

Two new species of *Fibigia* Medik. and *Thlaspi* L. of *Brassicaceae* from Turkey

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Abstract

An excursion to Tunceli-Nazimiye from east Turkey in May 2015, we have discovered a new *Fibigia* and *Thlaspi* species of *Brassicaceae*. They are described here as *Fibigia yildirimlii* Kılıç and *Thlaspi kilicii* Yıld. based on living plants and recent herbarium specimens, and are presented their a distribution map and closely related species.

Key Words: *Fibigia yildirimlii*, *Thlaspi kilicii*, *Brassicaceae*, Tunceli, Turkey

Türkiye'den Turpgillerin *Fibigia* and *Thlaspi* cinslerine ilgin iki yeni tür

Özet

Mayıs 2015 yılında doğu Türkiye'nin Tunceli ili Nazimiye ilçesine yapılan bilimsel bir gezide, turpgillerin *Fibigia* ve *Thlaspi* cinslerine ilgin iki yeni tür bulduk. Canlı ve yeni otluk örneklerine dayanarak onların betimlemeleri yapıldı ve haritada yayılışları gösterildi ve yakın türleri belirtildi.

Bulduru Sözcükleri: *Fibigia yildirimlii*, *Thlaspi kilicii*, *Brassicaceae*, Tunceli, Türkiye

Introduction

In 2012 Çetin et al. revised the Turkish genus *Fibigia* Medik. and they described a new section: *Purpureae*, a new subsp.: *F. clypeata* (L.) Medik. subsp. *clypeata* and subsp. *anatolica*, a new comb. et stat.; *F. clypeata* (L.) Medik subsp. *clypeata* var. *eriocarpa* (1). In fact, *F. suffruticosa* was transferred to *Brachypus* genus, *B. suffruticosus* (Vent.) V. I. Dorof. in Konspekt Fl. Kavkaza 3(2): 411. 2012 (IPNI) (2). Thus, this new section *Purpureae* is synonym of this new genus of *Bracypus*.

Brachypus Ledeb.

B. suffruticosus (Vent.) V.I.Dorof., Konspekt Fl. Kavkaza 3(2): 411, 2012.

Syn. sect. nov.: *Fibigia* Medik., Section: *Purpureae* A.Duran & Ö.Çetin in African Journal of Biotechnology, 11(1): 110, 2012. Type: *Fibigia suffruticosa* (Vent.) Sweet, basionym: *Lunaria suffruticosa* Vent. 1800, Descr. Pl. Nouv.: 19 et tab.

The authors collected interesting *Brassicaceae* specimens from the Tunceli-Nazimiye of east Turkey during a field trip in the spring of 2015. Already, we have published a new very interesting *Aethionema* W.T.Aiton Subgenus *Hedgeana* Yıld. et Kılıç based on *Ae. apetalum* Yıld. et Kılıç from the same place (3).

After morphological research, these specimens of *Fibigia* and *Thlaspi* have been compared to many specimens of related species in the Herbaria of ANK, GAZI and HUB in Ankara and consulting the some numerous relevant literature (4, 5), it was concluded that these specimens of *Fibigia* and *Thlaspi* represent as new species to science.

Taxonomic Treatment

Brassicaceae

***Fibigia yildirimlii* Kılıç, sp. nov., figures 1-5**

Suffrutescent perennial. Stems c. 20-38 cm x 2 mm, erect, terete, 2/3 leafy, 1/3 frutescence, irregularly patent and adpressed stellate hairy. Steril basal leaves 20-50 x 3-6 mm, oblanceolate-elliptic, petiolate, entire to repand-dentate, attenuate at base, obtuse at apex, conspicuous 1-nerved along middle, densely adpressed stellate hairy; stem leaves as basal leaves, slightly decreasing upwards, dense, elliptic, sessile, alternate. Inflorescence spicate. Sepals 5 x 2 mm, elliptic, pale yellow, stellate hairy, scarious margins. Petals 8-10 x 0.6-0.8 mm, yellow, claw 7-8 mm, linear, white scarious; limb 2-3 mm lanceolate, glabrous. Stamens 5 mm, filaments 4 mm, white, winged;

anthers c. 1 mm, pale yellow, basifixed. Styles 1.5 mm, narrowly ovate, 2/3 stellate hairy, 1/3 glabrous, stigma capitate. Pedicels 2-3 mm, erect, stellate hairy. Siliculae c. 7-9 x 4-5 mm, oblong, flattened, 0.5-2 mm long stellate hairy; seeds c. 4-5, c. 0.5 mm.

