

FOUR NEW TAXA AND A NEW RECORD OF PAPAVER L. (PAPAVERACEAE) FOR THE FLORA OF IRAN

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In a taxonomic revision of the genus *Papaver* in Iran for the preparation of the treatment of Flora of Iran, *Papaver dubium* subsp. *erosum* var. *album* is described as a new variety. It differs from the typical variety by having white petals. *Papaver dubium* subsp. *erosum* var. *maculatum* is another new variety that differs from the typical variety by having black spots at the base of petals. *P. decaisnei* var. *setosum* and var. *patulum* from the sect. *Papaver* are described as new varieties from C, S, and NE of Iran. They are distinguished from the typical variety by having appressed or spreading seta on the pedicels respectively. *Papaver dubium* subsp. *glabrum* is recorded here from Iran (Karaj and Khorassan province) for the first time. For these taxa, morphological characters, identification key and distribution maps are also presented.

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Key words. Iran, new record, new varieties, *Papaver*, taxonomy.

چهار وارسته جدید و گزارش یک زیرگونه از جنس *Papaver* در ایران

زهرا توکلی، مربی پژوهش، گروه زیست‌شناسی دانشگاه تربیت معلم.

در بررسی نمونه‌های هرباریومی هرباریومی مختلف ایران تاکسون‌های *P. dubium* subsp. *erosum* var. *album* و *P. decaisnei* var. *setosum* و *P. decaisnei* var. *patulum* از بخش *Rhoeadium* sect. و تاکسون‌های *P. dubium* subsp. *erosum* var. *maculatum* از بخش *Papaver* sect. به عنوان وارسته‌های جدید معرفی می‌شوند. همچنین زیرگونه *P. dubium* subsp. *glabrum* به عنوان یک گزارش جدید برای اولین بار از ایران ذکر می‌گردد. در این مقاله ویژگی‌های مورفولوژیکی، رویشگاه، کلید شناسایی و نقشه پراکنش آنها در ایران ارائه می‌گردد.

INTRODUCTION

The genus *Papaver* comprises about 100 species which are found primarily in temperate regions of northern hemisphere (Goldblatt 1994). This genus based on Cullen (1966) has 30 species in Flora Iranica area and 27 species in Iran. The *Papaveraceae* family has been revised for the treatment of Flora of Iran (Assadi 1989). The specimens of TARI, FAR, IRAN and KARAJ herbaria were named. Flora of Turkey (Cullen 1965), Flora Iranica (Cullen 1966), Flora of the U.S.S.R. (Popv 1937), Flora Orientalis (Boissier 1867), Kiger (1985) and Kadereit (1986, 1989) were used for the identification of the species. Among the specimens some new subspecific taxa were recognized that are described here. Also, a new record to Iran was identified which is reported in this paper.

NEW TAXA AND A NEW RECORD TO IRAN

***Papaver decaisnei* Hocht. & Steud. var. *setosum* Tavakkoli & Assadi, var. nov.** – Fig. 1, Map 1.

Differt a varietu typo pedicellis setis adpressis nec glabris.

Typus. Yazd: Taft, 1555 m, Fallah & Nassiri 31004 (holotypus FAR); Esfahan: Najafabad, protected area, 1600 m, Nowroozi 1943.

Annual herb, glaucous, 10-25 cm high, unbranched or mostly branched from the lower part. Stems glabrous. Leaves mostly crowded at lower part of the stem, amplexicaul, pinnatifid to pinnatisect; the segments ovate or oblong, entire or dentate, antrorse, obtuse or acute, rarely with apical setae; lower leaves attenuate at the base. Pedicels 9-26 cm long, 1- flowered, with dense appressed setae. Buds elliptic-ovate or obovate,



Figs. 1 & 2. Comparison of *Papaver decaisnei* var. *decaisnei* (left) and *Papaver decaisnei* var. *setosum* (right) ($\times 1$).

glabrous. Petals obovate, red. Stamens many, shorter to longer than the ovary; filaments filiform, dark violet to almost black; anthers brownish, sometimes with small apical appendage. Capsules obovate to obconical,

ribbed, stipitate. Stigmatic disc flat; stigmas 4-7 in number.

Papaver decaisnei Hocht. & Steud. var. **patulum** Tavakkoli & Assadi, **var. nov.** -Map1.

