49°5'37"N, 12°38'48"E, 485 m a.s.l., leg. VŽ 7 VII 2010 CB 105843, CB 105844, CB 105845. – **6942d:** Münchshöfen (distr. Regen): ~730 m WSW of summit of Kastenstein hill, forest clearing, scattered, Coll. No. 650, 49°2'53.6"N, 12°49'15.6"E, [760 m a.s.l.], leg. ML 6 IX 2022 CB 90029. – **6943a:** Kollnburg (distr. Regen): ~1.7 km NE of Heilige Dreifaltigkeit church in village, forest clearing, medium-sized growth, Coll. No. 1021, 49°3'32.3"N, 12°52'38.2"E, 570 m a.s.l., leg. ML, PL 15 IX 2021 CB 88581. – Prackenbach (distr. Regen): ~2 km ESE of church in village, edge of *Picea abies* forest, large growth, Coll. No. 657, 49°5'12.6"N, 12°51'6.2"E, [550 m a.s.l.], leg. ML 7 IX 2022 CB 90036. – **6944a:** Bodenmais (distr. Regen): ~1.3 km N of centre of Mais village, forest clearing, large growth, Coll. No. 908, 49°5'24"N, 13°4'5.1"E, [700 m a.s.l.], leg. PL, ML 5 IX 2021 CB 88516. – **6944b:** Bodenmais (distr. Regen): ~1 km N of Mariä Himmelfahrt church in town, edge of forest road, small growth, Coll. No. 904, 49°4'32.9"N, 13°5'52.9"E, 760 m a.s.l., leg. PL, ML 5 IX 2021 CB 88537. – Bodenmais (distr. Regen): ~1.9 km E of Mariä Himmelfahrt church in town, edge of forest road, medium-sized growth, Coll. No. 900, 49°4'4.3"N, 13°7'32.3"E, 840 m a.s.l., leg. PL, ML 5 IX 2021 CB 88540. – Bodenmais (distr. Regen): ~2.3 km E of Mariä Himmelfahrt church in town, edge of forest road, medium-sized growth, Coll. No. 898, 49°3'58.7"N, 13°7'52.9"E, [870 m a.s.l.], leg. ML, PL 5 IX 2021 CB 88542. – **7041b:** Gschwendt (distr. Straubing-Bogen): ~770 m NW of St. Christoph church in village, edge of forest road, abundant, Coll. No. 1039, 48°58'50.4"N, 12°37'38.2"E, 360 m a.s.l., leg. ML, PL 16 IX 2021 CB 88547. – Hagnzell (distr. Straubing-Bogen): ~1.1 km SE of chapel in village, edge of forest road in *Picea abies* plantation, large shrub, Coll. No. 1040, 48°59'0.2"N, 12°37'14.8"E, [365 m a.s.l.], leg. PL, ML 17 IX 2021 CB 88582. – **7042b:** Obermühlbach (distr. Straubing-

Bogen): ~1.7 km SW of chapel in village, edge of forest road, small shrub, Coll. No. 1028, 48°57'28.6"N, 12°46'57.8"E, [435 m a.s.l.], leg. ML, PL 16 IX 2021 CB 88573. – **7042c:** Bogen (distr. Straubing-Bogen): sub-summit area of Bogenberg hill, forest gap, rare, Coll. No. 99, 48°54'8.6"N, 12°41'56.2"E, 420 m a.s.l., leg. ML, PL 25 IX 2015 CB 84126. – **7042d:** Degernbach (distr. Straubing-Bogen): ~1.1 km NNE of St. Andreas church in village, forest clearing, rare, Coll. No. 1030, 48°55'38.2"N, 12°45'49.8"E, 370 m a.s.l., leg. ML, PL 16 IX 2021 CB 88570. – **7043b:** Achslach (distr. Regen): ~1.6 km ENE of St. Jakobus church in village, in open *Picea abies* plantation, small shrub, Coll. No. 642, 48°58'32.7"N, 12°57'31.4"E, 590 m a.s.l., leg. ML 6 IX 2022 CB 90051. – **7044c:** Bischofsmais (distr. Regen): ~2.2 km NW of St. Jakobus church in village, in forest, medium-sized growth, Coll. No. 638, 48°55'40.1"N, 13°3'20.5"E, [780 m a.s.l.], leg. ML 6 IX 2022 CB 90047. – **7142a:** Pfelling (distr. Straubing-Bogen): ~460 m NW of St. Margaretha church in village, forest clearing, large growth, Coll. No. 1034, 48°53'6.1"N, 12°44'16.4"E, [340 m a.s.l.], leg. PL, ML 16 IX 2021 CB 88553.

Czechia, Bohemia, 26. Český les, 6642b: Dolní Folmava (distr. Domažlice): Bystřice former village, ~1.8 km NW of summit of Ovčí vrch hill, edge of forest road below power lines, medium-sized growth, Coll. No. 452, 49°21'17.1"N, 12°48'40.3"E, 530 m a.s.l., leg. ML 18 VIII 2022 CB 89971. – Dolní Folmava (distr. Domažlice): ~330 m SW of summit of Ovčí vrch hill, edge of forest road, medium-sized growth, Coll. No. 454, 49°20'47.4"N, 12°49'45.1"E, 535 m a.s.l., leg. ML 18 VIII 2022 CB 89973. – **6643a:** Česká Kubice (distr. Domažlice): ~1.1 km SW of summit of Na Skále hill, forest clearing in *Picea abies* plantation, scattered, Coll. No. 458, 49°21'54.8"N, 12°50'51.7"E, 485 m a.s.l., leg. ML 18 VIII 2022 CB 89976. – Česká Kubice (distr. Domažlice): ~680 m ESE of summit of Na Skále hill, ruderal scrub at road edge, large growth, Coll. No. 353, 49°22'16.4"N, 12°51'55.3"E, 525 m a.s.l., leg. ML 20 VII 2022 CB 89993. – Česká Kubice (distr. Domažlice): ~710 m S of summit of Na Skále hill, edge of forest road in *Picea abies* plantation, large growth, Coll. No. 445, 49°21'59.9"N, 12°51'19.7"E, 525 m a.s.l., leg. ML 18 VIII 2022 CB 89964. – Dolní Folmava (distr. Domažlice): ~700 m NE of summit of Ovčí vrch hill, edge of forest road in *Betula*, *Sorbus* and *Acer pseudoplatanus* growth, small growth, Coll. No. 447, 49°21'8.2"N, 12°50'22.4"E, 510 m a.s.l., leg. ML 18 VIII 2022 CB 89966. – **6643b:** Domažlice (distr. Domažlice): pagus Pelechy, in silva ad viam publicam ~0,5 km situ orient. a pago, 49°23'20,6"N, 12°55'3,9"E, [575 m a.s.l.], leg. VŽ 3 VIII 1999 CB 105846, CB 105847, CB 105848. – **6643c:** Dolní Folmava (distr. Domažlice): ~560 m S of summit of Ovčí vrch hill, *Betula pendula* growth at edge of forest road, small shrub, Coll. No. 450, 49°20'32.5"N, 12°50'0.9"E, 510 m a.s.l., leg. ML 18 VIII 2022 CB 89969. – Horní Folmava (distr. Domažlice): ~360 m SW of summit of Špička hill, edge of forest road, scattered, Coll. No. 460, 49°20'49.9"N, 12°51'38.5"E, 515 m a.s.l., leg. ML 18 VIII 2022 CB 89978. – **31a. Plzeňská pahorkatina vlastní, 6543c:** Domažlice (distr. Domažlice): ~500 m NW of the summit of Na zámku hill, a deciduous plantation, middle-sized growth, Coll. No. 142, 49°25'44.8"N, 12°54'3.6"E, [470 m a.s.l.], leg. ML, PL 09 VII 2010 CB 79062. – **6645c:** Petrovice nad Úhlavou (distr. Klatovy): ~1.1 km SSW of chapel in village, verge of forest road in young *Fagus sylvatica* plantation, large growth, Coll. No. 751, 49°18'45.7"N, 13°10'50.6"E, 515 m a.s.l., leg. ML 27 VIII 2020 CB 87344. – Petrovice nad Úhlavou (distr. Klatovy): ~1.2 km SSW of St. Florián chapel in village, edge of forest road, large growth, 49°18'44.4"N, 13°10'49.3"E, 520 m a.s.l., leg. ML, et al. 2 VII 2021 CB 88333. – Petrovice nad Úhlavou (distr. Klatovy): ~2.4 km SE of chapel in village, gap in forest plantation, large growth, Coll. No. 770, 49°18'42.2"N, 13°12'47.1"E, 485 m a.s.l., leg. ML 27 VIII 2020 CB 87343. – Petrovice nad Úhlavou (distr. Klatovy): ~860 m SSE of chapel in village, in *Picea abies* plantation, small growth, Coll. No. 391, 49°18'53.9"N, 13°11'13.7"E, 510 m a.s.l., leg. ML 9 VII 2020 CB 87451. – Petrovice nad Úhlavou (distr. Klatovy): ~910 m S of chapel in village, edge of forest road in *Picea abies* plantation, one small shrub, Coll. No. 395, 49°18'51.7"N, 13°11'4.6"E, 515 m a.s.l., leg. ML 9 VII 2020 CB 87449. – **34. Plánický hřeben, 6645c:** Petrovice nad Úhlavou (distr. Klatovy): ~1.5 km SE of chapel in village, forest clearing, one shrub, Coll. No. 768, 49°18'43.5"N, 13°11'48.5"E, 635 m a.s.l., leg. ML 27 VIII 2020 CB 87341. – Petrovice nad Úhlavou (distr. Klatovy): ~1.7 km SE of chapel in village, forest clearing, one shrub, Coll. No. 769, 49°18'45.9"N, 13°12'12.5"E, 560 m a.s.l., leg. ML 27 VIII 2020 CB 87342. – **6646a:** Bystré (distr. Klatovy): ~800 SW of chapel in village, gap in forest plantation, abundant, Coll. No. 387, 49°21'12.9"N, 13°23'23.1"E, 545 m a.s.l., leg. ML 9 VII 2020 CB 87435. – Kocourov (distr. Klatovy): ~1 km NW of summit of Smetanec hill, edge of forest and road, large growth, Coll. No. 565, 49°21'17.9"N, 13°23'16.8"E, 520 m a.s.l., leg. ML, et al. 2 VII 2021 CB 88332. – **6744b:** Stará Lhota (distr. Klatovy): ~1.6 km SE of Panna Marie chapel in village, cut of railway, small shrub, Coll. No. 1066, 49°15'33.2"N, 13°9'42.9"E, 605 m a.s.l., leg. ML 24 IX 2021 CB 88410. – Stará Lhota (distr. Klatovy): ~600 m SSE of summit of Hraničář Mt., forest clearing, one shrub, Coll. No. 402, 49°15'21.6"N, 13°7'18.1"E, 700 m a.s.l., leg. ML 9 VII 2020 CB 87446. – Hamry (distr. Klatovy): ~1.1 km S of Panny Marie Bolestné church in village, forest clearing, several shrubs, Coll. No. 408, 49°13'11.8"N, 13°9'36.7"E, 570 m a.s.l., leg. ML 10 VII 2020 CB 87445. – **6745a:** Děpoltice (distr. Klatovy): ~1.9 km N of summit of Prenet hill, edge of forest road, rare, medium-sized shrub, Coll. No. 927, 49°15'7.3"N, 13°12'39.3"E, 820 m a.s.l., leg. ML, K. Boublík, D. Půbal 10 IX 2021 CB 88394. –

