

DISTRIBUTION OF *CREPIS PANNONICA*
IN HUNGARY

L. SOMLYAY

*Department of Botany, Hungarian Natural History Museum
H-1476 Budapest, Pf. 222, Hungary; somlyay@bot.nhmus.hu*

All relevant Hungarian literature and herbarium records of *Crepis pannonica* were surveyed and evaluated in order to clarify its distribution in Hungary. Some dubious or erroneous records were elucidated or corrected. *C. pannonica* being a very rare taxon with declining populations in Hungary is proposed to receive strict protection. Some former records of the species in Serbia are erroneous. With one figure.

Key words: *Crepis pannonica*, distribution, Hungary

INTRODUCTION

Crepis pannonica (Jacq.) K. Koch is a Caucasian–Pontic–South-Sarmatian–Pannonian element, with main centres of its distribution located east of *ca* the 33° line of longitude (MEUSEL and JÄGER 1992). However, west of the above-mentioned line only a few localities of *C. pannonica*, concentrated in the vicinity of the Carpathian Basin, have been recorded in Europe. The westernmost European populations of *C. pannonica* are located in Moravia and Lower Austria (BABCOCK 1947, MEUSEL and JÄGER 1992, HOLUB 1999, DIMITROVA *et al.* 2003). The species is considered sporadic in Romania (NYÁRÁDY 1965, OPREA 2005), critically endangered in Austria (NIKL FELD and SCHRATT-EHRENDORFER 1999) as well as in the Czech Republic and Slovakia (HOLUB 1999, FERÁKOVÁ *et al.* 2001, KAPLAN and KIRSCHNER 2004, ELIÁŠ 2005), whereas supposed to be extinct in Serbia (JOVANOVIĆ 1999). In fact, at the western margin of its area *C. pannonica* is very rare, apparently being in the process of disappearance. In Slovenia, Croatia, Bosnia and Herzegovina *C. pannonica* is replaced by its close relative, *C. blavii* (Asch.) Stadlm. (= *C. pannonica* subsp. *blavii* (Asch.) M. A. Fischer *et* D. Dimitrova) (STADLMANN 1908, DIMITROVA *et al.* 2003).

Although its phytogeographical relevance is evident (see KERNER 1857: 276, ZÓLYOMI 1942), *C. pannonica* has not received appropriate attention by the Hungarian nature conservation authorities so far. In NÉMETH (1989) *C. pannonica* was considered a “potentially endangered” taxon (more or less: vulnerable in the IUCN system), and in BARINA *et al.* (2007) it was assessed as vulnerable, however, became protected by law in Hungary only in 2008. Nevertheless, despite of the rarity and declining populations of the species (SOMLYAY 2006, 2009), *C. pannonica* received a low-rank protection in Hungary.

The main aim of this paper is to (1) survey all Hungarian and some Serbian records of *C. pannonica*, and (2) draw attention to the urgent need for properly strict protection of the species in Hungary.

MATERIAL AND METHODS

In the present paper *Crepis pannonica* is considered a separate species from *C. blavii*, following the treatment of STADLMANN (1908), JÁVORKA (1925) and MEUSEL and JÄGER (1992), among others.

To collect Hungarian records of *C. pannonica*, data from all relevant literature and specimens of the following herbaria were checked: Hungarian Natural History Museum, Budapest (BP), Debrecen University, Debrecen (DE), Eszterházy Károly College, Eger (EGR), Eötvös Loránd University, Budapest (BPU), Móra Ferenc Museum, Szeged (SZE), Pécs University, Pécs (JPU), Savaria Museum, Szombathely (SAMU). In cases of herbaria without formal acronyms (see HOLMGREN and HOLMGREN 1998) provisional ones were created as follows: CORV = Corvinus University, Budapest; GYŐ = Mátra Museum, Gyöngyös; KAZI = Kazinczy Ferenc Museum, Sátoraljaújhely; SZIE = Szent István University, Gödöllő. The herbarium of Bakony Natural History Museum (Zirc) was also checked, but no relevant specimen could be found. Specimens of *C. pannonica* from the territory of Hungary stored in W and WU (see DIMITROVA *et al.* 2003) are not listed, since all localities are represented (with one exception: Győr, C. Aust, 1868, see below) in the Hungarian herbaria.

