

NEW TAXA FOR THE FLORA OF TURKEY

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ABSTRACT: *Ligularia sibirica* (L.) Cass. (Compositae) *Campanula trachelium* L. **subsp.** *trachelium* (Campanulaceae) are given as taxa new to Turkey and *Scorzonera woronowii* Krasch. (Compositae) is added as a reestablished species. The specimens were collected from the provinces of Kars and Erzurum in Eastern Anatolia, square A9.

TÜRKİYE FLORASI İÇİN YENİ TAKSONLAR

ÖZET: *Ligularia sibirica* (L.) Cass. (Compositae) *Campanula trachelium* L. **subsp.** *trachelium* (Campanulaceae) Türkiye için yeni taksonlar olarak verilmekte ve *Scorzonera woronowii* Krasch. (Compositae) yeniden yapılan bir tür olarak ilave edilmektedir, örnekler Doğu Anadolu ' dan A9 karesinden, Kars ve Erzurum illerinden toplanmıştır.

INTRODUCTION

The research area from which the plant material was collected, is one of the interesting and richest places from floristic point of view, as it can be easily seen from related publications (1—8). As we kept on identifying the material collected during floristic studies between 1984— 1986, new contributions came out. This is surely due to the geographical position of the area which lies just near the Russian border and where neighboring foreign species are very likely to be found. For identification of the plant specimens, related Floras (9—12) have been consulted. The specimens are kept in the Herbarium of Hacettepe University, at the Department of Biology (HUB).

RESULTS

COMPOSITAE *Ligularia* Cass. *L. sibirica* (L.) Cass., Diet. Sci.

Nat. 26: 402 (1823). Figure 1,2

A9 Kars: Posof, Çiçek Dağı, Alabalık village, 1800-2500 m, 30.8.1986, Demirkuş 3774!. A genus new for Turkey. Close to *Senecio* but distinguished by its petioles of basal and lower cauline leaves broadly sheathing at base and spike like inflorescence.



Figure1. *Ligularia sibirica* (L.) Cass.

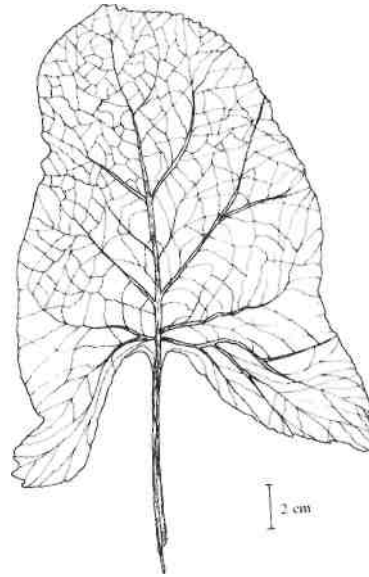


Figure 2. Basal leaf of *Ligularia sibirica*

In Europe, *Ligularia* has two more species: *L. dentata* (A. Gray) Hara and *L. glauca* (L.) O. Hoffm. These specimens are easily distinguished from *L. sibirica* : the former by its corymbose inflorescence and the latter by its basal leaves narrowed at base and the pappus shorter than achene (9).

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Figure 3. *Scorzonera woronowii* Krasch.

Brief description of species:

Perennial. Stem erect, 30—150 cm, glabrous, striate. Basal leaves triangular—ovate, sagittate, slightly hairy. Petioles winged longer than lamina. Inflorescence long, 20—25 cm, spiciform. Peduncles adpressed to the stem. Capitula dense, pendulous, 25—30. Involucre glabrous, 15—20 mm, Bracts 10, lanceolate, calycular bracts 2, linear, as long as involucre. Ligules 8—10, 13—16 mm, yellow. Achenes \pm 5 mm, striate with 4 ribs, glabrous Pappus 6—7 mm, dirty white, scabrid.

Very common in Europe, extending towards Bulgaria and south of Ural Mountains in the east. Habitat is generally wet and shady places of woodland. According to its geographical distribution, it is probably a Euro—Siberian element.

Scorzonera woronowii Krasch., Acta Inst. Bot. Acad. Sci. USSR, 1(1):178, (1935). Figure 3, 4

A9 Erzurum: distr. Olur, Kekikli village, Highplateau, Şirinönü place, 1750-2300 m, 1.8. 1984, Demirkuş 2311!

Caucasia. N.E. Anatolia, Euro—Siberian Element.

