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Verbascum tuna-ekimii (Scrophulariaceae), a new species from Turkey

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Verbascum tuna-ekimii Karavelioğulları, Duran & Hamzaoğlu *sp. nova* (sect. *Bothrosperma*) is described from E Anatolia in Turkey. It is related to and compared with *V. laetum*, from which it mainly differs in its leaves, bracts, pedicels and capsules.

Key words: Scrophulariaceae, taxonomy, *Verbascum*

Introduction

The genus *Verbascum* (Scrophulariaceae) includes about 360 species (Heywood 1993). In Turkey it has 233 species in 13 groups, and 126 hybrids (Huber-Morath 1978, Davis *et al*. 1988). Partly artifical groups are used in the *Flora of Turkey* (Davis *et al*. 1988) account. All Turkish species of *Verbascum* belong to sect. *Bothrosperma*. Groups A, B, and C of the *Flora of Turkey* belong to subsect. *Ebracteolate*. The species described here should be placed in group C (cf. Murbeck 1925, 1933, Huber-Morath 1971).

In *Flora Europaea* (Ferguson 1972) the genus *Verbascum* is represented by 99 species, in *Flora of the U.S.S.R* (Fedchenko 1955) by 51, in *Flora Iranica* (Huber-Morath 1981) by 49, in *Flora Palaestina* (Feinbrun-Dothan 1978) by 20, in *Flora of Cyprus* (Meikle 1985) by six, and in *Flora of Egypt* (Tackholm 1974) by four species.

In Turkey, 187 (80%) of the 234 species are endemic (Davis *et al*. 1988). The diversity is highest in Anatolia. Generally, *Verbascum* has more species than any other plant genus in the western and central regions of Turkey. The plants are adapted especially to steppe environments, open places and stony slopes.

Verbascum was previously revised by Huber-Morath (1978) for the *Flora of Turkey*. Since then, five species and six hybrids have been described from the country (Davis *et al*. 1988, Vural & Aydoğdu 1993, Ekim 2000). With our new species, the group C of *Flora of Turkey* now has a total of 30 species.

Material and methods

The authors collected flowering and fruiting specimens of *Verbascum* in Kemaliye, Erzincan province in 2001 and 2003. Studying the specific descriptions of *Verbascum* in Huber-Morath (1978), Ferguson (1972), Fedchenko (1955), Huber-Morath (1981), Feinbrun-Dothan (1978), Meikle (1985), Tackholm (1974), Ekim

