

THE REDISCOVERY OF *Linum ciliatum* Hayek (Linaceae): A LOCAL ENDEMIC SPECIES OF KONYA (TURKEY)

Osman TUGAY, Kuddisi ERTUĞRUL & Tuna UYSAL

Selçuk Üniversitesi, Fen Edebiyat Fakültesi, Biyoloji Bölümü, Kampus, Konya / Turkey

ABSTRACT

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In the scope of the project called 'Endemic Plants of Konya (Turkey)', *Linum ciliatum*, a local endemic taxon was collected in Ayrancı area. The first specimens of this species were collected during an expedition by Siehe to the area around Koraş, Central Anatolia in July 1912. These specimens were described as new species by Hayek in 1914. In the second volume of the Flora of Turkey (1967), the author indicated that, although allied to them *Linum ciliatum* is distinct from *Linum flavum* L. subsp. *scabrinerve* (P.H.Davis) P.H.Davis and *Linum mucronatum* Bertol. subsp. *armenum* (Bordz.) P.H.Davis. Some deficiencies, dealing with *Linum ciliatum* were eliminated, and the description was prepared again in this research.

Key words: *Linum*, Local Endemic, Konya, Turkey

Introduction

The genus *Linum* (Linaceae) comprises about 200 species in the Mediterranean region, temperate or subtropical regions of Asia and SW and N America (Rendle 1937; Meikle 1977; Hickey & King 1982; Zohary 1987). It is mainly centered in the Balkans and Anatolia (Davis 1967a,b). In Turkey there are about 51 taxa, including *L. maritimum* and *L. paphylicum* (Boiss.) Podp. subsp. *olympicum* G.Kaynak & Ö.Yılmaz (Davis 1967; Yılmaz *et al.* 2003; Güner *et al.* 2000). The endemism percentage of *Linum* species in the flora of Turkey is 39.4 %.

Materials and Methods

In the scope of the project called 'Endemic and Rare Plants of Konya (Turkey)', and founded by Scientific Research Projects Coordination Office (BAP-2002/228), *Linum ciliatum* Hayek, a local endemic taxon was collected from Karaman area in 2006. These have been compared to specimens of supposedly related species in the herbaria of KNYA and EGE and to records the literature (Brummitt & Powell 1992; Yılmaz & Kaynak 2006; IUCN 2001) It is showed that the specimens represent to *Linum ciliatum* local endemic species of Konya (Turkey). The specimens were examined and compared with speci-

mens of the related species *L. flavum* subsp. *scabrinerve* and *L. mucronatum* subsp. *armenum* (Tab. 1.).

The specimens collected were identified with the help of the Flora of Turkey and The east Aegean Islands (Davis 1967; Güner *et al.* 2000). The Herbarium of KNYA were used to check some the specimens. The authors of species names are written according to Brummitt & Powell (1992). The plant specimens prepared for herbarium collections have been stored in the Herbarium of KNYA.

Results and Discussion

Description

The following description is based on our own observations and that given in the Flora of Turkey (Davis 1967).

***Linum ciliatum* Hayek (Fig. 1.)**

Type: Turkey C5 Konya: Trockene Orte oberhalb Koraş, 1600 m, Siehe 1912: 255 (E! BM)

Suffrutescent perennial, without sterile rosettes at flowering time. Flowering stems erect to ascending, 6-20 cm, smooth or obscurely scabrid-ridged. Leaves elliptic to lanceolate, 10-25 x 3-8 mm, 1-3 nerved, acute to acuminate, with strongly ciliate margin (ciliae up to 1 mm), the lower leaves smaller, oblanceolate-spathulate (Fig. 2.). Cymes 2-7 flowered, 2-2.5 cm diam. Sepals narrowly lanceolate,

Tab. 1. Diagnostic characters of *Linum ciliatum* with the related species *L. flavum* subsp. *scabrinerve* and *L. mucronatum* subsp. *armenum*.

Characters	<i>Linum ciliatum</i>	<i>Linum flavum</i> subsp. <i>scabrinerve</i>	<i>Linum mucronatum</i> subsp. <i>armenum</i>
Habit	6-20 cm	20-35 cm	5-30 cm
Stem	smooth or obscurely scabrid-ridreg	scabrid ridges	smooth
Leaves	strongly ciliate, elliptic to lanceolate, 1-3 nerved	not ciliate, oblong, oblong-ob lanceolate or linear, 1 nerved,	not ciliate, oblong, obovate or linear-oblong, 3-7 (usually 5) nerved,
Sepals	narrowly lanceolate, 9-12 mm	lanceolate, rarely ovate, 6-13 mm	lanceolate, 8-15 mm

9-12 mm, keeled, with a membranous conspicuously ciliate magrin. Petals yellow, oblanceolate-obovate, 17-25 mm (Fig. 3.). Capsule orbicular, 5-6 mm, beak 1-1.5 mm. Flowering June, Fruting July. Hillside, slopes, 1700-1750 m.

