

ASTRAGALUS BAFTENSIS (FABACEAE), A NEW SPECIES OF ASTRAGALUS SECT. PENDULINA FROM IRAN

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Astragalus baftensis Ranjbar & Maassoumi (Fabaceae) is described and illustrated as a new from SE Iran. It belongs to *Astragalus* sect. *Pendulina*. The hitherto known species of this section are all confined to the Turkestanian floristic and Western Himalayan provinces of the Irano-Turanian region. Thus, *A. baftensis* constitutes an interesting range extension of this section into the Kerman province. The affinities and differences with the closest species are presented based on morphology, ecology and chorology. The conservation status of the new species is evaluated as vulnerable (VU) according to IUCN criteria.

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Key words. *Astragalus* sect. *Pendulina*, Fabaceae, IUCN Red List, new species, taxonomy, Iran.

گونه *Astragalus baftensis*، یک گونه جدید از بخش *Pendulina* از جنس *Astragalus* در ایران

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گونه *A. baftensis* از ایران به عنوان گونه جدید شرح داده شده و به تصویر کشیده می شود. این گونه متعلق به بخش *Pendulina* از جنس *Astragalus* است. تمام گونه های شناخته شده بخش *Pendulina* به ناحیه فلوریستیک ترکستان و غرب هیمالیا از ناحیه ایران-تورانی محدود می شوند. در حالیکه *A. baftensis* گستره پراکنش جالبی از بخش *Pendulina* را به درون استان کرمان تشکیل می دهد. شباهت ها و تفاوت های این گونه با نزد یکتترین خویشاوند از جنبه های مختلف مرفولوژی، اکولوژی و کرولوژی مورد بررسی قرار گرفت. بر طبق معیار IUCN، گونه جدید در معرض خطر بوده و نیازمند حفاظت است.

INTRODUCTION

The genus *Astragalus* has been divided into approximately 150 sections of which *A. sect. Pendulina* is a diverse and variable section. *A. sect. Pendulina* was established by Goncharov (1946), naturally placed in the *A. subgen. Caprinus*, which is characterized by perennial growth and the presence of basifixed hairs (Bunge 1868-1869). The entire section was revised by Goncharov (1946) and for Flora Iranica (Podlech 1999).

The present paper deals with the description of a new species of *Astragalus* sect. *Pendulina* Gontsch. Our studies on living material and herbarium specimens showed that this new taxon, which occurs exclusively in the mountains of Baft, is especially close to *A. dieterlei*. However, its morphological differences with close taxa were enough for treating it as a new distinct species.

RESULTS AND DISCUSSION

Notes on *Astragalus* sect. *Pendulina*

Astragalus L. sect. *Pendulina* Gontsch., Not. Syst. Leningrad (Bot. Mat. Gerb. Bot. Inst. Komarova Akad. Nauk URSS) 9: 114 (1946).

Gontscharov (1946) introduced *A. sect. Pendulina* as a new section with seven species. Today, about 13 species are referred to this relatively small section (Lock & Simpson 1991; Yakovlev et al. 1996; Mabberley 1997; Podlech 1999). *A. sect. Pendulina* member's include plants characterized by small habits, often stemless, and stipitate pod, without or with reduced peduncles. It seems that this section belongs to the basifixed haired *Astragali* group, which have yellow flowers. This group consists of *A. sect. Astragalus*, *A. sect. Chronopus*, *A. sect. Caprini*, *A. sect. Eremophysa*, *A. sect. Alopecuroidei*, *A. sect. Laxiflori* and *A. sect. Aegacantha* (Ranjbar & Karamian 2002, Ranjbar et al. 2002, Maassoumi & Ranjbar 1994,

Karamian & Ranjbar 2005). *A. sect. Pendulina* is not clearly separated from *A. sect. Caprini*. It can be distinguished from *A. sect. Caprini* by small habit and the presence of black hairs, in addition, pod is stipitate, cernuous, thinly coriaceous, elongated, subtriquetrous, straight and broadly grooved dorsally, carinate and convex ventrally, partially or fully bilocular (Goncharov 1946).