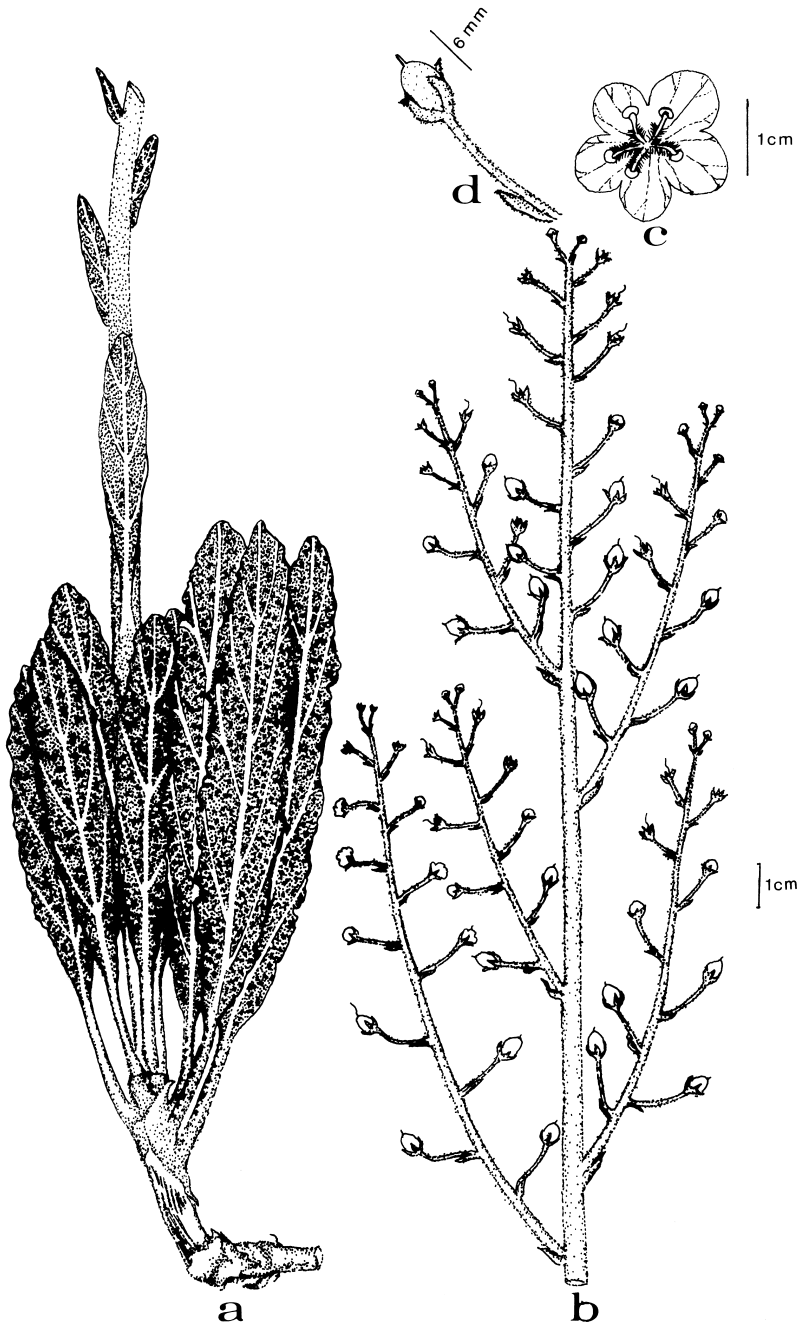

Fig. 1. *Verbascum tunaekimii* (from holotype). — **a** and **b**: Habit. — **c**: Corolla. — **d**: capsule.

(2000), as well as comparing our material with specimens in GAZI and ANK showed that the specimens represent a species new to science. Our specimens were compared with the related species *V. laetum*. Examined representative specimens of *V. laetum* from three localities are cited below.

The abbreviations of the authors of plant names were checked from Brummitt and Powell (1992).

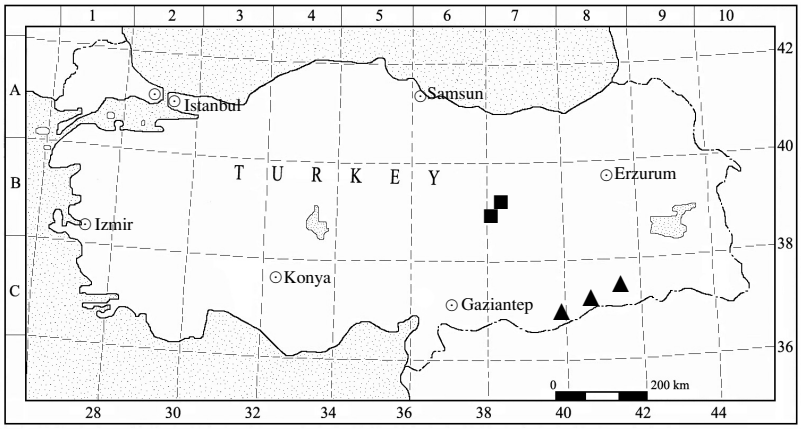

Fig. 2. Distribution map of *Verbascum tuna-ekimii* (■) and *V. laetum* (▲).

Verbascum tuna-ekimii Karavelioğulları, A. Duran & Hamzaoğlu, *sp. nova*
(Figs. 1 and 2)

Affinis V. laeto, sed folia radicalia linearia-lanceolata, 1.2–2 cm lata (nec oblonga ad obovata-elliptica, 6–7.5 cm lata), bracteae lineares seu lineares-lanceolatae (nec oblongae–lanceolatae), pedicellus 13–20 mm (nec 1–2.5 mm), capsulae glandiferae pili (nec glabrae) differt.

TYPE: Turkey. B7 Erzincan: between Erzincan and Kemaliye, 39. km, 1150 m, calcareous stony slopes, 14.VI.2001 Karavelioğulları 3096, M.Ekici & H.Akan (holotype GAZI; isotypes ADO, ANK, ISTE).