All relevant (authentic) literature and verified herbarium records of *C. pannonica* are presented. As for data that appeared in manuals, handbooks, *i.e.* in synoptic works, only those of special relevance are considered. In the enumeration the records are grouped geographically, beginning with the Buda Mts, from where far the most records come, following with the hilly regions of the Hungarian Mountain Range from northeastern to southwestern direction, and finishing with lowland localities (Fig. 1). Within each region the records are grouped according to administrative units and localities (s.loc. = without exact locality). Obviously, some localities presented separately in the enumeration are (or may be) actually identical. Within each locality the records are separated by semicolons and

arranged in chronological order. In case of specimen citations the records contain the (1) relevant part of the label's text (occasionally), (2) name of collector, (3) date of collecting (s.d. = without date), and (4) acronym(-s) of the herbarium(-ria). Specimens without collectors' names are excluded. Literature records are written with small capitals. Data of *C. pannonica* from each region are evaluated and commented.

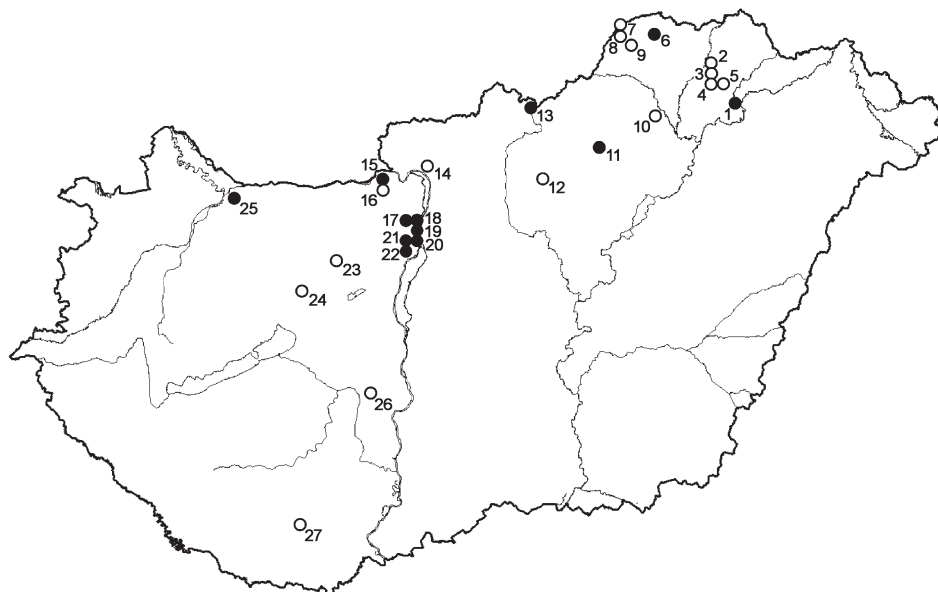


Fig. 1. Distribution of *Crepis pannonica* in Hungary. Filled circles indicate records supported by voucher(s), empty circles indicate records not supported by voucher(s). In case of overlapping only filled circles are indicated. Localities: 1 = Tokaji-hegy, 2 = Boldogkőváralja, 3 = Abaújszántó, 4 = Tállya, 5 = Mád, 6 = Meszes: Jóna-hegy, 7–8 = Torna Karst, 9 = Alsótelekes: Telekes-völgy, 10 = Miskolctapolca, 11 = Eger, 12 = Gyöngyös: Sár-hegy, 13 = Salgótarján: Salgó, 14 = Naszály, 15–16 = Visegrád Mts, 17–21 = Buda Mts, 22 = Érd: Kutyavár, 23 = Csákvár, 24 = Inota, 25 = Győr, 26 = Vajta, 27 = Mecsek Mts

RESULTS AND DISCUSSION

Notes on the history of discovery of *Crepis pannonica*

The species was discovered by Jacob Joseph Winterl, the first professor of chemistry and botany at Nagyszombat University, which was later transferred to Buda (1777), then to Pest (1784) (today: Eötvös Loránd University,

