Thaiszia - J. Bot., Košice, 12: 185-189, 2002
http://www.upjs.sk/bz/thaiszia/index.html

THAISZIA
JOURNAL OF
BOTANY

Carex vaginata TAUSCH a wrongly reported species from Slovakia.

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MRÁZ P. (2002): *Carex vaginata* TAUSCH a wrongly reported species from Slovakia. – Thaiszia – J. Bot. 12: 185-189. – ISSN 1210-0420.

ABSTRACT: *Carex vaginata*, as a native taxon of Slovak flora, has been given in botanical literature since 1939. However, the revision of voucher specimen collected by V. NÁBĚLEK in the Slovenský raj National Park (E Slovakia) and stored in the herbarium SAV revealed, that the collector misidentified *C. vaginata* with *C. panicea*. The circumstances of the finding are discussed in the text. The other examined specimens, wrongly determined as well, are added.

KEYWORDS: *Carex*, Slovakia, West Carpathians.

Carex vaginata s.l. is representative of circumboreal (circumpolar) flora (Euro-Siberia and North America). Some separate taxa have been distinguished in different parts of the total range (HULTÉN & FRIES 1986). The area of distribution of *C. vaginata* s. str. in Central Europe comprises several glacial refuges confined to the high mountain ranges: the Alps, Harz Mts, the Sudeten Mts (Krkonoše Mts, Hrubý Jeseník Mts) and the Carpathians (where it is a very rare species). *C. vaginata* has been described by TAUSCH in 1821 from two localities situated in the Krkonoše Mts (Riesengebirge Mts; German topographical name in common use before 1945): Mt. Studničná hora (Brunnberg) and Obří důl valley (Riesengrund) (TAUSCH 1821). In the Carpathian arc *C. vaginata* was found for the first time in the Chornohora Mts (PAWŁOWSKI 1931). The second locality was

given by JÍLEK (1936) [ut *C. sparsiflora* (WAHLENB.) STEUD] on the basis of Deyl's unclassified collection from the Svydovets' Mts. Both localities are situated in the Ukrainian East Carpathians.

VOJTĚCH NÁBĚLEK (brother of the renowned FRANTIŠEK NÁBĚLEK) published his discovery of *Carex vaginata* in the area of Slovakia (this was also the first published data for the West Carpathians), more specifically from wet meadows in the surrounding of Telgárt, Vernár and Ľadová Jaskyňa villages (Slovenský raj National Park) (NÁBĚLEK 1939). This record was cited, as the only one for the following 60 years, in the determinative keys, compendia and other botanical literature devoted to Slovak flora, or especially to the Slovenský raj National Park (e.g. DOSTÁL 1958, DOSTÁL 1989, DOSTÁL & ČERVENKA 1992, FUTÁK 1972, PITONIAK & al. 1979). Although original description of this locality given by V. NÁBĚLEK is not very detailed, which is very surprising with regard to the importance of a new taxon for Slovakia, the botanists interpreted this locality as the fen peat near the railway station in Dobšinská ľadová jaskyňa (LESKOVJANSKÁ pers. com. 1994). The locality has been checked several times by botanists from the National Park of Slovenský raj (LESKOVJANSKÁ pers. comm.) and by other Czech and Slovak botanists, but this record was never confirmed. Thus, *C. vaginata* has been included in the Slovak red list of vascular plants as an (critically) endangered species (MAGLOCKÝ 1983, MAGLOCKÝ & FERÁKOVÁ 1993), and in the Regional list of rare and endangered vascular plants of the National Park Slovenský raj as an extinct species (LESKOVJANSKÁ & DRAŽIL 1995).

