

A new distribution area of the *Lathyrus grandiflorus* Sibth. & Sm. in Turkey

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Abstract

Lathyrus grandiflorus Sibth. & Sm. a species belongs to the Fabaceae family was reported from two locality in Turkish flora (Ertekin et al., 1997; Anonymous, 2017a; Anonymous, 2017b). *L. grandiflorus* has been reported in new locality in C4 Mersin: Anamur, around Kılıç village by Genç & Yıldırım. This distribution is interesting for Turkish flora. This manuscript provides the identification of a new location of *L. grandiflorus*.

Key words: C4 square, Flora of Turkey, *Lathyrus grandiflorus*, Mersin, New square record.

1. Introduction

Lathyrus L. belongs to the Fabaceae (Leguminosae) family is an important genus in terms of economic. Genus *Lathyrus* represented by 77 taxa at the species, subspecies, and variety level in Turkey and 25 of which are endemic (Davis, 1970; Davis et al., 1988; Güner et al., 2000; Genç and Şahin, 2008; Genç, 2009; Genç and Şahin, 2011; Güneş and Çırpıcı, 2012; Güneş, 2014). Some species of the genus are used as human food or animal feed (Yamamoto et al., 1984). It has been reported that *Lathyrus sativus* L. is cultured in many places of Anatolia and *Lathyrus odoratus* L. is grown as an ornamental plant in Turkey (Davis, 1970). In the field studies we have conducted, it was observed that cultures *L. cicera* L., *L. clymenum* L. and *L. ochrus* (L.) DC. other than *L. sativus* in Turkey.

Lathyrus grandiflorus Sibth. & Sm., belongs to genus *Lathyrus*, is distributed in the shaded areas of the mountains in the South of the Balkan Peninsula, South Italy and Sicily (Tutin et al., 1968). Although it is mentioned for the first time in C1 Aydın: Kuşadası, Dilek Peninsula National Park in Turkey in 1997 (Anonymous, 2017a; Anonymous, 2017b), it was identified in B1 Balıkesir: Erdek, around Ocaklar village and added as a new record to flora of Turkey by Ertekin et al. (1997) in the same year. Distributing areas of *L. grandiflorus* were given as B1 and C2 squares in Yıldırım (2005).

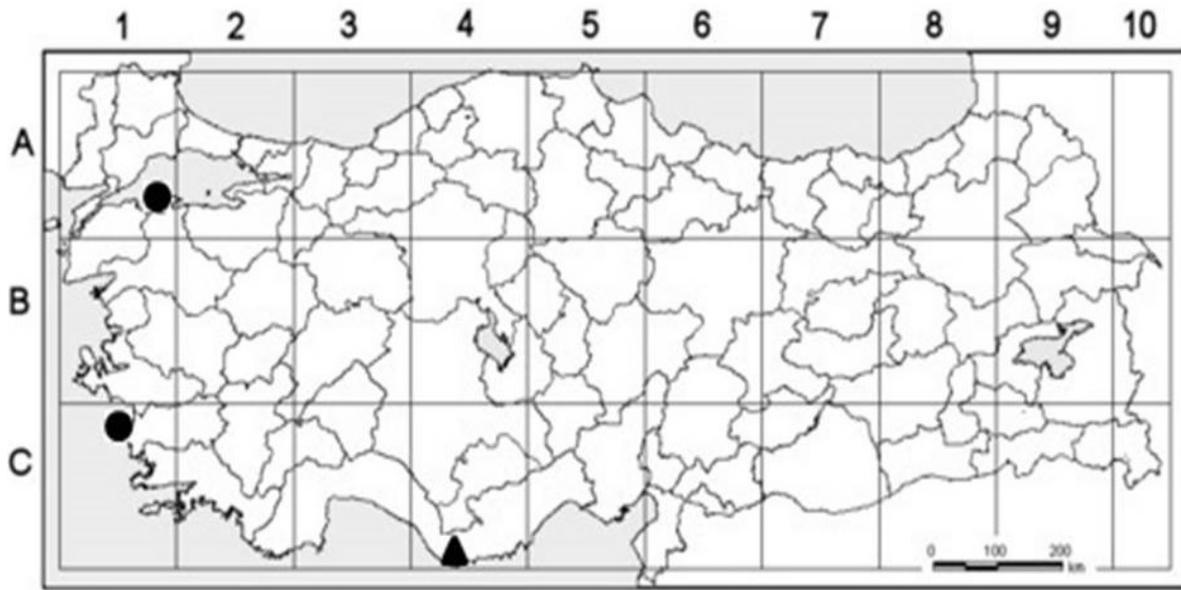
An interesting spread area of *Lathyrus grandiflorus* has been identified in our field studies. It has been revealed that the plant has distribute in a narrowly locality in C4 Mersin: Anamur, around Kılıç village in our research. Some similarities and differences were found in the morphological characteristics of *L. grandiflorus* when compared with the literature.

