

A New Record (*Heliotropium ovalifolium* Forssk.) from Southern Turkey

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Abstract: *Heliotropifolium ovalifolium* Forssk. (*Boraginaceae*) is reported for the first time for the ora of Turkey, from C5 Adana. Its affinities, ecology and conservation status in Turkey are detailed.

Key Words: *Heliotropium*, *Boraginaceae*, new record, Turkey.

Güney Türkiye'den Yeni Bir Kayıt (*Heliotropium ovalifolium* Forssk.)

Özet: *Heliotropifolium ovalifolium* Forssk. (*Boraginaceae*) türü Güney Türkiye'den (C5 Adana) ilk defa kaydedilmektedir. Bu türün betimi, akraba türler ile ilişkisi, ekolojisi ve Türkiye'deki tehlike kategorisi ayrıntılı olarak verildi.

Anahtar Sözcükler: *Heliotropium*, *Boraginaceae*, yeni kayıt, Türkiye.

Introduction

We discuss here some unusual specimen of *Heliotropium* L. from S. Turkey. The specimen in question was collected on an expedition to Adana (Karataş-Yumurtalık) province in 1997. After a thorough study of these specimens, we could not determine them using the *Flora of Turkey* (1) or by comparing them with material in ANK, GAZI and HUB herbaria, since *Heliotropium* is a large and complex genus with c. 270-300 species occurring in temperate and tropical regions of both hemispheres (2,3). Therefore we sent our materials to Dr. H. Förther (Münich), a specialist on the genus *Heliotropium*. He determined them as *Heliotropium ovalifolium* Forssk. This species is not known from Turkey so far and is a new record for the flora of Turkey.

Since Riedl's revision of *Heliotropium* was published in *Flora of Turkey* (1), no species have been added. As a result of this new record of *Heliotropium ovalifolium*, the number of species of *Heliotropium* in Turkey is increased to 15. Of these, 14 are native and one (*H. curassavicum* L.) is a cultivated species.

Heliotropium ovalifolium Forssk., *Fl. Aegypt.-Arab.* 38 (1775). Figure 1.

Annual, up to 5–15 cm tall, much branched, densely clothed with soft whitish adpressed hairs. Leaves petiolate, petiole 1–5 mm long. Lamina 7–15 x 2–4 mm, elliptic to obovate or oblong, acute to mucronate, adpressed hairy on both surfaces (some hairs with tubercles). Inflorescence a terminal cyme, slender, 2–4 cm long, sometimes forked, ebracteate, flowers sessile or subsessile. Calyx c. 1.5–2 mm long, divided to base, 5-partite into unequal lobes, one lobe ovate-lanceolate, much broader than the four other linear lobes, white setose hairy outside, persistent. Corolla white, c. 3 mm long, lobes 1/3 as long as tube; tube cylindrical, outside hairy; lobes ovate, apiculate. Stamens inserted just above base of corolla; anthers small, lanceolate, 0.5–0.6 mm long. Ovary glabrous. Style inconspicuous. Stigma c. 0.4 mm long, conical, apex minutely setose. Fruit ovoid; nutlets 4, c. 1.5 mm long, adpressed hairy. *Fl. and Fr.* 8–9. *Moist sandy place, nr.s.l.*

Type: Yemen, Hadie [Al Hadiyah], 3. 1763, *Forsskal* 299 (holo. C-Forssk, iso. BM).

Examined specimen: C5 Adana: Karataş, Yumurtalık Lagünü Tabiatı Koruma Alanı, Torluk, moist sandy place, nr s.l., 9 ix 1997, *H. Şağban* 1938 with *H. Duman* (GAZI, HUB).

