

## New combination in *Linum* sect. *Syllinum* (Linaceae)

Özer Yılmaz\* & Gönül Kaynak\*\*

Uludağ Üniversitesi Fen-Edebiyat Fakültesi, Biyoloji Bölümü, 16059 Görükle/Bursa, Türkiye  
(e-mail: \*ozery@uludag.edu.tr, \*\*gkaynak@uludag.edu.tr)

Received 6 Apr. 2005, revised version received 14 June 2005, accepted 20 June 2005

Yılmaz, Ö. & Kaynak, G. 2006: New combination in *Linum* sect. *Syllinum* (Linaceae). — *Ann. Bot. Fennici* 43: 77–79.

The endemic Turkish taxon *Linum mucronatum* Bertol. subsp. *gypsicola* P.H. Davis var. *papilliferum* (Hub.-Mor. & Reese) P.H. Davis is transferred to the endemic species *L. pamphylicum* Boiss. & Heldr. ex Planch. as *L. pamphylicum* subsp. *papilliferum* (Hub.-Mor. & Reese) Yılmaz & Kaynak *comb. & stat. nov.* It is characterised by flowering stems with scabrid ridges, spatulate basal leaves and linear or linear-oblongate, papillose or puberulent cauline leaves.

Key words: Linaceae, *Linum*, nomenclature, *Syllinum*, taxonomy

*Linum* section *Syllinum* (Linaceae) occurs mainly in the Mediterranean area (Diedrichsen & Richards 2000). In Turkey, there are about 18 taxa, including *Linum pamphylicum* Boiss. & Heldr. ex Planch. subsp. *olympicum* Kaynak & Yılmaz, which was recently described from northwest Anatolia (Yılmaz *et al.* 2003).

The first author collected in summer 2004 the endemic taxon *L. mucronatum* Bertol. subsp. *gypsicola* P.H. Davis var. *papilliferum* (Hub.-Mor. & Reese) P.H. Davis from the Altınyayla (Dirmil) district in southwest Anatolia, in the same locality as the holotype (ca. 30 individuals). This taxon was first collected by Heinrich Reese in 1938, and described as a new species because of the characteristic indumentum (Huber-Morath 1943). Afterwards, Davis (1967a, 1967b) proposed that this species was a variety of *L. mucronatum* subsp. *gypsicola*.

After careful examination we concluded that this taxon has considerable differences from *L. mucronatum* s. lato. Based on the morphological and geographical evidence presented in this study,

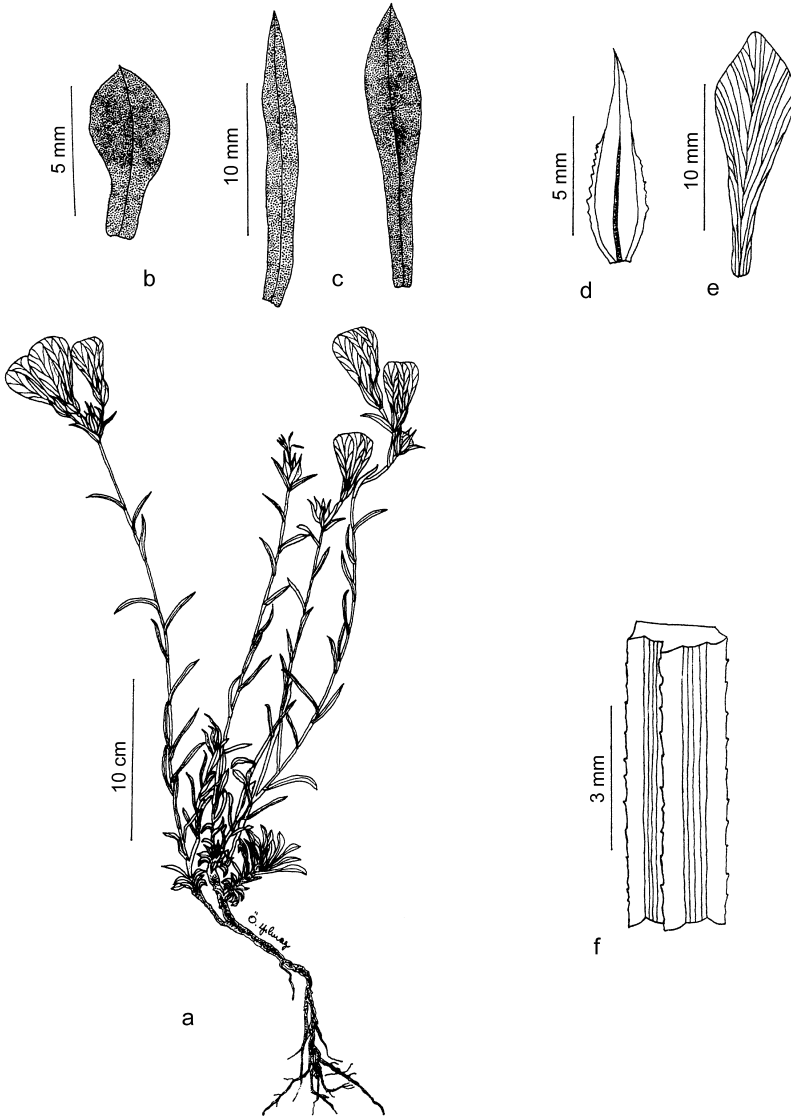
we propose the following new combination.