Dešenice (distr. Klatovy): ~700 m SW of St. Isidor church in village, edge of forest road, large growths, Coll. No. 355, 49°15'37.9"N, 13°12'41.6"E, 640 m a.s.l., leg. ML 20 VII 2022 CB 90078 [HOLOTYPE]. – Hodousice (distr. Klatovy): ~490 m ENE of chapel in village, gap in *Picea abies* plantation, small growth, Coll. No. 797, 49°17'47.1"N, 13°10'36.9"E, 535 m a.s.l., leg. ML 2 IX 2020 CB 87306. – Zelená Lhota (distr. Klatovy): ~100 m NNE of train stop in village, on slope above road, several shrubs, Coll. No. 410, 49°15'1.6"N, 13°10'43.7"E, 635 m a.s.l., leg. ML 10 VII 2020 CB 87442. – Žiznětice (distr. Klatovy): ~1 km NE of chapel in village, verge of forest road in young *Picea abies* plantation, large shrub, Coll. No. 800, 49°17'35.5"N, 13°12'6.8"E, 660 m a.s.l., leg. ML 2 IX 2020 CB 87304. – Žiznětice (distr. Klatovy): ~220 m E of chapel in village, gap in broad-leaf forest at verge of road, large growth, Coll. No. 798, 49°17'20.2"N, 13°11'33.9"E, 595 m a.s.l., leg. ML 2 IX 2020 CB 87305. – **6745b:** Chřepice (distr. Klatovy): ~1.3 km NE of summit of Plošina hill, in growth of *Betula pendula*, small growth, Coll. No. 1087, 49°15'23.2"N, 13°16'10.4"E, 845 m a.s.l., leg. ML 24 IX 2021 CB 88402. – **6745c:** Datelov (distr. Klatovy): in settlement, in open growth of woody plants along brook, one large growth, Coll. No. 343, 49°14'55.7"N, 13°13'49.9"E, 600 m a.s.l., leg. ML, PL 6 IX 2019 CB 86205. – Hojsova Stráž (distr. Klatovy): ~1.1 km NW of church in village, along forest road, one growth, Coll. No. 349, 49°12'53.8"N, 13°11'13.6"E, 780 m a.s.l., leg. PL, ML 6 IX 2019 CB 86221. – Hojsova Stráž (distr. Klatovy): ~1.4 km NW of Neposkvrněné početí Panny Marie church in village, edge of road in forest, 49°13'12.5"N, 13°11'27.1"E, 760 m n. m., not. ML, J. Velebil 22 VIII 2022. – Hojsova Stráž (distr. Klatovy): ~2 km NNW of Neposkvrněné početí Panny Marie church in village, railway cut, 49°13'34.1"N, 13°11'26.1"E, 680 m n. m., not. ML, J. Velebil 22 VIII 2022. – Hojsova Stráž (distr. Klatovy): ~2.2 km NW of Neposkvrněné početí Panny Marie church in village, scrub, large growths, Coll. No. 469, 49°13'32.7"N, 13°10'56.2"E, 690 m n. m., leg. ML, J. Velebil 22 VIII 2022 CB 83659. – Hojsova Stráž (distr. Klatovy): ~490 m NE of Hamry-Hojsova Stráž train station, gap in *Picea abies* plantation, one large growth, Coll. No. 559, 49°12'54.4"N, 13°10'44"E, 760 m a.s.l., leg. ML, A. Lepší 12 VIII 2020 CB 87480. – **88a. Královský hvozd, 6745c:** Hojsova Stráž (distr. Klatovy): ~50 m NNW of Hamry-Hojsova Stráž train station, railway embankment, several shrubs, Coll. No. 556, 49°12'42.9"N, 13°10'27.7"E, 735 m a.s.l., leg. ML, A. Lepší 12 VIII 2020 CB 87482.

Rubus depressinervius M. Lepší et P. Lepší, **spec. nova** (Figs 77–80)

Description: Shrub up to 1 m tall. Primocanes medium high arching, rooting at apex, their stems angled with flat or slightly grooved sides, mostly (4–) 5–6 (–7) mm in diameter, matt green, at sunny sites suffused brown-red, densely hairy to sparsely felted, with abundant stellate and scattered patent long simple (rarely also tufted) hairs, reaching up to the half of prickles, sessile and subsessile glands scattered, stalked glands, glandular acicles and bristles together scattered, (3–) 19–29 (–47) per 1 cm of stem side, up to (0.5–) 0.6–0.7 (–0.8) mm long, pricklets rare or absent. Prickles (5–) 7–9 (–14) per 5 cm of stem length, equal, straight and declining, (3.5–) 5.0–6.0 (–7.0) mm long, with flattened bases 4–6 (–8) mm wide, green, at sunny sites suffused brown-red at the base, with yellowish tip. Primocane leaves 5-foliolate, pedate, plicate, medium-sized, matt, dark green and sparsely hairy, covered with (1–) 11–20 (–32) hairs per 1 cm^2 above, green to green-grey, thin felted with stellate hairs and rare to scattered longer patent simple hairs (slightly hairy to the touch) beneath. Leaflets ± remote from one another, the terminal one with mid-long petiolule [petiolule (27–) 31–36 (–43)% as long as its lamina], oblong triangular obovate, slightly cordate at base, with slightly abrupt, (15–) 16–24 (–33) mm long, apex; leaflet margins undulate, indentation fine, indistinctly periodically double serrate, with incisions (1.3–) 1.8–2.5 (–3.7) mm deep, principal teeth usually wider than long, apiculate with a distinct and sometimes retrorse apex. Petiolules of the basal leaflets (3–) 5–6 (–7) mm long. Petioles usually (3.5–) 5.5–6.5 (–7.5) cm long, shorter than the basal leaflets, felted, sessile, subsessile and stalked glands scattered, glandular acicles and glandular bristles rare, prickles (7–) 9–12 (–18), curved to hooked; stipules filiform, ~0.4–0.6 (–1.1) mm wide, with scattered hairs and stalked glands. Inflorescence conical, mostly truncate at apex, with erecto-patent to (in upper part of inflorescence) ± patent

branches, distal (4–)6–8 (–9) cm long part leafless. Inflorescence leaves predominantly ternate, the uppermost 1–2 (–3) leaves simple, sparsely hairy above, green to green-grey, felted beneath, terminal leaflets mostly obovate or broadly obovate. Inflorescence axis flexuous, felted with stellate hairs and patent long simple or tufted hairs, sessile, subsessile and stalked glands scattered, glandular acicles and glandular bristles rare to scattered, prickles (4–) 7–10 (–13) per 5 cm of axis length, slender, straight and declining or curved, (3.7–) 4.4–5.5 (–6.2) mm long. Pedicels (0.7–) 1.0–1.4 (–1.6) cm long, densely felted with stellate hairs and patent long hairs, sessile and subsessile glands scattered, stalked glands and glandular acicles together scattered, unevenly up to (0.3–) 0.4–0.7 (–0.8) mm long, ± as long as or longer than the longest hairs, prickles (5–) 8–12 (–15), acicular, straight and declining or slightly curved, (1.0–) 1.5–1.9 (–2.1) mm long. Sepals reflexed or rarely erect after anthesis, (5.0–) 7.0–8.5 (–9.0) mm long (inclusive of the filiform appendix), abaxially green-grey with a whitish felted margin, densely felted, with ± stellate hairs and scattered patent long simple hairs, with scattered stalked glands and several yellowish pricklets, adaxially white-grey with green and almost glabrous base. Petals elliptical to broadly elliptical, spatulate, emarginate at apex, not touching each other, (8.0–) 9.5–11.0 (–12.0) mm long, (5.0–) 5.5–6.5 (–7.0) mm wide, pink, adaxially sparsely hairy, abaxially densely hairy. Stamens shorter than styles, filaments white, glabrous, anthers yellowish green, glabrous. Carpels felted, styles greenish. Receptacle hairy. Aggregate fruit ± globose. Reproduction tentatively agamospermic. Flowering (VI–)VII.

Holotype: Lower Bavaria, distr. Regen, Bodenmais (6944b): ~930 m N of summit of Brandtner Rieger hill, edge of forest road, 880 m a.s.l., 49°3'55.4"N, 13°7'57.7"E, several shrubs, Coll. No. 307, 4 VII 2022, leg. P. Lepší et M. Lepší, CB (No. 89816) (Figs 77–78).

Etymology

The epithet “depressinervius” is derived from the plicate leaves, in which the veins are embedded into the blade. We suggest the epithet “chmurný” for the Czech species name.

Diagnostic characters

Primocane stems sparsely felted with abundant stellate and scattered patent long hairs. Primocane leaves plicate, thin felted and green to green-grey beneath, slightly hairy to the touch. Terminal leaflet oblong triangular obovate. Stamens shorter than styles, carpels felted.

Taxonomy and similar species

The species can be classified into the *R.* ser. *Radula* on the basis of primocane stems with scattered short-stalked glands and equal prickles, an absence or rare occurrence of transitions between prickles and stalked glands, and primocane leaves green-grey beneath. In contrast to these characters, the densely hairy to sparsely felted primocane stem is a distinctive feature that is not typical for this series. The presence of such indumentum on primocane stems indicates that the species belongs to the *R.* ser. *Vestiti*. However, the slightly hairy primocane leaves beneath and stamens shorter than styles of *R. depressinervius*

Fig. 77. Holotype of *Rubus depressinervius*: herbarium sheet 1 (inflorescence of the holotype).

Fig. 78. Holotype of *Rubus depressinervius*: herbarium sheet 2 (primocane leaves of the holotype).

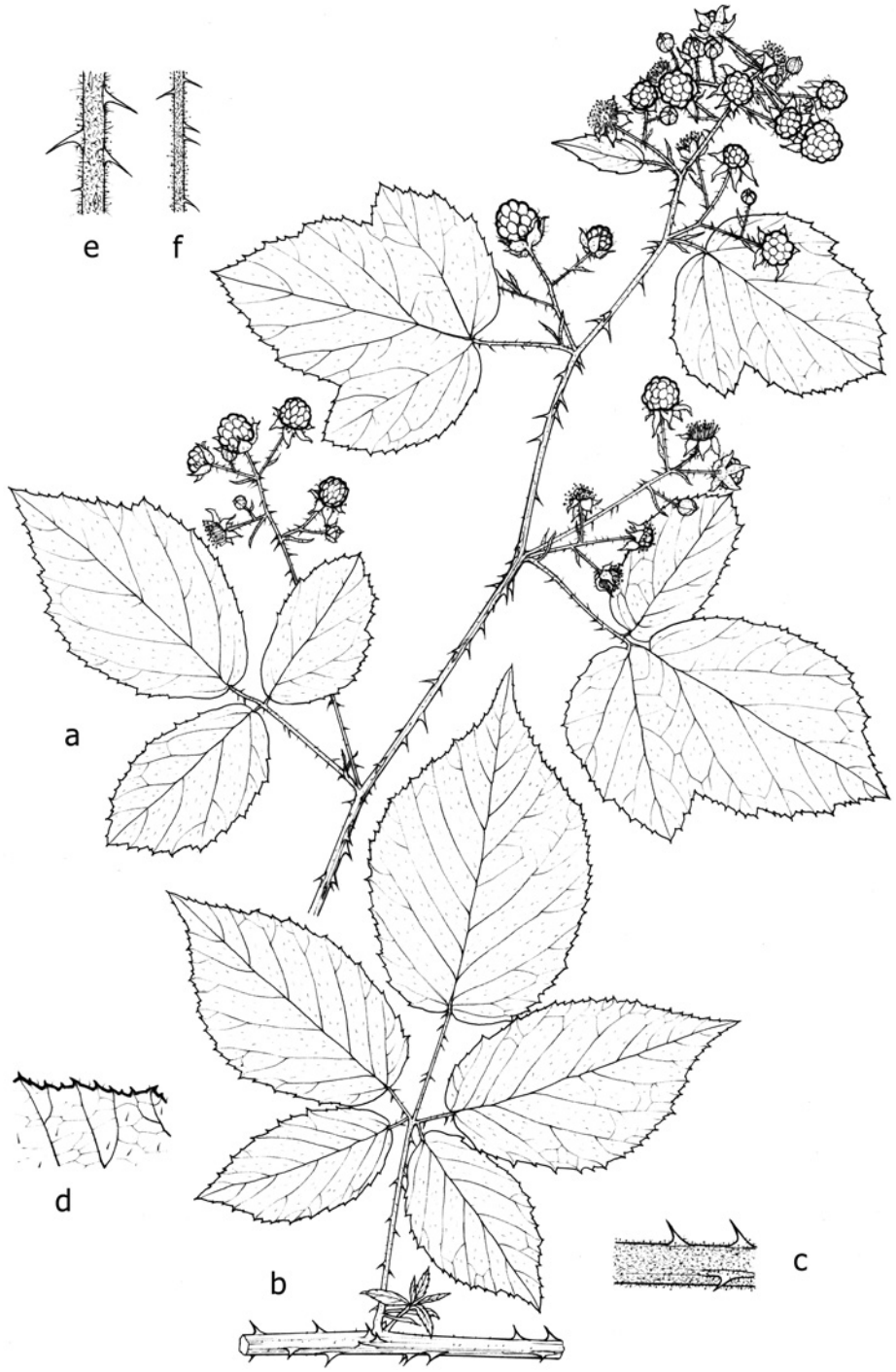

Fig. 79. *Rubus depressinervius*: a – infructescence, b – primocane leaf with part of stem, c – detail of primocane stem, d – detail of terminal leaflet margin (of primocane leaf), e – detail of infructescence axis, f – detail of peduncle. Drawing by A. Skoumalová.

