

A NEW RECORD OF PRIMULA L. (PRIMULACEAE) FROM IRAN.

M. R. Joharchi & M. Nejati Edalatian

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Primula fedtschenkoi Regel that was reported from Afghanistan and Uzbekistan in Flora Iranica is recorded from Khorassan Province in NE of Iran for the first time. It is compared with its nearest species based on morphological characters. The distribution map of the new record is presented.

Mohammad Reza Joharchi (correspondence <Joharchi@um.ac.ir>) and Malihe Nejati Edalatiyan, Dept. of Botany, Research Center for Plant Sciences, Ferdowsi University of Mashhad, Mashhad, Iran.

Key words: *Primula fedtschenkoi*; Khorassan Province; new record; flora of Iran

گزارش جدید گونه *Primula fedtschenkoi* از تیره پامچال برای ایران.

محمد رضا جوهرچی، عضو هیأت علمی گروه پژوهشی گیاه‌شناسی، پژوهشکده علوم گیاهی، دانشگاه فردوسی مشهد، ایران
ملیحه نجاتی عدالتیان، دانش آموخته کارشناسی ارشد سیستماتیک گیاهی گروه زیست‌شناسی دانشگاه خوارزمی، تهران، ایران
گونه *Primula fedtschenkoi* که براساس فلورا ایرانیکا پراکنش آن تاکنون فقط از افغانستان و ازبکستان گزارش شده است. در این مقاله برای اولین بار از ایران (استان خراسان) گزارش می‌شود. این گونه از نظر ویژگی‌های ریخت‌شناسی با گونه شبیه به آن مقایسه شده است و تصویرها و نقشه پراکنش آن در ایران نشان داده شده است.

INTRODUCTION

The genus *Primula* L. has provided multiple facets for study and enjoyment to taxonomists, ecologists, geneticists, and gardeners. Known in European gardens since the time of the medieval herbalists, *Primula* received early scientific recognition in Darwin's (1877) pioneering work on heterostyly, the dominant breeding system in the group. Today, heterostyly is recognized as a complex reproductive syndrome with significant ecological and evolutionary implications and it is known from 28 flowering plant families (Barrett et al. 2000). In the Primulaceae, heterostyly and the alternative system, homostyly have played important roles in systematic treatments at the generic and infrageneric levels (Richards 1993).

Primula L. (Primulaceae), comprising of approximately 500 species is one of the largest genera in Primulaceae (Hu & Kelso, 1996). It is widely distributed outside of the Asian highlands and in the high altitudes of North America, Europe, and the eastern Sino-Himalayan Region, considered the primary center of diversity for this genus (Hu & Kelso,

1996). Members of *Primula* distributed outside of the Asian highland center of diversity occupy the mountains or high latitudes of North America, Europe, and Asia; a few species also extend into South America, Ethiopia, Java, and Sumatra (Richards 1993).

This genus includes 17 species in Flora Iranica area which among them 5 species (*P. gaubaeana* Bornm., *P. heterochroma* Stapf, *P. macrocalyx* Bunge, *P. auriculata* Lam., *P. capitellata* Boiss. are found in Iran (Wendelbo 1965). After working on Iranian species collected from different area of Iran, *P. algida* Adams was added to this list and because of some similarities; this species has been synonym with *P. capitellata* Boiss. (Jamzad 1999).

MATERIALS AND METHODS

Herbarium specimens of the genus *Primula* L., collected from different places of Khorassan Province were examined and identified by relevant literatures (Federov 1967; Wendelbo 1965). All the specimens (8) are preserved in Herbarium of Ferdowsi University of Mashhad (FUMH).

RESULTS**New record**

Primula fedtschenkoi Regel, Tr. Bot. Sada, 3: 133 (1874).

Perennial, farinose, 8-15 cm long; rootstock short, with a tuft of rather thick somewhat fusiform brown root. Leaves basal, 3-5 (-7) × 0.5- 2 cm, pale green with a whitish prominent midrib, farinose rarely glabrescens, fairly thin, oblong- obovate, dentate to crenate rarely undulate, blade at base gradually attenuate into petiole. Scape 5-12 cm long, slender, nearly farinose. *Umbel* few-flowered. Pedicels short, 2-13 mm long, erect, farinose. Bracts 1-5 mm long, lanceolate, acute, farinose, pubescent sometimes glandular in margins. Calyx short, 3-5 mm long, campanulate, pale green with purple spots, parted to the middle into lanceolate acute teeth, more farinose inside. Corolla large, purplish- lilac, the flat limb 10-18 mm across, the lobes elliptic or obovate nearly entire or erose, the narrow tube 2-3 times the length of the calyx somewhat enlarged at throat. Capsule 5-6 mm in diameter, ovate-globose, enclosed to the top by the closely adhering calyx. Seeds almost 0.8 mm long, with prominent angles, bireticulate, pale brown (figs. 1-4).

Studied specimens: Khorassan province: Sarakhs, Mountains of Qorqoreh, 900 m, Faghihnia & Zangooei 21412 [FUMH]; Mashhad, Reza-shahr, elevations of village Najafi, 1150 m, Safavi & Joharchi 10767 [FUMH]; Sarakhs, Gonbadli, towards Shuricheh, km 48, 480 m, Ayatollahi 15077 [FUMH]; S Mashhad, mountains of Park-e Khorshid (Sun Park), 1292 m, Joharchi 45153 [FUMH].

Primula fedtschenkoi is similar to *P. auriculata* but there are some differences between them that are listed in table 1.

Geographical distribution: Generally *P. fedtschenkoi* grows on grassy and mountain slopes, sometimes among junipers and along the banks of streams but in Iran, it grows on dry lands and it is xerophyte. Previously reported from Afghanistan, and Uzbekistan, it is now reported from Iran (map 1).

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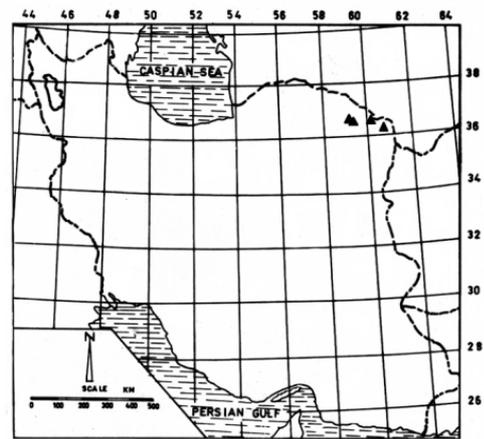
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Table 1. Comparison between *Primula fedtschenkoi* and *P. auriculata*.

Character	<i>P. fedtschenkoi</i>	<i>P. auriculata</i>
Leaves	farinose	efarinose
Bracts	non auriculate-sacculate at the base	auriculate-sacculate at the base
Inflorescence	loose, few-flowered	compact, many-flowered
Scape	thinner, in fruit up to 12 cm	thicker, in fruit up to 65 cm long
Corolla	entire or emarginat	deeply bilobed
Habitat	xerophyte	hygrophyte



Figs. 1-4. *Primula fedtschenkoi*
(photo by Joharchi, 20 April 2014).



Map 1. Distribution of *Primula fedtschenkoi*.