Budapest). After moving to Buda Winterl made many field trips in the vicinity of Buda and Pest, thus, actually, he became the pioneer explorer of the Pannonian flora. The plants he collected were planted in his own garden, then in the later established botanical garden of the university (GOMBOCZ 1936). In Winterl's main work, the first catalogue of the botanical garden (WINTERL 1788) there are *ca* 50 species described considered or supposed to be new to science by Winterl, partly complemented by fine illustrations (PRISZTER 1969). However, since Winterl used the words "novum", "nova" or "novus" to indicate that the species he discovered were new to science, according to the nomenclatural rules these designations are not to be regarded as specific names (Art. 23.6. Ex. 11, see BECHERER 1928). This is the case with the two "*Crepis nova*" described in the catalogue, the first of which refers to *C. setosa* Haller f., the second one to *C. pannonica* (HABERLE 1830, PRISZTER 1969). Both species were discovered in the vicinity of Buda by Winterl, however their names were validly published later by other authors. It is worth mentioning that the description of the second "*C. nova*" is not complemented by illustration, and no locality is indicated.

It is very probable that Nicolaus Joseph Jacquin, who properly described the species as *Hieracium pannonicum* (JACQUIN 1796), got specimens (seeds?) from Winterl himself, as on several other occasions (GOMBOCZ 1936: 221). In Jacquin's time the species was not known from the territory of Austria, which is obvious from the protologue of *H. pannonicum* ("In Hungaria sponte crescit") as well (see also SCHULTES 1814: 416). Actually, *C. pannonica* was first recorded in Austria only in 1922 (DIMITROVA *et al.* 2003).

In 1802 the species was described again as *Crepis rigida* W. et K. (WALDSTEIN and KITAIBEL 1802). Unfortunately, Pál Kitaibel, who knew the species first and foremost from the vicinity of Buda well, failed to mention Winterl's catalogue, though the Index must have been the main source for the Icones (GOMBOCZ 1936: 238). In his diary Kitaibel referred only to Jacquin's *H. pannonicum* (GOMBOCZ 1945: 201).

Finally, it was the German botanist, Karl Koch, who established the correct name of the species (KOCH 1851).

Comments on the Serbian records of
Crepis pannonica

As it was mentioned, *Crepis pannonica* is supposed to be extinct in Serbia (JOVANOVIĆ 1999). However, of the two records from the region of Srem (Sremski Karlovci, Sremski Kamenica) given by JOVANOVIĆ (1999) at least one seems to be erroneous. In fact, all literature records enumerated by JOVANOVIĆ (1999) referring to the locality at Sremski Karlovci are actually based on a single specimen collected by Andreas Wolny “In colle ad Sztrazsil ...” (Wolny-herbarium: No. 33, BP, sub *Crepis rigida*). This record was published by SCHULZER *et al.* (1866) and assumed by subsequent authors such as NEILREICH (1870: 40), ZORKÓCZY (1896: 85), JÁVORKA (1925: 1200) and JOVANOVIĆ (1999). However, the specimen under study was revised by the present author as *C. setosa* Haller f., consequently, if the other specimen cited by JOVANOVIĆ (1999) was misidentified, no record of *C. pannonica* supported by voucher from the region of Srem in Serbia would exist. In this case, only the record from the vicinity of Beograd (PANČIĆ 1874) should be considered as undoubtedly correct, though not confirmed recently (JAKOVLJEVIĆ *et al.* 2008).

Hungarian records of *Crepis pannonica*

Buda Mts

Budaörs: s.loc. (“auf Bergen”, SADLER 1818; Perlaky, 3.VIII.1891, BP); – Tűzkő-hegy (“Feuersteinberg”, Degen, 28.VII.1918, BP).