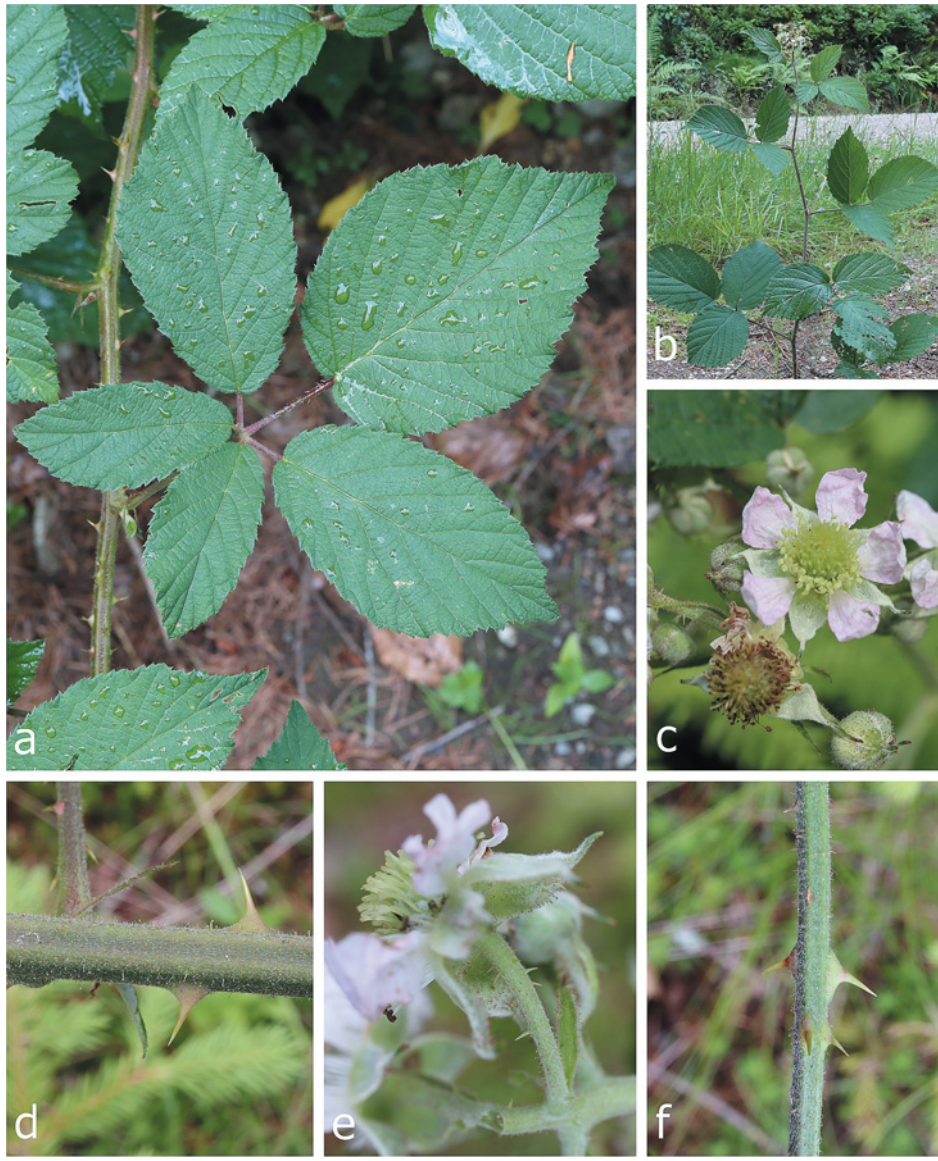

Fig. 80. *Rubus depressinervius*: a – leaf of primocane (upper side), b – inflorescence, c – flower, d – middle section of primocane stem, e – pedicel, f – inflorescence axis. Germany, Lower Bavaria, Bodenmais, 4 July 2022, photo M. Lepší.

contradict this classification. The species can be distinguished from others in the *R.* ser. *Radula* occurring in the area studied by the presence of densely hairy to sparsely felted primocane stems and stamens shorter than styles. This is also the case for morphological close members of the *R.* ser. *Micantes*. *Rubus vatavensis* is the sole species that exhibits a similar appearance, namely the presence of numerous hairs on the stems. However, it displays notable differences in comparison to *R. depressinervius*, including the

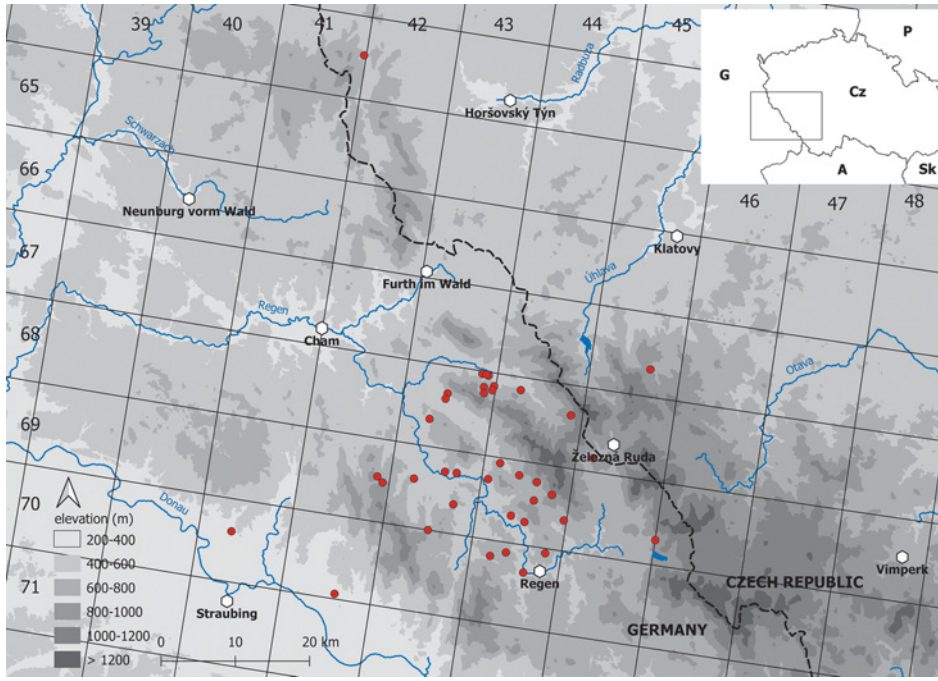

Fig. 81. Distribution map of *Rubus depressinervius*.

primocane leaves, which are ternate to 4–5-foliolate and green-grey to whitish-grey beneath, the stamens are longer than the styles, and the inflorescence is voluminous.

Ecology

Rubus depressinervius is a forest species that typically grows in the environment of plantation dominated by *Picea abies* such as the edges of forest roads, forest clearings and forest fringes. It is less frequently observed in stands of early-successional woody vegetation (*Betula pendula*, *Populus tremula* and *Salix caprea*) or in scrub along roads. It typically inhabits mesic, acidic soils developed on siliceous bedrocks.

Distribution

The species has been documented at 38 localities in eastern Bavaria (Germany), and at two localities in western Bohemia (Czechia). The species' centre of distribution is located in the Bayerischer Wald Mts between the towns of Furth im Wald and Regen in Bavaria (see Fig. 81). The northernmost locality lies by the village of Smolov west of the town of Bělá nad Radbuzou in the Český les Mts, the southernmost by the village of Degernbach east of the town Straubing in the Falkensteiner Vorwald Mts, the easternmost by the village Buchenau east of the town Zwiesel in the Hinterer Bayerischer Wald Mts, and the westernmost between the villages of Aufroth and Münster north of the town Straubing in the Falkensteiner Vorwald Mts. In addition to the relatively scattered occurrence in Bavaria, this species has two outposts in Bohemia. The first is located near the village of

Onen Svět in the Šumava Mts. The second is situated near the village of Smolov in the Český les Mts. The distance between the two most distant localities exceeds approximately 75 km. The species has been recorded in 22 quadrants (10' × 6') of the central European mapping grid. In Czechia, the species is found in two phytogeographical districts: Plánický hřeben and Český les. The recorded localities are situated in the colline to montane vegetation belt, with elevations ranging from 340 m (Münster, Straubing-Bogen district, Falkensteiner Vorwald Mts) to 1,020 m a.s.l. (Brennes, Regen district, Hinterer Bayerischer Wald Mts). The majority of localities are situated in the supracolline to submontane belt, between 500 and 800 m a.s.l. The oldest known herbarium specimens were collected in 2002 by V. Žíla in the vicinity of the village of Brennes, located to the north-west of the village of Bayerisch Eisenstein in Bavaria.

Herbarium specimens and records: **Germany, Bavaria, 6843a:** Bad Kötzting (distr. Cham): ~390 m NNE of centre of village of Bärndorf, edge of forest road, one shrub, Coll. No. 590, 49°9'43.1"N, 12°54'51.2"E, [490 m a.s.l.], leg. ML, PL 14 VIII 2020 CB 87579. – Bad Kötzting (distr. Cham): ~560 m NE of centre of village of Bärndorf, edge of forest road in *Picea abies* plantation, rare, Coll. No. 591, 49°9'47.6"N, 12°54'56.9"E, [520 m a.s.l.], leg. PL, ML 14 VIII 2020 CB 87577. – **6843b:** Arrach (distr. Cham): along forest road ~1.1 km NE of Großer Riedelstein Mt. (1132 m spot height), 49°10'27.2"N, 12°58'48.5"E, 870 m a.s.l., not. ML, PL 25 IX 2022. – Arrach (distr. Cham): between village and Drittenzell, forest edge, rare, Coll. No. 359, 49°11'3.1"N, 12°59'47.9"E, [600 m a.s.l.], leg. ML, PL 8 IX 2019 CB 86203. – Arrach (distr. Cham): ~1.1 km E of chapel in Eschlsaigen settlement, edge of forest road in *Picea abies* plantation, rare, Coll. No. 722, 49°10'44.9"N, 12°59'40.5"E, 670 m a.s.l., leg. ML, PL 25 IX 2022 CB 89844. – Arrach (distr. Cham): ~390 m NNW of chapel in Eschlsaigen settlement, forest clearing, large shrub, Coll. No. 724, 49°10'52.8"N, 12°58'42.0"E, [770 m a.s.l.], leg. ML, PL 25 IX 2022 CB 89846. – Arrach (distr. Cham): NW edge of village, ~2 km NNE of chapel in Eschlsaigen settlement, edge of forest road in *Picea abies* plantation, abundant, Coll. No. 728, 49°11'45.2"N, 12°59'1.9"E, [500 m a.s.l.], leg. ML, PL 25 IX 2022 CB 89849. – Arrach (distr. Cham): W edge of Vogelwiese village, forest edge, scattered, Coll. No. 362, 49°11'48.3"N, 12°58'17.8"E, [490 m a.s.l.], leg. ML, PL 8 IX 2019 CB 86173. – Lam (distr. Cham): pagus Arrach, apud viam publicam ad marginem pagi, 49°11'47,9"N, 12°58'45,3"E, 495 m a.s.l., leg. VŽ 26 IX 2004 CB 105823. – **6843c:** Lammerbach (distr. Regen): ~1.2 km NNE of centre of village, edge of forest road, large growth, Coll. No. 1016, 49°7'59.2"N, 12°53'17.8"E, [550 m a.s.l.], leg. ML, PL 15 IX 2021 CB 88557. – **6844a:** Lam (distr. Cham): S of Koppenhof settlement, along forest road, rare, Coll. No. 357, 49°11'4.5"N, 13°2'47.5"E, [620 m a.s.l.], leg. ML, PL 8 IX 2019 CB 86201. – **6844b:** Bayerisch Eisenstein (distr. Regen): pagus Brennes, vicus Scheiben, ad marginem silvae ad viam publicam, ~1 km situ merid.-orient. a vico, 49°9'49,6"N, 13°8'42,5"E, [1,020 m a.s.l.], leg. VŽ 29 VII 2002 CB 105818, CB 105819.– **6845c:** Bayerisch Eisenstein (distr. Regen): ~230 m SW of St. Johannes Nepomuk church in village, forest clearing, one large shrub, Coll. No. 572, 49°7'1.0"N, 13°11'53.1"E, [740 m a.s.l.], leg. ML, PL 13 VIII 2020 CB 87569. – Bayerisch Eisenstein (distr. Regen): ~410 m NW of summit of Hochfels hill, edge of forest road and forest clearing, medium-sized growth, Coll. No. 306, 49°7'0.8"N, 13°11'53.1"E, [740 m a.s.l.], leg. ML, PL 4 VII 2022 CB 89817. – **6942b:** Obermühle (distr. Regen): ~1.5 km SW of summit of Hofberg hill, forest clearing, large growth, Coll. No. 652, 49°3'16.2"N, 12°48'34.9"E, [680 m a.s.l.], leg. ML 7 IX 2022 CB 90024. – **6942d:** Münchshöfen (distr. Regen): ~730 m WSW of summit of Kastenstein hill, edge of forest and road, medium-sized growth, Coll. No. 650, 49°2'53.6"N, 12°49'15.6"E, [760 m a.s.l.], leg. ML 6 IX 2022 CB 90030. – **6943a:** Kollnburg (distr. Regen): ~1.7 km NE of Heilige Dreifaltigkeit church in village, edge of road, large growth, Coll. No. 1020, 49°3'31.9"N, 12°52'37.4"E, [570 m a.s.l.], leg. PL, ML 15 IX 2021 CB 88554. – **6943b:** Schönau (distr. Regen): ~1.3 km WNW of church in village, forest clearing, large growth, Coll. No. 658, 49°4'22.8"N, 12°55'54.2"E, [470 m a.s.l.], leg. ML 7 IX 2022 CB 90038. – Schönau (distr. Regen): ~430 m NE of church in village, edge of forest and road, large growth, Coll. No. 659, 49°4'25.6"N, 12°57'10.9"E, [510 m a.s.l.], leg. ML 7 IX 2022 CB 89994. – **6943d:** Allersdorf (distr. Regen): ~1.1 km SSE of church in village, edge of road and forest, large growth, Coll. No. 644, 49°0'0.4"N, 12°55'1.6"E, [630 m a.s.l.], leg. ML 6 IX 2022 CB 90053. – Regen (distr. Regen): pagus Patersdorf, ad marginem silvae apud viam publicam, oppidum Cham versus, 49°2'7,8"N, 12°57'21,4"E, [570 m a.s.l.], leg. VŽ 27 IX 2003 CB 105822. – **6944a:** Asbach (distr. Regen): ~820 m SE of church [in] village, edge of *Picea abies* plantation and meadow, large growth, Coll. No. 663, 49°4'19.7"N, 13°0'43.2"E, [540 m a.s.l.], leg. ML 7 IX 2022 CB 90004. – Bodenmais (distr. Regen): ~500 m N of centre of Mais village, edge of forest, large growth, Coll. No. 906, 49°4'57.4"N, 13°4'4.8"E, 650 m a.s.l., leg. ML, PL 5 IX 2021 CB 88536. – Oberried (distr. Regen): ~1.1 km SW of Mariä Namen church in village, clearing, large growth, Coll. No. 914, 49°5'36.8"N, 13°1'46.5"E, [550 m a.s.l.], leg. PL,