Type. Turkey. B7 TUNCELİ: Merkez, Rabat (Çemçeli) köyü alt yolu, kırmızı kayrak taşlık yer, meşe ormanı, 1300 m, 30.05.2015, Ş. Yıldırımli 41058 & Ö. Kılıç (holo. Yıldırımli Otluk'u; iso. HUB, Yıldırımli Otluk'u).

Endemic. Anatolia-Turanian element.

Close to *Fibigia eriocarpa* (DC.) Boiss. but basal leaves oblanceolate-elliptic (not oblong) and entire to repand-dentate (not dentate); stem leaves elliptic (not linear); filaments winged (not unwinged); siliculae c. 7-9 x 4-5 mm (not 21-24 x 10-12 mm); style 1.5 mm (not 1.5-2.2 mm).

Eponymy. The new species is named in honour of Prof. Dr. Şinasi Yıldırımli, Hacettepe University, Ankara, Turkey.



Figure 1. *Fibigia yildirimlii*, habitus, Ş. Yıldırımli 41058 & Ö. Kılıç (holotype)



Figure 2. *Fibigia yildirimlii*, habitus, Ş. Yıldırımli 41058 & Ö. Kılıç (holotype)



Figure 3. *Fibigia yildirimlii*, habitus, Ş. Yıldırımli 41058 & Ö. Kılıç (holotype)



Figure 4. *Fibigia yildirimlii*, infrutescence, Ş. Yıldırımli 41058 & Ö. Kılıç (holotype)

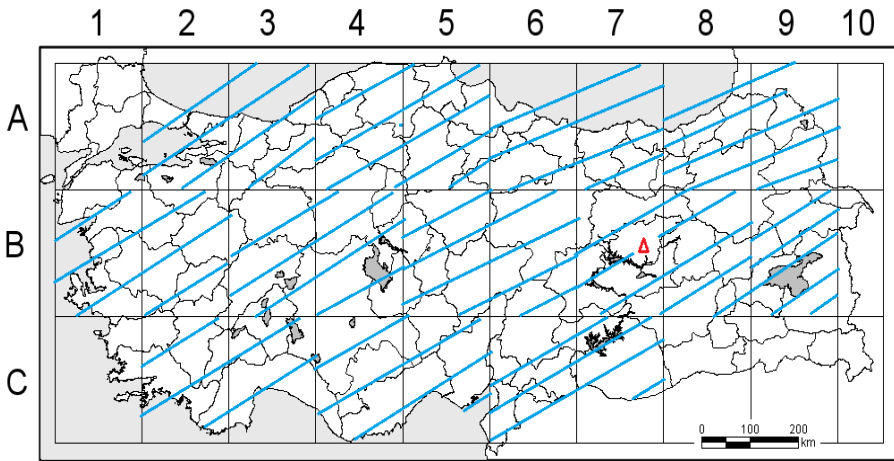


Figure 5. The distribution of *Fibigia yildirimlii* and close to *Fibigia eriocarpa* in Turkey

▲: *Fibigia yildirimlii*

▨: *Fibigia eriocarpa*

***Thlaspi kilicii* Yıld. , sp. nov., figures 6-9**

Biennial delicate herb. Root slender. Stems 12-15 cm long including inflorescence, simple, erect, terete to striate, purple at base, yellowish at apex, glabrous, (3-)5(-6) leafy. Basal leaves as rosette-forming, 4-5 x 4 mm excluding petiole, circular, margin entire, shortly petiolate, c. 2 mm, green, glabrous; stem leaves 10-13 x 5-8 mm, oblong, amplexicale, auriculate, obtuse apex, entire, irregularly undulate, glabrous. Inflorescence 2-3 cm, raceme, many flowered, ebracteate. Fruiting pedicels 2-4 mm, 4 mm long below ones and patent, 2 mm above ones and erect-patent. Calyx c. 1 mm, purplish, 1-nerved, whitish margined, glabrous. Corolla 2 mm, white, glabrous. Stamens exserted from calyx, anthers 2 x 2 mm. Siliculae 3-7 x 3-7 mm, orbicular to obovate, with broadly winged and strongly compressed, reticulate venation, glabrous, emarginate at apex, lobes obtuse, margins red fasciated, entire, wings at sinus 2.5-3.5 mm, septum c. 3-5 x 1.5-2 mm, elliptic to elliptic-obovate, sinus 2-3 mm, style 0.1 mm, inconspicuous. Seeds in each loculus 4-5, c. 1 x 0.3-0.4 mm, scapulate-elliptic, smooth not or inconspicuously striate, reddish, glabrous.