Budapest: s.loc. (“ad Budam”, WALDSTEIN and KITAIBEL 1802; “Ofen”, SCHULTES 1814; SADLER 1826; SADLER 1840; Sadler, s.d., BP; Kováts, s.d., BP; Bayer, s.d, BP; Haynald, s.d., BP; Hazslinszky, s.d., BP; Dorner, s.d., BP; Grundl, VII.1841, SZE; Dorner, VI.1861, BP; KANITZ 1863; Freyn, 21.VII.1872, BP; Richter L., VIII.1877, BP; Richter L., VI.1883, BP); – Farkasrét (“zwischen dem Schwabenberge und Adlersberge”, KERNER 1872; “Sváb- és Sashegy között”, BORBÁS 1879; Péntes, 7.VII.1947, BP); – Farkas-völgy (“Wolfsthal”, Heuffel, s.d., BP; “Wolfsthal”, Dorner, s.d., BP; “Wolfsthal”, Steinitz, s.d., BP; “Wolfsthal”, Heuffel, VII.1823, BP; “Wolfsthal”, Gerenday, 1834?, BP; “Farkvölgy”?, Kováts, 29.VII.1849?, BP; Entz, VII.1866, BP; Simonkai, 21.VIII.1871, BP; KERNER 1872; “Wolfsthal”, Richter L., VII.1876, BP; BORBÁS 1879; “Wolfsthal”, Steinitz, 20.VII.1879, BP; Steinitz, 10.VIII.1879, BP; Steinitz, 10.X.1879, BP; Steinitz, 25.VII.1880, BP; Steinitz, 25.VII.1881, BP; Steinitz, 11.VIII.1881, BP; Steinitz, 25.IX.1881, BP; Boros, 26.V.1921, BP); – Hármashatár-hegy (“3 Hotterberg”, Porutiu, VIII.1875, BP; Kocsis, 23.VII.1909,

BP, DE; Margittai, VII.1911, BP; Filarszky et Jávorka, 19.VIII.1914, BP; Jávorka, 18.VI.1921, BP; Jávorka, 16.VI.1922, BP; Boros, 22.VII.1928, BP; Kárpáti Z., 11.VII.1934, BP; Kárpáti Z., 4.VII.1936, BP; Jávorka, 10.X.1937, BP; Kárpáti Z., 11.VII.1943, BP; Papp, 2.VII.1944, BP; Boros, 6.VII.1944, BP; Boros, 14.VII.1944, BP; Papp, 14.VII.1944, DE; Bánó, VII.1945, BP; Papp, 29.VI.1946, BP; Péntzes, 9.VIII.1948, BP; Siroki, 23.VI.1951, SZIE; “a Farkastorok előtt, a barlang táján”, Jávorka, 13.IV.1952, BP; Moldvai?, 3.VII.1952, KAZI; Károlyi, 10.VII.1965, BP, JPU); – Látó-hegy (“Csatárka”, Jávorka, 16.VI.1940, BP); – Mátyás-hegy (Perlaky, 11.VII.1891, BP; Kümmerle et Jávorka, 7.VIII.1912, BP); – Óbuda (Simonkai, s.d., BP; “Altofen”, Freyn, 7.VII. 1872, BP; “ad Vetero Budam”, Borbás, 20.VII.1874, BP; BORBÁS 1879; “in montibus Aquinci (Vetero Budae)”, Borbás, 13.VIII.1895, BP); – Ördög-órom (Jávorka, 24.VII.1922, BP; Jávorka, 5.X.1924, BP; Jávorka, 3.V.1927, BP); – Sas-hegy (“Adlerberg”, SADLER 1818; SADLER 1826; “Adlersberg”, Láng, s.d., BP; “Adlersberg”, Tauscher, s.d., BP; “Adlerberg”, Steinitz, s.d., BP; Gerenday, 1835?, BP; “Aldb.”, Albach, 15.VIII.1838, BP; MAKOWSKY 1855; Simonkai, 21.VIII.1871, BP; Szépligeti, 20.VI.1874, BP; Staub, 5.VIII.1874, BP; “Adlersberg”, Richter L., VII.1883, BP; “Adlerberg”, Szépligeti, VIII.1885, BP; Simonkai, 5.VII. 1893, BP; PÉNTZES 1942; Jávorka, 23.VIII.1942, BP; PAPP 1977); – Sváb-hegy (“Farkas- völgy felett”, Jávorka, 15.X.1933, BP; “Széchenyi-hegy”, Péntzes, 8.IX.1948, BP); – Szép-völgy? (Simonkai, 21.VIII.1896, BP); – Tábor-hegy (Lyka, 7.VIII.1912, SZIE; Boros, 6.VIII.1918, BP; Boros, 6.IV.1919, BP; Degen, 4.VII.1920, BP; Lengyel, VII.1924, BP; Degen, 17.VII. 1925, BP, SZIE; Boros, 22.VII.1928, BP; “ad speluncam”, Jávorka, 15.VII.1934, BP; “sub apice jugi”, Jávorka, 14.VIII.1938, BP; Boros, 2.VI.1944, BP; Papp, 2.VI.1944, BP; “a barlang körül”, Jávorka, 21.VII.1944, BP; Soó, 1.VI.1947, DE; Soó, 18.VII.1947, BP, BPU; SOMLYAY 2009); – Testvér-hegy (Papp, 2.VII.1944, BP); – Vihar-hegy (Simonkai, 21.VIII. 1896, BP).
Érd: Kutjavár (Tauscher, 13.VII.1871, BP).