***Linum pamphylicum* Boiss. & Heldr. ex Planch. subsp. *papilliferum* (Hub.-Mor. & Reese) Yılmaz & Kaynak, *comb. & stat. nov.* (Fig. 1)**

*Linum papilliferum* Hub.-Mor. & Reese in Feddes Repert. 52 (1): 45. 1943. — *L. mucronatum* Bertol. subsp. *gypsicola* P.H. Davis var. *papilliferum* (Hub.-Mor. & Reese) P.H. Davis, Notes Royal Bot. Garden Edinburgh 22: 158. 1967. — TYPE: Turkey. [C2 Muğla] Fethiye–Dirmil, Steppe, 87 km nach Fethiye, 17 km for Dirmil, 1100 m, 9.VI.1938 Huber-Morath 5662 (BASBG!, photo).

ADDITIONAL SPECIMEN EXAMINED. — **Turkey.** C2 Muğla: Fethiye–Altınyayla (Dirmil), 17 km for Altınyayla, 36°55'N, 29°39'E, 1100 m, 18.VI.2004 Ö. Yılmaz & E. Erdoğan 19968 (BULU).

*Linum pamphylicum* subsp. *papilliferum* differs from all other taxa in *L. mucronatum* s. lato in having scabrid ridges of the flowering stems and persistent basal leaves at anthesis. Davis



**Fig. 1.** *Linum pamphylicum* subsp. *papilliferum* (from BULU 19968). — **a:** Plant. — **b:** Basal leaf. — **c:** Median cauline leaves. — **d:** Sepal. — **e:** Petal. — **f:** Scabrid ridges of flowering stem.

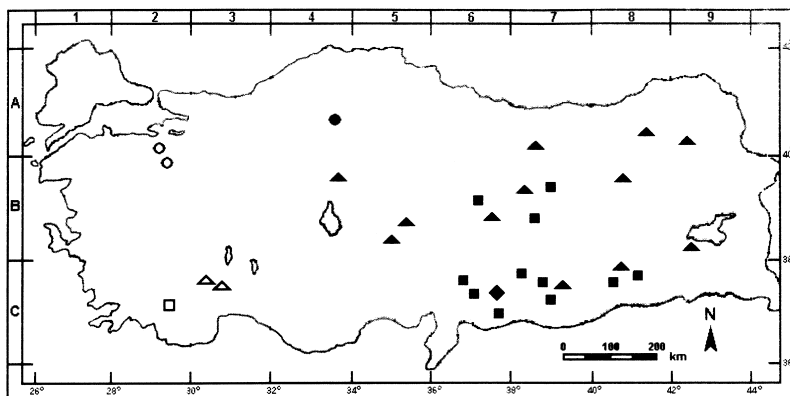
(1957, 1967a) indicated that the presence or absence of the basal leaves of flowering stems are useful taxonomic characters in sect. *Syllinum*. Furthermore, smooth or scabrid ridges of flowering stems are used in the identification of several taxa within this section.