ML 5 IX 2021 CB 88520. – **6944b:** Bodenmais (distr. Regen): pagus Langdorf, ad marginem silvae ad viam publicam situ bor.-occid. a pago, 49°3'18,8"N, 13°6'5,6"E, 669 m a.s.l., leg. VŽ 30 VII 2002 CB 105815, CB 105816, CB 105817. – Bodenmais (distr. Regen): ~1.2 km NNE of Mariä Himmelfahrt church in town, edge of forest road, small shrub, Coll. No. 902, 49°4'39.5"N, 13°6'6.7"E, 790 m a.s.l., leg. PL, ML 5 IX 2021 CB 88539. – Bodenmais (distr. Regen): ~2.4 km E of Mariä Himmelfahrt church in town, edge of forest road, medium-sized growth, Coll. No. 897, 49°3'55.4"N, 13°7'58.8"E, 880 m a.s.l., leg. ML, PL 5 IX 2021 CB 88544. – Bodenmais (distr. Regen): ~930 m N of summit of Brandtner Rieger hill, edge of forest road, several shrub, Coll. No. 307, 49°3'55.4"N, 13°7'57.7"E, 880 m a.s.l., leg. PL, ML 4 VII 2022 CB 89816 [HOLOTYPE]. – **6944c:** Oberauerkiel (distr. Regen): ~610 m NW of church in village, edge of forest and road, small growth, Coll. No. 666, 49°1'58.2"N, 13°3'50.9"E, 540 m a.s.l., leg. ML 7 IX 2022 CB 89996. – **6944d:** Brandten (distr. Regen): ~1.7 km SW of summit of Hennenkobel hill, forest clearing, medium-sized growth, Coll. No. 893, 49°2'12.9"N, 13°9'41.9"E, [610 m a.s.l.], leg. ML, PL 5 IX 2021 CB 88543. – Oberauerkiel (distr. Regen): ~1.6 km E of church in village, edge of forest road, large growth, Coll. No. 668, 49°1'40.1"N, 13°5'25.8"E, [570 m a.s.l.], leg. ML 7 IX 2022 CB 90000. – **6946c:** Buchenau (distr. Regen): ~440 m ESE of St. Gunther church in village, edge of forest, small growth, Coll. No. 881, 49°1'49.4"N, 13°20'1.2"E, 800 m a.s.l., leg. ML, PL 4 IX 2021 CB 88530. – **7041a:** Straubing (distr. Straubing-Bogen): pagus Aufroth, ad marginem silvae, inter pagos Münster et Aufroth, 48°57'39,4"N, 12°33'38,1"E, [340 m a.s.l.], leg. VŽ 8 X 2005 CB 105821. – **7042d:** Degernbach (distr. Straubing-Bogen): ~1.3 km SSE of St. Andreas church in village, edge of forest, small growth, Coll. No. 1032, 48°54'22.8"N, 12°45'57.3"E, 380 m a.s.l., leg. ML, PL 16 IX 2021 CB 88594. – **7044a:** Regen (distr. Regen): vicus Arnestried, ad marginem silvae apud viam publicam, inter opp. Regen et pag. Patersdorf, ~6 km situ occid.-bor.-occid. ab opp. Regen, 48°59'16,8"N, 13°3'55,0"E, 665 m a.s.l., leg. VŽ 27 IX 2003 CB 105820, CB 105824. – March (distr. Regen): ~2.3 km WNW of church in village, in ditch of road in *Populus tremula* growth, large growth, Coll. No. 641, 48°58'51.4"N, 13°2'15.1"E, 620 m a.s.l., leg. ML 6 IX 2022 CB 90050. – **7044b:** Langdorf (distr. Regen): ~2.1 km SW of Maria Magdalena church in village, in mixed growth of *Salix caprea*, *Populus tremula* and *Betula pendula*, growth of 25 square meters, Coll. No. 670, 48°59'39.9"N, 13°8'13.3"E, 680 m a.s.l., leg. ML 7 IX 2022 CB 89998. – Regen (distr. Regen): ~1.9 km WSW of St. Michael church in town, edge of forest road and *Betula pendula*, *Picea abies* and *Populus tremula* mixed growth, large growth, Coll. No. 636, 48°58'1.9"N, 13°6'8.7"E, [540 m a.s.l.], leg. ML 6 IX 2022 CB 90045.

Czechia, Bohemia, 26. Český les, 6441b: Bělá nad Radbuzou (distr. Domažlice): ~1.9 km ENE of summit of Velký Zvon hill, in old forest clearing at edge of forest road, large shrub, Coll. No. 350, 49°33'11.9"N, 12°39'45.1"E, 505 m a.s.l., leg. ML 4 VII 2022 CB 89990 [ISOPARATYPES: LI, M, OL, PR, PRC, PRA]. – **34. Plánický hřeben, 6745d:** Onen Svět (distr. Klatovy): ~300 m NW of centre of settlement, edge of road, one large growth, Coll. No. 1089, 49°13'59.7"N, 13°16'39.2"E, 785 m a.s.l., leg. ML 24 IX 2021 CB 88401. – Onen Svět (distr. Klatovy): ~320 m NW of centre of village, scrub at road edge, large shrub, Coll. No. 488, 49°13'59.9"N, 13°16'39.3"E, 785 m a.s.l., leg. J. Velebil, ML 22 VIII 2022 CB 83675. – Onen Svět (distr. Klatovy): ~320 m NW of centre of village, scrub at edge of road, large growth, Coll. No. 302, 49°13'59.7"N, 13°16'38.9"E, 785 m a.s.l., leg. ML, PL 4 VII 2022 CB 90063.

Rubus bicoloristylus M. Lepší et P. Lepší, **spec. nova** (Figs 82–85)

Description: Shrub up to 1 m tall. Primocanes mainly medium high arching, rooting at apex, their stems angled with ± flat sides, mostly 4–5 (–7) mm in diameter, matt green, at sunny sites brown-red, hairy with scattered to abundant stellate hairs and with (19–)23–35 (–48) patent, simple and tufted hairs per 1 cm of stem side, reaching up to the half of prickles, sessile and subsessile glands scattered, stalked glands, glandular acicles and glandular bristles together abundant, usually (34–) 43–60 (–70) per 1 cm of stem side, unevenly long, up to (1.2–) 1.4–2.1 (–2.7) mm long, pricklets absent. Prickles (9–) 11–14 (–19) per 5 cm of stem length, ± equal, slender, straight, declining, (4.8–) 5.5–6.2 (–7.6) mm long, with flattened base (3.0–) 3.8–4.8 (–5.6) mm wide, suffused brown-red at the base, with yellowish long tip. Primocane leaves pedate, (3–) 5-foliolate, usually flat, somewhat leathery, medium-sized, dark green, covered with 0 (–6) hairs per 1 cm^2 above, green-grey, felted, with stellate and long patent, tufted and simple hairs (distinctly hairy to the touch) beneath. Leaflets remote from one another, the terminal one with long petiolule [petiolule (29–) 35–38 (–40)% as long as its lamina], narrowly obovate to

broadly obovate, rarely elliptical to broadly elliptical, cordate at base, abruptly narrowing into (13–) 16–20 (–25) mm long apex; leaflet margins undulate, indentation somewhat coarse, distinctly periodically double serrate, with incisions (2.4–) 2.8–3.4 (–4.1) mm deep, principal teeth usually wider than long, apiculate with a distinct and sometimes retrorse apex. Petiolules of the basal leaflets (2.0–) 3.0–3.5 (–4.0) mm long. Petioles usually (5.4–) 6.5–7.5 (–8.0) cm long, longer than the basal leaflets, hairs scattered, sessile, subsessile and stalked glands scattered, glandular acicles and glandular bristles abundant, prickles (12–) 15–19 (–22), slightly curved; stipules filiform, ~(0.5–) 0.6–0.7 (–1.0) mm wide, with scattered hairs and with sessile, subsessile and stalked glands. Inflorescence conical, ± rounded at apex, with erecto-patent to (in upper part of inflorescence) ± patent branches, distal (5–) 6–8 (–9) cm long part leafless. Inflorescence leaves predominantly ternate (the uppermost 0–2 leaf simple), sparsely hairy above, green-grey and felted beneath, terminal leaflets mostly obovate or broadly obovate. Inflorescence axis slightly flexuous, felted with stellate hairs, and with abundant patent long simple and tufted hairs, stalked glands scattered, glandular acicles and glandular bristles abundant, prickles (7–) 10–13 (–15) per 5 cm of axis length, ± equal, slender, straight and slightly declining or slightly curved, (4.0–) 4.3–5.6 (–6.6) mm long. Pedicels (0.7–) 1.0–1.3 (–1.7) cm long, densely felted, stalked glands, glandular acicles and glandular bristles together abundant, up to (0.6–) 0.8–1.0 (–1.2) mm long, the longest glandular acicles and glandular bristles longer than hairs, prickles (3–) 5–10, acicular, ± unequal, ± straight, slightly declining to patent, (1.2–) 1.7–2.1 (–2.5) mm long. Sepals, first spreading, reflexed after anthesis, (5–) 7–8 (–9) mm long (inclusive of the filiform appendix), abaxially green-grey with an indistinctly whitish felted margin, densely felted with ± stellate hairs and with scattered patent long simple hairs, with numerous stalked glands, glandular acicles and rare or absent short yellowish pricklets, adaxially green-grey with green and almost glabrous base. Petals broadly elliptical, spatulate, rounded to obtuse at apex, not touching each other, (9.0–) 9.5–10.0 (–11.0) mm long, 5–6 (–7) mm wide, white to slightly pinkish, adaxially glabrescent, abaxially densely hairy. Stamens longer than styles, filaments white or pinkish at base, anthers yellowish green, glabrous or with rare hairs. Carpels moderately hairy, styles greenish, red at base. Receptacle moderately hairy. Aggregate fruit semiglobose to globose. Reproduction tentatively agamospermic. Flowering (VI–)VII.