Based on the large number of specimens and references from old literature (SADLER 1826, GOMBOCZ 1945: 201) *Crepis pannonica* must have formerly been relatively frequent in the southeastern–eastern parts of the Buda Mts. It is also more than probable that Kitaibel’s *C. rigida* was also discovered here, although, it is not clear whether the single specimen in Kitaibel’s herbarium (BP) comes from the vicinity of Buda or Tokaj (see JÁVORKA 1926). However, there is another specimen from Buda in PR (see CHRTEK and SKOČDOPLOVÁ 1982).

It is worth mentioning that almost all local populations of the species have disappeared in the previous decades, while a recent record from Hűvös-völgy in Budapest published by HEGEDÜS (1994) is erroneous (SOMLYAY 2009). Despite the obvious factors accountable for the species’ disappearance (gradual expansion of the capital, former establishment of black pine plantations in the surrounding mountains, local disturbance by

tourism, secondary succession) there are still a large number of proper habitats for the species in the region, hence no rational reasons of the rapid decline of its populations can be seen.

Eperjes–Tokaj Mts

Abaujszántó: Krakó (KISS 1939); – Molyva (KISS 1939); – Sátor-hegy (KISS 1939).
Boldogkőváralja: 301 m-es magaslat (KISS 1939).

Mád: s.loc. (Kitaibel in GOMBOCZ 1939: 282, cit. KISS 1939; Kitaibel in GOMBOCZ 1945: 735).

Tállya: Kopasz-hegy (KISS 1939); – Szokolya (KISS 1939); – Vár-hegy (KISS 1939).

Tarcal–Tokaj: Tokaji-hegy (“Tokay”, WALDSTEIN and KITAIBEL 1802; “Tokay”, cit. SCHULTES 1814, KANITZ 1863, etc.; Simonkai, 20.VII.1877, BP; Chyzer, 25.VIII.1878, BP, cit. CHYZER 1905; “Tokaji-Nagyhegy”, Margittai, 20.VII.1914, BP; “Nagyhegy”, Hulják, 18.VIII.1916, BP; “N-Kopasz”, Hulják, 4.VII.1918, SZIE; “Nagy-Kopasz”, Andrasovszky, 5.VII.1923, BP; “Kiskopasz”, Boros, 26.IX.1926, BP, JPU; “Kiskopasz”, Boros, 30.V.1927, BP; “Nagykopasz”, Boros, 30.V.1927, BP; “Nagy Kopasz”, Hulják, 31.VII.1928, BP, SZIE; “Kiskopasz”, Hulják, 31.VII.1933, BP, SZIE; “Kopaszhegy”, Jávorka, 1.VI.1936, BP; “N.-Kopasz”, Hulják, 19.VII.1936, BP, DE; Hulják, 24.VII.1936, DE; “N.-Kopasz”, Hulják, 4.VII.1937, BP; “Nagyhegy (Kopasz)”, Soó, VII.1938, BPU; Hulják, 7.VII.1939, BP; “Kiskopasz”, “Nagy-kopasz”, KISS 1939; “Kiskopasz”, Boros, 25.V.1952, BP; “Kis-Kopasz”, Gotthárd, 4.IX.1984, GYÖ; “Kis-Kopasz”, Somlyay, 27.VII.2004, BP).

Of the above records only Mt Tokaj is confirmed at present, where the species has already been discovered by Kitaibel in 1796 (“Iter Marmarosiense primum”, see GOMBOCZ 1945: 201).

Cserehát and Aggtelek–Rudabánya hilly region

Alsótelekes: Telekes-völgy (VIRÓK and FARKAS 2007).

Meszés: Jóna-hegy (VIRÓK and FARKAS 2007; Sramkó, 1.VII.2008, DE).

