

## ARTEMISIA SIEBERI BESS. SUBSP. SIEBERI A NEW RECORD FOR TURKEY AND A DELETE RECORD FOR TURKEY ARTEMISIA HERBA-ALBA ASSO. (ASTERACEAE)

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### Abstract

In the revision study on the genus *Artemisia* L. in Turkey, we observed that there were differences between the descriptions of *Artemisia herba - alba* Asso. in Flora Europea and Flora of Turkey and that the description of *Artemisia herba - alba* Asso. in Flora of Turkey was problematic. We observed that the Turkish specimens were the same as the specimens called *Artemisia sieberi* Bess., which were collected from Siberia, Caucasia, Central Asia and Kazakhstan. We found that our specimens matched the descriptions given for *Artemisia sieberi* Bess. in Flora of Iranica and Flora of Ussr. Thus, we determined that the species of *Artemisia herba - alba* Asso. wasn't found in Turkey and the specimens given as *Artemisia herba - alba* Asso. in Flora of Turkey were *Artemisia sieberi* Bess. subsp. *sieberi* which is a new record for the Flora of Turkey. The description, distribution map in Turkey and photography of *Artemisia sieberi* Bess. subsp. *sieberi* are given.

### Introduction

*Artemisia* genus has approximately 500 species around the world. It is one of the most important representatives of *Artemisiinae* subtribe, which is widely distributed in the northern hemisphere. *Artemisia* genus show basic characteristics of *Artemisiinae* subtribus (Bremer & Humphries, 1993).

The most widely accepted sub-grouping of *Artemisia* genus is the arrangement with four subgenera, *Artemisia*, *Dracunculus*, *Seriphidium* and *Tridentatae*. The taxa of the first three of these subgenera are distributed in Turkey; however there is no taxon for *Tridentatae* subgenus (McArthur *et al.*, 1981). *A. sieberi* subsp. *sieberi* and *A. herba-alba* belong to *Seriphidium* subgenus.

Cullen reported 22 species of *Artemisia* for "Flora of Turkey" (including *Artemisia alba* Turra from outside of the borders Turkey and Greek Islands (Davis, 1975). According to our study the genus *Artemisia* is reported by 26 taxa in Turkey. L. (Civelek *et al.*, 2010; Kurşat, 2010).

Flora Europea, which was published after Flora of Turkey, indicated that *A. herba-alba* occurred in Spain and southern France, but Anatolia was not included (Tutin & Persson, 1976). Similarly, in Flora of Russia and Flora Iranica, which were written after Flora of Turkey, the distribution of *A. sieberi* was given as Palestine, Syria, Iraq, Iran, Anatolia, Israel, Afghanistan, Turkmenistan and Central Asia (Davis, 1975; Tutin & Persson, 1976; Podlech, 1986; Shinskin & Bobrov, 1995).

### Materials and Methods

The study is based on our herbarium specimens materials collected from South-East Anatolia in September and December 2007 and the herbarium specimens gathered by other researchers in Turkey. The description for *Artemisia sieberi* Bess. subsp. *sieberi* given below was prepared during our revision studies on the genus *Artemisia* L. in Turkey (Civelek *et al.*, 2010, Kurşat, 2010). The herbarium specimens collected by us were deposited at the Fırat University Herbarium (FUH).

### Results

*Artemisia sieberi* Bess. subsp. *sieberi*. Bull. Soc. Nat. Mosc. 9: 80. 1836; *A. herba-alba* var. *laxiflora* Boiss., Fl. Or. 3:

365. 1875; p. Min. P. *A. herba - alba* ssp. *saxicola* Krasch. In sched. *A. dumosa* Poljak. In: Bot. Mat. Gerb. Bot. Inst. AN sssr 16: 425. 1954; Type; Described from Spain.