Holotype: Western Bohemia, distr. Klatovy, Drslavice (6545c): ~550 m NE of summit of Bezí hill, edge of forest clearing, 490 m a.s.l., 49°24'49.1"N, 13°12'59.2"E, abundant, Coll. No. 419, 9 VIII 2022, leg. M. Lepší & A. Lepší, CB (No. 90074) (Figs 82–83). – Isotype: PR.

Etymology

The epithet "*bicoloristylus*" is derived from the colour of the styles, which are greenish with a red base. It is proposed that the Czech species name be given the epithet "načervenalý".

Provisional names

The species has a provisional name – *Rubus parabavaricus*, nom. invalid. in schedis, under which this species may be preserved in some public herbaria.

Fig. 82. Holotype of *Rubus bicoloristylus*: herbarium sheet 1 (infructescence and primocane leaf of the holotype).

Fig. 83. Holotype of *Rubus bicoloristylus*: herbarium sheet 2 (infructescence and primocane leaf of the holotype).

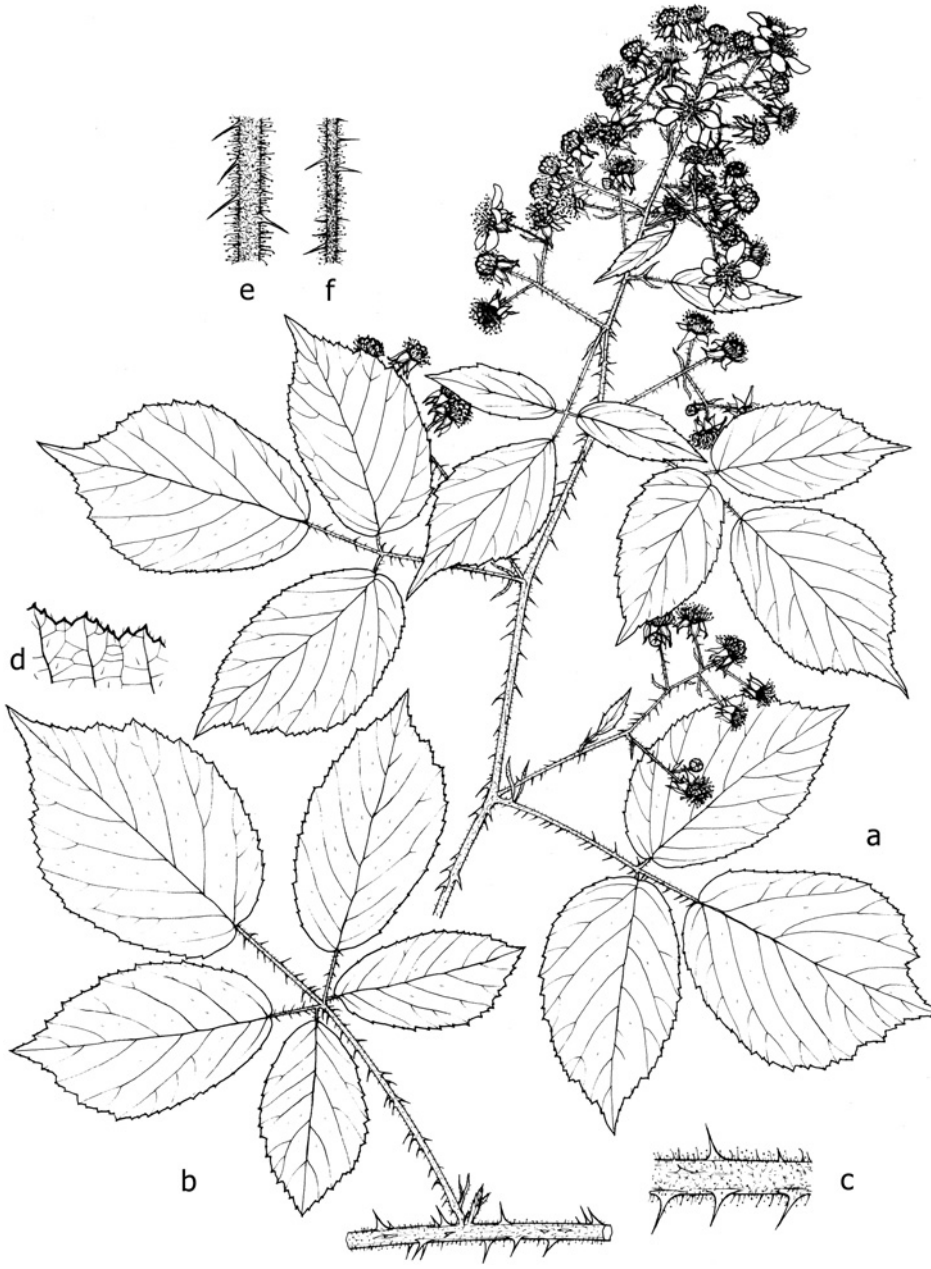

Fig. 84. *Rubus bicoloristylus*: a – inflorescence, b – primocane leaf with part of stem, c – detail of primocane stem, d – detail of terminal leaflet margin (of primocane leaf), e – detail of inflorescence axis, f – detail of peduncle. Drawing by A. Skoumalová.

Fig. 85. *Rubus bicoloristylus*: a – leaf of primocane (upper side), b – inflorescence, c – flower, detail of gynoecium, d – middle section of primocane stem, e – aggregate fruits with pedicels, f – inflorescence axis. Czechia, Bohemia, a, c, d, f – Stará Lhota, 4 July 2022, photo M. Lepší, b – Zelená Lhota, 4 July 2022, photo M. Lepší, c (detail) – Zelená Lhota, 12 July 2023, photo A. Lepší, e – Tupadly, 8 September 2022, photo A. Lepší.

Diagnostic characters

Primocane stems with scattered to abundant stellate hairs, with abundant stalked glands, glandular acicles and glandular bristles, pricklets absent. Prickles on primocane stems ± equal, slender, straight, declining and (4.8–) 5.5–6.2 (–7.6) mm long. Primocane leaves

dark green above, green-grey, felted and distinctly hairy to the touch beneath. Terminal leaflet narrowly obovate to broadly obovate, rarely elliptical to broadly elliptical, abruptly narrowing into apex, indentation rather coarse and distinctly periodically double serrate. Petals white to slightly pinkish. Styles greenish, red at base.

Taxonomy and similar species

We place *Rubus bicoloristylus* in the morphologically broad *R.* ser. *Micantes*, but the species displays several characters of the other two series. It resembles a member of the *Radula* series because of its uniform prickles, abundant stalked glands and green-grey primocane leaves beneath, but the high number of glandular acicles and bristles on the stems does not allow it to be classified in this group. The absence of prickles of various sizes, including pricklets on the stems, excludes the species from the *Hystrix* series, whose members are also morphologically close to this bramble. *Rubus bavaricus* of this series is the most similar species that occurs with *R. bicoloristylus*. It can be distinguished by its primocane leaves with finer and regular or only slightly periodical indentation, more numerous, (15–)20–30(–35) prickles per 5 cm of stem length, and the prickles noticeably unequal and gradually transitioning into pricklets. The coarse and periodical indentation and the greyish-green underside of the primocane leaves make the species similar to *R. jarae-cimrmanii* and somewhat to *R. perpedatus*, both of which belong to the *Radula* series. The former species can be distinguished by its clearly angled primocane stems, much smaller number of stalked glands, glandular acicles and glandular bristles on the stem, and unequal and only (4.0–) 4.5–5.0 (–6.0) mm long prickles. *Rubus perpedatus* differs in having primocane stems with only scattered hairs, stalked glands, acicles and bristles, and (very) distinctly pedate primocane leaves. Another morphologically close species is *R. centrobohemicus*, a member of the *Micantes* series. This species differs from *R. bicoloristylus* in having primocane stems with fewer acicles and glandular bristles, prickles on primocane stems at least slightly curved, terminal leaflets with longer, 20–30 mm long apex, and glabrous carpels.

Ecology

Rubus bicoloristylus is a forest species that typically inhabits open plantations of *Picea abies*, although it may also be found in those of *Larix decidua* or *Alnus* sp. It is most frequently observed at the edges of forest roads, forest clearings and gaps, and along forest margins. It usually inhabits mesic and slightly acidic soils developed on siliceous bedrocks.

Distribution

Rubus bicoloristylus is a regional species known so far from eastern Bavaria (Germany) and western Bohemia (Czechia). It has been found in 25 localities and the distance between the two most distant localities exceeds ~80 km (Fig. 86). The centre of the species' distribution is in Bavaria between the towns of Bad Kötzting and Regen in the Regen depression between the mountain ranges of the Vorderer Bayerischer Wald Mts and the Hinterer Bayerischer Wald Mts. In addition to this rather scattered occurrence, the species has an outpost in the Oberpfälzer Wald Mts near the village of Grafenkirchen,

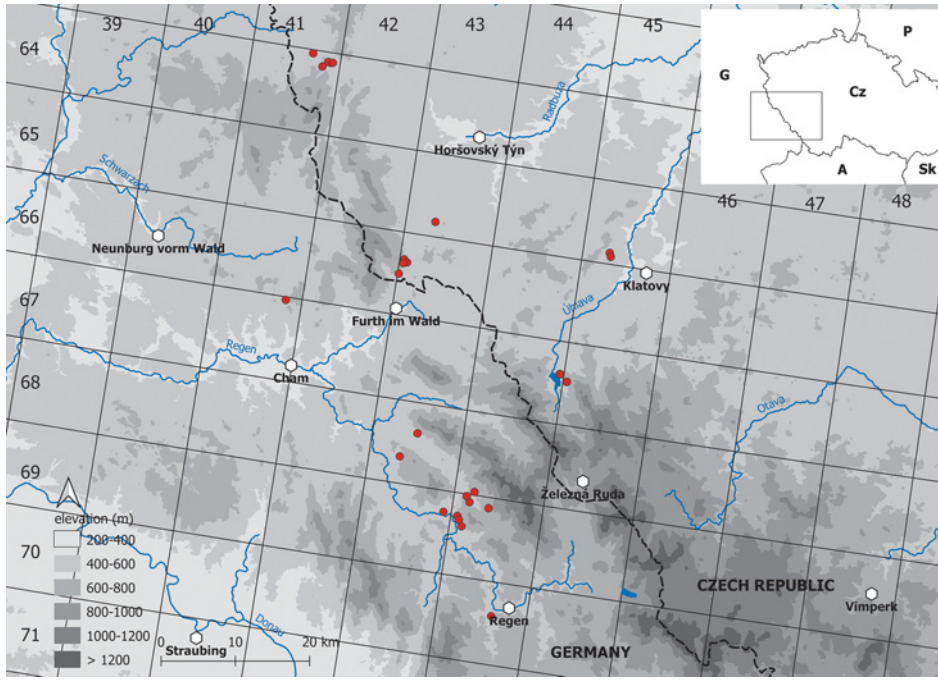

Fig. 86. Distribution map of *Rubus bicoloristylus*.

north of the town of Cham. In Czechia, the species has several isolated occurrences. In the Český les Mts it occurs in several localities south-west of the town of Domažlice and west of the of the town of Bělá nad Radbuzou, and in the Šumava Mts it has been sampled south of the town of Nýrsko, and in the Plzeňská pahorkatina hills west of the town of Klatovy. The northernmost locality of the species is near the village of Smolov west of the town of Bělá nad Radbuzou in the Český les Mts, the southernmost near the town of Regen in the Regen depression, the easternmost near the village of Tupadly north-west of the town of Klatovy in the Plzeňská pahorkatina hills, and the westernmost near the village of Grafenkirchen north of the town of Cham in the Oberpfälzer Wald Mts. The distribution of the species is poorly known and deserves further study, especially within or near its known range. The species was found in 14 quadrants (10' × 6') of the Central European mapping grid, and in Czechia it occurs in three phytogeographical districts (Plánický hřeben, Český les, Plzeňská pahorkatina). The recorded localities are situated in the supracolline to submountain vegetation belt between 460 m a.s.l. (Tupadly, Klatovy district, Plzeňská pahorkatina) and 670 m a.s.l. (Bodenmais, Regen district, Hinterer Bayerischer Wald). Most localities lie between 500 and 600 m a.s.l. To our knowledge, the oldest known herbarium specimen was collected in 1990 by J. Holub and M. Vondráček near the town of Bělá nad Radbuzou in Czechia.