*Linum mucronatum* subsp. *mucronatum*, *L. mucronatum* subsp. *orientale* (Boiss.) P.H. Davis, *L. mucronatum* subsp. *armenum* (Bordz.) P.H. Davis and *L. mucronatum* subsp. *gypsicola* are distributed mainly in eastern Anatolia (Fig. 2) and have ridged but smooth flowering stems, and they lack spatulate basal leaves at anthesis. Only the suffruticose *L. mucronatum* subsp.

*mucronatum* sometimes has small and imbricate leaves (ca. 1 mm long) through the basal part of the stems.

The subspecies of *Linum pamphylicum* occur in west Anatolia and have very local distributions (Fig. 2). *Linum pamphylicum* subsp. *papilliferum* is closely related to *L. pamphylicum* subsp. *pamphylicum* and *L. pamphylicum* subsp. *olympicum*, but differs from them by its papillose-puberulent and linear-oblongate cauline leaves. In addition, *L. pamphylicum* subsp. *papilliferum* differs from *L. pamphylicum* subsp. *pamphylicum* by its spatulate (not orbicular) basal leaves of flowering stems (Table 1).

**Fig. 2.** Distribution map of *Linum mucronatum* subsp. *mucronatum* (■), *L. mucronatum* subsp. *orientale* (◆), *L. mucronatum* subsp. *armenum* (▲), *L. mucronatum* subsp. *gypsicola* (●), *L. pamphylicum* subsp. *pamphylicum* (△), *L. pamphylicum* subsp. *olympicum* (○) and *L. pamphylicum* subsp. *papilliferum* (□) in Turkey.



**Table 1.** Morphological differences among three subspecies of *Linum pamphylicum*.

Characteristics	subsp. <i>pamphylicum</i>	subsp. <i>olympicum</i>	subsp. <i>papilliferum</i>
Plant height	15–20 cm	14–30 cm	12–25 cm
Basal leaves	orbicular–spathulate 10–15 mm long	spathulate 10 mm long	spathulate 5–10 mm long
Cauline leaves	oblong–lanceolate glabrous 1–3 nerved 12–25 × 2–6 mm	linear, linear–spathulate glabrous 1–3 nerved 11–24 × 1–3 mm	linear, linear–oblanceolate papillose–puberulent 1 nerved 10–30 × 1–2 mm
Inflorescence	cyme 3–17 flowered	cyme 3–17 flowered	cyme 1–7 flowered
Sepals	8–12 mm	(8)–9–12 mm	(7)–8–10 mm
Petals	20–25 mm	22–30 mm	20–23 mm

## Acknowledgements

We are grateful to Dr. Christian J. Heitz, conservator of BBG (Basler Botanische Gesellschaft, Switzerland) for the detailed type photographs of *L. papilliferum*. We also thank the Curators of AEF, ANK, EGE and GAZI herbaria for allowing us to study their *L. mucronatum* specimens.

## References

- Davis, P. H. 1957: Materials for a flora of Turkey: II. *Linum* Linn. — *Notes Royal Bot. Garden Edinburgh* 22: 135–161.
- Davis, P. H. 1967a: *Linum* L. — In: Davis, P. H. (ed.), *Flora of Turkey and the East Aegean Islands* 2: 425–450. Edinburgh Univ. Press, Edinburgh.
- Davis, P. H. 1967b: Materials for a flora of Turkey: XVI. Geraniaceae, Linaceae. — *Notes Royal Bot. Garden Edinburgh* 28: 35–38.
- Diedrichsen, A. & Richards, K. 2000: Cultivated flax and the genus *Linum* L. — In: Muir, A. D. & Westcott, N. (eds.), *Flax, the genus Linum*: 22–54. Taylor & Francis Group, London & New York.
- Huber-Morath, A. 1943: Novitiae Florae Anatolicae. — *Feddes Repert.* 52(1): 40–51.
- Yılmaz, Ö., Kaynak, G. & Vural, M. 2003: A new taxon of *Linum* (Linaceae) from northwest Anatolia, Turkey. — *Ann. Bot. Fennici* 40: 147–150.