Distribution

[Turkey] C4 Konya; Karaman, Ayrancı, Küçük Koraş, Karadere mevkii, eğimli yamaç, 37°08'N, 33°47'E, 1700 m, 17 vi 2006, *O.Tugay* 4101.

As a result of our field studies, this species which is only known from its type locality, had been collected from the locality of slopes of Koraş in Ayrancı as given in the Flora of Turkey. However, according to our studies, we have observed the existence of the species at Karadere of the Koraş on the slopes. All populations were healthy in all these localities (Fig. 4.).

Habitat and Ecology

This species is known only from a single location around Ayrancı: Koraş where it prefers hillside slopes and fields between 1700-1750 m elevation (Fig. 1). It is Irano-Turanian element. It shares its habitat with *Achillea wilhelmsii* C.Koch, *Aethionema karamanicum* K.Ertuğrul & O.Beyazoğlu, *Arnebia densiflora* Ledeb, *Astragalus setulosus* Boiss. & Balansa, *Bungea trifida* C.A.Mey., *Centaurea virgata* Lam., *Consolida orientalis* (Gay) Schröd., *Consolida raveyi* (Boiss.) Schröd., *Ebenus* sp., *Haplophyllum thesioides* (Fisch. ex DC.) G.Don, *Linum austriacum* L. subsp. *austriacum*, *Muscari* sp., *Nigella arvensis* L., *Ornithogalum narbonne* L., *Salvia cryptantha* Montbret & Aucher ex. Benth., *Scabiosa argentea* L., *Silene spergulifolia* (Desf.) Bieb.

Threat Category

According to Ekim et al. (2000), this species is classified as 'data deficient (DD)'. In this article, we have reviewed this assessment using the most recent version of the IUCN Red List Categories

(IUCN, 2001). *Linum ciliatum* is an endemic species and only known from the type gathering. The range of this new species limited to a single location and area of occupancy estimated to be less than 5 km (criterion B2a), the mature individual plants number being less than 350 (criterion C). Therefore it can be included in CR (Critically Endangered) category (IUCN 2001).

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Fig. 1. Habitat of *L. ciliatum*



Fig. 2. Flowers of *L. ciliatum*



Fig. 3. Leaves of *L. ciliatum*

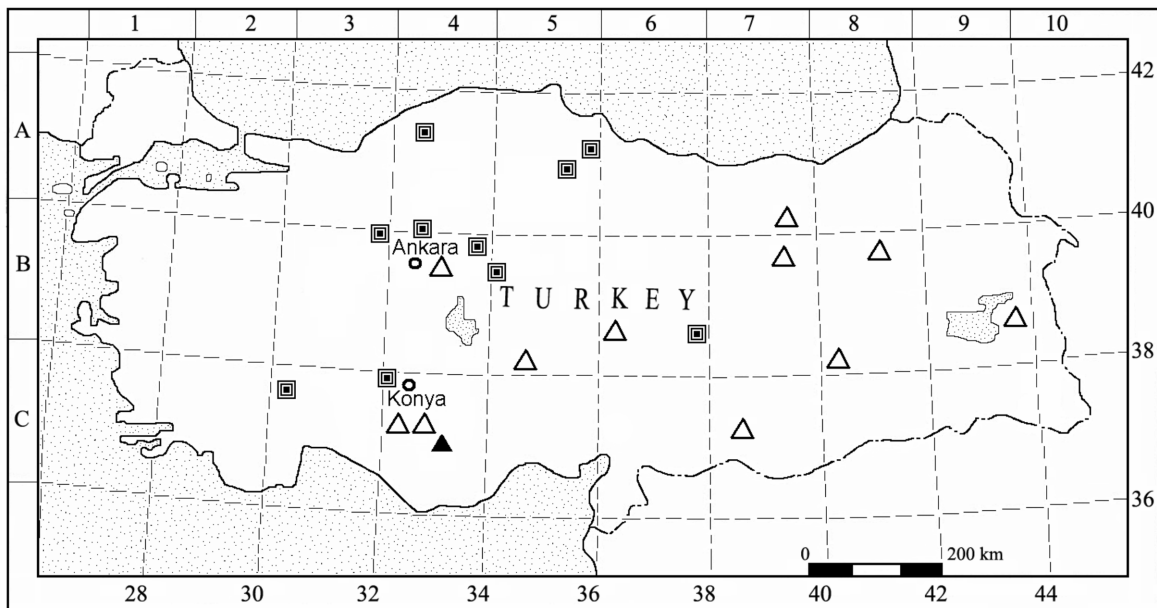


Fig. 4. Distribution map of *Linum ciliatum* (◻), *L. flavum* subsp. *scabrinerve* (▲), and *L. mucronatum* subsp. *armenum* (△) in Turkey.