

What is *Cynoglossum rotatum* Velenovský?

Karel Sutoryý

Department of Botany, Moravian Museum, 29a Hviezdoslavova St., 627 00 Brno, Czech Republic, e-mail: ksutory@mzm.cz

Received: February 07, 2008 ▷ Accepted: March 16, 2008

Abstract. *Cynoglossum rotatum* was described by J. Velenovský from Western Bulgaria in 1894. Occasionally, it is treated as *C. officinale* subsp. *rotatum*, or *C. officinale* var. *rotatum*. In broadly oriented European works or in Brand's monograph it is considered as an uncertain species. Generally, it is given as an endemic and threatened taxon. From the study of the type specimen (deposited in PRC) and from the description and study of plants that grow nowadays in the *locus classicus*, it is reclassified to the synonymy of *C. montanum*.

Key words: Bulgaria, *Cynoglossum montanum*, endemic

The species *Cynoglossum rotatum* Velen., 1894 Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl., 37: 48, was described from one single locality in Bulgaria. It was treated by Velenovský (1898) and Kozuharov (1992) in the species rank. Subsequently, it was considered in the variety rank as *C. officinale* var. *rotatum* (Velen.) Stoj. & Stef. (Stojanov & Stefanov 1925, 1948; Stojanov & al. 1967). Its latest treatment is in the subspecific rank *C. officinale* subsp. *rotatum* (Velen.) Peev (Peev 1989; Popova 2003). Mention deserves the fact that this taxon was totally omitted in the comprehensive Bulgarian works (Jordanov 1960). In monographic or European works it was treated as unclear taxon (Brand 1921; Kovanda 1972). Greuter & al. (1984) gave it with a question mark in the synonymy of *C. officinale* L. In Bulgaria's *Red Data Book* (Velchev 1984) two localities are cited, with the statement that its occurrence is unknown after 1935. This was corroborated once again by Andreev (2006) and Assyov & Petrova (2006).

From the study of the type specimen (preserved in the herbarium collection of the Charles University in Prague (PRC, No. 770 of type collection, Figs 1 & 2) it becomes clear that the plant has not evolved nor-

mally. There are many uprising stems from the root, hence the question in the original description “*Perenne (bienne ?)*“. This happens often in this genus and can be attributed to local conditions or to damaging of the plant. In this case the second reason seems to be more likely. The plant has no fruits “*Quamquam imperfecte collecta, quoniam fructus nondum evolutus gerebat*“, although the description says “*fructu glochidiato-acuelato*“. The nutlets contain the most important diacritic characters in this genus. The indument of the plant is different from the *C. officinale* “*indumento non cano sed patule molliter piloso*“ and the different colour of the plant “*foliis ergo virentibus*“ is based on this fact.

The author visited the *locus classicus* of this taxon on 19th June 2006, at Belidie Han, to the northwest of Sofia. The locality – calcareous rocks interspersed with xerophilous communities – is well preserved and one should not expect it to have changed much since the time of Velenovský's visit. Perhaps only the grazing is less intensive than formerly. The author found here only typical plants of *C. montanum* L. Specimens are deposited in BRNM (BRNM 702900, BRNM 702901).



Fig. 1. *C. rotatum*. Type specimen (PRC No. 770).

Conclusion

This taxon does not differ from *C. montanum* L. (*C. hungaricum* Simk.) and must be attached to its synonymy. The only and most frequently used character for distinguishing of this species – the corolla diameter – is distinct in the type specimen but it could be only a reaction to the damage of the plant. Differences based only on the dimension of flowers are unknown in this genus.

Acknowledgments. This study was supported by the long-term research grant MK00009486201 and by the Grants Agency of the Czech Republic (206/04/0995).

References

Andreev, N. 2006. *Cynoglossum rotatum* Velen. – In: Petrova, A. (ed.), Atlas of Bulgarian Endemic Plants. Pp. 208-209. Gea-Libris, Sofia.

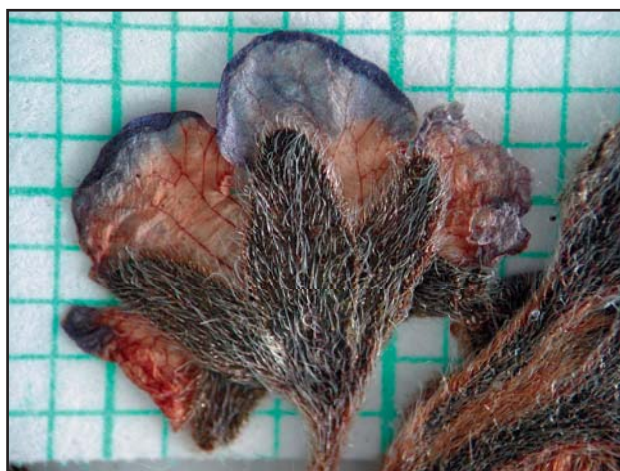


Fig. 2. *C. rotatum*. Flower from the type specimen.

Assyov, B. & Petrova, A. (eds). 2006. Conspectus of the Bulgarian Vascular Flora. Distribution Maps and Floristic Elements. Ed. 3. BBE, Sofia.

Brand, A. 1921. *Borraginaceae-Borraginoideae Cynoglosseae*. – In: Engler, A. (ed.), Das Pflanzenreich. Regni Vegetabilis Conspectus. 78 (IV 252). Engelmann, Leipzig.

Greuter, W., Burdet, H.M. & Long, G. (eds). 1984. Med-Checklist. A Critical Inventory of Vascular Plants of the Circum-mediterranean Countries. Vol. 1 (*Pteridophyta, Gymnospremae, Dicotyledones: Acanthaceae–Cneoraceae*). Conservatoire et Jardin Botanique, Med-Checklist trust of OPTIMA, Genève & Berlin.

Jordanov, D. (ed.). 1960. Excursion Flora of Bulgaria. Narodna Prosveta, Sofia (in Bulgarian).

Kovanda, M. 1972. *Cynoglossum* L. – In Tutin, T.G. & al. (eds), Flora Europaea. Vol. 3, pp. 119-121. Cambridge Univ. Press, Cambridge.

Kozhuharov, S. (ed.). 1992. Field Guide to the Vascular Plants in Bulgaria. Nauka & Izkoustvo, Sofia (in Bulgarian).

Peev, D. 1989. *Cynoglossum* L. – In: Velčev, V. (ed.), Flora Reipublicae Popularis Bulgaricae. Vol. 9, pp. 215-220. In Aedibus Acad. Sci. Bulgaricae, Serdicae (in Bulgarian).

Popova, M. 2003. *Cynoglossum* L. – In: Delipavlov, D. & Cheshmedzhiev, I. (eds), Key to the Plants of Bulgaria. P. 319. Agrarian Univ. Acad. Press, Plovdiv (in Bulgarian).

Stojanov, N. & Stefanov, B. 1925. Flora of Bulgaria. Vol. 2. State Printing House, Sofia (in Bulgarian).

Stojanov, N. & Stefanov, B. 1948. Flora of Bulgaria. Ed. 3. Univ. Press, Sofia (in Bulgarian).

Stojanov, N., Stefanov, B. & Kitanov, B. 1967. Flora of Bulgaria. Ed. 4, vol. 2. Nauka & Izkoustvo, Sofia (in Bulgarian).

Velčev, V. (ed.). 1984. Red Data Book of the PR Bulgaria. Vol. 1. Plants. Publishing House Bulg. Acad. Sci., Sofia (in Bulgarian).

Velenovský, J. 1898. Flora Bulgarica. Supplementum 1. Praege.