

A New Record for Turkey: *Solidago canadensis* L.

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Abstract: *Solidago canadensis* L. (*Compositae*) is reported for the first time (A5 Kastamonu) for the flora of Turkey; it is a naturalized alien.

Key Words: *Solidago*, new record, Turkey, *Compositae*

Türkiye İçin Yeni Bir Kayıt: *Solidago canadensis* L.

Özet: *Solidago canadensis* L. (*Compositae*) Türkiye'den (A5 Kastamonu) ilk defa kaydedilmiş olup, doğallaşmış bir yabancı türdür.

Anahtar Sözcükler: *Solidago*, Yeni Kayıt, Türkiye, *Compositae*

Introduction

Solidago canadensis was collected in Kastamonu (A5) province during an expedition that was part of an MSc study. It is not listed in the Flora of Turkey (Grierson, 1975), but is in Flora Europaea (McNeill, 1976), which reported it as a naturalized species in Europe. Although *Solidago* L. has more than 100 species (Burnie et al., 1999), only one until now, the native *S. virgaurea* L., was known from Turkey. *S. canadensis* is thus the second *Solidago* species in Turkey.

Solidago consists of perennial herbs with rhizomes or short rootstocks; the leaves are alternate, often toothed, and the inflorescence is fasciculate, thyrsoïd, or forming scorpioid or sometimes corymbose panicles. Species of the subgenus *Solidago*, to which *S. canadensis* belongs, all originate from North America and have been grown extensively in gardens; some have been reported as naturalized. The subgenus *Solidago* has pedunculate capitulas in which there are usually fewer ligules than tubular florets. The filaments become free within the corolla-tube, and receptacular pits are not fimbriate. This last character distinguishes the subgenus *Solidago* from *Euthamia* (McNeill, 1976).

Solidago canadensis L., Sp.Pl. 878 (1753) (Fig. 1, 2).

Perennial herb. Stems 30-150 cm, glabrous, somewhat violet at base, pubescent or scabrid at least in the upper part, with 40-100 leaves scarcely decreasing in size upwards. Leaves lanceolate, long-attenuate, pubescent or scabrid on the margin and veins beneath, or occasionally throughout, sharply serrate, with two prominent lateral veins distinct beneath; basal soon deciduous; middle cauline leaves elliptic-lanceolate, 6-13 x 0.5-1.8 cm. Inflorescence a terminal panicle, capitula secund; involucre 2-4 mm. Achenes 0.9-1.2 mm, shortly pubescent; pappus 2-2.5 mm. *Fl. 8-10. In stream beds up to 100 m.*

Type: "Hab. Virginia, Canada", Herb. Linn. 998.2 (LINN); Lectotype [A. Gray, 1882]. Kalm s.n., Herb. Linn. 998.3 (LINN).

Native to North America and Canada. Cultivated for ornament and widely naturalized in Europe (McNeill, 1976).

Examined specimens: A5 Kastamonu: Abana, along the Harmuson stream, 10-100 m, 15.ix. 2000, KATO 13367, KTUB 315.

