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Sorbus (Rosaceae) in herbarium of the Rechinger family

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Dedicated to the memory of Professor Karl Heinz Rechinger (1906–1998).

KOVANDA M. 2004: *Sorbus* (Rosaceae) in herbarium of the Rechinger family. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **89:** 193–201. – A revision of *Sorbus* in the Rechinger family herbarium revealed the presence of *S. aria* (L.) Crantz, *S. danubialis* (Jáv.) Prodan, *S. pannonica* Kárpáti, *S. chamaemespilus* (L.) Crantz, *S. torminalis* (L.) Crantz, *S. aucuparia* L., *S. domestica* L. and a number of hybrids of *S. aria* × *S. torminalis*, *S. aria* × *S.* a*ucuparia* and *S. aria* × *S. chamaemespilus* parentage. The results are briefly discussed.

Key words. Rosaceae, *Sorbus*, Rechinger K. H., herbarium

Introduction

Shortly before his death in December 1998, Professor Karl Heinz Rechinger, a renowned authority on the flora of the Balkan Peninsula and S.W. Asia, suggested in a friendly letter that I should inspect the *Sorbus* material in his family herbarium. He arranged for the material, which is kept at the Conservatoire et Jardin Botaniques in Geneva, to be sent to me on loan. The consignment contained 561 sheets, excellently prepared and labelled, originating mostly from central European countries: Austria (all federal states – "Bundesländer" – except Vorarlberg), Hungary, the Czech Republic, Slovakia, Germany, northern Italy, and the Balkan Peninsula – Croatia, Serbia, Bosnia and Herzegovina, Yugoslavia, Macedonia, Rumania, Bulgaria and Greece. A few collections originated from botanical gardens in Sweden. The vast majority of the specimens were collected by members of the Rechinger family (Karl Rechinger, Lily Rechinger and Karl Heinz Rechinger) but important additions came from J. Scheffer, J. Vetter, F. Wöhrl and others. On examination, some specimens proved particularly interesting from the taxonomic and/or phytogeographical viewpoint. They are listed below, arranged first by species, second by country of origin. Special attention was paid to *S. aria* s.l. and its hybrids. *S. torminalis*, *S. aucuparia* and *S. domestica* are ignored because they present few or no taxonomical problems. Also omitted are cultivated specimens.

Methods

Where place names have changed since the labels were written (this concerns mainly the Czech Republic and Slovakia), currently valid names are used and the collector's version is quoted in square brackets. Spelling of Austrian place names follows the modern usage, e.g. Bad Aussee rather than Aussee.

Abbreviations

KR . . . . . Karl Rechinger
LR . . . . . Lily Rechinger
KHR . . . . . K. H. Rechinger
s.d. . . . . *sine dato* (no date given)

Sorbus aria (L.) Crantz

Note. *S. aria* in the present concept is a residual taxon with *S. graeca*, *S. danubialis*, *S. pannonica* etc. excluded.

Material

Austria

Upper Austria

Rettensbachgraben bei Bad Ischl, KR l927; Ufer des Hallstätter Sees bei Ober-Traun, KR 1921; in montibus Kalmberge prope Bad Goisern, KHR 1929.

Lower Austria

In silvis montis Hoher Lindkogel pr. Baden bei Wien, KHR 1929; Sooser Lindkogel bei Bad Vöslau, KR 1918; Badner Lindkogel bei Baden, KHR 1921; bei Gumpoldskirchen, KR 1934; zwischen Gumpoldskirchen und Pfaffstätten bei Baden, KR 1935; in Wäldern auf den Abhängen des Parapluiberges bei Rodaun, Vetter 1922; in Wäldern auf den Abhängen des Anningers zwischen Gumpoldskirchen und Pfaffstetten, Vetter 1922; Rosaliengebirge, in silvis montis Steinkogel, KHR 1928; Schneeberg, Schneilergraben, Baumgarten 1930; in rupestribus calcareis vallis Stockgrund pr. Lunz am See, KHR 1931; auf dem Gösing bei Ternitz, KR 1922; steiler Abhang des Gösing, KR 1922; im Gestrüpp bei der Ruine Dürrenstein an der Donau in der Wachau, Vetter 1922; in Bergwäldern im Lechnergraben am Dürrenstein bei Lunz, Vetter 1922; in Bergwäldern im Lechnergraben am Dürrenstein bei Lunz, Vetter 1922; im Gebüsch auf den Abhängen des Bisamberges, Vetter 1922; in dumetis sub arce Hardegg an derThaya, KHR 1932; Wälder zw. Mödling und Hinterbrühl bei Mödling, KHR 1921; Hinterbrühl, KHR 1921; Lusthausboden bei Bad Vöslau, KR 1921; Leopoldsberg, KR 1922; Sonnwendstein, KR 1892; zwischn Krustetten und Höllenburg near Krems an der Donau, KR 1922; in apertis silvarum montis Kieneck prope Kaumberg, KHR 1934; in silvis montis Mückenkogel pr. Lilienfeld; KHR 1931.