Astragalus baftensis Ranjbar & Maassoumi, **sp. nov.**
(Fig. 1)

Holotypus. Iran, Prov. Kerman, Baft to Jiroft, 12 km to Darb-e-Behasht, 2140 m, 13.4.2010, Ranjbar 19600 (BASU; *isotypus* TARI, W).

Differt ab *Astragalo dieterlei* Podlech bracteis 2–4 (nec 6–7) mm longis, foliis orbicularibus (nec ellipticis vel rhomboideis ad orbicularibus) 35–50 × 35–50 (nec 15–33 × 12–24) mm, racemi floribus 5–7 (nec 3–4) pedunculis ad 4 cm longis (nec subsessilis), calyce ad 20 (nec 14–17) mm longo, dentibus 4–6 (nec ad 8) mm longis, petalis olivaceis, lilacino viridiusculis (nec flavis, rubro suffusis), carina ca. 20 (nec ca. 24) mm longo.

Perennial, 6–15 cm tall, completely glabrous, stemless. Stipules 10–13 mm long, ovate to oblong-ovate, acute. Leaves 5–15 cm long; petiole 2–10 cm long, sulcate; leaflets 1–2 pairs, orbicular, round-tipped, 35–50 mm long, herbaceous. Peduncles 1–4 cm long, 5–7-flowered; bracts linear-lanceolate, 2–4 mm long, hyaline, bluish-white; pedicels 7–8 mm long. Calyx glabrous, greenish yellow to pale purple, 18–20 mm long; teeth linear, subulate-tipped, 4–6 mm long. Corolla greenish yellow or olive-green to pale purple, deciduous, glabrous; wings shorter than the standard, exceeding the keel; standard ca. 24–26 mm long; limb oblong-obovate, slightly retuse, auriculate at base; claw narrow, 8–10 mm long; wing 22–24 mm long, oblong, round-tipped; claw 12–14 mm long; keel ca. 20 mm long; limb strongly convex beneath, obtuse-tipped, longer than the claw. Ovary linear, glabrous, on a stipe 8–10 mm long and subequaling the calyx-tube. Pods 50–60 mm long, ca. 10 mm wide, 8–10 mm high, imperfectly bilocular, carinate ventrally, broadly grooved dorsally, terminating in a gently reflexed beak 1.5–3 mm long, coriaceous, acute at both ends; stipe 10–11 mm long. Fl. March–June; fr. April.

Etymology. The species is named after the Baft city, in Kerman province, Iran.

Paratypes. Iran, Prov. Kerman, Baft, Gokar (Cheshmehband), 2800 m, Mirtajedini 19500 (TARI, TUH).

Distribution and habitat. – *A. baftensis* was seen in the field by the first author and is known from few specimens from the type locality that are deposited at the herbarium of Bu-Ali Sina University (BASU), TARI and W. It is endemic to southeastern Iran and known only from the type locality. It was collected in a dry steppe on clay soils among shrubs and perennial herbs such as *Trigonella elliptica*, along the roadside of the Baft mountain. It is a rare species in Iran and the paratype named *A. dieterlei* by Maassoumi (2003). In addition to the geographical distance between these species, some differences were observed in the length of bract, keel, teeth calyx, peduncle and number of flowers in racemes. However, these features were enough to separate it as a new distinct species (Fig. 2). *IUCN Red List Category*. We observed a very low frequency of the new species in the field and therefore it was decided to classify it as VU (Vulnerable), a category that includes taxa with small populations that could be at risk, according to IUCN criteria (IUCN 2001). Our interpretation is based on a single known population.