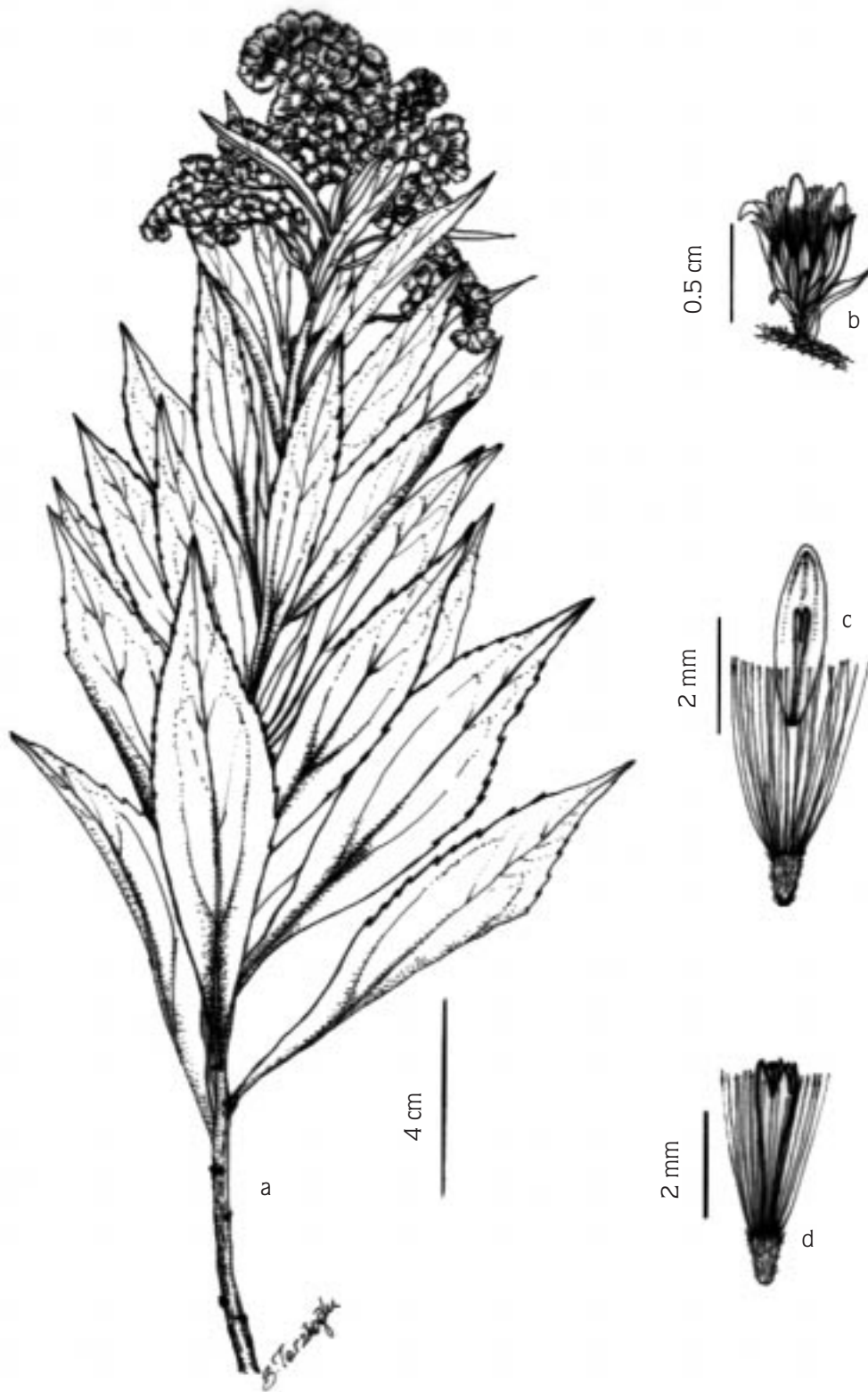


Figure 1. *Solidago canadensis* L.: a-habit, b-capitulum, c-ray flower, d-disc flower.

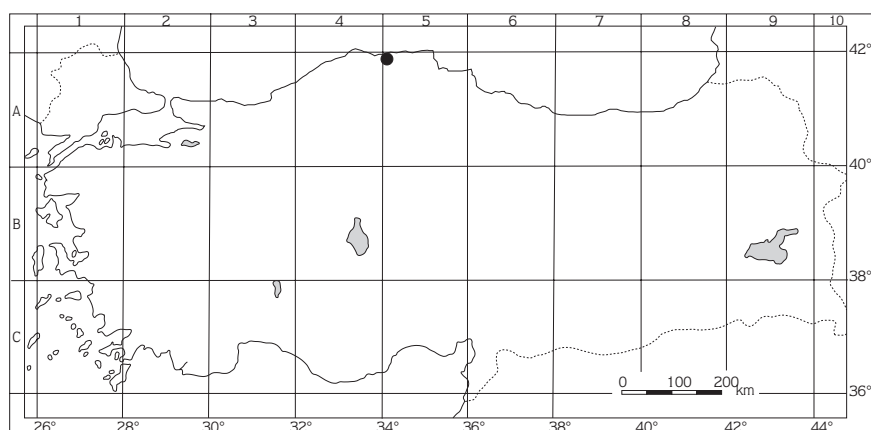


Figure 2. Distribution of *Solidago canadensis* L. in Turkey (●).

The cited specimens were stored in KATO (Herbarium of Karadeniz Technical University, Faculty of Forestry, Department of Forest Botany) and KTUB (Herbarium of Karadeniz Technical University, Sciences and Arts Faculty, Department of Biology).

Discussion

Two species of *Solidago* are now known from Turkey and can be distinguished from each other as follows:

1. Inflorescence a thyrsoid or terminal panicle with ascending branches; capitula not secund; involucre 4.5-8 mm; leaves with numerous divergent, often indistinct lateral veins *S. virgaurea*
1. Inflorescence a terminal panicle with patent branches; capitula secund; involucre 2-4 mm; leaves with two lateral veins running almost parallel to the midrib for most of its length and distinct beneath *S. canadensis*

Diaspores of naturalized taxa which are adapted to humid conditions can germinate easily in the Black Sea

region of Turkey. In common with *Lepidium virginicum* L., *Robinia pseudoacacia* L., *Acer negundo* L., *Aster subulatus* Michaux, *Coryza canadensis* (L.) Cronquist, *Erigeron annuus* (L.) Pers., *Tradescantia fluminensis* Vellozo and *Sicyos angulatus* L., *Solidago canadensis* is now known to be naturalized in both Europe (McNeill, 1976) and Turkey. Like the other eight species shared as aliens between Turkey and Europe, *S. canadensis* is naturalized in the western Black Sea region of Turkey, providing further evidence for the effects on introduced plants of climatic similarity between the two regions (Terzioğlu & Anşin, 2001). Three other North American *Solidago* species (*S. sempervirens* L., *S. gigantea* Aiton and *S. graminifolia* (L.) Salisb.) were naturalized in Europe (McNeill, 1976) and may become naturalized in Turkey in the future, because they like a warm and wet climate and are commonly grown.

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