Herbarium specimens: **Germany, Bavaria, 6741b:** Grafenkirchen (distr. Cham): ~890 m SE of St. Laurentius church in village, forest clearing, rare, Coll. No. 311, 49°17'47.3"N, 12°38'12.2"E, [540 m a.s.l.], leg. PL, ML 5 VII 2022 CB 89808. – **6843a:** Bad Kötzting (distr. Cham): ~560 m NE of centre of village of Bärndorf, forest clearing, one shrub, Coll. No. 591, 49°9'47.6"N, 12°54'56.9"E, [520 m a.s.l.], leg. PL, ML 14 VIII 2020 CB

87578. – **6843c:** Lammerbach (distr. Regen): ~1.2 km NNE of centre of village, edge of forest road, several shrubs, Coll. No. 1014, 49°7'56.9"N, 12°53'24.8"E, [560 m a.s.l.], leg. ML, PL 15 IX 2021 CB 88559. – **6844c:** Oberried (distr. Regen): ~540 m NW of Mariä Namen church in village, edge of forest, scattered, Coll. No. 912, 49°6'14.5"N, 13°2'11.5"E, 640 m a.s.l., leg. ML, PL 5 IX 2021 CB 88521. – **6943b:** Asbach (distr. Regen): ~1.5 km WSW of St. Michael church in village, edge of road and forest clearing, medium-sized growth, Coll. No. 661, 49°4'28.5"N, 12°59'8.4"E, [480 m a.s.l.], leg. ML 7 IX 2022 CB 90025. – **6944a:** Asbach (distr. Regen): ~820 m SE of church in village, edge of *Picea abies* plantation and meadow, one shrub, Coll. No. 663, 49°4'19.7"N, 13°0'43.2"E, [540 m a.s.l.], leg. ML 7 IX 2022 CB 90003. – Bodenmais (distr. Regen): pagus Unterried, in silva ad viam publicam, ~1 km situ bor.-occid. a pago, 49°5'51,6"N, 13°1'24,5"E, 547 m a.s.l., leg. VŽ 30 VII 2002 CB 105841. – Böbrach (distr. Regen): ~1 km NW of church in village, edge of forest road and forest clearing, large growths, Coll. No. 665, 49°3'38.2"N, 13°1'21.5"E, [520 m a.s.l.], leg. ML 7 IX 2022 CB 90001. – Böbrach (distr. Regen): ~1.9 km NW of church in village, *Alnus* forest, large growth, Coll. No. 664, 49°4'4.0"N, 13°0'58.8"E, [490 m a.s.l.], leg. ML 7 IX 2022 CB 90002. – Bodenmais (distr. Regen): ~1 km N of centre of Mais village, forest clearing, medium-sized growth, Coll. No. 907, 49°5'14.3"N, 13°4'0.6"E, [670 m a.s.l.], leg. PL, ML 5 IX 2021 CB 88515. – Grafenkirchen (distr. Cham): ~890 m SE of St. Laurentius church in village, forest clearing, rare, Coll. No. 311, 49°17'47.3"N, 12°38'12.2"E, [540 m a.s.l.], leg. PL, ML 5 VII 2022 CB 89808. – Oberried (distr. Regen): ~1.2 km SW of Mariä Namen church in village, edge of road, medium-sized growth, Coll. No. 915, 49°5'27.6"N, 13°1'49.1"E, [580 m a.s.l.], leg. ML, PL 5 IX 2021 CB 88519. – **7044b:** Regen (distr. Deggendorf): in silva ad viam publicam versus oppidum Deggendorf, [48°57'31.9"N, 13°6'6.7"E], [530 m a.s.l.], leg. VŽ 17 X 1999 CB 105842.

Czechia, Bohemia, 26. Český les, 6441b: [Smolov] (distr. Domažlice): Český les, mezi osadami Smolov a Železná, [49°34'54.6"N, 12°38'4.6"E], [595 m a.s.l.], leg. J. Holub, M. Vondráček 26 VII 1990 PL. – Smolov (distr. Domažlice): ~760 m NE of summit of Bukovina hill, edge of forest road in *Picea abies* plantation, abundant, Coll. No. 348, [49°35'17.9"N, 12°38'39.3"E], 565 m a.s.l., leg. ML 19 VII 2022 CB 89988. – Smolov (distr. Domažlice): ~1.9 km NW of summit of Bukovina hill, edge of forest road in *Picea abies* plantation, medium-sized growth, Coll. No. 349, 49°35'44.9"N, 12°36'49.9"E, [520 m a.s.l.], leg. ML 19 VII 2022 CB 89989. – Smolov (distr. Domažlice): ~1.1 km ENE of summit of Bukovina hill, forest clearing, large growth, Coll. No. 347, 49°35'16.0"N, 12°38'58.3"E, 550 m a.s.l., leg. ML 19 VII 2022 CB 89987. – Smolov (distr. Domažlice): ~1.3 km ENE of summit of Bukovina hill, in *Larix decidua* plantation, large growth, Coll. No. 346, 49°35'17.5"N, 12°39'10.0"E, 555 m a.s.l., leg. ML 19 VII 2022 CB 89986. – **6643a:** Česká Kubice (distr. Domažlice): ~1.2 km SW of summit of Na Skále hill, edge of forest road, two small damaged shrubs, Coll. No. 456, 49°22'3"N, 12°50'29.9"E, 545 m a.s.l., leg. ML 18 VIII 2022 CB 89975. – Česká Kubice (distr. Domažlice): ~1.2 km SW of summit of Na Skále hill, open *Picea abies* forest at edge of forest road, medium-sized growth, Coll. No. 459, 49°21'51.8"N, 12°50'51.3"E, 485 m a.s.l., leg. ML 18 VIII 2022 CB 89977. – Dolní Folmava (distr. Domažlice): ~1.8 km NNE of summit of Ovčí vrch hill, edge of forest road in beech forest, small damaged growth, Coll. No. 455, 49°21'46.6"N, 12°50'27.4"E, 560 m a.s.l., leg. ML 18 VIII 2022 CB 89974. – **6643c:** Dolní Folmava (distr. Domažlice): ~270 m NE of summit of Ovčí vrch hill, edge of forest road with mixed growth of *Betula*, *Salix caprea*, *Acer pseudoplatanus* and *Alnus*, small shrub, Coll. No. 448, 49°20'57.7"N, 12°50'8.6"E, 535 m a.s.l., leg. ML 18 VIII 2022 CB 89967. – **31a. Plzeňská pahorkatina vlastní, 6543c:** Domažlice (distr. Domažlice): ~1 km SSW of the summit of Na zámku hill, a gap in a deciduous plantation, a middle-sized growth, Coll. No. 146, 49°25'5.2"N, 12°53'16.2"E, [465 m a.s.l.], leg. ML, PL 9 VII 2010 CB 79065. – **6545c:** Drslavice (distr. Klatovy): ~550 m NE of summit of Bezí hill, edge of forest clearing, abundant, Coll. No. 419, 49°24'49.1"N, 13°12'59.2"E, 490 m a.s.l., leg. ML, A. Lepší 9 VIII 2022 CB 90074 [HOLOTYPE]. – Tupadly (distr. Klatovy): by the road 0.5 km NW of the village on the foot of the Březí [Bezí] hill (582 m), 49°24'33"N, 13°13'10"E, 460 m a.s.l., leg. K. Čížek 9 IX 2011 herb. J. Velebil. – **34. Plánický hřeben, 6744b:** Stará Lhota (distr. Klatovy): ~1.3 km SE of chapel in village, railway embankment, large growth, Coll. No. 303, 49°15'38.3"N, 13°9'31.8"E, 595 m a.s.l., leg. PL, ML 4 VII 2022 CB 90062. – Stará Lhota (distr. Klatovy): ~1.3 km SE of Panna Marie chapel in village, railway embankment, large shrub, Coll. No. 1067, 49°15'37.4"N, 13°9'33.9"E, 595 m a.s.l., leg. ML 24 IX 2021 CB 88409. – **6745a:** [Zelená Lhota] (distr. Klatovy): ~380 m NW of Žákova kaplička chapel in village, gap in *Picea abies* plantation, several shrubs, Coll. No. 304, 49°15'9.4"N, 13°10'26.5"E, 605 m a.s.l., leg. ML 20 VII 2022 CB 90079, [ISOPARATYPES: LI, M, PRC]. – Zelená Lhota (distr. Klatovy): ~380 m NW of Žákova kaplička chapel in village, gap in *Picea abies* plantation, large growth, Coll. No. 304, 49°15'9.4"N, 13°10'26.5"E, 605 m a.s.l., leg. PL, ML 4 VII 2022 CB 90061. – Zelená Lhota (distr. Klatovy): ~390 m NW of Žakova chapel in village, gap in *Picea abies* plantation, scattered, Coll. No. 1063, 49°15'9.0"N, 13°10'25.6"E, 605 m a.s.l., leg. ML 24 IX 2021 CB 88411.

Rubus cammensis M. Lepší et P. Lepší, **spec. nova** (Figs 87–90)

Description: Shrub up to 0.7 m tall. Primocanes low to medium high arching, rooting at apex, their stems angled and flat to grooved, mostly 4–5 (–6) mm in diameter, matt green, at sunny sites suffused brown-red, sparsely hairy with (5–) 8–14 (–25), long, patent, simple and tufted hairs per 1 cm of stem side, reaching up to the base of prickles, sessile and subsessile glands scattered, stalked glands and glandular acicles together scattered, usually (6–) 15–19 (–21) per 1 cm of stem side, unevenly long, up to (0.4–) 0.5–0.8 (–1.0) mm long, bristles and pricklets rare or absent. Prickles (6–) 11–16 (–23) per 5 cm of stem length, equal, slender, straight and declining to curved, (3.0–) 4.7–5.7 (–6.0) mm long, with flattened bases (3.2–) 4.2–5.0 (–5.6) mm wide, green, at sunny sites suffused brown-red at the base, with yellowish tip. Primocane leaves 5-foliolate, palmate to slightly pedate, plicate, medium-sized, matt, dark green, almost glabrous, covered with 0(–2) hairs per 1 cm^2 above, green-grey to white-grey, thin felted with stellate hairs and with scattered to abundant long patent simple hairs (hairy to the touch) beneath. Leaflets ± remote from one another, the terminal one with long petiolule [petiolule (32–) 37–41 (–46)% as long as its lamina], mostly broadly obovate or rarely broadly elliptical to rounded, slightly cordate at base, with abrupt, (14–) 16–20 (–23) mm long apex; leaflet margins undulate, indentation fine, regularly to slightly periodically serrate, with incisions (1.4–) 1.7–2.2 (–3.5) mm deep, principal teeth usually wider than long, apiculate with a distinct apex. Petiolules of the basal leaflets (4.0–) 5.0–6.5 (–7.0) mm long. Petioles usually (5.0–) 5.5–6.5 (–7.0) cm long, somewhat shorter or longer than the basal leaflets, hairs scattered, sessile, subsessile and stalked glands scattered, glandular acicles and glandular bristles rare, prickles (7–) 12–15 (–18), curved; stipules filiform, (0.3–) 0.5–0.8(–0.9) mm wide, with scattered hairs and stalked glands. Inflorescence poor flowered, ± conical, rounded or truncate at apex, with erecto-patent to (in upper part of inflorescence) ± patent branches, distal (4–) 5–7 (–11) cm long part leafless. Inflorescence leaves predominantly ternate, the uppermost 0–2 leaves simple, almost glabrous above, green-grey, felted beneath, terminal leaflets mostly broadly obovate or obovate. Inflorescence axis flexuous, densely hairy with stellate hairs and patent long simple or tufted hairs, sessile, subsessile and stalked glands scattered, glandular acicles and glandular bristles rare to scattered, prickles (6–) 7–11 (–16) per 5 cm of axis length, slender, straight and declining to slightly curved, (2.5–) 3.8–4.5 (–5.6) mm long. Pedicels (0.7–) 1.1–1.4 (–1.6) cm long, densely felted with stellate hairs and with patent long hairs, sessile and subsessile glands scattered, stalked glands and glandular acicles together scattered, unevenly long up to (0.1–) 0.5–0.6 (–0.9) mm long, mostly shorter than the longest hairs, prickles (1–) 3–6 (–11), acicular, straight and declining or slightly curved, (1.2–) 1.4–1.8 (–2.1) mm long. Sepals reflexed after anthesis, (5–) 6–7 mm long (inclusive of the filiform appendix), abaxially white-grey with an indistinctly whitish felted margin, densely felted with ± stellate hairs and scattered patent long simple hairs, with scattered to abundant stalked glands and rare or absent short yellowish pricklets, adaxially white-grey with green and almost glabrous base. Petals broadly elliptical, spatulate, rounded or emarginate at apex, not touching each other, (8.5–) 9.0–10.0 (–11.0) mm long, (5.5–) 6.0–7.0 (–7.5) mm wide, pink, hairy on both sides. Stamens ± as long as or slightly shorter than styles, filaments white, glabrous, anthers yellowish green, glabrous. Carpels glabrous, styles greenish. Receptacle sparsely hairy. Aggregate fruit ± globose. Reproduction tentatively agamospermic. Flowering (VI–)VII.