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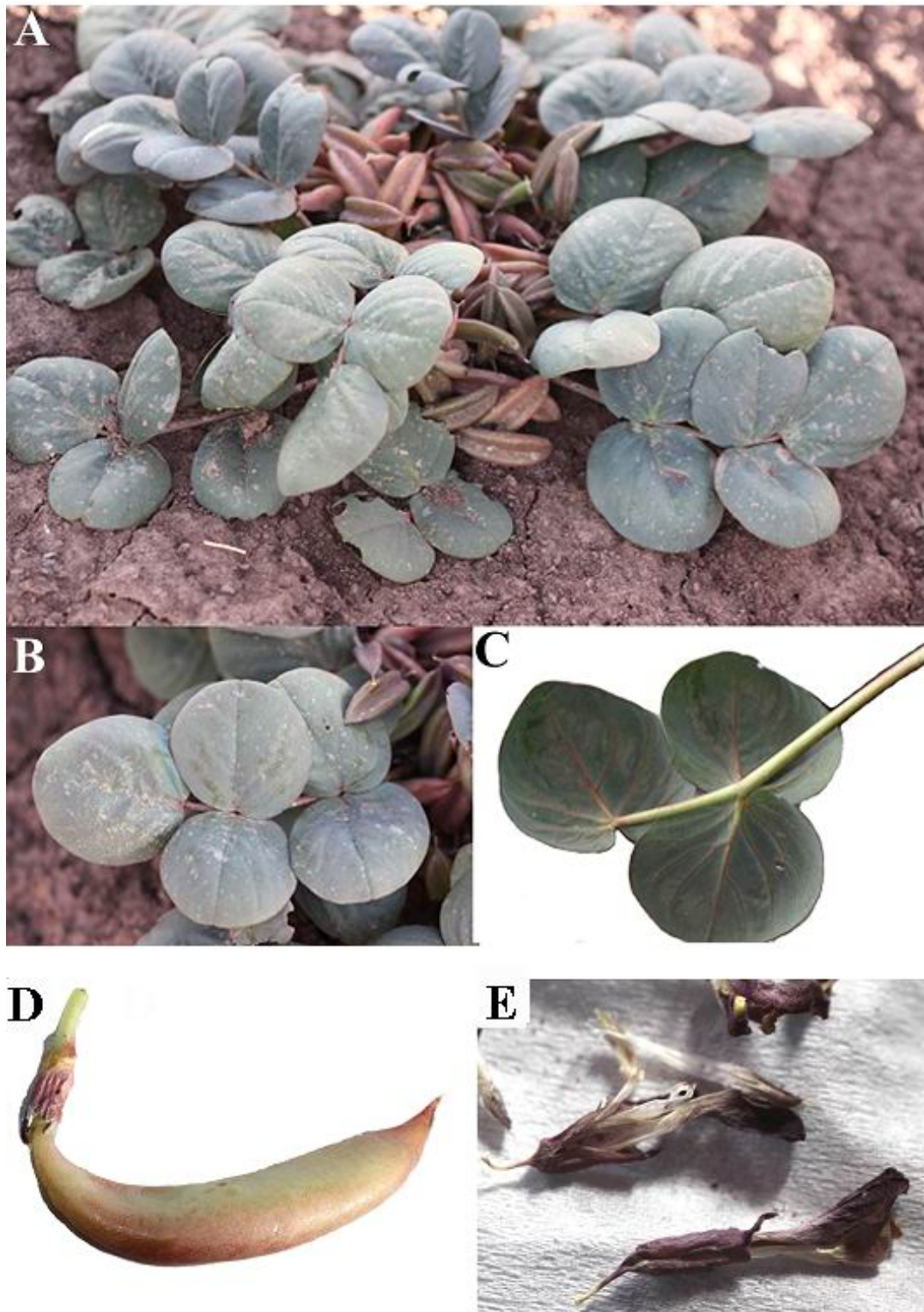


Fig. 1. *Astragalus baftensis*. – A: close up of habit and habitat (Ranjbar 1960; Photo M. Ranjbar); B: close up of adaxial leaflets; C: close up of abaxial leaflets; D: close up of a glabrous pod; E: close up of flowers.