Burgenland

Bei Wimpassing, in Wäldern, KR 1926.

Tyrol

Innsbruck, in saxosis calc. infra Hungerburg, KHR 1931; Steilrand der Stillschlucht bei Innsbruck, KR 1937; Lienzer Dolomiten, in saxosis calc. infra Kerschbaumer Alm, LR 1932; Solstein-Kette, Gleirsch-Tal, LR 1935.

Salisburgia

Salzburg: am Weg zum Gamshöradl – Iwonski Hütte, LR 1941; Salzburg: Gamshörandl – Iwonski Hütte, Abhang gegen Strobl, LR 1941; Salzburg: Pass Lueg pr. Golling, in saxosis calc., KHR 1928; Salzburg: Loferer Steinberge, Dalsenalm, LR 1941; Salzburg: in silvis montis Kuhberg, Eysn s.d.; Kapuziner Berg bei Salzburg, Wöhrl 1909; Leoganger Steinberge, Nordhang, Ausstieg zur Passauer Hütte, KHR 1931.

Styria

In ripa lacus Alt-Ausseer See ad radices montis Lofer, KHR 1927; Ramsau bei Alt-Aussee, KHR 1921; Gallhofkogel bei Bad Aussee, KR 1921; Ufer des Alt-Ausseer Sees, KR 1921; Seewiese pr. Alt-Aussee, ad ripam lacus, KR 1928; am Grundlsee pr. Bad Aussee beim Ladner, KR 1922; auf Wiesen bei der Viehstallebene (nächst Grundlsee), LR 1926; N. Seite des Lofer bei Bad Aussee, LR 1923; ober dem Torfmoor ober Lupitsch (nächst Bad Aussee), KR 1923; am Weg zur Pfeiffer-Alm (nächst Bad Aussee), KHR 1921; waldiger Abhang bei Klachau, KR 1921; auf ehemaliger Torfwiese bei der

Wasnerin, KR 1921; Ennstaler Alpen: in declivibus boreal. mtis. Buchstein, KHR 1929; Ufer des Hallstätter Sees bei Ober-Traun, KR 1921.

Carinthia

An Waldrändern bei Zwickenberg nächst Oberdrauburg im Schiefergebirge, Vetter 1922; Bergwälder auf den Abhängen des Hochstadels bei Oberdrauburg, Vetter 1922; Hochosterwitz ad Launsdorf, KHR 1932; Karawanken, in dumetis faucis Tscheppaschlucht ad Unter-Loibl, KHR 1932; Karawanken, auf dem Singerberg bei Unterbergen i. Rosental, LR 1932; in der Trogernschlucht nächst Eisenkappel, LR 1931.

Slovakia

Jelenec [Ghymes]: in declivibus montis Svinec, KHR 1927; Nitra: Dobrá Voda [Jokö]: in rupibus silvaticis, Scheffer 1924; Nitra: Dolné Vestenice, in rupibus calcareis, Scheffer 1928; Nitra: Modrovka, in monte Kamenka, Scheffer 1927; Nitra: Klátova Nová Ves [Szádok]: in rupestribus trachyticis montis Vrez vrch [1)], Scheffer 1922; Nitra: Solčany [Szolcsány], in cacumine rupestri montis Háj, Scheffer 1922; Carpati Minores: in saxosis calc. montis Vysoká [Visoka], KHR 1932.

Germany

Thuringia

Hopfengrund bei Arnstadt, Bornmüller 1911.

Italy

Prov. Verona: monte Baldo: in saxosis calc. decliv. occid. ad fanum San Zeno, KHR 1933; prov. Verona: monte Baldo: in saxosis calc. ad Malcesine, KHR 1933.

Bosna and Herzegovina

Velež [Velez], in silvaticis super Bojište [Boiste], Sagorski 1912; Sarajevo, m. Trebovič, Sagorski 1912.

