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## Distribution of *Lepidium* taxa in Turkey

### Abstract

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*Lepidium* L. is one of the largest genera in the *Brassicaceae*, consisting of  $\pm$  175 species worldwide (Bowman & al. 1999). It is distributed worldwide, primarily in temperate and subtropical regions; the genus is poorly represented in Arctic climates, and in tropical areas it grows in the mountains (Mummenhoff & al. 2001). According to Flora of Turkey, 14 taxa occurs in Turkey (Hedge 1965; Güner & al. 2000).

### Introduction

A cosmopolitan genus of about 175 species distributed primarily in temperate and subtropical regions and poorly represented in the tropics and alpine areas, with some 25 species indigenous in North and Central America, 37 in South America, 47 in Australia, New Guinea and New Zealand, 22 in Africa, and the remainder in Europe, Asia and the Hawaiian Islands (Al-Shehbaz 1986).

Classification within the *Brassicaceae* usually does not rely on floral characters because the flower structure is so constant. However, in the genus *Lepidium*, there is a tendency for some of the flower parts to be reduced to the point of absence, and hence flower structure is used in subgeneric classification. Fruit and seed characters are valuable too, but the latter tend to have been ignored in *Lepidium*, with the exception of the trifid cotyledon of *L. sativum* L. The characters of vegetative morphology are often used as species-defining characters (Hewson 1981).

In this study it is shown that the distribution of Turkish *Lepidium* which are: *L. campestre* (L.) R.Br., *L. spinosum* Ard., *L. sativum* subsp. *sativum* L., *L. sativum* subsp. *spinescens* (DC.) Thell., *L. ruderale* L., *L. perfoliatum* L., *L. vesicarium* L., *L. caespitosum* Desv., *L. cartilagineum* subsp. *cartilagineum* (J. May.) Thell., *L. cartilagineum* subsp. *crassifolium* (Waldst. & Kit.) Thell., *L. latifolium* L., *L. lyratum* L., *L. graminifolium* L., *L. virginicum* L.

### Materials and Methods

Distribution maps of *Lepidium* taxa were prepared by; using Flora of Turkey and the East Aegean Islands, some floristic publications, herbarium records (ISTF, ISTE, GAZI,