Plant suffrutescent, intricately tufted. Rootstock thick, woody, vertical, developing numerous stems with distinct horizontal branches. Stems usually ascending, 20 - 50 cm, canescent - arachnoid and dotted - glandular hairs, gray coloured due to the dense indumentum, afterwards turn to light brown and longitudinally striated because of deciduous hairs. Lower leaves withering at or before anthesis, afterwards deciduous, with canescent-arachnoid hairs, stalked, 1-2 pinnatisect, 0.5-2.5 x 0.5-1.2 cm, leaf lobes oblong-linear, tip of lobes acute. Median cauline leaves sessile, 1-2 pinnatisect, 0.3-2.5 x 0.3-1 cm, lobes oblong-linear, tip of lobes acute. Floral leaves sessile, basal auriculate pinnatisect to linear in shape, 0.1-1 x 0.1-0.4 cm, lobes linear, tip of lobes obtuse-acute; Inflorescence racemose - paniculate, heads with 1-2 mm stalk or uppermost sessile. Heads usually aggregated in several on terminal branches, rarely remote. Capitula oblong-ovoid, with canescent-arachnoid and dotted-glandular hairs, 3-4 x 3-2.2 mm. Phyllaries 4-6 series, ovate to oblong, with canescent-arachnoid and dotted-glandular hairs in dorsal, with membranous margin. Outer phyllaries 0.2-0.4 x 0.2-0.4 mm, median phyllaries 0.6-1.6 x 0.5-0.8 mm, inner phyllaries 2.5-2.8 x 0.5-0.8 mm; Receptacle glabrous; All florets of each head hermaphrodite, (2) 3-5 in number, corolla tubular, 1.3-2.3 x 0.5-0.8 mm, yellow or partially purple at maturity, with dotted-glandular hairs. Pistil 1.8-3 mm in length, ovary 0.4-0.6 x 0.2-0.4 mm, style tube 1.4-2.3 mm, stigma brown, 0.2- 0.5 mm and two parted, each part ciliated at apex. Stamens 1.6-2.5 mm in length, filaments 0.6-1.2 mm, anthers 1-1.5 x 0.1-0.3 mm, upper appendage awl shaped; Cypsela oblong - ovate, 1.4-1.8 x 0.3-0.6 mm, longitudinally striated, cream to brown.

**Turkey, C7 square, Şanlıurfa:** Between Birecik-Mezrah, after 10 km Mezre, roadside, step, 350 m, 12.09.2007, N 36° 57.685, E 38° 00.667, Ş. Civelek M. Kurşat 1041. Same locality, 21.10.2007, M. Kurşat 1085. **Şanlıurfa:** Between Adacık - Mezrah, out of village Adacık, hillside, roadside, step, 350 m, 05.12.2007, N 36° 56.767, E 38° 00.815, Ş. Civelek, M. Kurşat 1127.