Yugoslavia

Prope oppidum Pec [Ipek], KHR 1933.

Sorbus pannonica Kárpáti

Note. The name *S. pannonica* was coined by KÁRPÁTI (1960) for what he called a "*transitus*" betwen *S. aria* and *S. cretica*. Intermediates between these two (or, more correctly, between *S. aria* and *S. graeca, S. cretica* being a synonym of the latter) are largely confined to the xerothermous regions of Central Europe. They have been reported from Hungary (KÁRPÁTI 1960), Slovakia (KÁRPÁTI 1960, MÁJOVSKÝ 1992), Lower Austria (JANCHEN 1977), Bavaria and Thuringia (KUTZELNIGG 1994). Their hybrid nature is doubtful.

Material

Austria

Lower Austria

Bisamberg, KHR 1922; steiler Abhang des Gösing bei Ternitz, KR 1922; Leopoldsberg, KR 1922; Lusthausböden bei Bad Vöslau, KR 1921; in rupestribus calcareis vallis Stockgrund pr. Lunz, KHR 1931; Weg von Soos auf d. Sooser Lindkogel bei Baden, KR 1918.

Slovakia

Jelenec [Ghymes]: in silvaticis montis Veĺký Lysec [Nagy Lysec], KHR 1927.

[1)] This is not clear. Vrch means hill in Slovak but Vrez does not make sense in Slovak or Hungarian.

Germany
Bavaria
Edelmannsklamm bei Würzburg, Evers 1881.

Sorbus danubialis (Jáv.) Prodan

Note. *S. danubialis* (Jáv.) Prodan and the closely related *S. graeca* (Spach) Schauer (surprisingly missing in the material received) are related to the more southern *S. umbellata* (Desf.) Fritsch rather than to *S. aria* (L.) Crantz with which they are commonly confused. ADLER & al. (1994) report *S. danubialis* only from the Hainburger Berge in Lower Austria.

Material

Austria
Lower Austria
Bisamberg, KR 1922; Weg von Soos auf d. Sooser Lindkogel bei Baden, KR 1918; Wien, Neuwaldegg, im Wald bei der Geroldsbank, KR l934; in dumetis sub arce Hardegg an der Thaya, KHR 1932.

Sorbus chamaemespilus (L.) Crantz

Note. *Sorbus chamaemespilus* (L.) Crantz is a clearly defined species, the only member of subg. *Chamaemespilus*, differing from all other *Sorbus* species in the brachiodromous venation of its leaves and its erect pink petals.

Material

Austria
Upper Austria
Dachsteingebiet: Gosaukamm, KHR 1929; Dachsteingebiet: auf dem Plassen bei Hallstatt, KHR 1925; in montibus Kalmberge prope Goisern, KHR 1929.
Lower Austria
Saugraben, Schneeberg, Wöhrl l896.
Tyrol
In monte Blaser prope Trins in valle Gschnitz, Sarnthein s. d. (Flora Exsiccata Austro-Hungarica no. 2454); Haller Salzberg, im Walde bei St. Magdalene, Evert 1876, 1882, 1889.
Salisburgia
Bräugföllalpe bei Lofer, Wöhrl 1922; Untersberg bei Salzburg, Schnellensbergersattel, Wöhrl 1898; Hangengebirge inter Hintere und Vordere Schlumalm, KHR 1928.
Styria
In mughetis montis Sarstein pr. Bad Aussee, KHR 1931; in monte Zinken pr. Bad Aussee, LR 1926; Rötelstein bei Bad Ausee, LR 1925; Totes Gebirge, Backenstein bei Bad Aussee, KHR 1926; Totes Gebirge, Elmgrube, KHR 1923; Totes Gebirge, N. Seite des Lofers bei Bad Aussee, LR 1923; Totes Gebirge, Klachau,Weg zum Steirer See, KHR 1928; Totes Gebirge, inter montes Schönberg et Gsolberg, KHR 1927; Totes Gebirge, bei Mitterndorf, LR 1927; in mughetis montis Grimming bei Klachau, KHR 1928; in monte Kammspitz prope Gröbming, KHR 1929; Ennstaller Alpen: in monte Lugauer prope Hieflau, KHR 1929; Ennstaler Alpen: in monte Sparafeld pr. Admont, KHR 1929; zwischen Hundskogel und Almbergweg, LR 1926; Rötelstein bei Bad Aussee, LR 1925.