The presence of *Crepis pannonica* in this region of Hungary has been discovered recently (VIRÓK and FARKAS 2007). However, based on the local field experience of the present author all former records of the species from the neighbouring Torna Karst (VARGA 1997, VARGA-SIPOS and VARGA 1997, TÓTH 1997) are probably erroneous, and may refer to *C. praemorsa* (L.) Walther (see SOMLYAY and LÖKÖS 1999).

Bükk Mts

Eger: s.loc. (“Jager”, REUSS 1853, cit. NEILREICH 1866, etc.); – Kis-Eged (Vrabélyi, 24.VI.1868, BP, EGR; Vrabélyi, 30.VI.1869, BP, cit. KERNER 1868, KERNER 1872, SOÓ 1937; Lengyel, VII.1947, BP; VOJTKÓ 2001); – Nagy-Eged (VOJTKÓ 2001).

Miskolc: Miskolctapolca (“Teplíce při Miškovci”, REUSS 1853, cit. NEILREICH 1866, JÁVORKA 1925).

In the region of the Bükk Mts *Crepis pannonica* was discovered by Gustav Reuss in the middle of the 19th century (REUSS 1853). Although the record from Miskolctapolca was questioned by JÁVORKA and SOÓ (1951) and SOÓ (1970), there is no reason to reject it. It was also Reuss who first reported the species from the vicinity of Eger, however, contrary to the reference by SOÓ (1937) Reuss did not specify the locality (“Jager”). Mt Kis-Eged as a specified locality comes from the gatherings of Vrabélyi (see DIMITROVA *et al.* 2003: 123) and was published first by KERNER (1872, “klein Aegydiusberg bei Erlau”).

Medves region

Salgótarján: Salgó (HULJÁK 1927; Hulják, 11.VII.1927, BP, SZIE; Lengyel, 10.VII.1927 (?), BP; Boros, 18.VI.1936, BP, cit. SOÓ 1937, JÁVORKA and SOÓ 1951, KÁRPÁTI 1952, etc.; CSIKY 1997; Somlyay, 10.VI.2004, BP; CSIKY 2004).

The castle-hill named Salgó is the only known locality of the species in this region (CSIKY 2004), the discovery of which is ascribed to János Hulják. The correctness of the date presented on the label of the specimen collected by Géza Lengyel is rather doubtful. However, it can not be excluded that Hulják and Lengyel made a common field trip to Mt Salgó in July of 1927 and collected *Crepis pannonica* together.

Mátra Mts

s.loc.: “Mátra”, REUSS 1853, cit. NEILREICH 1866, etc.; “Mátra”, VRABÉLYI 1869. Gyöngyös: Sár-hegy (Degen in SOÓ 1937, cit. JÁVORKA and SOÓ 1951, KÁRPÁTI 1952, etc.).

Although no voucher of *Crepis pannonica* from the Mátra Mts is known, it is probable that Degen’s record from Mt Sár is correct. Unfortunately, the location of Degen’s manuscript cited by SOÓ (1937) is unknown at present.

Cserhát region

Vác: Naszály (HORVÁTH 1987, VOJTKÓ 1995, 2003).

The single record of the species in this region comes from Mt Naszály, although it has not been confirmed recently (Vojtkó ex verb.).

Visegrád Mts

Esztergom: Cserepes (FEICHTINGER 1899); – Kincses-hegy (LÁJER 1998); – Kis-Kúria-hegy (BARINA and PIFKÓ 2007); – Látó-hegy (FEICHTINGER 1865: 280; FEICHTINGER 1899); – Sípóló-hegy (Pifkó, 16.VII.1997, BP; BARINA and PIFKÓ 2007); – Vaskapu (Feichtinger, s.d., BP; Feichtinger, VI.1850, SZE; Feichtinger, IX.1860, BP, SZE; Feichtinger, VII.1862, BP; FEICHTINGER 1865: 280; Feichtinger, VII.1865, SZE; Feichtinger, VIII.1865, BP; Feichtinger, VIII.1867, BP, cit. KERNER 1872; FEICHTINGER 1899).

The above-mentioned localities (with the exception of Látó-hegy and Cserepes) actually belong to the territory named “Vaskapu” next to Esztergom city, where *Crepis pannonica* was discovered by Sándor Feichtinger in the middle of the 19th century. In fact, “Visegrád Mts” mentioned as a locality of *C. pannonica* by some Hungarian manuals (SOÓ 1970, SIMON 2000) is somewhat misleading, since the species has been registered only in the close vicinity of Esztergom, i.e. at the northwestern margin of the mountains so far. The single known Slovak locality of *C. pannonica* (Kováčovské kopce = Kováčspataki-hegyek) is just opposite to Esztergom city, located on the left side of the Danube (HOLUB 1999).