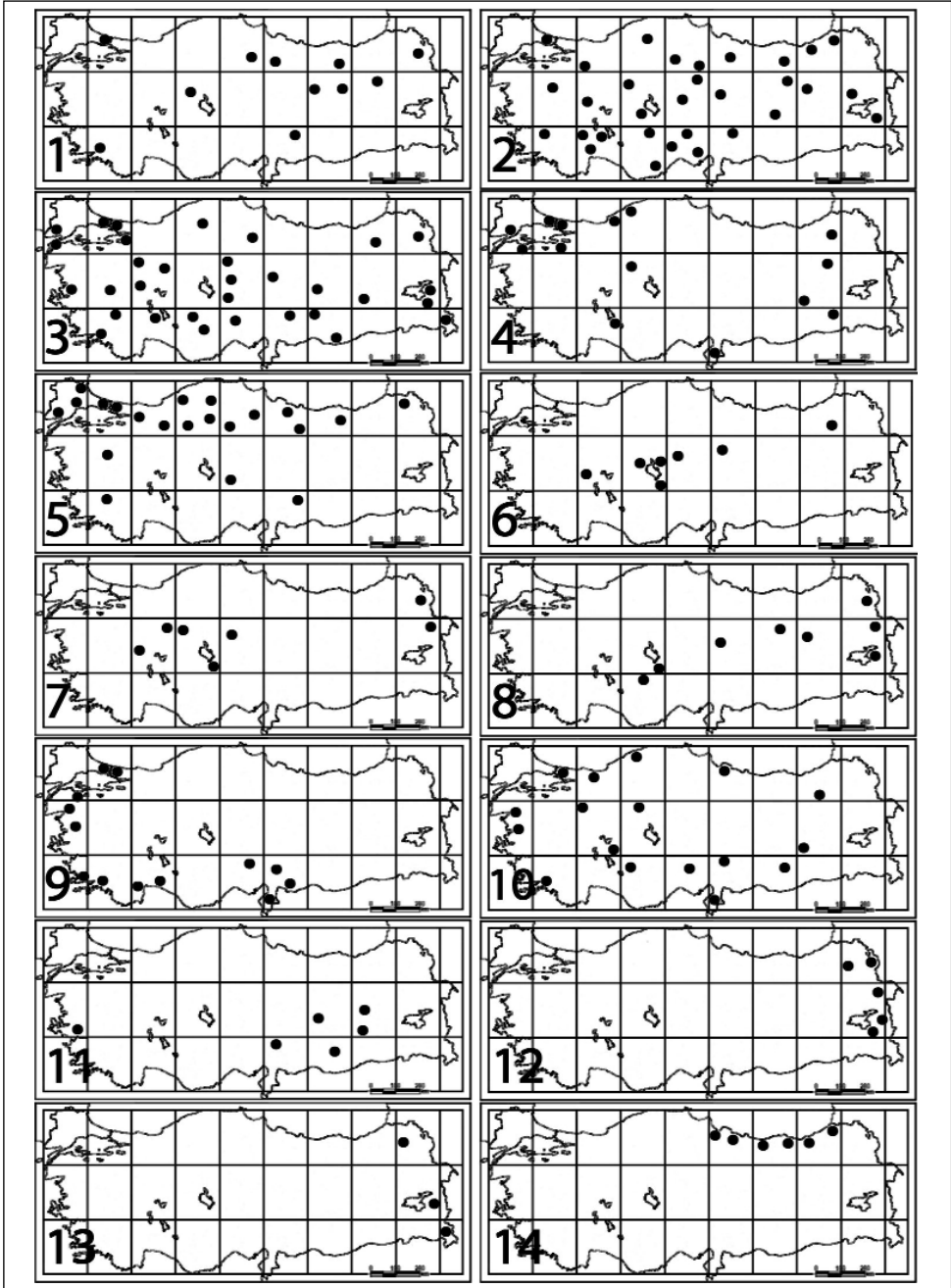


Fig. 1. Distribution maps of Turkish *Lepidium*. 1, *L. ruderale*; 2, *L. perfoliatum*; 3, *L. latifolium*; 4, *L. graminifolium*; 5, *L. campestre*; 6, *L. caespitosum*; 7, *L. cartilagineum* subsp. *cartilagineum*; 8, *L. cartilagineum* subsp. *crassifolium*; 9, *L. spinosum*; 10, *L. sativum* subsp. *sativum*; 11, *L. sativum* subsp. *spinescens*; 12, *L. vesicarium*; 13, *L. lyratum*; 14, *L. virginicum*.