Hybrids

Sorbus aria s.l. × *S. torminalis*

Sorbus bohemica Kovanda

Note. A triploid (2n=51) hybridogenous species of *S. danubialis* × *S. torminalis* parentage is endemic to the České středohoří Mts. (Böhmisches Mittelgebirge) where 18 stations are on record (JANKUN & KOVANDA 1987). A duplicate of Missbach's collection is deposited in BRNU.

Material

Czech Republic

Mittelgebirge: am Strážiště [Straschitzen], Missbach s.d.

S. bakonyensis Jáv.

Material

Hungary

Comit. Zala, prope pag. Vanyarc supra opp. Keszhely, Jávorka 1927; supra vallem Burokvölgy ad Várpalota, Lengyel 1931.

S. franconica Bornm. ex Düll

Material

Germany

Bavaria

Wisent-tal, Stempfermühle, Bornmüller 1926

Sorbus decipiens (Bechst.) Irmisch

Material

Germany

Thuringia

Waltershausen, am Burgberg, Bornmüller 1917, 1918

Sorbus subcordata Bornm. ex Düll

Material

Germany

Thuringia

Arnstadt, bei Alexisruhe, Bornmüller 1911.

Sorbus multicrenata Bornm. ex Düll

Material

Germany
Thuringia
Am Greifenstein, Bornmüller 1912.

Sorbus latifolia (Lam.) Pers. s.l.

Note. A number of hybridogenous species of *S. aria* × *S. torminalis* parentage have been described from Hungary (KÁRPÁTI 1960), Slovakia (KÁRPÁTI 1960, KOVANDA 1961, MÁJOVSKÝ 1992), Germany (Bavaria and Thuringia; DÜLL 1961), and the Czech Republic (e.g. KOVANDA 1996a,b) but only one, *Sorbus hardeggensis*, from Austria (KOVANDA 1996b) where it seems to be particularly frequent in Lower Austria. This is also evident from the material examined, in which a minimum of three distinct taxa can be seen. Pending a detailed taxonomical study, they have to be treated under the name *S. latifolia* (Lam.) Pers. as is done in ADLER & al. (1994).

Material

Austria
Lower Austria
Bei Gumpoldskirchen, KR 1934; bei Pfaffstätten bei Baden, KR 1931, 1934; auf den Abhängen des Anningers zwischen Gumpoldskirchen und Pfasffstätten, Vetter 1922; Anninger bei Mödling, KR 1917; Lusthausboden bei Bad Vöslau, KR 1921; Gradental bei Bad Vöslau, KR 1921; in der Hinterbrühl bei Mödling, KR 1894; Helenental bei Baden, KR 1892; Sooser Lindkogel, KR 1918; im Wald zwischen Sommerein und Mannersdorf, KR 1892.

Sorbus aria × *S. aucuparia*

Sorbus austriaca (Beck) Prain

Note. *Sorbus austriaca* (Beck) Prain, as commonly circumscribed, is a complex species accommodating a part of the hybridogenous transitions between *S. aria* and *S. aucuparia* with leaves lobed to 1/5–1/4, petals 5.5–6.8 mm long, fruits 8–11 mm in diameter, inconspicuous lenticels and calyx teeth partly pulpous in fruit. It is not homogenous taxonomically, probably consisting of a series of vicarious microspecies (KOVANDA 1996b). Generally, plants from the Alps have leaves more deeply lobed than those from other parts of the distribution area. Further studies are needed to understand this variation. *Sorbus austriaca* in the present concept is known to occur in the Austrian Alps (e.g. ADLER & al. 1994), S. Moravia (KOVANDA 1997a,b), N. Italy (M. di Riva; KOVANDA 1998), the Carpathians (KÁRPÁTI 1960, MÁJOVSKÝ 1992) and the mountains of the Balkan Peninsula (KÁRPÁTI 1960).

Material

Italy
Bei Pregasina nächst Riva (am Gardasee), KR 1931; prov. Verona: in saxosis calc. ad Malcesine, KHR 1933.

Sorbus carpatica Borbás

Note. Intermediates between *S. aria* and *S. austriaca* belong here. As in *S. austriaca, S. carpatica* is a heterogenous conglomerate encompassing perhaps certain marginal cases of variation of *S. aria* and *S. austriaca* as well. The participation of *S. austriaca* is evident in the calyx teeth, which are partly pulpous in fruit. If they are not pulpous, one is faced with a form of *S. aria*. In Austria, *S. carpatica* has so far been reported from the Voralpen of Lower and Upper Austria (KÁRPÁTI 1960, KUTZELNIGG 1994, ADLER & al. 1994).