I visited this locality twice, in 1994 and 1997, always with negative results. I have started to doubt the correct identification of this sedge, mainly on the basis of ecological conditions of the localities in Central Europe given in the literature (e.g BUREŠ & al. 1989, HEß & al. 1967, HOLUB 1999, LAUBER & WAGNER 2000, OSWALD 1994). According to these sources, *C. vaginata* grows in the Alps and the Sudeten Mts always above the timberline (subalpine to alpine belt) in the primary, species poor subalpine and alpine communities, often in the surroundings of springs and accompanied by *Nardus stricta*, on peat bogs, or on rinsing rocks. PAWŁOWSKI (1931) found a few individuals of *Carex vaginata* growing with *Juncus trifidus* L. On the other hand, the locality in Dobšinská ľadová jaskyňa represents wet, species rich meadow in the lower part of the mountain belt (850 m a.s.l.), in the alluvium of the Hnilec river. Soil is alkaline, the substrate is built from calcareous deluvial sediments. The grassy communities, in stage of succession with *Salix* sp., can be evaluated as *Caricetum davallianae* DUTOIT 1924 (nomenclature of syntaxon follows HÁBEROVÁ & HÁJEK 2002). The locality is of secondary origin and the environment of the locality was formed by transferring the alder wood [*Alnus incana* (L.) MOENCH, alliance *Alnion*] on the grazing or mowing meadows. Beside the doubtful ecology and poorly defined locality there is another noteworthy circumstance. V. NÁBĚLEK mentioned the other *Carex* species (ten species altogether) occurring in the locality, but surprisingly he overlooked a very dense population of *C. panicea* L. (my own observation from 1994 and 1997). *C. panicea* was collected at the same locality by other botanists including J. FUTÁK

in 1958 ("wet meadows by Hnilec river between Ľadová jaskyňa and Pusté Pole, ca 850 m a.s.l., 19, June 1958", the voucher specimen is stored in SAV). Paradoxically, at the end of the article, V. NÁBĚLEK noted the distinguishing characters by which *C*. *panicea* differs from *C*. *vaginata*. *C. panicea* is, according to different floras and keys, considered a morphologically closely related species to *C. vaginata*. After the second negative visit to the locality in 1997, I looked for the herbarium specimen in the Herbarium of the Institute of Botany, Slovak Academy of Sciences (SAV), where the NÁBĚLEK's herbarium is housed. The revision of the voucher specimen collected by V. NÁBĚLEK from the locality "Dobšina, VI. [19]38" confirmed my supposition. Young individuals of *C. panicea* (as photographed in NÁBĚLEK's article) have been wrongly identified as *C. vaginata*. These plants have the lowest brackets clearly overlapping the lowest inflorescences and the sheaths of the lowest brackets are not inflated (*C*. *vaginata* has the lowest brackets shorter than the lowest inflorescences and the sheaths are obviously inflated).

It is noteworthy, that V. NÁBĚLEK collected *C*. *panicea* several times at different localities in Slovakia (Vysoké Tatry Mts, Malé Karpaty Mts, Záhorská nížina lowlands) and always correctly determined the specimens (deposited in SAV), in contrast to the collection from Slovenský raj National park.

For above-mentioned reasons, *C*. *vaginata* has been excluded from the Checklist of vascular plants of Slovakia (GRULICH 1998) and it did not appear in the Slovak part of the Red data book of Slovakia and the Czech Republic (HOLUB 1999**)**. Although I have checked several times for *C. vaginata* in the Vysoké Tatry Mts and Nízke Tatry Mts, where its occurrence may be possible, I did not find this species (but finding it in the future can not be excluded). Thus, data about the occurrence of *C*. *vaginata* in Slovakia should be considered wrong on the basis of the above-mentioned facts.

During herbarium revision (BP, BRA, KRAM, PR, SAV, SLO, W, WU; the abbreviations follow HOLMGREN & al. 1990) I found two other wrongly identified specimens as *C*. *vaginata* from the West Carpathians:

– Lucsivna [Lučivná] (s.coll. VII.[18]82 BP) [*C*. *panicea*].
– Magas és Alacsony Tátra [Vysoké and Nízke Tatry Mts] (s.coll. VIII.1889 BP) [*C*. *sempervirens*].

Carex vaginata TAUSCH – Selecta specimina visa:

A u s t r i a :

Nordtirol: – Oberinntal, Nauders: Hochmoorparzelle nahe dem Ostufer des Stiller Bades WSW Fuhrmannslod (50–80 m S der Brücke), das ist 3.5 km SSE Nauders, 1425 m (B. WALLNÖFER 4.VI.1999 WU).

