

## *Silene ferdowsii* (Caryophyllaceae), a new species from Iran

Maliheh Nejati Edalatiyan<sup>1</sup>, Mohammadreza Joharchi<sup>1</sup> & Farrokh Ghahremaninejad<sup>2,\*</sup>

<sup>1</sup> Research Center for Plant Sciences, Ferdowsi University of Mashhad, Mashhad, Iran

<sup>2</sup> Department of Biology, Faculty of Science, Tarbiat Moallem University, 49 Dr. Mofatteh Avenue, Tehran, Iran (\*corresponding author's e-mail: ghahremaninejad@tmu.ac.ir)

Received 25 June 2008, revised version received 1 Feb. 2010, accepted 30 Sep. 2009

Edalatiyan, M. N., Joharchi, M. & Ghahremaninejad, F. 2011: *Silene ferdowsii* (Caryophyllaceae), a new species from Iran. — *Ann. Bot. Fennici* 48: 155–158.

*Silene ferdowsii* Joharchi, Nejati & F. Ghahrem. *sp. nova* (Caryophyllaceae), from sect. *Auriculatae*, is described from Khorassan province, NE Iran. It is morphologically most similar to *S. albescens*, especially in its indumentums, but differs in having longer internodes and crowded stems. *Silene ferdowsii* is also compared with *S. erio-calycinae* and *S. sisianica*.

*Silene* is the largest genus in the Caryophyllaceae, with nearly 700 species in the board circumscription, of which approximately half occur in the Mediterranean area (Melzheimer 1988). The southern part of the Balkan Peninsula and SW Asia are two main centers of diversity of the genus (Greuter 1995). In Iran, *Silene* includes 98 species, of which 28 are endemic. The Iranian species are placed in 21 sections (Melzheimer 1988).

During taxonomic works on the *Silene* specimens in FUMH (herbarium of Ferdowsi University of Mashhad), a sheet with a new perennial species from Khorassan province, NE Iran, was identified by the authors. This new species was compared with all plant specimens in FUMH, and with the relevant floras (Schischkin 1936, Cullen & Coode 1967, Ghazanfar & Nasir 1986).

The new species belongs to *Silene* section *Auriculatae*, originally established by Boissier (1867). The most important characters for section *Auriculatae* are: Perennial, eglandular-glan-

dular pubescent. Inflorescence dichotomous or alternate, racemose, cyme or 1-flowered. Flowers bisexual. Peduncle eglandular-glandular pubescent. Calyx cylindric-clavate, glandular-eglandular pubescent, not umbilicate, number of calyx veins 10, tooth of calyx triangular to semicircular, obtuse. Petal limb bifid; claw glabrous, auriculate above; coronal scale present, emarginate, rarely bifid. Anthophore puberlent, rarely glabrous. Filament glabrous. Styles three.

The morphologically closest sections are *Sclerocalycinae* and *Ampullatae*. The section *Auriculatae* differs from the section *Ampullatae* in the flower type (dioecious in the section *Ampullatae*), and from the section *Sclerocalycinae* in having pubescence on the calyx.

*Auriculatae* is the largest section in *Silene*, with 47 species distributed in SW Asia, Central Asia, the Caucasus and the Middle East. The center of diversity is situated in the Caucasus and N Iranian mountains. Thirty-five species have been reported in this section from Iran,



**Fig. 1.** *Silene ferdowsii* (from the holotype). — **A:** Habit. — **B:** Flower. — **C:** Calyx. Scales: **A** = 5 cm; **B** and **C** = 3.5 cm.

distributed in most parts of the country; 21 of the species are endemic. All the measurements given in the description were taken from dried herbarium specimens.

***Silene ferdowsii*** Joharchi, Nejati & F. Ghahrem., *sp. nova* (Fig. 1)

*Perennis, saepe suffrutescens. Tota planta retro-sis breviter tomentose-canescens rarus puberuli, caulis erectus, interdum dense, tenuis, glauca rarus pallide viridi-flavescente, caules floriferi numerosis 17–45 cm longi, internodii longis (70–100 mm), caules sterilibus pauci 10–13 cm*

*longi. Folia 11–37 × 1–3 mm longi, lineari-lanceolata, uninervia, acuta, sessile, pubescent. Inflorescentia dichasium; pedicelli floris alaris ad 5mm longi; pedicelli florum ceterum ad 25 mm longi. Bracteeae 2–5 mm longi, lanceolatae vel ovatae-triangularis ± acuminate, herbaceous, uninervia, puberuli. Calyx 10–17 mm longus, cylindrico-clavatus, albido-flavescenti-viridi, nervis viridi vel purpureo-viridi, striatus, crispe pubescens; dentes 1.5–2.5 mm longi, triangular-oblongus, obtuse, margine membranacei, ciliati. Petala alba ad lilacino-purpure-scenti; limbus ad 6 mm longi, ad medium vel paulo profundis bifidus, lobos oblong-lineari; unguis ad 10 mm longus, apice dilatatus, glaber;*