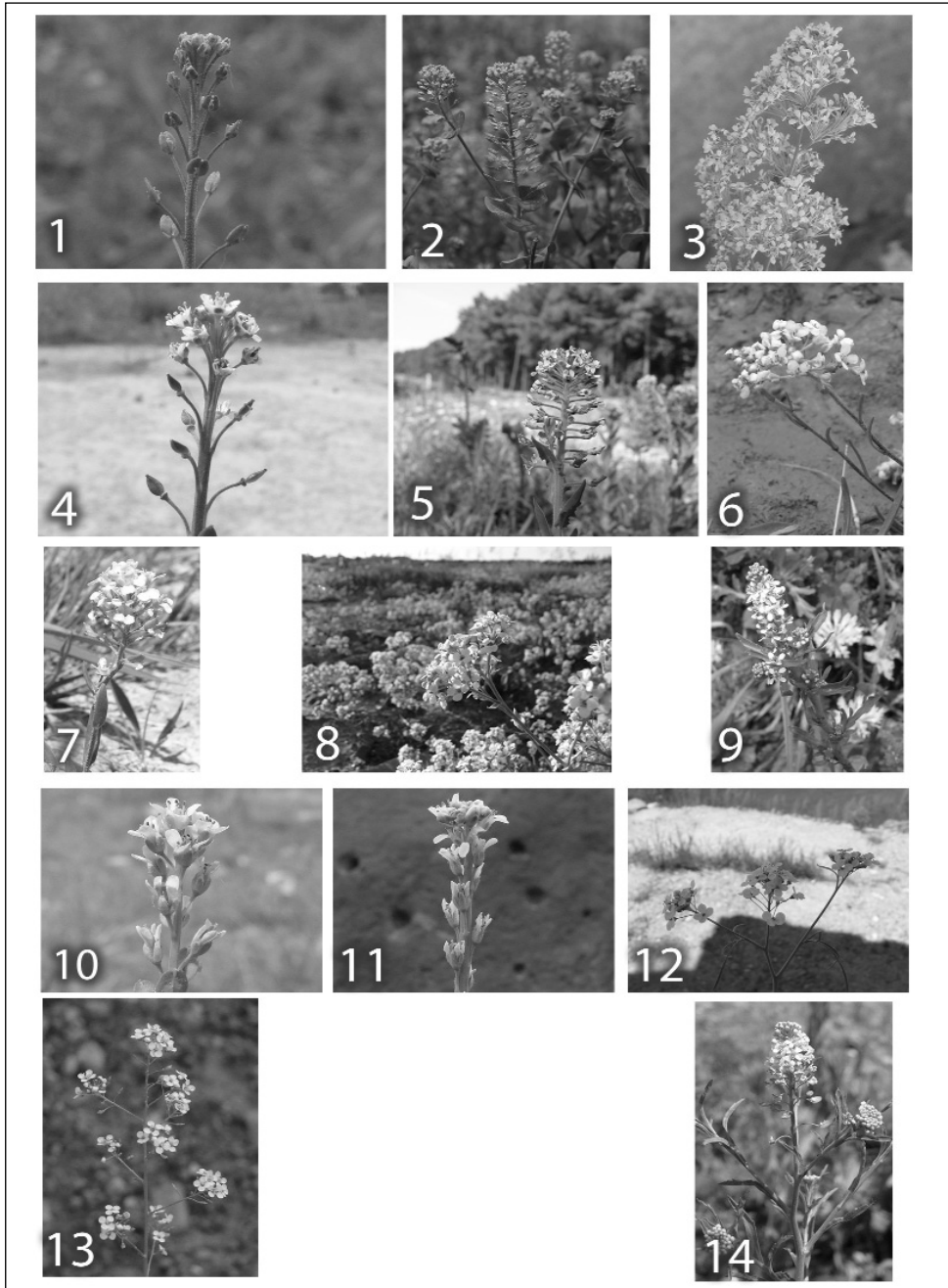


Fig. 2. Pictures of Turkish *Lepidium*. 1, *L. ruderale*; 2, *L. perfoliatum*; 3, *L. latifolium*; 4, *L. graminifolium*; 5, *L. campestre*; 6, *L. caespitosum*; 7, *L. cartilagineum* subsp. *cartilagineum*; 8, *L. cartilagineum* subsp. *crassifolium*; 9, *L. spinosum*; 10, *L. sativum* subsp. *sativum*; 11, *L. sativum* subsp. *spinescens*; 12, *L. vesicarium*; 13, *L. lyratum*; 14, *L. virginicum*.

HUB, ANK, AEF) and my own *Lepidium* collection dating 2008-2010. All collected information about *Lepidium* has shown on grid system map.

## Results and Discussion

*L. ruderale*, *L. perfoliatum*, *L. latifolium*, *L. graminifolium*, *L. campestre* are widespread on Turkey (Figure 1). *L. ruderale* easily recognized from other *Lepidium* taxa with apetalous flowers with 2 stamens. *L. perfoliatum* is the most common *Lepidium* in Turkey. *L. perfoliatum* leaves is distinctly dimorphic; basal leaves glabrous, 3-pinnatisect with long petiole, upper cauline leaves pubescent, sessile, entire, stem-clasping with large lobes enclosing the stem and overlapping above. Only *L. perfoliatum* has yellow flowers. *L. latifolium* is 30-100 cm long, inflorescence a panicle of dense racemes, stigma distinctly broader than style. It is placed drained ground, riverbanks, floodplains, and wetland habitats. *L. graminifolium* has small white flowers. *L. campestre* inflorescence is an elongating raceme with densely pubescent fruiting pedicel (Figure 2).

*L. caespitosum*, *L. cartilagineum* subsp. *cartilagineum* and *L. cartilagineum* subsp. *crassifolium* are located only saline places (Figure 1). *L. caespitosum* leaves all same, linear, subcylindrical and without auricles, stem erect. *L. cartilagineum* subsp. *cartilagineum* leaves linear-lanceolat, without auricles, stem erect. *L. cartilagineum* subsp. *crassifolium* leaves ovate or elliptic, with auricles, stem spreading or ascending (Figure 2).

*L. sativum* subsp. *sativum*, *L. sativum* subsp. *spinescens* and *L. spinosum* are very commonly cultivated taxa (Figure 1). *L. spinosum* fruits are two horned at apex, flowers white. *L. sativum* subsp. *sativum* racemes are not ending a spiny point and style not exceeding apical sinus, petals white-lilac. *L. sativum* subsp. *spinescens* racemes are ending a spiny point and style exceeding apical sinus, petals white-lilac (Figure 2).

*L. vesicarium* and *L. lyratum* are only recorded east of Turkey (Figure 1). *L. vesicarium* is the most easily recognized taxa from stem with prominent swelling at nodes. *L. lyratum* is very close to *L. graminifolium* but it has broader petals and smaller fruits (Figure 2).

*L. virginicum* is distributed only north of Turkey (Figure 1). *L. virginicum* is native of N. America; introduced and naturalized in Turkey like in much Europe. *L. virginicum* has white petals, obovate-orbicular fruits and 2 (3-4) stamens (Fig. 2).

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