

## *Prometheum chrysanthum* subsp. *uludaghense* (Crassulaceae), a new taxon from Turkey

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*Prometheum chrysanthum* (Boiss.) 't Hart subsp. *uludaghense* Kaynak, Yılmaz & Daşkın *subsp. nova* from northwest Anatolia, Turkey is described and illustrated. It is closest to *P. chrysanthum* subsp. *chrysanthum*, but differs by its narrower, oblong-lanceolate, longer cauline leaves, a thyrsoïd inflorescence, and larger flowers.

Key words: Crassulaceae, *Prometheum*, new subspecies, taxonomy

*Prometheum* is a small genus in the Crassulaceae, distributed in western Asia and in the eastern Mediterranean. Previously, the species of this genus were placed in *Sedum* and *Rosularia*. Recent cytological, molecular, chemotaxonomical and hybridization experiments indicated that *Prometheum* is morphologically distinct at the generic level, and it is a monophyletic group of about eight species ('t Hart *et al.* 1999, 't Hart 2003).

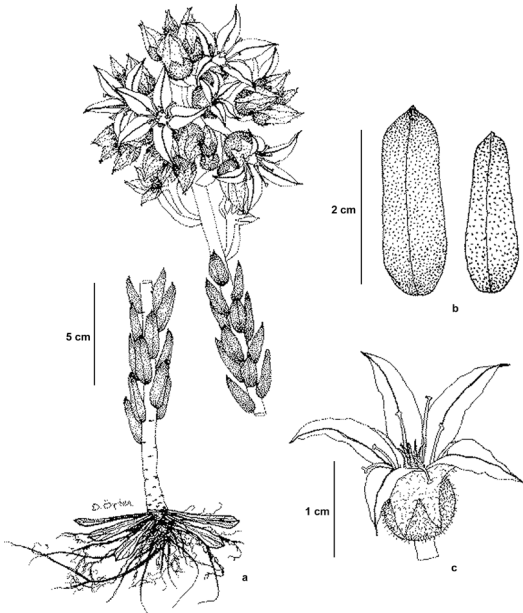
Seven species of *Prometheum* are currently known from Turkey. Three of them are endemic to Anatolia, i.e. *P. chrysanthum*, *P. muratdaghense*, *P. serpenticum* var. *serpenticum* and *P. serpenticum* var. *giganteum*. The remaining four are distributed also elsewhere (Caucasus, W Iran, N Iraq); they are *P. aizoon*, *P. pilosum*, *P. rechingeri* and *P. sempervivoides* ('t Hart & Alpınar 2000, 't Hart 2003).

In 2005, we collected some peculiar specimens of *Prometheum*, during a study of the flora of the Uludağ Mountains to the south of the Bursa province. After a careful examination of this material in the herbaria ANK, BULU

and GAZI, we noticed that the material differed from the typical specimens of *P. chrysanthum* in having narrower, oblong-lanceolate, and longer cauline leaves, a thyrsoïd inflorescence, and larger flowers. In addition, we checked descriptions of *Prometheum* (relevant species of *Sedum* and *Rosularia*) in *Flora of Turkey* (Chamberlain 1972, Chamberlain & Muirhead 1972, Davis *et al.* 1988, 't Hart & Alpınar 2000). Thorough studies and comparison with the material of similar taxa showed that our specimens should best be described as a new subspecies in *P. chrysanthum*.

***Prometheum chrysanthum* (Boiss.) 't Hart subsp. *uludaghense* Kaynak, Yılmaz & Daşkın, *subsp. nova* (Fig. 1)**

*Affinis P. chrysanthae subsp. chrysanthae sed foliis caulinis anguste oblongo-lanceolatis, 20–25 mm longis (non 10–20), inflorescentia thyrsoïdea, flores magni, petalis 16–20 mm longis (non 11–14) differt.*

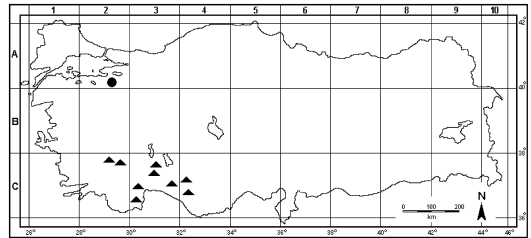


**Fig. 1.** *Prometheum chrysanthum* subsp. *uludaghense* (from the holotype) — a: Habit. — b: Cauline leaves. — c: Flower.