B7 TUNCELİ: Nazimiye, Büyükyurt (Hakis) köyü üstü, Şirince ve Sinekli dere çevresi, titrekkavak (*Populus tremula*) ormanı, kuru dere boyunca, 1850-2000 m, 31.05.2015, Ş. Yıldırımli 41211 & Ö. Kılıç (holo. Yıldırımli Otluk'u; iso. HUB, Yıldırımli Otluk'u).

Endemic. Anatolia-Turanian element.

Close to *Thlaspi huetii* Boiss. but plant biennial (not annual); basal leaves rosette-forming (not rosette-forming); petals 2 mm (not 4-6 mm); pedicels 2-4 mm (not 8-14 mm) in fruiting time and *T. microstylum* Boiss. but petals 2 mm (not 4 mm); sinus 2-3 mm (not 1-1.5 mm), wings at sinus 2.5-3.5 mm (not 1.5-2.5 mm), style 0.1 mm (not 0.5-1 mm), ovules and seeds 4-5 per loculus (not 2) and, *T. kotschyannum* Boiss. & Hohen. but plant biennial (not annual); basal leaves as rosette-forming (not rosette-forming); stem leaves oblong (not ovate); fruiting pedicels 2-4 mm and patent (not 4-10 mm and ascending); siliculae 3-7 x 3-7 mm, with margins red fasciated (not 10-12 x 10-15 mm), sinus 2-3 mm large (not narrow).

Eponymy. The new species is named in honour of Doç. Dr. Ömer Kılıç, Bingöl University, Bingöl, Turkey.



Figure 6. *Thlaspi kilicii*, habitus, Ş. Yıldırımli 41211 & Ö. Kılıç (holotype)



Figure 7. *Thlaspi kilicii*, inflorescence, Ş. Yıldırımli 41211 & Ö. Kılıç (holotype)



Figure 8. *Thlaspi kilicii*, infructescence, Ş. Yıldırımılı 41211 & Ö. Kılıç (holotype)

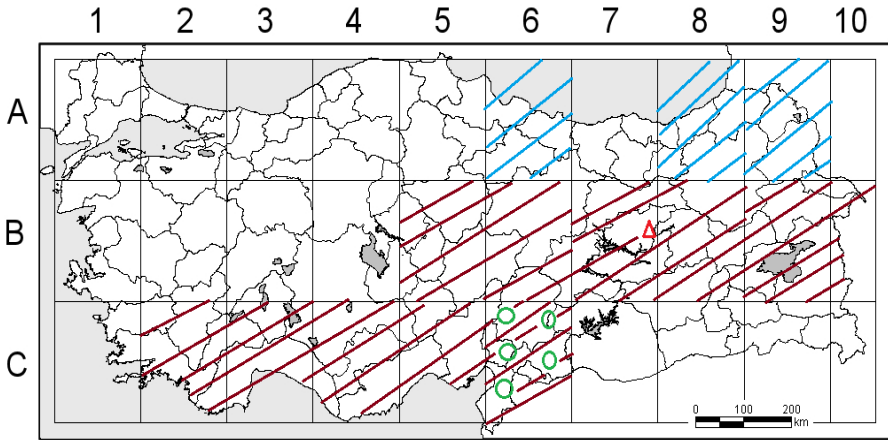


Figure 9. The distribution of *Thlaspi kilicii*, close to *Thlaspi huetii*, *T. microstylum* and

T. kotschyianum in Turkey

- ▲ : *Thlaspi kilicii*
 : *Thlaspi huetii*,
 : *Thlaspi microstylum*,
 : *Thlaspi kotschyianum*

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