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Roemeria hybrida (L.) DC. subsp. *maculata* Tavakkoli & Assadi (Papaveraceae), a new taxon for the flora of Turkey

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Title

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Abstract

Roemeria hybrida (L.) DC. subsp. *maculata* Tavakkoli & Assadi, a subspecies recently described from Iran (2014), occurs in southeastern Turkey. We report the first record of this taxon in Turkey, based on a specimen collected in May 2009 between Silvan and Diyarbakır, in Diyarbakır Province.

Résumé

Roemeria hybrida (L.) DC. subsp. *maculata* Tavakkoli & Assidi, sous-espèce décrite récemment d'Iran (2014), est présente dans le sud-est de la Turquie. Nous détaillons ici la première observation de ce taxon dans ce pays, que nous avons identifié sur une récolte effectuée en mai 2009 entre Silvan et Diyarbakır, dans la province du même nom.

During a trip to southeastern Turkey in May 2009, we collected a red-flowered *Roemeria* near Diyarbakır that had remained unidentified in our herbaria. Recent re-examination of this specimen showed that it belongs to *R. hybrida* (L.) DC. subsp. *maculata*, subsequently described by Iranian authors in 2014.

1. Observation of the plant

During a trip to southeastern Turkey in May 2009 (Coulot *et al.*, 2013), we observed a member of the Papaveraceae that immediately recalled a *Papaver* because of its red corollas with dark purplish-black centres. A brief examination of the fruits left no doubt that the plant belonged to the genus *Roemeria*.

The specimen was collected beside the road from Diyarbakır to Silvan, approximately 50 km to the east. This section of the E 99 or D 360 road (also known as *Diyarbakır Bitlis Yolu*) is exceptionally rich botanically, and we made many noteworthy observations there. The most remarkable was a spectacular white-flowered sainfoin of subgenus *Sysirosema* that had never been described; we have recently named it *Onobrychis silvanensis* Aytaç, Rabaute & Coulot (2020).

Over several kilometres, the limestone road verges and slopes between Silvan and the Bingöl road (D 950) yielded numerous species, mostly annuals: *Aegilops triuncialis* L., *Astragalus hamosus* L., *Astragalus oleaefolius* DC., *Bromus hordeaceus* L., *Bromus lanceolatus* Roth, *Bupleurum aleppicum* Boiss., *Bupleurum croceum* Fenzl, *Campanula strigosa* Banks & Sol., *Centaurea balsamita* Lam., *Cephalaria syriaca* (L.) Schrad., *Cicer pinnatifidum* Jaub. & Spach, *Coronilla scorpioides* (L.) W.D.J. Koch, *Gundelia tournefortii* L., *Hedysarum pannosum* (Boiss.) Boiss., *Hypericum amblysepalum* Hochst., *Lathyrus inconspicuus* L., *Lathyrus oleraceus* Lam. subsp. *biflorum* (Raf.) H. Schaef., Coulot & Rabaute var. *pumilio* Meikle, *Medicago noeana* Boiss., *Medicago orbicularis* (L.) Bartal., *Medicago polymorpha* L., *Medicago radiata* L., *Medicago rigidula* (L.) All., *Onobrychis caput-galli* (L.) Lam., *Onobrychis galegifolia* Boiss., *Onobrychis silvanensis*, *Onosma isauricum* Boiss. & Heldr., *Orobanche crenata* Forssk. (on *Vicia lens*), *Phalaris paradoxa* L., *Salvia candidissima* Vahl subsp. *candidissima*, *Salvia ceratophylla* L., *Salvia multicaulis* Vahl, *Salvia palaestina* Benth., *Salvia suffruticosa* Montbr. & Auch., *Salvia syriaca* L., *Sclerochloa dura* (L.) Beauv., *Tordylium syriacum* L., *Trifolium bullatum* Boiss. & Hausskn., *Trifolium echinatum* M. Bieb., *Trifolium hirtum* All., *Trifolium leucanthum* M. Bieb., *Trifolium nigrescens* Viv., *Trifolium pamphylicum* Boiss. & Heldr., *Trifolium spumosum* L.,