TYPE: Turkey. [A2] Bursa: Uludağ, Soğukpınar-Karaislah road, 1 km to Soğukpınar, 40°01'N, 29°07'E, 890 m, 24.VII.2005 *Kaynak 28745 & Yılmaz* (holotype BULU).

ETYMOLOGY: The name of the new subspecies refers to the collecting locality.

Plants perennial, rosettes globular, ca. 3 cm in diam. Offsets subsessile. Scapes 15–25 cm, terminal. Leaves narrower oblong-lanceolate, concave in cross section, 20–25 mm, ciliate, glandular-pubescent on both sides. Inflorescence thyrsoid, 5–60 flowered, densely glandular-pubescent, flowers yellowish. Pedicels 3–6 mm. Sepals 7–9 mm. Petals 16–20 mm, dorsally



**Fig. 2.** Distribution of (●) *P. chrysanthum* subsp. *uludaghense* and (▲) *P. chrysanthum* subsp. *chrysanthum* in Turkey. Modified from Egli (1988).

glandular pubescent, corolla tube 1/2 as long as lobes, scales horizontal, ovate. Follicles oblong, 7–8 mm, glandular-pubescent on the inner surface, glabrous on exposed surface, style 1.5–2 mm, seeds unknown. Flowering in July.

*Prometheum chrysanthum* subsp. *uludaghense* is fairly similar to *P. chrysanthum* subsp. *chrysanthum*, but differs in several characters. Table 1 provides a morphological comparison of the two subspecies.

Geographically, the two subspecies are certainly isolated (Fig. 2). *Prometheum chrysanthum* subsp. *chrysanthum* is found in the mountains of the eastern Mediterranean and is endemic to southwest and south Anatolia, distributed around Denizli, Antalya and Isparta areas. It grows in limestone rock fissures and cracks at the altitude of 1400–2500 m (Eggl 1988). *Prometheum chrysanthum* subsp. *uludaghense* is a local endemic, confined to the south side of Uludağ Mountain (Bursa), northwest Anatolia. It grows in rocky and open places within mixed forest of *Pinus butia*, *Quercus coccifera* and *Juniperus oxycedrus* subsp. *oxycedrus* between 800–1000 m.

**Table 1.** A morphological comparison of *Prometheum chrysanthum* subsp. *uludaghense* and *P. chrysanthum* subsp. *chrysanthum*.

	subsp. <i>uludaghense</i>	subsp. <i>chrysanthum</i>
Scape length	15–25 cm	5–15 cm
Cauline leaves	narrowly oblong-lanceolate 20–25 mm long	oblong-spathulate 10–20 mm long
Inflorescence	thyrsoid	cymose-paniculate
Sepal length	7–9 mm	6–8 mm
Petal length	16–20 mm	11–14 mm
Follicle length	7–8 mm	5–6 mm
Style length	1.5–2 mm	1–1.5 mm

SPECIMENS EXAMINED of *P. chrysanthum* subsp. *chrysanthum*: — **Turkey**. B3 Isparta: Şakikaraağaç, Kızıldağ Milli Parkı, 1200–1300 m, *Kaynak 28786* (BULU). C3 Isparta: Eğridir, Anamas Dağı, Yaka köyü, 1250–1450 m, *Peşmen & Güner 1901* (ANK). C4 Antalya: Çiğdem Dağı, 2200 m, *Quézel 38* (ANK).

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