Differt a varietu typo pedicellis setis patulis.

Typus. Kerman: Jiroft, 18 km S. E. Pimjan, 750- 900 m, Moussavi & Tehrani 31975 (IRAN).

Annual herb, 9-16 cm high. Leaves glabrous, amplexicaul, pinnatisect; the segments oblong, lanceolate or ovate, antrorse, entire or sometimes dentate, acute or obtuse; lower leaves attenuate at the base. Pedicels 8- 11.5 cm long, with dense patent setae. Buds oblong, glabrous. Petals red. Stamens shorter to longer than the ovary; filaments filiform, dark red to purplish. Capsules obovate; stigmas 4-7 in number.

Identification key to the varieties of *Papaver decaisnei* distributed in Iran

- | | |
|----------------------------------|-----------------|
| 1 -Pedicels glabrous | -var. decaisnei |
| -Pedicels setose | -2 |
| 2 -Pedicels with appressed setae | -var. setosum |
| -Pedicels with patent setae | -var. patulum |

Papaver dubium* L. subsp. *erosum* (Litv.) Kadereit var. *album* Tavakkoli & Assadi, var. *nov. -Map 2, Fig. 6.

Differt a varietu typo petalis albis.

Typus. Khorassan: Darreh Gaz, Park-e Tandureh, 950 m, Mozaffarian 67742 (holotypus TARI); 68 km on the road to Gifan from Bojnord, after Amirabad, 1200 m, Assadi & Maassoumi 50297; between Ghoochan and Darreh Gaz, Tandureh National Park, between Shekarab and Chechel – mehr, 1600 – 1900m, Assadi & Maassoumi 50675.

Annual herb, glaucous, 15-61 cm high. Stems rather densely villous–setose. Lower leaves pinnatisect or sometimes pinnatifid, attenuate at the base; the segments ovate, oblong or triangular, dentate or entire, antrorse, acute or obtuse and with apical setae; upper leaves pinnatifid to pinnatisect, sessile and with cuneate or rounded base; the segments oblong-linear, lanceolate or broadly triangular, mostly entire, antrorse, acute and with apical setae; leaves with more or less dense indumentum and sometimes with sparse setae on midrib of lower surface. Pedicels with rather dense appressed setae. Flower buds 15-18 × 8- mm, ovate or elliptic, with rather dense indumentum. Petals 18-25 × 10-25 mm, obovate, with laciniate apical margin, white, with black spot removed from base. Stamens shorter or longer than the ovary; filaments filiform, dark violet to black; anthers brownish. Capsules 18 × 8 mm, obovate, narrower than capsule diameter. Stigmatic disc with 4-6 stigmatic rays.

Papaver dubium* subsp. *erosum* var. *maculatum* Tavakkoli & Assadi var. *nov. -Map 2, Fig. 5.

Differt a var. *erosum* petalis ad basim maculis nigris praeditis nec petalis absque maculis vel maculis nigris prope basim praeditis.

Typus. Saveh, Illabad village, 1200 m, Assadi 88 (holotypus TARI); Khorassan: Bojnord, Gifan, Gauba 69.

Erect annual herb, 20-37 cm high. Stems branched in lower part, rather densely villous–setose. Lower leaves pinnatisect, attenuate at the base; the segments oblong, ovate, linear–lanceolate, pinnatifid to dentate, acute to obtuse, with apical setae, strongly antrorse; upper leaves pinnatisect, sessile and almost rounded at the base; leaves with dense setae on upper surface and major veins of lower surface. Pedicels 12-14 cm long, with dense and appressed setae. Buds 9-10 × 5-6 mm, with rather dense and appressed setae. Petals 15-25 × 10-28 mm, pale red, entire or with lancinate apical margin and with large black spot at the base. Stamens shorter or longer than the ovary; filaments black; anthers blue to brownish, with or without apical appendage. Capsules 17 × 7 mm, obovate; mature disc flat, with 6 stigmatic rays.

***Papaver dubium* L. subsp. *glabrum* (Royle) Kadereit** -Map 2, Fig. 3.

Syn.: P. glabrum Royle

Specimens seen. Khorassan: Sabzevar, 960 m, Dolatabadi 5768; Kashmar, 1060 m, Taheri 12522; Karaj, 2000 m, Gauba 4451.