A species new for Turkey. Distinguished from *S. tomentosa* L. to which it close, mainly by having outer phyllaries up to 8 mm, ovate—mucronate, pilose (in *S. tomentosa* at least 17 mm, lanceolate—aristate, lanate), shorter achene up to 5 mm (versus 15 mm) and shorter capitula 15-20 mm long (Table 1).

S. woronowii Krasch. has been given as a synonym of *S. tomentosa* L. in Flora of Turkey (10). But the diagnostic characters mentioned above imply that is *S. woronowii* deserves to be a distinct species.

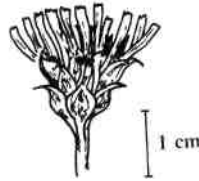


Figure 4. Capitulum of *Scorzonera woronowii*

Table 1. Comparison of the Basic Characters of *S. tomentosa* and *S. woronowii*

Characters	<i>S. tomentosa</i>	<i>S. woronowii</i>
Outer phyllaries	17—19 mm	up to 8 mm
" "	aristate—lanceolate	ovate—mucronate
" "	lanate	pilose
Achene	10 mm	up to 5 mm
Capitula	20—55 mm	15—20 mm

CAMPANULACEAE

Campanula trachelium L. subsp. *trachelium* Figure 5

A9 Kars: distr. Posof, between fallow fields of Alköyü and river Posof 1400-1700 m
27.7.1985, Demirkuş 2997!

A subspecies new for Turkey. In the Flora (10) *Campanula trachelium* figures only with its subsp. *athoa* (Boiss. et Heldr.) Hayek. Subsp. *trachelium* differs from subsp. *athoa* by its hairy, larger (24—26 mm) corollas and pedicellate flowers.

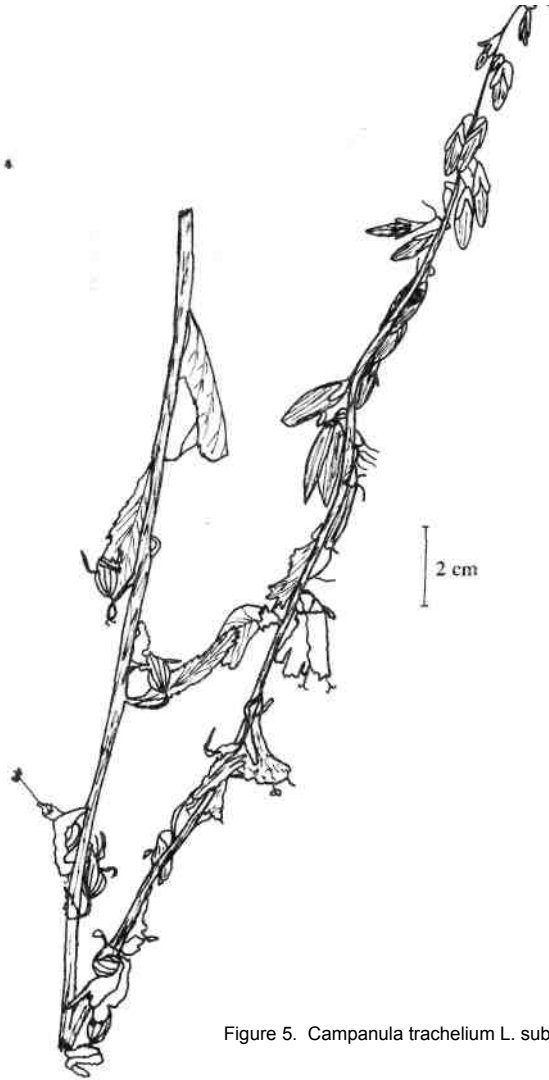


Figure 5. *Campanula trachelium* L. subsp. *trachelium*

In Europe, subsp. *athoa* is distributed only in the Balkan Peninsula (9), while in Turkey it grows in limited areas in provinces Istanbul and Balıkesir in the west and Adana in the south, subsp. *trachelium* which is common in Europe is known in Turkey only from East Anatolia, near Russian border.

Both subspecies are Euro—Siberian elements, according to their geographical distributions. Their distinguishing morphological characters are given in the following key:

- Flowers pedicellate. Corolla 24—26 mm, slightly hairy inside subsp. *trachelium*
- Flowers sessile. Corolla 15—20 mm, glabrous subsp. *athoa*

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