Introduction


Scorzonera amasiana was first collected by Bornmüller from Amasya in 1889 and was subsequently described as a new species by Haussknecht and Bornmüller in 1904 (Chamberlain, 1975). Since then, it had not been recollected until it was rediscovered (Cansaran & Aydoğdu, 1998; Karaer & Celep, 2007).

Abstract: Scorzonera amasiana Hausskn. & Bornm. is a stenoendemic species known from a few localities in Amasya Province. After the rediscovery of S. amasiana, it has been recorded from a new locality in Amasya. Using chorological and ecological data, morphological study of the collected specimens suggest that the recently described Scorzonera ekimii A.Duran is synonymous with S. amasiana. The conservation status of S. amasiana is also reviewed, based on the present distribution data.

Key Words: Scorzonera amasiana, taxonomy, chorology, Turkey

Türkiye Endemiği Scorzonera amasiana Hausskn. & Bornm. (Asteraceae) Üzerine Taksonomik ve Korolojik Notlar


Anahtar Sözcükler: Scorzonera amasiana, taksonomi, koroloji, Türkiye
Some *Scorzonera* specimens were collected from Amasya Province during the Taxonomic Revision of the Genus *Johrenia* DC. in Turkey Project in 2007. After a comparison with the protologue of *Scorzonera amasiana* Haussk. & Bornm. and an examination of images of the isotype (B!), their identity was confirmed as *S. amasiana*. Moreover, as there are no characters to differentiate *S. amasiana* from the recently described *S. ekimii*, based on examination of the collected specimens, observation of their type specimens, and comparison of the 2 descriptions (Chamberlain, 1975; Duran, 2002a; Karaer & Celep, 2007) they are synonymised here under *S. amasiana*.

**Taxonomic Treatment**


Type: [Turkey, A5 Amasya] Amasya in rupibus regionis calidae (Mt. Logman), 360-800 m, 18.5.1889 & 26.5.1889, Bornmüller 699 (iso. JE, K, B photo!).


Type: [Turkey, A5 Yozgat] Aydıncık, Kazankaya town, Kazankaya Canyon passes, 750 m, crevices of limestone rocks, A.Duran 5409 (holo. ADO, iso. GAZI, ANK, HUB).


**Taxonomic Discussion**

Although Duran (2002a) compared *Scorzonera ekimii* with *S. elata* Boiss., the characters given in the description of *S. ekimii* are similar to those observed in the *S. amasiana* specimens collected by us. The author stated that *S. ekimii* looks like *S. amasiana*, but that its leaves are narrower (0.1-0.5 cm) than those of *S. amasiana*; however, in our *S. amasiana* specimens leaf width varies from 0.1 to 1.2 cm and the margins are undulate, as recorded by the author (Figure 1).

In contrast to the 2-3-capitulate stems indicated in *Flora of Turkey* (Chamberlain, 1975), *S. amasiana* with single capitulum stems were observed by Cansaran & Aydoğan (1998). There are 2-4-capitulate stems in the Kazankaya Valley (Canyon) population (Duran, 2002a), whereas both single and 2-4-capitulate stems were observed in the presently studied population.

Achene features are some of the most important characters for classifying *Scorzonera* species (Chamberlain, 1975; Parolly & Kilian, 2003). The achenes are narrowly cylindrical and glabrous in the populations of *S. amasiana* and the population previously treated as *S. ekimii*; however, while achene length is given as 9-11 mm by Chamberlain (1975) and Karaer & Celep (2007), and as 7-9 mm by Duran (2002a), it varies from 6 to 11 mm among our specimens.

*Scorzonera amasiana* and the herein re-evaluated *S. ekimii* grow in areas somewhat distant from each other, but in similar habitats with regard to ecology, geology, and climate. *S. amasiana* is distributed in Yeşilırmak Valley and its surroundings in Amasya (Cansaran & Aydoğan, 1998; Karaer & Celep, 2007). *S. ekimii* is reported only from the Kazankaya Valley (Canyon) in Yozgat-Aydıncık and from a tributary of the Yeşilırmak River (Duran, 2002a). The 2 valleys are situated in square A5 and are interconnected. Both areas also include limestone rocks that are continuously affected by humidity. The dominant bioclimate in these areas is semi-arid Mediterranean, and mean annual temperature is 13-14 °C and annual precipitation is ca. 430-440 mm (Cansaran & Aydoğan, 1998; Duran & Hamzaoğlu, 2002; Karaer & Celep, 2007). In conclusion, the synonymy of *S. ekimii* with *S. amasiana* is supported by chorological, geological, climatic, and ecological data.

The total number of *Scorzonera* taxa in Turkey was previously 47 (Chamberlain, 1975; Davis et al., 1988; Güner, 2000; Duran, 2002b; Kilian & Parolly, 2002; Parolly & Kilian, 2003; Duran & Hamzaoğlu, 2004); based on the results of the present study, the number is decreased to 46.

**Habitat and Ecology**

*Scorzonera amasiana* grows in the crevices of limestone rocks affected by humidity at elevations between 360 and 1000 m. It grows in the sun, together with *Teucrium chamaedrys* L. subsp. *sypirenses* (C.Koch) Rech. fil., *Inula anatolica* Boiss., *Draba rigida* Willd. var.
rigida, Micromeria myrtifolia Boiss. & Hohen., Micromeria cristata (Hampe) Griseb. subsp. cristata, Scrophularia libanotica Boiss. subsp. libanotica var. pontica R.Mill., Melica ciliata L. subsp. ciliata, Rhamnus petiolaris Boiss., Cotoneaster nummularia Fisch. & Mey., Pistacia terebinthus Mill. subsp. palaestina (Boiss.) Engl., Arabis caucasica Willd. subsp. caucasica, Sedum album L., Pterocephalus plumosus (L.) Coulter, Salvia aethiopis L., and Phleum exaratum Hochst. ex Griseb. subsp. exaratum, according to the present study’s observations.

Chorology and Conservation Status

Scorzonera amasiana was assessed for the first time as critically endangered (CR), based on only its type locality in Turkey (Ekim et al., 2000). Later, it was discovered at 3 other locations (Kirklar, Enderun Mountain, and the vicinity of Kızıla village) in Yeşilirmak Valley near Amasya Province, and was placed in the endangered (EN) category (Karaer & Celep, 2007).

Scorzonera amasiana is known from 5 locations in Yeşilirmak Valley near Amasya Province and from 1 location in Kazankaya Valley (Canyon) in Yozgat Province, according to the available distributional data (Figure 2). The distance between the terminal populations shows that the occupancy area of S. amasiana exceeds 500 km² (criterion B1a); however, as S. amasiana is known only from 6 locations, it is estimated that there are other populations between the terminal populations along the valley where favourable ecological conditions prevail. Moreover, the area is rocky and not affected by human activity (criterion D); therefore, S. amasiana should be classified as vulnerable (VU) based on IUCN Red List criteria (IUCN, 2001).

Specimens Examined

Turkey A5 Amasya: Amasya in rupibus regionis calidae (Mt. Logman), 360-800 m, 18.5.1889 & 26.5.1889, Bormüller 699 (iso. B, photo!); Amasya city centre, Yazı

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References


Figure 2. Distribution of S. amasiana.