



## Article

### ***Pinguicula habilii* (Lentibulariaceae), a new carnivorous species from South-West Anatolia, Turkey**

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#### **Abstract**

*Pinguicula habilii* (Lentibulariaceae), described as a new species of carnivorous plants, is distributed in the province of Muğla in Southwestern Anatolia, Turkey. A full description, diagnostic morphological characters, and detailed photographs of this new species including SEM microphotographs of seed and pollen are given. The new species belongs to the section *Cardiophyllum* of *Pinguicula* subgenus *Isoloba*. It resembles the *P. crystallina* and *P. hirtiflora*. It differs from the related species by its heterophyllous growth, leaf shape and peculiar seed coat sculpture. It grows on serpentine rocks at elevations between 100 and 200 m.

**Key words:** Marmaris, Muğla, *Pinguicula* section *Cardiophyllum*, taxonomy

#### **Introduction**

*Pinguicula* Linnaeus (1753: 17) is the second most diverse and species-rich genus of the “carnivorous” family Lentibulariaceae, only rivaled by *Utricularia* Linnaeus (1753:18) (Steiger 1998, Legendre 2000, Conti & Peruzzi 2006). It comprises about 100 species (Degtjareva *et al.* 2006, Beck *et al.* 2008, Rodondi *et al.* 2010). It is one of the most widespread genera of carnivorous plants genera (Casper 1966, Givnish 1989), distributed in subarctic, tropical, Mediterranean and temperate areas of Eurasia, North America, Central America (from Mexico to the Caribbean Islands), South America (Andes from Colombia to Ecuador, Chile and Patagonia) and northernmost Africa (Zamora *et al.* 1996, Steiger 1998, Legendre 2000, Degtjareva *et al.* 2004, 2006, Fischer *et al.* 2004, Cieslak *et al.* 2005).

Two important distribution centers of the genus *Pinguicula* are Central America (Mexico) and the Caribbean, and the Mediterranean region (Steiger 1998, Cieslak *et al.* 2005). Although it is known that there are about 20 *Pinguicula* species in the Mediterranean Basin, they are rare and restricted to certain sites in Mediterranean ecosystems (Casper 1962, Blanca 2001). In these regions, where plant growth is very limited due to water unavailability, appropriate habitats for *Pinguicula* are scattered, and isolated in wet areas surrounded by larger dry habitats (Blanca 2001). This caused the formation of small, isolated *Pinguicula* populations (Zamora *et al.* 1996).

The leaves of the carnivorous *Pinguicula* produce sticky glandular secretions on short-stalked glands in order to capture and digest small arthropods (Heslop-Harrison 1978). Members of the genus *Pinguicula* can be distinguished from the other two genera of Lentibulariaceae, *Utricularia* and *Genlisea* Saint-Hilaire (1883: 428), by a combination of plesiomorphic character states, such as the presence of true roots, leaves and sticky adhesive traps (Casper 1962, 1966). *Pinguicula* taxa are limited to nutrient-poor habitats (Givnish 1989), as are most carnivorous plants.

Casper (1966) divided the *Pinguicula* taxa into 3 subgenera with respect to their floral features and into 12 sections by the features of vegetative parts. Moreover, Casper (1966) and Steiger (1975, 1998) divided the