Erect annual herb, glaucous, 25-38 cm high, branched in lower part. Stems glabrous. Lower leaves pinnatisect, attenuate at the base; the segments linear – lanceolate or oblong, entire or dentate, approximately antrorse, acute or obtuse and with apical setae; upper leaves pinnatifid to pinnatisect, sessile, cuneate and sometimes rounded at the base; leaves glabrous on upper surface and with few setae on middle veins of lower surface. Pedicels 13-15 cm long, glabrous or with sparse appressed seta above. Buds 11-14 × 5-7 mm, oblong, glabrous or with sparse to scattered appressed and white setae. Petals 13-15 × 5-8 mm, red or pale red, with laciniate apical margin and with black spot removed from base. Stamens shorter or longer than the ovary; filaments dark violet to black; anthers blue to brownish, with apical appendage. Capsules obovate, 16×7 mm; disc with 6 stigmatic rays and margin of disc curved upward at maturity.

It seems this is the first record of this subspecies to Iran.

General distribution. Afghanistan, Pakistan, India, Nepal and Iran.

Key to the *Papaver dubium* subspecific taxa in Iran

- | | |
|--|---|
| 1– Plants mostly with sparse indumentum to almost glabrous | 2 |
| – Plants with rather dense indumentum (subsp. <i>erosum</i>) | 3 |

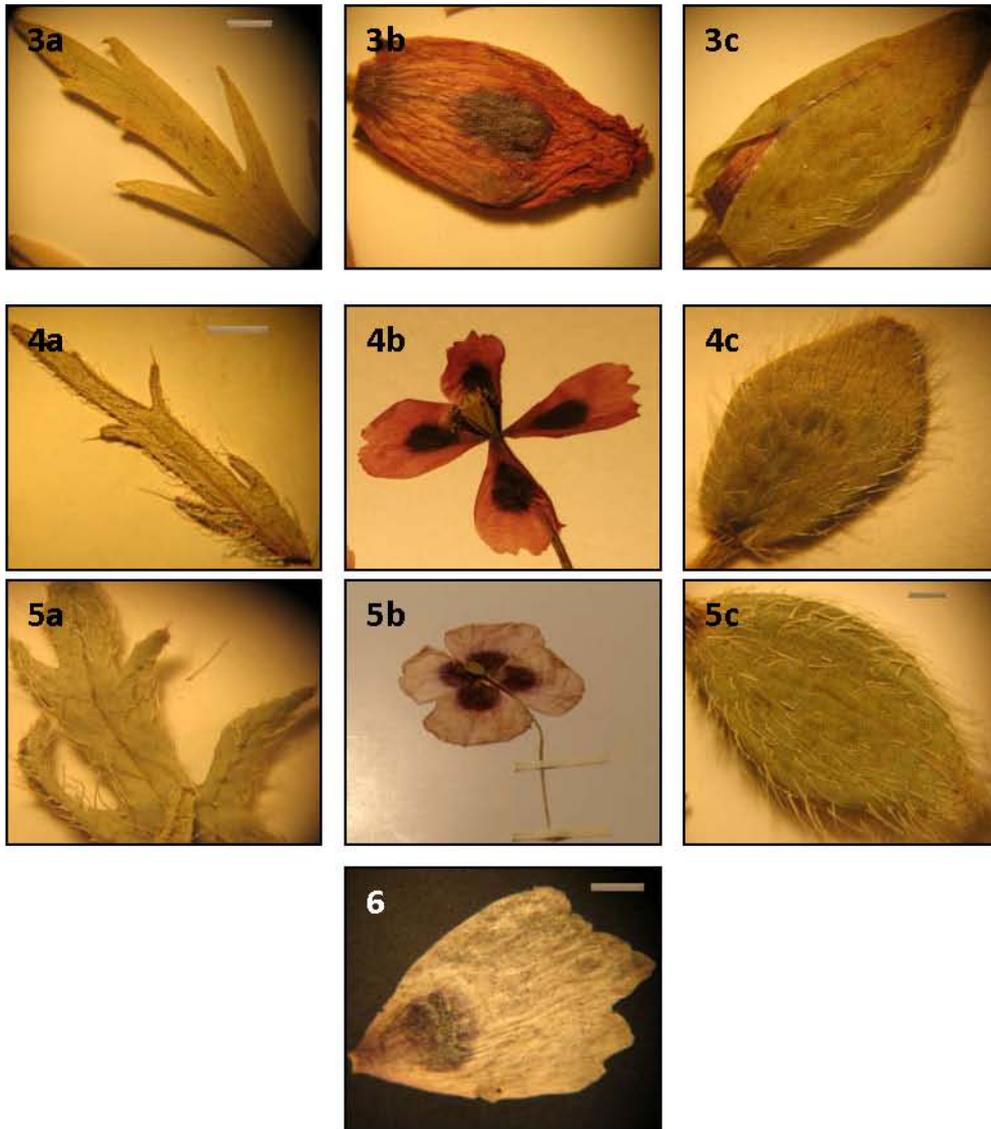
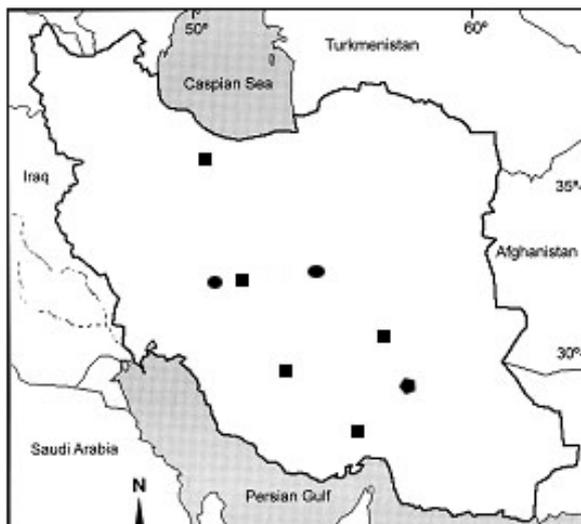