Biennial, 70–95 cm, densely or sparsely covered by stellate hairs below, glandular hairs above. Stem solitary, erect, slender, laxly leafy, usually branched in upper part. Leaves numerous, mostly congested at base, densely rosulate. Basal leaves linear-lanceolate or rarely narrowly oblong-oblanceolate, 10–22 (inc. petiole) × 1.2–2 cm, crenulate-undulate or subentire, mucronate to obtuse, densely covered by stellate hairs on both surfaces, gradually attenuate at base, petiole 2–4 cm. Cauline leaves decreasing to flowering part, entire or slightly crenulate, mucronate or ± cuspidate. Inflorescence raceme or laxly paniculate, elongating to 75 cm, slender, branches of panicula to 45 cm and ascending-erect, with glandular hairs, sometimes with very sparse stellate hairs below. Bracts linear or linear-lanceolate, entire, mucronate, 2–4 × 0.5–1.5 mm, with glandular hairs on upper surface, glabrous below. Each bract with a single flower. Bracteoles absent. Pedicels with only glandular hairs, horizontal to ascending, 13–20 × 0.5–1 mm. Calyx 2–4(–5) mm, divided almost to base into oblong-lanceolate, ± acute segments, with glandular and sometimes sparse stellate hairs outside, with glandular hairs inside. Corolla yellow, rotate, 20–25 mm diam., tube 1 mm, lobes unequal, orbicular, not pellucid-punctate, glabrous. Stamens 5, 4–7 mm, filaments 3–6 mm, with purplish wool below and whitish wool above, 2 anterior ones glabrous near apex. All anthers reniform, 0.5–1 mm, medifixed. Ovary ovate, glandular hairs. Stylus filiform, 10 mm, glandular hairs at base; stigma ± spathulate, 3 × 0.5 mm, glabrous. Capsule ovate, 5–7 × 3–4 mm, densely or rarely sparsely covered with glandular hairs. Seeds oblong, 0.2–0.3 × 0.1–0.2 mm, light brown, rugose. Flowering May–June, fruiting June–July.

ETYMOLOGY: This species is named in honour of the eminent Turkish botanist and expert on the flora of Turkey, Professor Tuna Ekim (Biology Departmant, İstanbul University).

DISTRIBUTION AND SUGGESTED CONSERVATIONAL STATUS. Endemic to E Anatolia (Erzincan province), of Irano–Turanian element. Recommended IUCN (2001) threat category is Endangered (EN), because it is known only from two nearby localities in Kemaliye.

HABITATS. *Verbascum tuna-ekimii* grows in

Table 1. A comparison of *Verbascum tuna-ekimii* with *V. laetum.*

Character	*Verbascum tuna-ekimii*	*Verbascum laetum*
Stem	generally branched from above	generally branched from base
Basal leaves	linear-lanceolate or rarely narrowly oblong-oblanceolate, crenulated-undulate or subentire, 1.2–2 cm wide	oblong to obovate-elliptic, entire or invisible crenulated; 6–7.5 cm wide
Petiole	2–4 cm	6–7 cm
Bracts	linear or linear-lanceolate	oblong-lanceolate
Pedicel	13–20 mm	1–2.5 mm
Calyx lobes	oblong-lanceolate	spathulate or oblong-linear
Filaments	with purplish wool below, and whitish wool above	entirely with purplish-violet wool
Capsule	ovate, 5(–7) × 3(–4) mm, densely or rarely sparsely glandular hairs	oblong-cylindrical, 5 × 3(–3.5) mm, glabrous

calcareous and serpentine stony slopes and along roadsides with *Anchusa azurea* var. *azurea*, *Salvia* sp., *Quercus* sp., *Alyssum* sp., *Silene* sp., *Trigonella* sp., *Melilotus officinalis*, *Coronilla orientalis*, *Centaurea* sp., *Dorycnium pentaphyllum*, and *Dactylis glomerata*.

Verbascum tuna-ekimii is allied to *V. laetum*, which is known only from SE Anatolia in Turkey, and elsewhere from Iran and Iraq, being occasional in the low steppe, scrub, cornfields and fallow field areas, at 340–550 m altitude (Boissier 1879: p. 388, Huber-Morath 1955, 1960, 1962). The latter differs from *V. tuna-ekimii* because its leaves are linear-lanceolate, crenulate-undulate or subentire, (not oblong to obovate-elliptic, ± entire); bracts are linear or linear-lanceolate, mucronate (not oblong-lanceolate, acute); pedicels are 13–20 mm (not 1–2.5 mm); filaments have a purplish wool below and whitish wool above (not entirely purplish-violet); and capsules are ovate, 5–7 × 3–4 mm, densely or rarely sparsely covered with glandular hairs (not oblong-cylindrical, 5 × 3–3.5 mm and glabrous). Table 1 provides a concise comparison of the two species.

Additional specimen examined (paratype): **Turkey**. B7 Erzincan: between Divriği and Kemaliye, 35. km, 1200 m, serpentine stony slopes, roadside, 2003 *A.Duran* 6161, *E.Hamzaoğlu* & *M.Sağıroğlu* (ADO, HUB, GAZI).

Representative specimens examined of *Verbascum laetum*: **Turkey**. C7 Şanlıurfa: Ceylanpınar, Şeyhane köyü çevresi, 520 m, 1995 *N.Adıgüzel* 2366 & *Z.Aytaç* (GAZI); C8 Diyarbakır: Batman-Hasankeyf, 550 m, calcareous stony slopes, 2001 *M.Vural* 8550 (GAZI); Mardin: 24 km from Mardin to Diyarbakır, 1000 m, *D*. 28709 (ANK).

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