

A NEW SPECIES OF THE GENUS *ARENARIA* L. (CARYOPHYLLACEAE) FROM IRAN

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Among the rich materials of the genus *Arenaria* L. collected from different localities of Iran deposited in TARI and HSBU, a new species, *Arenaria kandavanensis* was recognized and is described here. A comparison between the new species and its closest relative, *A. lychnidea* M. Bieb. in *Arenaria* sect. *Capillares* McNeill. is presented.

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Key words. *Eremogone*, *Arenaria* subgen. *Eremogone* sect. *Capillares*, new species, Caryophyllaceae, Iran.

معرفی یک گونه جدید جنس *Arenaria* L. (Caryophyllaceae) متعلق به بخش *Capillares* از ایران

فاطمه فدائی، عضو هیأت علمی مرکز تحقیقات کشاورزی و منابع طبیعی استان گلستان و دانشجوی دکتری دانشکده زیست‌شناسی دانشگاه شهید بهشتی.

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مصطفی اسدی، استاد پژوهش مؤسسه تحقیقات جنگلها و مراتع کشور.

به منظور نگارش فلور جنس *Arenaria* L. برای ایران و طی جمع‌آوری‌های انجام شده در بسیاری از مناطق محل پراکنش گونه‌های این جنس و مناطق مشابه احتمالی و مطالعه و شناسایی آنها؛ یک گونه جدید در منطقه رویشی گزارش نشده شناسایی گردید که برای ایران و جهان گیاهشناسی جدید بوده و تحت نام *Arenaria kandavanensis* شرح داده می‌شود. تفاوت خصوصیات گیاهشناسی این گونه نیز با گونه نزدیک به آن *A. lychnidea* M. Bieb. توضیح داده شده است.

INTRODUCTION

Caryophyllaceae is primarily Holarctic in distribution, with diversity centre in the Mediterranean and Irano-Turanian regions (Bittrich 1993), and includes about 3000 species distributed among 88 genera (Rabeler & Hartman 2005). The most common classification (Pax & Hoffman 1934; Bittrich 1993) of *Caryophyllaceae* includes three subfamilies: *Alsinoideae* Burnett, *Caryophylloideae* Arn., and *Paronychioideae* A. St. Hil. ex Fenzl. Bittrich (1993) placed the 28 genera of the *Alsinoideae* into five tribes, the tribe *Alsineae* consist of 23 genera including *Arenaria* sensu lato (with *Eremogone* elements). Harbaugh & al. (2010) proposed division of the *Caryophyllaceae* into at least 11 tribes based on highly supported monophyletic

groups and described a new tribe, *Eremogoneae* Rabeler & W. L. Wagner. As Zhou (1996) mentioned, there are 306 species of *Arenaria* L. in the world.

Based on Rechinger (1988), the genus *Arenaria* comprises 17 annual and perennial species and two varieties for Iran in two subgenera, *A.* subgen. *Arenaria* with three sections including five species and *A.* subgen. *Eremogone* (Fenzl) Fenzl in Ledeb. with four sections including 12 species and one variety. Of which seven species and one variety are endemics for Iran. Also one species was described for Iran recently (Lazkov 2003). The material of Lazkov's species was collected by P. Furse from Chalus valley that is preserved in LE Herbarium in St. Petersburg (Russia). The first author looked for this species in the type

Table 1. Morphological comparison of the *Arenaria kandavanensis* with its relative, *A. lychnidea* M. Bieb.

Characters	<i>A. kandavanensis</i>	<i>A. lychnidea</i>
Staminal glands	absent	very weakly developed or minute
Tip of sepals	obtuse or obtuse with minute mucro	acuminate
Shape of sepals	ovate to orbicular	ovate-oblong
Shape of petals	oblong-obovate	oblong-cuneate
inflorescence	lax	compact
Indumentum of inflorescence axis	glabrous	glandular-pubescent
Geographical distribution	Alborz-Kandavan	Caucasia, North and West of Anatolia
Length of sepals	3.3 – 4 mm	4 – 5 mm
Length of petals	6.5 – 7 mm	7 – 10 mm
Color of sepals	green (herbaceous)	violet to blank-tipped
Colour of petals	white	sometimes of varying shades of pink
Venation of sepals	3 – 7	obscurely 3- veined
Length of pedicels	5 – 21 mm	4 – 8 mm

locality, but instead finding it another species was collected that further studies showed that it could be a new species. This new species which was collected from Kandavan area should belong to Subgen. *Eremogone* Fenzl and sec. *Capillares* McNeill (McNeill, 1962) and named *Arenaria kandavanensis*.

RESULTS

New species

Arenaria kandavanensis F. Fadaie, M. Sheidai & M. Assadi. **sp. nov.** (Fig.1).

Holotypus. Iran, on the road from Chalus to Tehran, Kandavan mountainous area, 30. 05. 2008, 1112 m, F. Fadaie & M. Nasiri 1092F (TARI).

Differt ab *Arenaria lychnidea* M. Bieb. glandulis staminalibus absentibus (nec minute presentibus), sepalis ovato-orbicularibus (nec ovato-oblongis), apice obtusis (nec acuminatis), petalis oblongo-obovatis (nec oblongo-cuneatis), inflorescentia laxa (nec compacta).