Holotype: Upper Palatinate, distr. Cham, Waldmünchen (6642d): ~890 m SE of church in Unterhütte village, edge of *Corylus avellana* scrub at edge of forest road, 720 m a.s.l., 49°20'31.9"N, 12°46'3.7"E, one shrub, Coll. No. 361, 26 VII 2022, leg. M. Lepší, CB (No. 89833) (Figs 87–88). – Isotypes: LI, M, PRA, PR, PRC.

Etymology

The epithet "cammensis" refers to the German town of Cham, whose historical name is Camma. This species is common around the town and was first recognized there. It is proposed that the Czech species name be given the epithet "koubský".

Provisional names

The species has a provisional name – *Rubus plicatoradula*, nom. invalid. in schedis, under which this species may be preserved in some public herbaria.

Diagnostic characters

Primocane stems with scattered stalked glands and glandular acicles, usually (6–) 15–19 (–21) per 1 cm of stem side. Prickles on primocane stems (6–) 11–16 (–23) per 5 cm of stem length, equal, slender, straight and declining to curved, (3.0–) 4.7–5.7 (–6.0) mm long. Primocane leaves 5-foliolate, palmate to slightly pedate, plicate, matt, dark green above. Terminal leaflet of primocane leaves broadly obovate or rarely broadly elliptical to rounded, abruptly narrowing into (14–) 16–20 (–23) mm long apex. Carpels glabrous.

Taxonomy and similar species

Rubus cammensis is a typical member of the *R.* ser. *Radula* due to its ± equal, uniform prickles and the scattered, stalked glands on the primocane stem and the greenish-grey primocane leaves beneath. Of the species recorded in the study area, it is most similar to *R. epipsilos*, which differs in having primocane stems with more prickles (15–22 per 5 cm length of primocane stem), terminal leaflets of primocane leaves with shorter, 10–15 (–20) mm long apex, white petals and sparsely hairy carpels. Another similar species, *Rubus muhelicus*, has primocane stems with more stalked glands, 40–140 per 1 cm length of the stem, longer, (4.6–) 5.6–6.5 (–7.6) mm long, prickles, terminal leaflets of primocane leaves broadly ovate to round with distinctly undulating margin and with shorter, (10–) 13–15 (–16) mm long apex and carpels with rare hairs. *Rubus cammensis* can also be confused with *R. perpungens*, which can be distinguished by primocane stems with more numerous, (19–) 24–29 (–34) per 5 cm of stem length, and longer, (6.5–) 7.0–8.0 (–8.5) mm long, prickles, and by an inflorescence with terminal leaflets narrowing abruptly to a very short apex. *Rubus radula* and *R. rudis*, the widespread species rarely found in the study area, may also resemble *R. cammensis* somewhat. However, *R. radula* has ovate or elliptical terminal leaflet, longer, 5–9 (–10) mm long prickles and fewer, 5–11 (–16) prickles per 5 cm of primocane stem length. *Rubus rudis* differs in that it has a primocane stem with abundant short stalked glands, fewer prickles, 7–12 per 5 cm length of stem, and a broadly conical, diffuse inflorescence, with rather thin branches. Another similar species that does not occur in the study area is *R. bohemo-polonicus*.

Fig. 87. Holotype of *Rubus cammensis*: herbarium sheet 1 (infructescence of the holotype).

Fig. 88. Holotype of *Rubus cammensis*: herbarium sheet 2 (primocane leaves of the holotype).

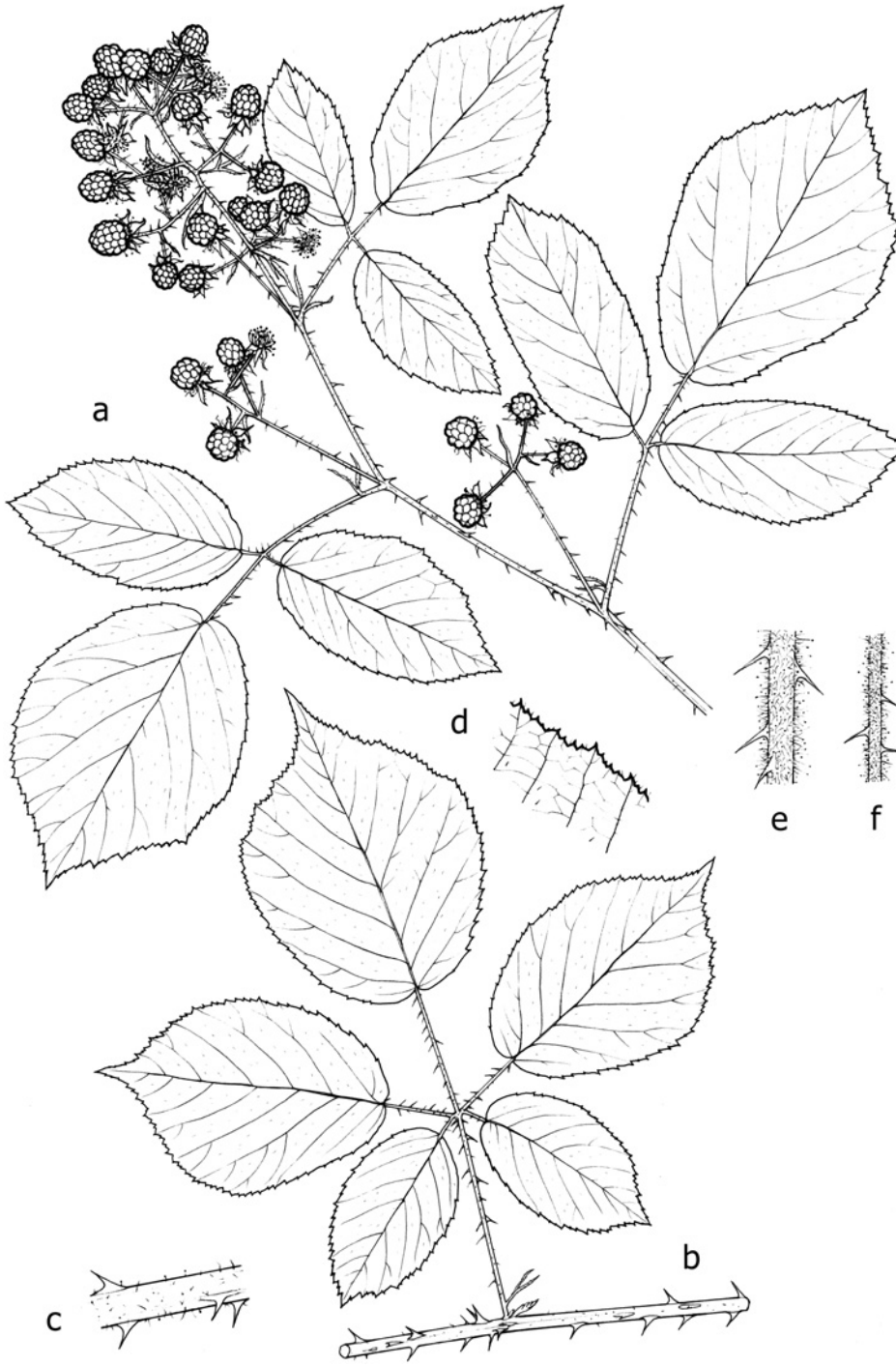

Fig. 89. *Rubus cammensis*: a – infructescence, b – primocane leaf with part of stem, c – detail of primocane stem, d – detail of terminal leaflet margin (of primocane leaf), e – detail of infructescence axis, f – detail of peduncle. Drawing by A. Skoumalová.

Fig. 90. *Rubus cammensis*: a – leaf of primocane (upper side), b – infructescence, c – flower, d – middle section of primocane stem, e – young aggregate fruit with pedicel, f – inflorescence axis. Germany, Upper Palatinate, Balbersdorf, 5 July 2022, photo M. Lepší.

This species differs from *R. cammensis* in having distinctly pedate primocane leaves, terminal leaflets of primocane leaves with scattered hairs above, pedicels with stalked glands usually longer than the longest simple hairs and white petals.

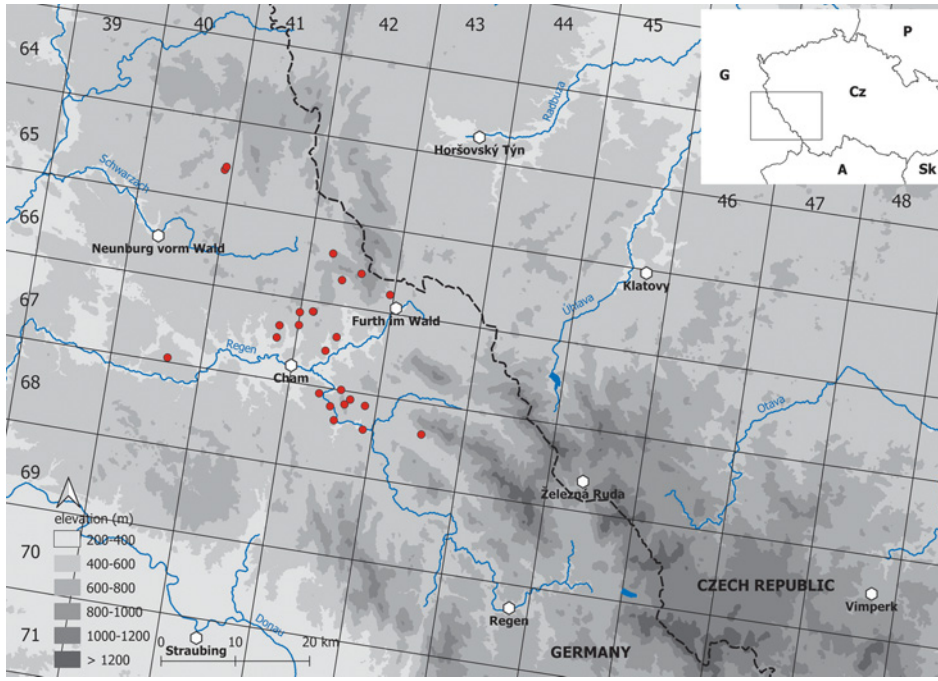

Fig. 91. Distribution map of *Rubus cammensis*.

Ecology

Rubus cammensis is most common along forest roadsides, in plantations of *Picea abies*, and in their clearings and edges. It has rarely been found in early-successional woods (*Betula pendula*) or on the edges of scrub. It usually inhabits mesic, and acidic soils developed on siliceous bedrocks.

