

## TWO NEW RECORDS FROM THE GENERA LINUM AND RANUNCULUS FOR THE FLORA OF IRAN

H. Maroofi & A. Gholipour

Received 2013. 11. 25. Accepted for publication 2014.5.28

Maroofi, H. & Gholipour, A. 2014. 06. 31: Two new records from the genera *Linum* and *Ranunculus* for the flora of Iran.- *Iran. J. Bot.* 20 (1):25-28. Tehran.

Among the studied specimens in the herbarium of Research Center for Agricultural and Natural Resources of Kurdistan Province, two new records were identified that are introduced in this paper. *Linum punctatum* C. Presl subsp. *kurdicum* (P. H. Davis) Greuter & Burdet which was reported in Flora of Turkey as *Linum pycnophyllum* Boiss. & Heldr. subsp. *kurdicum* Davis and *Ranunculus damascenus* Boiss. et Gaill. which was previously reported from Turkey, Palestine and Syria. The two records are illustrated.

Hossein Maroofi (correspondence <[hosein\\_maroofi@yahoo.com](mailto:hosein_maroofi@yahoo.com)>) Research Center of Agricultural and Natural Resources of Kurdistan province, P.O. Box 66169-36311-714, Sanandaj, Iran.- Abbas Gholipour Department of Biology, Payame Noor University, 19395-4697 Tehran, Iran.

**Key words:** *Linum punctatum* subsp. *kurdicum*; *Ranunculus damascenus*; new records; Iran

*Linum punctatum* subsp. *kurdicum* و *Ranunculus damascenus* برای اولین بار از ایران گزارش می‌گردند. گونه *Linum punctatum* subsp. *kurdicum* از مناطق مرتفع واقع در خوی و پیرانشهر از آذربایجان جمع آوری شده گونه فوق در فلور ترکیه تحت نام *Linum pycnophyllum* subsp. *kurdicum* از وان ترکیه گزارش شده است. گونه *Ranunculus damascenus* از منطقه بانه واقع در استان کردستان و هم مرز با کشور عراق جمع آوری شده است.

### INTRODUCTION

The genus *Linum* L. belongs to *Linaceae* family. Rechinger (1974) recognized 16 species, 4 subspecies and 5 varieties in Iran. Sharifnia, & Assadi, (2001) in the Flora of Iran reviewed the family and considered 15 species, 4 subspecies and 7 varieties in Iran. Now a new species record is added to the flora of Iran. *Ranunculus damascenus* L. was reported from Iraq, Turkey, Lebanon, Palestine, and here it is reported for the first time from the west of Iran.

### RESULTS AND DISCUSSION

***Linum punctatum* C. Presl subsp. *kurdicum*** (P. H. Davis) Greuter & Burdet *Willdenowia* 12(1): 45. 1982. (Fig. 1).

Basionym: *Linum pycnophyllum* Boiss. & Heldr. In Boiss. Diagn. Ser. 2(1): 98 (1853). subsp. *kurdicum* Davis in Notes R. B. G. Edinb. 22: 138 (1957).

***specimens seen.*** Azerbaijan: Khoy, Fairogh road, Pesk, Avrin Mountain, 3143 m., 02.07.2013, Gholipour and Amini Rad SPNH-2475; Piranshahr, Silveh, Zivkeh, Chighidarreh Mountain, 3370 m., 05.07.2012, Gholipour and Amini Rad SPNH-2074.

Perennial, stems 8-13 cm, prostrate, very densely leafy, emitting several to numerous shoots from a stout woody stock. Leaves alternate, stipular glands absent; median leaves linear-oblong, obtuse to subacute, 1-nerved, sometimes with 2 other obscure nerves, fleshy, thick, smooth margins, up to 8×1-2.5 mm; lowers smaller and imbricate, spatulate. Inflorescence with 1-5, mainly 3 flowers. Pedicels 4-13 mm, erect in fruit. Sepals 5.5×2.5-3.5 mm, 3-5 nerved, without glandular margins; the outer sepal oblong, subacute; the inner sepal broadly elliptic, obtuse, with broad membranous margins. Petals 10.5-13×9-10.5 mm, obovate, blue; claws about 2 mm. Heterostylous. Capsule 5-7 mm;



Fig 1. *Linum punctatum* subsp. *kurdicum* (photo taken in natural habitat of the species)

beak short.