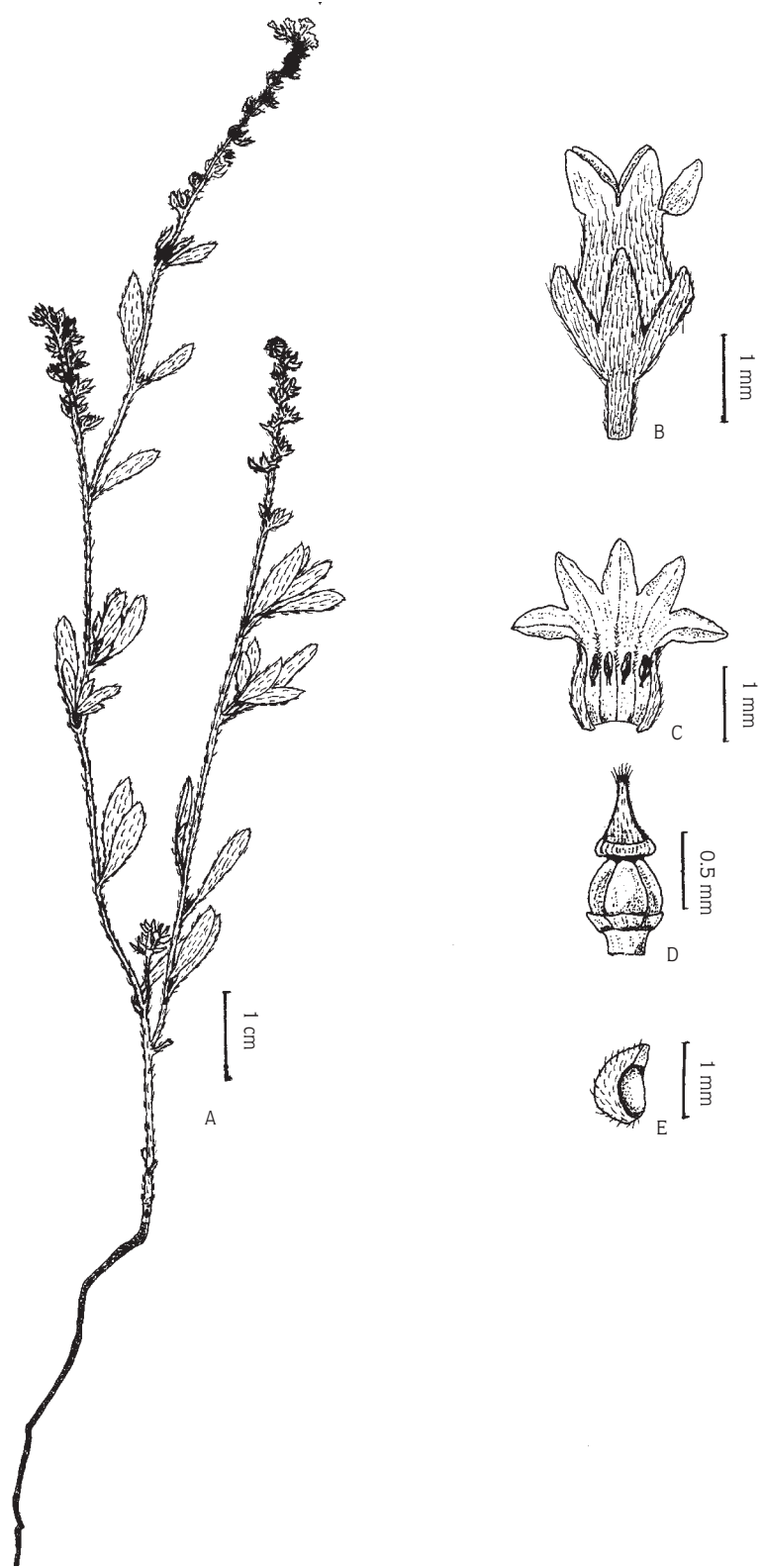


Figure 1. *Heliotropium ovalifolium*. A-habit, B-flower, C-dissected corolla, D-ovary, E-nutlet.

Distribution: Africa, Arabia, Canary Islands, Pakistan, India, Indo-China, Australia.

Heliotropium ovalifolium is similar to *H. lasiocarpum* Fisch. & Mey. according to the Flora of Turkey and East Aegean Islands (1). It differs in its smaller stems (5–15 cm, not 50 cm or more), smaller leaves (7–15 x 2–4 mm, not 15–40 x 10–40 mm); shorter calyx (c. 1.5–2 mm long versus 2.5–3 mm); lanceolate and shorter anthers (0.5–0.6 mm long, not c. 1 mm); conical stigma with minutely setose apex (not glabrous and squat-conical); inconspicuous style.

Recommended IUCN Threat Category (4) is Critically Endangered (CR) within Turkey, because the estimated area of occupancy is less than 10 km², and the population is very pure. We collected only 20 specimens in one location. For this reason, we consider that the species in Turkey is in extreme danger.

Ecology

Heliotropium ovalifolium Forssk. occurs on moist sandy places in the South of Adana province (Karataş-Yumurtalık) and also grows with the following species:

Artemisia scoparia Waldst. & Kit., *Asphodelus aestivus* Brot., *Cionura erecta* (L.) Griseb., *Convolvulus lanatus* Vahl, *Cynodon dactylon* (L.) Pers., *Cyperus capitatus* Vandelli, *Echinops* sp., *Echium plantagineum* L., *Euphorbia paralias* L., *Euphorbia peplis* L., *Helianthemum stipulatum* (Forssk.) Christ., *Inula viscosa* (L.) Aiton, *Ipomoea stolonifera* (Cyr.) J. F. Gmelin, *Juncus acutus* L., *Juncus maritimus* Lam., *Lagurus ovatus* L., *Lythrum salicaria* L., *Medicago marina* L., *Phragmites australis* (Cav.) Trin. ex Steudel, *Phyla nodiflora* (L.) Greene, *Plantago coronopus* L., *Pulicaria dysenterica* (L.) Cass., *Salsola kali* L., *Salvia viridis* L., *Schoenus nigricans* L., *Sporobolus virginicus* (L.) Kunth, *Thymelaea hirsuta* (L.) Endl., *Trachomitum venetum* (L.) Woodson ssp. *sarmatiense* (Woodson) Avetisian and *Verbascum sinuatum* L.

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