C z e c h R e p u b l i c :

Krkonoše Mts: – Aupagrund, Steinige Kamme (E. MISSBACH VII.1905 PR, BRNU; E. MISSBACH VIII.1905 BRNU). – U vodopádu Úpy, hojně (K. VANDAS 23.VIII.1884 PR). – Na Kotli nedaleko vodopádu Úpy (K. VANDAS VIII.1884 PR).

– Kotel: na břehu potůčku v Kotelné jámě, ca 1200 m (J. SOJÁK 22.VI.1954 PR). – V Malé Kotelné jámě, v jedné strži vlhké, dosti vysoko a vzácně (L.F. ČELAKOVSKÝ VI.1907 PR). – Skalní vlhčiny ve Velké Kotelné jámě, pořídku (F. SCHUSTLER VII.1912 PR). – An queliegen Brüchen am ibenen Rande des Riesengrundes (R. FRITZE 18.VII.1865 WU). – Mokré skaliny ve Schneegraben v Obřím dolu (F. SCHUSTLER 28.VI.1913 PR). – In abrupto Sněžná strž, loco dicto Kotel, sub m. Sněžka, ca 1250 m (K. KAVINA et al. 24.VI.1946 PR). – Sněhová rokle v Obřím dole (J. KLIKA 9.VIII.1947 PR). – Brunnberg (R. UECHTRITZ VII.[18]54 PR, W). – In declivibus versus orientem spectantibus montis Brunnberg, solo micaceo, 1350 m (E. FIEK s.d. PR, W). – Čertova zahrádka (F. SITENSKÝ 1879 PR). – Teufelgarten (K. DOMIN 7.VII.1901 BRNU). – In Hohenelbe (J. KABLIKOVÁ s.d. BRNU).

Hrubý Jeseník Mts: – In pratis alpinis montis Vysoká hole supra valle V. Kotlina ad decl. merid., graminoso, 1450 m (J. DOSTÁL 26.VI.1960 PR). – Petrův kámen ([?] 1954 PR). Svahy Petrstína, ca 1300 m (O. GREBENŠČIKOV 28.VI.1954 SAV). – In cacumine montis Keprník, 1420 m (Z. ČERNOHORSKÝ 4.VII.1947 PR). – In pratis alpinis montis Keprník, merid. occid., ca 1300–1420 m, passim disperse, locis saltis copiose (J. MORAVEC 4.VII.1947 PR). – In subalpinis mt. Šerák et Keprník, ca 1350 m (M. DEYL 7.VII.1947 PR). – Geshenke, im Kessel (J.N.SPATZIER 6.VI.1846 W). – Gr. Kessel (H. LAUS VI.1931 BP, VII.1932 BP, VI.1933 PR, VI.1935 BP, VII.1936 BP). – Vrchol Pradědu, ca 1480 m (J. VICHEREK 21.VI.1958 BRNU). – Summo monte Červená hora, in assoc. *Caricetum rigidae*, ca 1330 m (R.J. JEDLIČKA 4.VII.1947 BRNU).

U k r a i n e:

Chornohora Mts: – In iugo inter cacumine Pohoriłką et Brebenieską nec non inter Brebenieską et Munczel in graminosis cohortis "*Caricion curvulae*", solo arenaceo, 1920–1940 m. Crescit in societate spec.: *Carex rigida*, *Festuca supina*, *Juncus trifidus*, *Sesleria bielzii*, *Campanula alpina*, *Deschampsia caespitosa*, *Hieracium alpinum*, *Homogyne alpina* ... (J. MĄDALSKI 18.VIII.1933 et 9.VIII.1935 BP).

Acknowledgements

I am grateful to P. A. GUNNING (Norwich, U.K.) for linguistic corrections.

References

BUREŠ L., BUREŠOVÁ Z. & NOVÁK V. (1989): Vzácné a ohrožené rostliny Jeseníků. 1. díl. – Český svaz ochránců přírody, Bruntál.

DOSTÁL J. (1958): Klíč k úplné květeně ČSR. – Československá akademie věd, Praha.