2. Material and Method

Plant specimens were collected from natural habitat in C4 Mersin: Anamur, around Kılıç village in June 2017. European Flora (Tutin et al., 1968) and Ertekin et al. (1997) have been used to identify of plant specimens. Whether or not the *Lathyrus grandiflorus* is new record to C4 square has been evaluated by investigating to the literature in this subject.

3. Findings

L. grandiflorus shows wide distributing in European flora (Tutin et al., 1968). It has been reported that the species added as a new record for the first time to flora of Turkey in 1997 shows distributing in two localities. These localities are A1 Balıkesir: Erdek, around Ocaklar village and C1 Aydın: Kuşadası, Dilek Peninsula National Park (Figure 1) (Ertekin et al., 1997; Anonymous, 2017a; Anonymous, 2017b). In our field studies, it was determined that the taxon was distributing on a valley slope and a narrowly locality C4 Mersin: Anamur, around Kılıç village, which is 700-950 km away from the localities indicated in the literature (Figure 1). We think that this distributing is interesting. The results of the morphological measurements made on the taxon and the comparison with the literature data are given in Table 1.



● Distribution areas according to the literature ▲ Newly detected distribution area

Figure 1. Distribution areas of *L. grandiflorus* in Turkey.

Table 1. Comparison of the morphological properties.

Morphological properties	European Flora	Ertekin et al., 1997	New locality (C4)
Stem shape	Wingless	Wingless	Narrowly winged
Plant height (cm)	30 - 150	50 - 100	90 - 210
Leaflet number (pair)	1 (-3)	1	1
Leaflet length (mm)	25 - 50	40 - 45	25 - 86
Leaflet width (mm)	10 - 35	15 - 17	12 - 41
Stipule shape	-	Semi sagittat	Sagittat
Stipule length (mm)	2 - 10	5 - 6	5 - 12
Stipule width (mm)	0.5 - 1.5	1	1 - 2
Peduncle length (mm)	-	60 - 90	41 - 96
Fruit length (mm)	60 - 90	-	49 - 82
Fruit width (mm)	6 - 7	-	6 - 8
Calyx (mm)	-	8 - 10	7 - 9
Flowers number	1 - 4	1 - 3	1 - 3
Standart	Violet	Magenta-pink or pink	Light purple
Flower (mm)	25-30	35-40	21-28

4. Results and Discussion

It has also been reported that *L. grandiflorus* added as a new record from B1 Balıkesir: Erdek, around Ocaklar village for the first time to flora of Turkey by Ertekin et al. (1997) in 1997 has distributed in C1 Aydın: Kuşadası, Dilek Peninsula National Park (Anonymous, 2017a; Anonymous, 2017b). Balıkesir: Erdek, Ocaklar village distribution area of the species was given in B1 square by Ertekin et al. (1997) and Yıldırım (2005). However, it was concluded that the locality given in the study of Ertekin et al. (1997) and Yıldırım (2005) should be corrected as A1 square. On the other hand the C2 Square given in Yıldırım (2005) should also be corrected as C1 square. Distribution of the species in a narrowly area in C4 Mersin: Anamur, around Kılıç village 700-950 km away from the other localities is interesting for the flora of Turkey. Distance between localities is too much. It is necessary to investigate which factors are effective on the distributing. The measurements we made on *L. grandiflorus* show some differences in morphological characteristics when compared with the literature. These differences suggest that morphological, anatomical, taxonomic, cytotoxic and chemotaxonomic studies should be performed on the species. According to the results of these studies, taxon could be determined as a subspecies or variety.

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