*Linum punctatum* is restricted to a few mountains in Sicily (Madonie, Nebrodie 1400-1800 m), Greece (Mt Smolika 2000-2500 m) and Turkey. It belongs to perenne group. The Greek and Turkish plants have been distinguished as *Linum pycnophyllum* Boiss. et Heldr., but they are morphologically very similar to the Sicilian plants. Davis (1967) has distinguished the Turkish material as *Linum pycnophyllum* subsp. *kurdicum*, and mentioned that there is some doubt whether this is specifically distinct from the Sicilian *Linum Punctatum* Presl, an earlier name. Greuter & Burdet (1982) treated the Turkish material as *Linum punctatum* subsp. *kurdicum*. In this paper the new record is named as *Linum punctatum* subsp. *kurdicum*.

**Ranunculus damascenus** Boiss. et Gaill. in Boiss., Ser. 2, 6: 5 (1858). Syn: *R. phrygius* Boiss., Fl. Or. 1: 29 (1867). *R. oxyspermus* M. B. in Willd. Sp. Pl. 2: 1328 (1800) ssp. *damascenus* (Boiss. Et Gaill.) P. H. Davis, Not. Roy. Bot. Gard. Edinb. 23: 143 (1960). *R. oxyspermus* M. B. var. *damascenus* (Boiss. et Gaill.) Post, Fl. Syr. Pal. Sin. ed. 2, 1: 11 (1932). (Fig. 2).

*Specimen seen*: Kurdistan: Baneh, Armardeh to

Belaki, 1700 m, 05. 05. 2010, Maroofi & Karegar 9882.

Perennial, 15 to 38 cm high. Roots dimorphic, with a bundle of slender fibers and numerous cylindrical-fusiform tubers, 1-2 cm long. Stems erect, divaricately branching in upper  $\frac{1}{3}$ ; villous. Radical leaves with petioles up to 9 cm; blades 2-4×2.5-4 cm, 3-lobed to 3-partite, broadly cuneate above, covered by densely silky- canescent hairs. The uppermost leaves short-petioled or sessile but more deeply incised, with few linear segments, mostly 3-lobed at the apex. Inflorescence with up to 10 flowers, flowers yellow,  $\pm 2$  cm across, long pedicelled, Sepals 5, about 8 mm, strongly deflexed after anthesis, silky hairy. Petals 5, broadly obovate, 10- 11.5×9 mm, nectar scale at the base of petal, free in upper parts. Stamens many. Fruiting heads up to 8-10×8 mm, ovate; achenes triangular-ovate,  $\pm 6$  mm long (including beak); disk with tubercles ending to a hair, attenuated into a slightly arcuate beak.

*Ranunculus damascenus* seems to be most closely related to *Ranunculus oxyspermus*. Davis (1960 & 1965) recognized *Ranunculus damascenus* as a



Fig. 2. *Ranunculus damascenes* (herbarium specimen Maroofi & Karegar 9882).

subspecies of *Ranunculus oxyspermus*, However, in Kurdistan (west of Iran) the two taxa occur in the same area, thus the subspecific level for them is not appropriate. The comparison of the specimens belong to mentioned taxa showed that they are two different species, and differ from each other by the following characters: fruiting head about 8 mm wide, achenes with long hairs on tubercles at the sides of disc; beak straight, basal leaves with up to 30 teeth in *Ranunculus damascenus*, but fruiting head narrower and about 5 mm wide, achenes glabrous; beak with slender more or less curved tip and basal leaves with more than 35 teeth in *Ranunculus oxyspermus*.

#### ACKNOWLEDGEMENT

The authors thank Prof. Assadi (Research Institute of Forests and Rangelands) for valuable guidance in reviewing manuscript and his very helpful comments on the first draft of the paper.

#### REFERENCES

- Davis, P. H. 1960: Materials for a Flora of Turkey: IV *Ranunculaceae*: II. Notes Notes R. B. G. Edinb., 23 (2): 143.
- Davis, P. H. & Cook, C. D. K. 1965: *Ranunculus* in P. H. Davis (eds.) Flora of Turkey and the East Aegean Islands vol. 1:146-197- Edinburgh.
- Davis, P. H. 1967: *Linum* in P. H. Davis (ed.), Flora of Turkey and the East Aegean Islands vol. 2: 425-450- Edinburgh.
- Greuter, W. & Raus, T. 1982 : *Linum punctatum* subsp. *kurdicum* in Med-Checklist Notulae, 5. - Willdenowia 12: 33-46.
- Rechinger, H. H. 1974: *Linum* in K. H. Rechinger (ed.) Flora Iranica vol 106: 1-19- Wien.
- Sharifnia, F. & Assadi, M. 2001: *Linaceae* in Flora of Iran vol 34, Research Institute of Forests and Rangelands publication- Tehran.