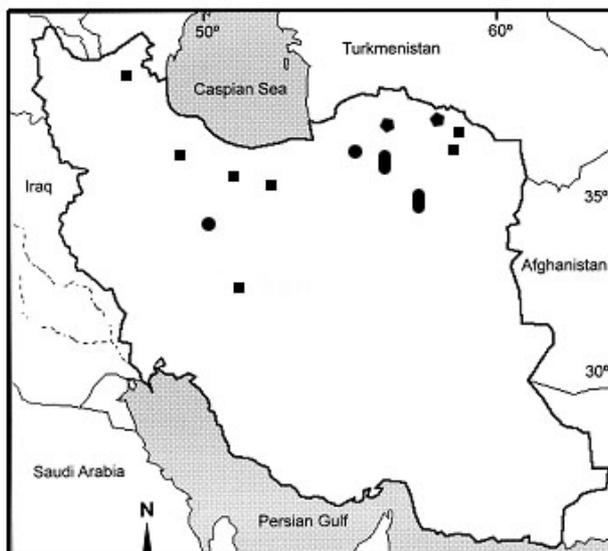
Fig. 3a, b, c: *P. dubium* subsp. *glabrum*; Fig. 4a, b, c: *P. dubium* subsp. *erosum* var. *erosum*, Fig. 5a, b, c: var. *maculatum*, Fig. G: var. *album* (scale: 1 cm).

2 – Apical margin of petals entire and petals with small to large basal black spot subsp. **laevigatum**
 – Apical margin of petals mostly laciniate and petals mostly with small black spot removed from base subsp. **glabrum**
 3 – Petals white, with laciniate apical margin and with small black spot removed from base var. **album**

- Petals red or pale red, with laciniate or entire apical margin and often with small black spot removed from base or with large basal black spot 4
 4 – Petals with laciniate apical margin and with small black spot removed from base var. **erosum**
 Petals with entire or laciniate apical margin and with large basal black spot var. **maculatum**



Map 1. Distribution map of *Papaver decaisnei* var. *decaisnei* ■, var. *setosum* ● and var. *patulum* ⬠



Map 2. Distribution map of *Papaver dubium* subsp. *erosum* -var. *erosum* ■, -var. *album* ⬠, -var. *maculatum* ● and *P. dubium* subsp. *glabrum* ●

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