Material

Austria

Lower Austria

An Waldrändern zwischen dem Sattelkogel bei Giesshübl und der Völkerwiese bei Kaltenleutgeben, Vetter 1922; Baden, ober dem Helenental, KR 1922.

Styria

Ufer des Grundl-Sees pr.Bad Ausee am Resseaweg, KR 1922; am Weg zur Pfeiffer-Alm, KHR 1921; auf dem Rötelstein bei Bad Aussee, KHR 1921.

Carinthia

Auf Schiferfelsen zwischen Kötschach und Laas, KR 1931.

Sorbus ×pinnatifida (Smith) Düll

Note. This includes primary hybrids of *S. aria* × *S. aucuparia* found scattered between the parent species.

Material

Austria

Lower Austria

Bei Bad Vöslau, KR 1900.

Tyrol

Am Steilrand der Sillschlucht bei Innsbruck, KR 1936.

Salisburgia

Kapuzinerberg bei Salzburg, Wöhrl 1909; Sternberg bei Ebenau, Wöhrl 1899.

Slovakia

Nitra: in declivibus montis Svinec, KHR 1927.

Germany

Thuringia

Westseite der Grossen Lupp bei Arnstadt, Bornmüller 1911; Willingerberg, im Wald, Bornmüller 1911.

Sorbus aria × *Sorbus chamaemespilus*

Note. Hybrids of this parent combination, not particularly frequent, are poorly known. It seems certain that, as well as primary hybrids, some well-defined hybridogenous species occur but little attempt has so far been made to differentiate between them. Perhaps the only exception is *S. sudetica* (Tausch) Bluff, Nees & Schauer, endemic to the Krkonoše (Giant Mountains, Riesengebirge) (KOVANDA 1965, JANKUN & KOVANDA 1986). The present material does not allow any definite taxonomic conclusion to be drawn. The

hybrids are often confused with the hairy-leaved form of *S. chamaemespilus* which is, however, easily recognizable by the brachiodromous venation of its leaves, a character confined, in European *Sorbus*, to *S. chamaemespilus*. In the hybrids, craspedromous venation is always discernible.

***Sorbus ×ambigua* Michalet**

Material

Austria

Upper Austria

Zwieselalm, Dachsteingebiet, LR 1926; Dachsteingebiet, auf dem Plassen bei Hallstatt, KHR 1925; in montibus Kalmberge prope Goisern, KHR 1929.

Salisburgia

Leoganger Steinberge, Nordhang, Aufsteig zur Passauer Hütte, KHR 1937.

Styria

Am Aufsteig zum Backenstein von Grundlsee bei Bad Aussee, KHR 1924; auf dem Feuerkogel (Rötelstein), KHR 1921; Totes Gebirge, Rötelstein prope Bad Aussee, in mughetis montis Feuerkogel, KHR 1928; Totes Gebirge, infra lacum Steirersee prope Klachau bei Tauplitz, KHR 1930; Totes Gebirge, in monte Trisselwand prope Bad Aussee, KHR 1930; Totes Gebirge, N. Seite des Bräuningzinken bei Bad Aussee, LR 1923; in mughetis declivium ocid. montis Lofer pr. Bad Aussee, KHR 1927; Ennstaler Alpen, in monte Sparafeld prope Admont, KHR 1929.

Summary

In accordance with the wishes of the late Professor Karl Heinz Rechinger, a revision of *Sorbus* from the herbarium of the Rechinger family was undertaken, yielding *Sorbus aria*, *S. danubialis, S. pannonica, S. chamaemespilus, S. aucuparia, S. domestica* and a number of hybrids and hybridogenous species, including *S. bohemica, S. bakonyensis, S. franconica, S. decipiens, S. subcordata, S. multicrenata, S. latifolia* s.l.*, S. austriaca, S. carpatica, S. ×pinnatifida* and S. ×*ambigua*. Geographically, the material covers central and south-eastern Europe. Attention was mainly focused on *S. aria* s.l. and its hybrids. These taxa are briefly commented upon but *S. torminalis, S. aucuparia* and *S. domestica* are omitted because they present few or no taxonomic problems.

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