DOSTÁL J. (1989): Nová květena ČSSR 2. – Academia, Praha.

DOSTÁL J. & ČERVENKA M. (1992): Veľký kľúč na určovanie vyšších rastlín. 2. – SPN, Bratislava.

FUTÁK J. (1972): Fytogeografický prehľad Slovenska. – In: LUKNIŠ M. (ed.): Slovensko 2. Príroda, pp. 431–481. – Obzor, Bratislava.

GRULICH V. (1998): Cyperaceae excl. Bolboschoenus. – In: MARHOLD K. & HINDÁK F. (eds.): Zoznam nižších a vyšších rastlín Slovenska. Checklist of non-vascular and vascular plants of Slovakia. – Veda, Bratislava.
HÁBEROVÁ I. & HÁJEK M. (2002) ("2001"): Caricetalia davallianae. – In: VALACHOVIČ M. (ed.): Rastlinné spoločenstvá Slovenska. 3. Vegetácia mokradí. Plant communities of Slovakia. 3. Wetland vegetation, p. 195-224. – Veda, Bratislava.
HEß H. E., LANDOLT E. & HIRZEL R. (1967): Flora der Schweiz und angrenzender Gebiete. Band I: Pteridophyta bis Caryophyllaceae. – Birkhäuser Verlag, Basel & Stuttgart.
HOLMGREN P. K., HOLMGREN N. H. & BARNETT L. C. (1990): Index Herbariorum. Part I: The herbaria of the world. Ed. 8. – Regnum Veg. 120.
HOLUB J. (1999): Carex vaginata TAUSCH. – In: ČEŘOVSKÝ J., FERÁKOVÁ V., HOLUB J., MAGLOCKÝ Š. & PROCHÁZKA F. (eds.), Červená kniha ohrozených a vzácnych druhov rastlín a živočíchov SR a ČR, vol. 5. Vyššie rastliny, p. 82. – Príroda, Bratislava.
HULTÉN E. & FRIES M. (1986): Atlas of North European vascular plants north of the tropic of cancer I. (Introduction), III. (Commentary to the maps). – Koeltz Scientific Books, Königstein.
JÍLEK B. (1936): Carex sparsiflora (WAHLB.) STEUD. na Podkarpatské Rusi. – Věda Přír. 17: 129.
LAUBER K. & WAGNER G. (2000): Flora Helvetica. Flore illustrée de Suisse. 2 ed. – Belin, Paris.
LESKOVJANSKÁ A. & DRAŽIL T. (1995): Zoznam vzácnych a ohrozených druhov vyšších rastlín Národného parku Slovenský raj. – Bull. Slov. Bot. Spoločn. 17: 160–165.
MAGLOCKÝ Š. (1983): Zoznam vyhynutých, endemických a ohrozených taxónov vyšších rastlín flóry Slovenska. – Biológia, Bratislava 38: 825–852.
MAGLOCKÝ Š. & FERÁKOVÁ V. (1993): Red list of ferns and flowering plants (Pteridophyta and Spermatophyta) of the flora of Slovakia (the second draft). – Biológia, Bratislava 48: 361–385.
NÁBĚLEK V. (1939): Nová ostřice pro Slovensko. – Věda Přír. 19: 219–220.
OSWALD K. (1994): (15) Segge, Cárex (inkl. Vignea). – FISCHER M. A. (ed.): Exkursionsflora von Österreich, p. 949-979. – Eugen Ulmer, Stuttgart.
PAWŁOWSKI B. (1931): Dwie ciekawe turzyce z Czarnej Hory. – Spraw. Kom. Fizjograf. 65: 145–152.
PITONIAK P., PETRÍK P., DZUBINOVÁ Ľ., UHLÍŘOVÁ-ŠIMEKOVÁ J. & FAJMONOVÁ E. (1979): Flóra a vegetácia CHKO Slovenský raj. – Biol. Práce Slov. Akad. Vied 24/6 (1978): 1–140.
TAUSCH F. (1821): Beschreibungen neuer Pflanzen aus von Riesengebirge. – Flora 36: 557–570.

Received: 14 March 2002
Accepted: 26 March 2002