Tufted perennial, erect, 15-20 cm high, glabrous. Rosette leaves 2.5-6 cm long, numerous, ± setaceous; stem leaves similar to the rosette leaves but very shorter and fewer (1-2 cm long, 2-3 pairs). Inflorescence a lax 2-5 flowered cyme; pedicels 5-12 mm long, glabrous. Sepals 3.5-4 mm long, ovate-suborbicular, 3-7 veined, glabrous, herbaceous, scarious at the margin. Petals oblong-obovate, 6.5-7 mm long. Staminal glands absent. Capsule suborbicular, 5.2-6 mm long, 3.5 mm wide; Capsule teeth 1 mm long. Seeds numerous, comma shape to elliptic-oblong, 1.9-2 mm long, 1-1.3 mm wide with triangular ornamentation on the surface. Fl. 5-6, 1100-1300 m.

Ecology. A tufted plant on screes and in rock crevices with creeping caudicle, erect stems and white flowers.

Etymology. The epithet of the new species is based on the name of Kandavan mountainous area in central Alborz in north part of Iran.

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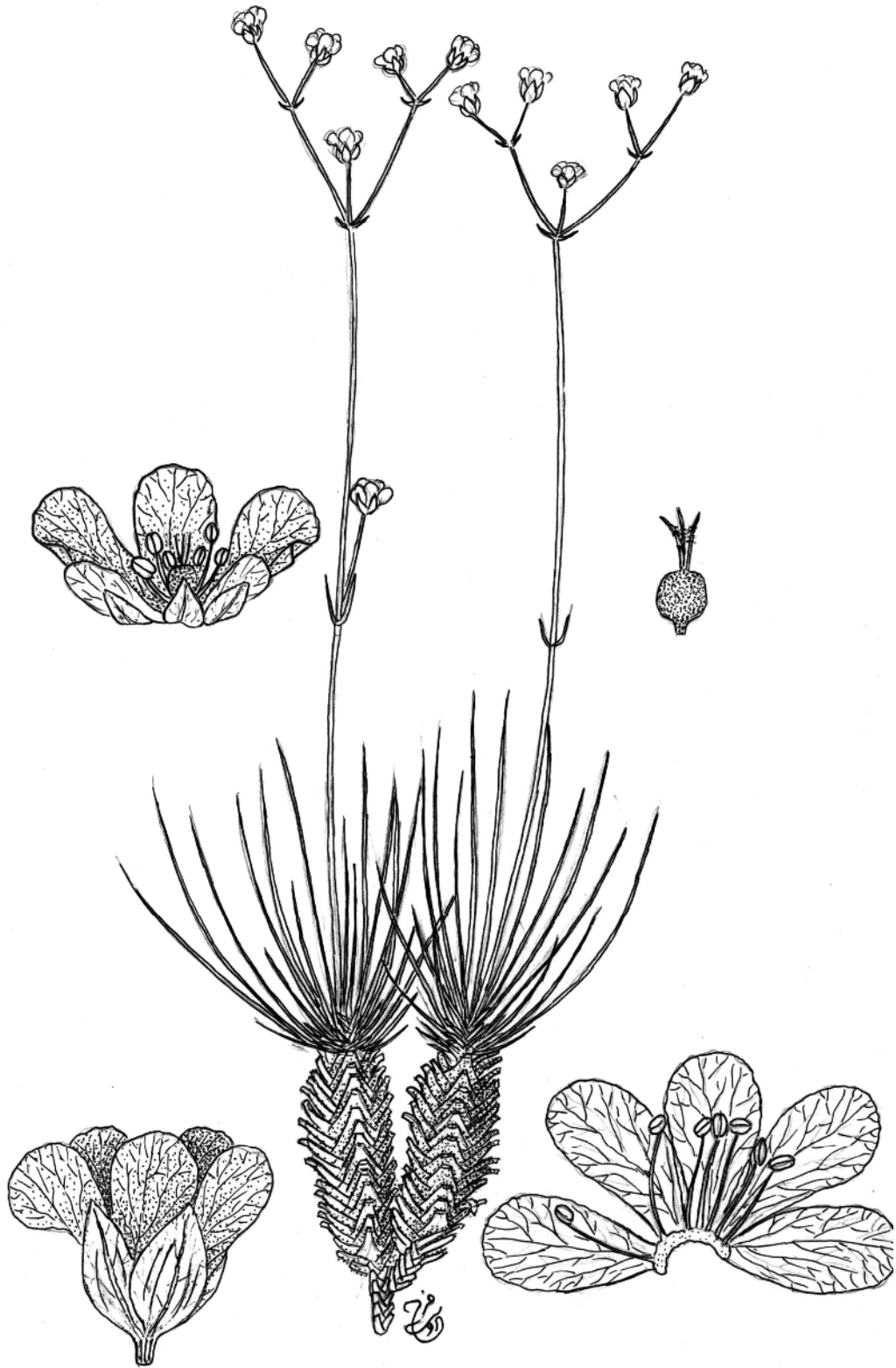


Fig. 1. *Arenaria kandavanensis* ($\times 0.83$); details ($\times 4.5$).