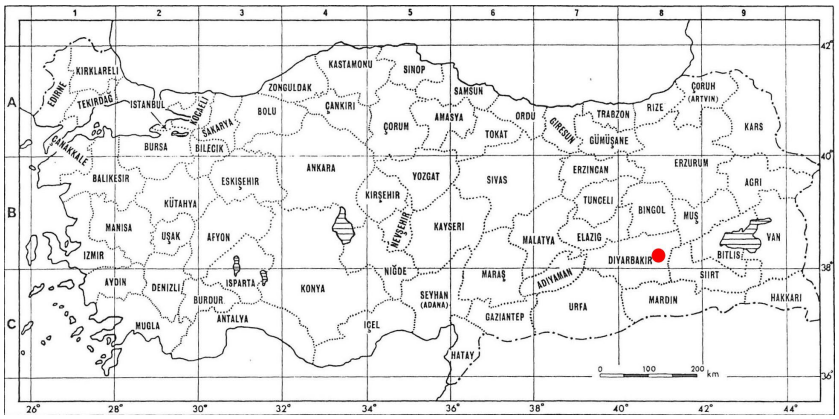


Figure 1. Record of *Roemeria hybrida* subsp. *maculata* in Turkey (red dot); © P. Coulot & Ph. Rabaute.

Trigonella macrorrhyncha Boiss., *Trigonella spicata* Sibth. & Sm., *Vaccaria hispanica* (Mill.) Rausch., *Vicia galilaea* Plitmann & Zohary, *Vicia lens* (L.) Coss. & Germ. et *Vicia sativa* L. ss str.

The *Roemeria* was observed exactly 10 km west of the hamlet of Bağdere, near Alabal. The habitat is a limestone therophyte-dominated fallow area bordering cereal fields (Figure 1).

2. Identification of the plant

Although there was no doubt that the plant belonged to the genus *Roemeria*, the orange-red petals with a dark blotch at the claw prevented us from assigning this population to *R. hybrida*. The main characteristics of the plant are as follows:

- therophyte 25–40 cm tall (Photo 4), with elongated internodes;
- indumentum sparse, white, with hairs 1–2 mm long;
- leaves pinnatisect, with 3–5(7) segments (Photo 1);
- flower buds initially reflexed then erect, rather densely hairy, 10–15 mm long, obtuse;
- petals 12–18 mm long, not overlapping, orange-red with a purplish or blackish blotch on the claw, and staminal filaments not dilated (Photo 2);
- fruits linear, 60–120 × 1.5–2 mm, with sparse, erect, white hairs 1–1.5 mm long (Photo 3).



Photo 1. *Roemeria hybrida* subsp. *maculata*, general habit. Alabal (Diyarbakır, Turkey), 27 May 2009; © P. Coulot & Ph. Rabaute.



Photo 2. *Roemeria hybrida* subsp. *maculata*, corolla. Alabal (Diyarbakır, Turkey), 27 May 2009; © P. Coulot & Ph. Rabaute.



Photo 3. *Roemeria hybrida* subsp. *maculata*, fruit apices. Alabal (Diyarbakır, Turkey), 27 May 2009; © P. Coulot & Ph. Rabaute.

We identified this plant by revisiting a recently published study of the genus *Roemeria* in Iran (Tavakkoli *et al.*, 2014). It corresponds to *R. hybrida* subsp. *maculata* Tavakkoli & Assadi, described from Karaj near Tehran, in Alborz Province at the foot of the Alborz Mountains. The taxon occurs in Iran near Tehran and farther north in Zanjan Province. This probably under-recorded subspecies therefore extends westwards into eastern Turkey. Our observation appears to be the first record of this taxon in Turkey.

Its placement in *R. hybrida* is indisputable: the fruits are hairy and lack the three or four long, stiff hairs between the stigmatic lobes that characterize *R. refracta* DC., a red-flowered species whose capsules are usually glabrous, unlike those of our plant.

3. The genus *Roemeria*

The genus *Roemeria* was established by Medikus in 1821 and distinguished from *Papaver* by its greatly elongated fruits. It comprises only three species, *R. hybrida*, *R. refracta* and *R. carica* A. Baytop, for which numerous infraspecific taxa have been described (Kadereit, 1987). Although recent anatomical studies tend to support the validity of this genus and its separation from *Papaver* (Chalestori & Attar, 2011; Al-Mousawi *et al.*, 2019), a robust molecular phylogenetic study of *Papaver* and related genera (Carolan *et al.*, 2006) showed, in several analyses (ITS, *trn*L-F), that these plants are extremely close to *Papaver* section *Argemonidium* Spach (*P. argemone* L., *P. apulum* Ten., *P. pavonium* Fisch. & Mey. and *P. hybridum* L.). Morphologically, *Roemeria* and these poppies share many features, including very long internodes and pollen-grain ornamentation (Kadereit, 1986). In our view, including *Roemeria* within *Papaver* would be consistent and would require a new combination for *R. hybrida* subsp. *maculata*.

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Photo 4. *Roemeria hybrida* subsp. *maculata*, general habit. Alabal (Diyarbakır, Turkey), 27 May 2009; © P. Coulot & Ph. Rabaute.