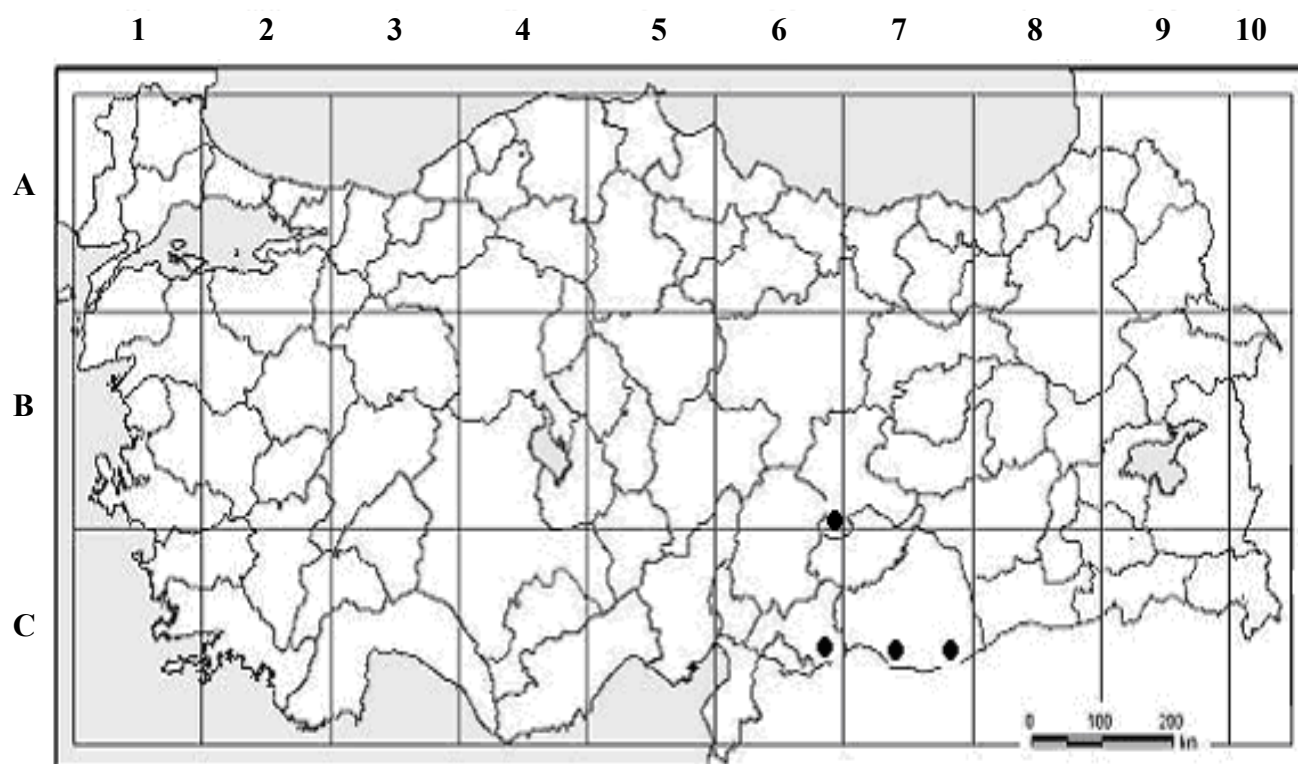


Fig. 1. *A. sieberi* subsp. *sieberi* (●) distribution map in Turkey.



Fig. 2. *A. sieberi* subsp. *sieberi* a- General view of *A. sieberi* subsp. *sieberi*, b-c- General view of the plant's sinflorescence

## Discussion

During the taxonomic revision of the genus *Artemisia* L., it was observed that there were differences between the description of *A. herba-alba* in Flora Europea and Flora of Turkey and that the description of *A. herba-alba*

in Flora of Turkey did not match with the description of actual *A. herba-alba* (Kurşat, 2010; Civelek *et al.*, 2010).

During our studies in the herbarium of Komarov Botanical Institute of the Russian Academy of Sciences (LE), we had the opportunity to compare specimens of *Artemisia herba-alba* Asso. collected from the distribution area specified in Flora of Turkey with those collected

from Siberia, Caucasia, Central Asia and Kazakhstan. It was observed that the Turkish specimens matched with the specimens of *A. sieberi*, which were collected from Siberia, Caucasia, Central Asia and Kazakhstan. It was also observed that with our specimens matched the descriptions given for *A. sieberi* in Flora Iranica and Flora of Russia (Podlech, 1986; Shinskin & Bobrov, 1995).

In Flora Iranica, *A. sieberi* was divided into two subspecies, *A. sieberi* subsp. *sieberi* and *A. sieberi* Besser subsp. *deserticola* Podlech. The most important characteristic used to distinguish these two subspecies is that stems with horizontal or ascending branches in the sinflorescens region (Podlech, 1986). It was observed that the specimens from in Turkey had stems with horizontal branches in the sinflorescens. Thus, the taxon found in Turkey was identified as *A. sieberi* subsp. *sieberi*

*A. herba-alba* and *A. sieberi* subsp. *sieberi* are quite similar taxa. The differences between these two close taxa are: *A. sieberi* subsp. *sieberi* in nature are highly branched in the sinflorescence region, the branches are horizontal and meshed, and they look like intricate tuft. The leaves are as large as to be measured in centimeters (0.5 – 2.5 cm) and floral leaves vary from pinnatisect to linear, with auricles formed with pinnate section in the bottom. In comparison, *A. herba-alba* in nature are less branched in the sinflorescence region, the branches are spread - horizontal and regular, and they don't look like intricate tuft. The leaves are as small (2- 5 mm) and floral leaves are in fascicles (Podlech, 1986; Tutin & Persson, 1976).

*A. sieberi* subsp. *sieberi* is generally distributed in the South-East Anatolia which is close to Syria border, at an altitude between 320-350 m. The habitat of the plant is steep, hillsides and field edges.

It is thus concluded that *A. herba alba* does not spread in Turkey. It was misidentified in Flora of Turkey

and the species identified as *A. herba-alba* be reported by *A. sieberi*.

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