Vértés and Bakony Mts

Csákvár: s.loc. (WALDSTEIN and KITAIBEL 1802, cit. KANITZ 1862, NEILREICH 1866, KERNER 1872, JÁVORKA 1925, etc.).

Inota (Várpalota): s.loc. (KANITZ 1862, cit. NEILREICH 1866, KERNER 1872, JÁVORKA 1925, RÉDL 1942, etc.).

These records come from Kitaibel, however, they are not mentioned in the printed version of his diaries (GOMBOCZ 1945, LÖKÖS 2001). In fact, both localities were discovered by Kitaibel during his “Iter baranyense” (1799), though he noted these down as additional records on a separate paper. “Csákvár” as a locality of *Crepis rigida* was published in the first volume of the “Icones” (WALDSTEIN and KITAIBEL 1802), whereas “Inota”

(together with Csákvár) first appeared in KANITZ (1862) based on Kitaibel's note mentioned above. Although no vouchers are known from these localities, and these records are sometimes questioned (JÁVORKA and SOÓ 1951, SOÓ 1970) or even ignored (SIMON 2000), there is no reason to reject them.

Mecsek Mts

It was HORVÁT (1935) who reported *Crepis pannonica* from the Mecsek Mts based on the specimen collected by Vilmos Nendtvich at "Pécs". However, in lack of any further record of the species from the region, Nendtvich's record was questioned by JÁVORKA (1937) and JÁVORKA and SOÓ (1951), and omitted by SIMON (2000). Unfortunately, the voucher in question can not be found in JPU nowadays, where the herbarium of V. Nendtvich is stored at present. It can not even be taken for sure, that it was really *C. pannonica*, and the origin of the missing sheet is also dubious.

Hungarian Plains

Győr: s.loc. ("Wiesen bei Raab in Ungarn", C. Aust, 24.VII.1868, W).

Vajta: s.loc. ("Bei Vajta", HILLEBRAND 1857, cit. NEILREICH 1866, "in der Stuhlweissenburger Niederung bei Keér und Vajta", KERNER 1872, JÁVORKA 1925, etc.).

There has been some doubt (BOROS 1947, 1953, 1959) about the reliability of the lowland record of *Crepis pannonica* published by HILLEBRAND (1857). This is due to the (1) in Hungary "unusual" sandy habitat of the species, (2) absence of voucher, and (3) fact that the old record of *C. pannonica* from the vicinity of Győr (voucher in W) has not been known for Hungarian botanists in the 20th century (see DIMITROVA *et al.* 2003). It is worth mentioning that Hillebrand specified only Vajta as a locality of the species, however, subsequent authors referred to this locality as Vajta–Németkér ("Keér"). After all, based on the voucher from the vicinity of Győr (representing a similar habitat to that at Vajta) there is no reason to reject Hillebrand's record.

CONCLUSIONS

While *Crepis pannonica* is currently an extremely rare species in the region of the Carpathian Basin, it has several (mainly old) records from the territory of Hungary. However, the bulk of these records need confirmation, and it is assumed that *C. pannonica* has become extinct from many former localities. The most striking decline of its populations can be seen in the vicinity of Budapest, where the species must have been relatively frequent a century ago. Although some factors accountable for the disappearance of *C. pannonica* are clearly present especially in Budapest, there are generally many appropriate habitats for the species, hence the fundamental reasons of its rarity and decline are unknown. Given the situation described, it is necessary to urge the announcement of a much higher level of protection for *C. pannonica* in Hungary.

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Acknowledgements – My thanks are expressed to Ernst Vitek (Wien) and the Hungarian curators for the access to the collections under their supervision and help while working in the herbaria mentioned under Material and methods. I am grateful to Manfred Fischer (Wien), Norbert Bauer (Budapest), Balázs Kevey (Pécs), István Rác (Budapest), András Schmotzer (Eger) and András Vojtkó (Eger) for their help in completing my manuscript.

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(Received 25 February, 2010)