**Table 1.** Comparison between *Silene ferdowsii* and its morphologically closest species.

Character	<i>S. ferdowsii</i>	<i>S. albescens</i>	<i>S. eriocalycinae</i>	<i>S. sisianica</i>
Stems	usually very dense	loose	dense or loose	dense or loose
Internodes	relatively long (70–100 mm)	relatively short (15–45 mm)	relatively long (40–85 mm)	relatively short (15–50 mm)
Bract	uninerved	uninerved	3–5 nerved	3 or rarely uninerved
Calyx	cylindrical-clavate	clavate-pyriform	clavate	cylindric-conical
Petal	white to pale violet	white, greenish, brown or rarely red	yellowish-green	white
Claw	not auriculate	auriculate	auriculate	auriculate
Coronal scale	usually emarginate	obtuse	obtuse	obtuse
Anthophore	densely pubescent	glabrous or sparsely pubescent	glabrous	sparsely pubescent

*paracorollae ad 1 mm longi, obtuse rarus emarginatus. Anthophore ad 6 mm, pubescent. Filament glaber. Style 3, pilosa. Capsula 6–8 × 2–5 mm, cylindric ad late ovoidea.*

TYPE: Iran. Khorassan province, Sarakhs-Mashhad road, 20 km SW of Shoorlogh village, 28.IV.1994 *Faghihnia & Zangoeei* 23846 (holotype FUMH; isotypes FAR, FUMH).

ETYMOLOGY: The epithet honours “*Hakim Abolghasem Ferdowsi Toosi*” (935–1020 AD), one of the greatest Iranian poets; his tomb is located in Toos town, near to Mashhad, Khorassan Province, Iran.

Perennial. Stem suffrutescent, erect, branched, crowded, thin, glaucous, rarely gray-green-pale yellow, retrose shortly tomentose-canescens rarely puberulent; flowering stems numerous, 17–45 cm long, internodes long (70–100 mm); sterile branches few, 10–13 cm long. Leaves linear-lanceolate, 11–37 mm long, 1–3 mm wide, one-nerved, acute, sessile, pubescent. Inflorescence a dichasium. Bracts lanceolate or ovate-triangular ± acuminate, herbaceous, 1-veined, puberulent, 2–5 mm long. Calyx cylindric-clavate, 10–17 mm long, 2–6 mm wide, whitish-pale yellow-green, nerves green or purple-green, striate, crisped pubescent; teeth 1.5–2.5 mm long, triangular-oblong, obtuse, margins membranous, ciliate. Petal white to pale violet; limb 6 mm long ± bilobate, lobes oblong-linear, claw up to 10 mm long, apex widened, glabrous; coronal scale 1 mm long, obtuse rarely emarginated. Anthophore up to 6 mm long, densely pubescent. Filaments glabrous. Styles three, hairy. Capsule 6–8 mm long, 2–5 mm wide, cylindric to later ovoid. Flowering and fruiting in March–May.

*Silene ferdowsii* is endemic to Khorassan province, and known only from the type material. It grows in dry regions on sandy-argillaceous hills and argilliferous calcareous rocks in NE Iran. It is similar to *S. albescens*, *S. eriocalycinae* and *S. sisianica*, but differs from them in several characters (Table 1). *Silene albescens* is endemic to Iran and is distributed in the southern and western parts of the country. *Silene eriocalycinae* is distributed in Iraq and W Iran, and *Silene sisianica* is distributed in Iraq, and N and NW Iran.

ADDITIONAL SPECIMENS EXAMINED (paratypes): **Iran.** — Khorassan province, Dargaz, between Dargaz and Ghuchan, Kapkan village, 1550 m, 30.IV.1988 *Joharchi & Zangoeei* 16294 (FUMH, FAR). W Dargaz, Zeinedanloo village, 1000 m, 1.V.1988 *Joharchi & Zangoeei* 16413 (FUMH, FAR). Sarakhs, Shoorlogh village, 700 m, 27.IV.1992 *Faghihnia & Zangoeei* 21552 (FUMH, FAR).

## Acknowledgment

The authors wish to thank Ms. Nona Karimzadeh for the illustration.

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