Distribution

Rubus cammensis is a regional species endemic to the eastern Bavaria (Germany). So far it has been found in 23 localities in the Oberpfälzer Wald Mts and in the adjacent areas of the Bayerischer Wald Mts (Fig. 91). Its distribution centre, with scattered to abundant occurrences of the species, lies in the northern and south-eastern surroundings of the town of Cham. The northernmost locality of the species is at the village of Schneeberg east of the town of Oberviechtach (Schwandorf district), the southernmost at the village of Blaibach south-west of the town of Bad Kötzting (Cham district), the easternmost at the village of Bärndorf south-east of the town of Bad Kötzting, and the westernmost at the village of Eichelberg west of the town of Roding (Cham district). The distribution of the species is poorly known and deserves an additional survey especially in the areas west of the known range. The occurrence of the species in Czechia is to be expected, as the localities between the towns of Furth im Wald and Waldmünchen are only 1–4 km from the Czech border. The distance between the two most distant localities is about 45 km. *Rubus cammensis* was recorded in 12 quadrants (10' × 6') of the Central European mapping grid.

The recorded localities are situated in the colline to submountain vegetation belt between 380 m a.s.l. (Staning, Cham district, Cham-Further Senke depression) and 700 m a.s.l. (Unterhütte, Cham district, Oberpfälzer Wald Mts) and most of the localities lie between 400 and 600 m a.s.l. To our knowledge, the oldest known herbarium specimen was collected by V. Žíla in 2003 north-west of the town of Cham.

Herbarium specimens: **Germany, Bavaria, 6540d:** Schneeberg (distr. Schwandorf): ~390 m WSW of summit of Gleisberg hill, open *Picea abies* forest, medium-sized growth, Coll. No. 366, 49°26'22.8"N, 12°29'11.2"E, 530 m a.s.l., leg. ML 27 VII 2022 CB 89828. – Schneeberg (distr. Schwandorf): ~390 m NW of summit of Gleisberg hill, forest clearing, one shrub, Coll. No. 365, 49°26'36.8"N, 12°29'19.6"E, [540 m a.s.l.], leg. ML 27 VII 2022 CB 89829. – **6642a:** Herzogau (distr. Cham): ~860 m NW of St. Anna und Sebastian church in village, edge of forest road in beech forest, rare, Coll. No. 322, 49°21'38.9"N, 12°42'35.1"E, [585 m a.s.l.], leg. ML, PL 5 VII 2020 CB 89801. – **6642c:** Waldmünchen (distr. Cham): pagus Gleißenberg, ad marginem silvae apud viam publicam, ~1,75 km situ bor. a pago Gleißenberg, 49°19'51,1"N, 12°44'1,7"E, 500 m a.s.l., leg. VŽ 25 IX 2004 CB 105838, CB 105839. – **6642d:** Furth im Wald (distr. Cham): ~190 m NNW of summit of Vogelherd hill, edge of forest road, one shrub, Coll. No. 359, 49°19'20.5"N, 12°49'33.5"E, [490 m a.s.l.], leg. ML 26 VII 2022 CB 89818. – Waldmünchen (distr. Cham): ~890 m SE of church in Unterhütte village, edge of *Corylus avellana* scrub at edge of forest road, one shrub, Coll. No. 361, 49°20'31.9"N, 12°46'3.7"E, [700 m a.s.l.], leg. ML 26 VII 2022 CB 89833 [HOLOTYPE]. – **6740d:** Eichelberg (distr. Cham): ~1.4 km E of summit of Kühberg hill, edge of forest road in mixed forest, medium-sized growth, Coll. No. 1046, 49°12'19.4"N, 12°26'15.5"E, [440 m a.s.l.], leg. PL, ML 17 IX 2021 CB 88587. – **6741b:** Balbersdorf (distr. Cham): ~1.2 km SSE of summit of Kirchenbühl hill, in *Betula pendula* growth, large shrub, Coll. No. 310, 49°17'4.2"N, 12°39'57.4"E, 490 m a.s.l., leg. ML, PL 5 VII 2020 CB 89807. – Cham (distr. Cham): ad marginem silvae apud viam publicam, oppidum Weiden versus, ~7 km situ bor.-occid. ab oppido Cham, 49°15'53,6"N, 12°37'57,5"E, 450 m a.s.l., leg. VŽ 27 IX 2003 CB 105837. – Großbergerdorf (distr. Cham): in village, ~220 m SSE of summit of Kühlbuckl hill, edge of scrub along road, large shrub, Coll. No. 371, 49°15'2.7"N, 12°37'51.4"E, 410 m a.s.l., leg. ML 27 VII 2022 CB 89823. – **6742a:** Balbersdorf (distr. Cham): ~870 m SE of church in village, edge of forest and meadow, scattered, Coll. No. 578, 49°17'15.9"N, 12°41'26.4"E, 480 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87522. – Balbersdorf (distr. Cham): ~700 m SW of summit of Kielberg hill, edge of forest and meadow, small growth, Coll. No. 309, 49°17'16.5"N, 12°41'23.3"E, 480 m a.s.l., leg. PL, ML 5 VII 2020 CB 89806. – Dalking (distr. Cham): ~1.1 km SE of summit of Dachsberg hill, edge of forest road in mixed forest, small growth, Coll. No. 1050, 49°15'45.4"N, 12°44'24.9"E, [410 m a.s.l.], leg. ML, PL 17 IX 2021 CB 88592. – Waffenbrunn (distr. Cham): ~880 m NNE of St. Martin church in village, edge of forest below overhead power line, abundant, Coll. No. 579, 49°16'8.2"N, 12°40'4.9"E, 410 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87521. – **6742c:** Kothmaißling (distr. Cham): ~650 m WNW of chapel in village, scrub in village, large growth, Coll. No. 308, 49°14'39.3"N, 12°43'26.5"E, 390 m a.s.l., leg. ML, PL 4 VII 2020 CB 89805. – **6742d:** Chamerau (distr. Cham): ~1.3 km ENE of St. Paul and Peter church in village, edge of forest road in *Pinus sylvestris*, *Fagus sylvatica* and *Picea abies* forest, abundant, Coll. No. 580, 49°12'1.9"N, 12°45'49.9"E, [460 m a.s.l.], leg. ML 13 VIII 2020 CB 87520. – **6842a:** Staning (distr. Cham): ~1.6 km SE of chapel in village, edge of meadow and forest, one small growth, Coll. No. 583, 49°10'44.2"N, 12°44'54.9"E, [380 m a.s.l.], leg. PL, ML 14 VIII 2020 CB 87495. – Staning (distr. Cham): ~770 m NW of chapel in village, edge of forest and meadow, abundant, Coll. No. 582, 49°11'32.1"N, 12°43'29.3"E, [430 m a.s.l.], leg. PL, ML 14 VIII 2020 CB 87496. – **6842b:** Blaibach (distr. Cham): ~1.1 km SE of church in village, edge of *Picea abies* plantation, rare, Coll. No. 586, 49°9'26.1"N, 12°48'53.4"E, [420 m a.s.l.], leg. PL, ML 14 VIII 2020 CB 87582. – Chamerau (distr. Cham): ~910 m SE of summit of Kleiner Roßberg hill, edge of scrub in meadow, abundant, Coll. No. 577, 49°11'1.8"N, 12°46'27.1"E, [600 m a.s.l.], leg. PL, ML 13 VIII 2020 CB 87524. – [Bad] Kötzting (distr. Cham): pagus Bärndorf, ad marginem silvae apud viam publicam, ~0,5 km situ merid. a pago Bärndorf, 49°11'26,6"N, 12°46'59,9"E, 430 m a.s.l., leg. VŽ 26 IX 2004 CB 105840. – Lederdorn (distr. Cham): ~1.5 km SE of church in village, *Pinus sylvestris* and *Picea abies* forest, several growths, Coll. No. 576, 49°11'9.6"N, 12°48'43.7"E, 490 m a.s.l., leg. ML, PL 13 VIII 2020 CB 87525. – Miltach (distr. Cham): ~880 m NE of St. Martin church in village, forest clearing, one large growth, Coll. No. 585, 49°9'46.7"N, 12°45'33.9"E, 430 m a.s.l., leg. ML, PL 14 VIII 2020 CB 87583. – **6843b:** Bad Kötzting (distr. Cham): ~600 m NE of centre of village of Bärndorf, edge of forest road in *Picea abies* plantation, rare, Coll. No. 592, 49°9'47.6"N, 12°55'1.1"E, [530 m a.s.l.], leg. ML, PL 14 VIII 2020 CB 87576.

Supplementary materials

Fig. S1. Lectotype of *Rubus heterophyllus* Utsch.
Fig. S2. Lectotype of *Rubus heterophyllus* f. *serpens* Utsch.
Fig. S3. Lectotype of *Rubus hirsutus* J. Presl et C. Presl.
Fig. S4. Lectotype of *Rubus kuenicus* Ant. Schott ex Utsch.
Fig. S5. Lectotype of *Rubus kuenicus* var. *schleicheri* Utsch.
Fig. S6. Lectotype of *Rubus kuenicus* var. *guentheri* Utsch.
Fig. S7. Lectotype of *Rubus kuenicus* var. *bellardii* Utsch.
Fig. S8. Lectotype of *Rubus plicatus* f. *brevispinus* Tocl.
Table S1. A list of accepted literature and database records used in the distribution maps.

Supplementary materials are available at https://www.preslia.cz

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Ostružiníky (*Rubus*) Šumavy – chorologické a taxonomické zhodnocení

Článek přináší první ucelený přehled v současnosti uznávaných taxonů rodu *Rubus* na vymezeném území Šumavy, které zahrnuje území Česka, Německa a Rakouska. Studie vychází z podrobného terénního průzkumu provedeného v letech 2019–2023 a následného vyhodnocení publikovaných a databázových záznamů. Celkem je pro studované území akceptováno 60 druhů a jeden hybrid. Zpracování každého taxonu obsahuje odkaz na morfologický popis a ilustraci, popis celkového rozšíření, charakteristiku rozšíření ve studovaném území včetně zařazení do regionálních fytochorotypů (které zde byly nově vymezeny), výškové maximum výskytu, síťovou mapu rozšíření a seznam herbářových položek a akceptovaných literárních záznamů. Celkem 30 druhů je ve studovaném území zdokumentováno poprvé. Nově je pro vědu popsáno pět druhů: *R. bicoloristylus*, *R. cammensis*, *R. depressinervius*, *R. parvidentatus* a *R. suavis*. Pro každý z nově rozlišených druhů je zpracován morfologický popis, taxonomie, ekologie a celkové rozšíření a připojeny jsou kresba, fotografiee holotypu, fotografie in situ a mapa rozšíření. Pro osm taxonů v minulosti popsaných z území Šumavy byly vybrány lektotypy: *R. heterophyllus* Utsch včetně jeho dvou forem, *R. hirsutus* J. Presl & C. Presl, *R. kuenicus* Utsch včetně jeho tří variet a *R. plicatus* f. *brevispinus* Tocl. Kritické zhodnocení literatury, databází a herbářů ukázalo, že záznamy o 152 taxonech uváděných v minulosti ze Šumavy nejsou na základě současných taxonomických a chorologických znalostí přijatelné. Většina těchto chybných záznamů je připisována nesprávnému určení, které je vysvětlováno nedostatečnou znalostí variability a plasticity jednotlivých druhů a použitím nevhodných taxonomických přístupů. Seznam neakceptovaných taxonů, doplněný o jejich původní lokality, je uveden spolu s uvedením důvodů jejich odmítnutí. Z hlediska regionální biodiverzity představují ostružiníky na Šumavě důležitou skupinu rostlin, která je do značné míry výsledkem regionálních speciačních procesů. Dokládá to převaha ostružiníků se středoevropským typem rozšíření, kterých je 44 (z 56 zaznamenaných původních druhů), přičemž 25 z nich je endemických pro studovanou oblast a přilehlé regiony. Sedm dalších druhů vykazuje suboceánický charakter rozšíření, zatímco pět dalších taxonů má širší euroasijský areál. Kromě původních ostružiníků bylo na Šumavě zaznamenáno pět zplaňujících druhů. Obecně lze říct, že nejvyšší zjištěná početnost jednotlivých druhů a druhová bohatost se vyskytuje v nižších polohách Šumavy, přičemž největší koncentrace druhů i jedinců je soustředěna v severozápadní části pohoří. Několik druhů ostružiníků dosahuje ve studovaném území své maximální nadmořské výšky. Vzhledem k tomu, že hlavním biotopem ostružiníků jsou okraje lesních cest, lze předpokládat, že jejich rozšíření je pozitivně ovlivněno lidskou činností (lesním hospodářstvím).

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