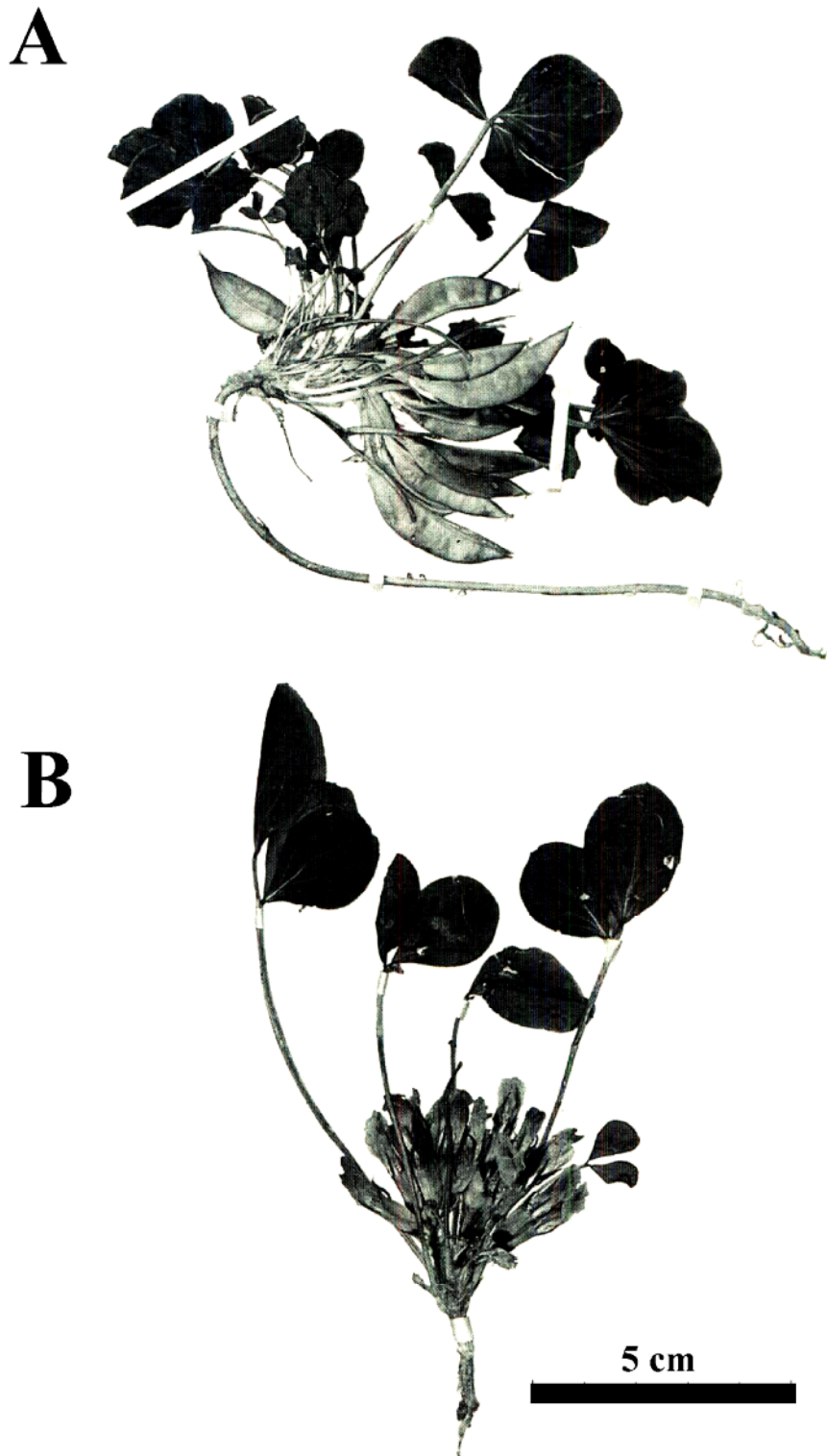


Fig. 2. *Astragalus dieterlei*. – A: details of pods; B: details of inflorescences.

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