

## NOTES ON THE GENUS ASTRAGALUS (LEGUMINOSAE) IN IRAN II, NEW SPECIES AND NEW RECORDS

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10 species, including *Astragalus acetabulosus*, *A. glochideus*, *A. gudrunensis*, *A. jormolenkoi*, *A. maymanensis*, *A. nephtonensis*, *A. onobrychis*, *A. pseudo-becki*, *A. registanicus* and *A. stenocarpus* are recorded as new to the flora of Iran. *A. mozaffarianii* and *A. neo-podlechii* are described as new species from NW. and S Iran.

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مطالعاتی درباره جنس گون (*Astragalus*) در ایران (۲)، گونه‌های جدید  
از: علی اصغر رمک معصومی

۱۰ گونه زیر برای اولین بار از ایران گزارش داده می‌شوند.

*Astragalus acetabulosus*, *A. glochideus*, *A. gudrunensis*, *A. jormolenkoi*, *A. maymanensis*, *A. nephtonensis*, *A. onobrychis*, *A. pseudo-becki*, *A. registanicus*, *A. stenocarpus*.

۲ گونه *A. mozaffarianii* و *A. neo-podlechii* به ترتیب از شمال غربی و جنوب ایران نامگذاری و شرح داده می‌شوند.

## INTRODUCTION

While studying and naming plant specimens of the genus *Astragalus* in the herbarium of Research Institute of Forests and Rangelands (TARI), some new records and new species were recognized. 10 of the new records belong to the annuals have already been mentioned in a Farsi book. In this paper 10 more new records are explained and 2 new species are described. In collaboration with Prof. Dr. Podlech from München some of the specimens belong to the section *Caprini* have been checked by him. All materials mentioned in the text are preserved at TARI. some duplicates in hb. PODLECH.

## NEW RECORDS

1. *Astragalus acetabulosus* C. C. Townsend

Sect. *Pterophorus*

Kordestan 12 km from Baneh to Marivan, 1640 m, 30.5.1978 Runemark & Mozaffarian 29277.

2. *Astragalus glochideus* Boriss.

Sect. *Ornithopodium*

Azərbaycan: 43 km from Kivi to Ardebil, road from Meresht to Arpachai village,

2250–2600 m, 18.6.1980, Mozaffarian & Nowrozi 34350; 9 km from deviation of Kivi to Ardebil road, above Meresht village, 2000 m, 18.6.1980 Mozaffarian & Nowrozi. 34380.

3. *Astragalus gudrunensis* Boiss. & Haussk. ex Boiss.

Sect. *Proselius*

Azərbaycan: Zanjan-Bijar road, 10 km after Halab, 1420 m, 31.4.1974 Wendelbo, Shirdelpur & Assadi, 11898 & 11895.

4. *Astragalus jormolenkoi* Gontsch.

Sect. *Caprini*

Khorasan: Between Ghoochan and Darreh-Gaz, Tandooreh National Park, Shekarab, 2300 m, 27.5.1984, Assadi & Maassoumi 50662 (det. Podlech).

5. *Astragalus maymanensis* Podl.

Sect. *Caprini*

Gorgan: Golestan Wild-life Park, near Budjnurd road 1250 m, 2.5.1974. Wendelbo & al. 10995 (det. Podlech); Ibid. 11058 & 11060; Khorasan: Between Ghoochan and Darreh-Gaz. Tandooreh National Park, between Shekarab and Chehel-Mehr, 1600–1900 m, 28.5.1984, Assadi & Maassoumi

50664; 62 km from Lotf-Abad to Kalat-e Naderi, 920 m, 26.4.1986, Assadi & Maassoumi 55725 & 55727; 7 km W. of Kalat-e Naderi, 1250 m, 27.4.1986, Assadi & Maassoumi 55821.

6. *Astragalus nephtonensis* Freyn.

Sect. *Caprini*

Gorgan: Golestan Park, Sharlegh station, 1300 m, 8.5.1984 Maassoumi 47579 (det. Podlech); 18 km from Maraveh-Tapeh to Ashkhaneh, 850 m, 24.4.1986, Assadi & Massoumi 55594; 9 km E. of Maraveh-Tapeh, 300 m, 22.4.1986, Assadi & Maassoumi 55485.

7. *Astragalus onobrychis* L.

Sect. *Onobrychium*

Khorasan: Ca. 45 km N. of Shirvan, Golool-Sarani Protected Area (EG2) 1600–2300 m, 26.5.1984, Assadi & Maassoumi 50457.

8. *Astragalus pseudo-becki* Sirj. & Rech. f.

Sect. *Malacothrix*

Gorgan: Golestan Park, Sharlegh station. 1300 m, 8.5.1984. Maassoumi 47591.

9. *Astragalus registanicus* Rech. f.

Sect. *eremophysa*

Khorasan: 20–30 km. N. of Gonabad (70 km on road from Turbat-e-Heydari-eh), 900 m, 30.5.1977, Runemark & Sardabi 23645.

10. *Astragalus stenocarpus* Gontsch.

Sect. *Cystodes*

Khorasan: Ca. 45 km. N. of Shirvan, Golool-Sarani Protected Area (EG2) 1600–2300 m, 26.5.1984, Assadi & Maassoumi 50458.

NEW SPECIES

1. *Astragalus mozaffarianii* Maassoumi, sp. nov.

Sect. *Caprini*

*Description.* Perennis, acaulis, patenter albo-pilosus. Rhizoma lignosa, truncus multiceps. Stipulae 9–20 mm longae, lanceolatae, margine longe ciliatae, basi petiolo adnatae, Folia 25–30 cm longa, petiolo laminam 2-plo breviora, unacum rachide sulcato et dense longe patenter piloso. Foliola 9–11 juga, lanceolata vel linerai-lanceolata apice acuta basi cuneata vel angustata, (25–) 35–45 mm longa et 6–7 mm lata, supra glabra et subtus dense molliter longe hirsuta. Inflorescentiae subradicales, 5–7-florae, pedunculo 1–2 cm longo piloso suffultae.

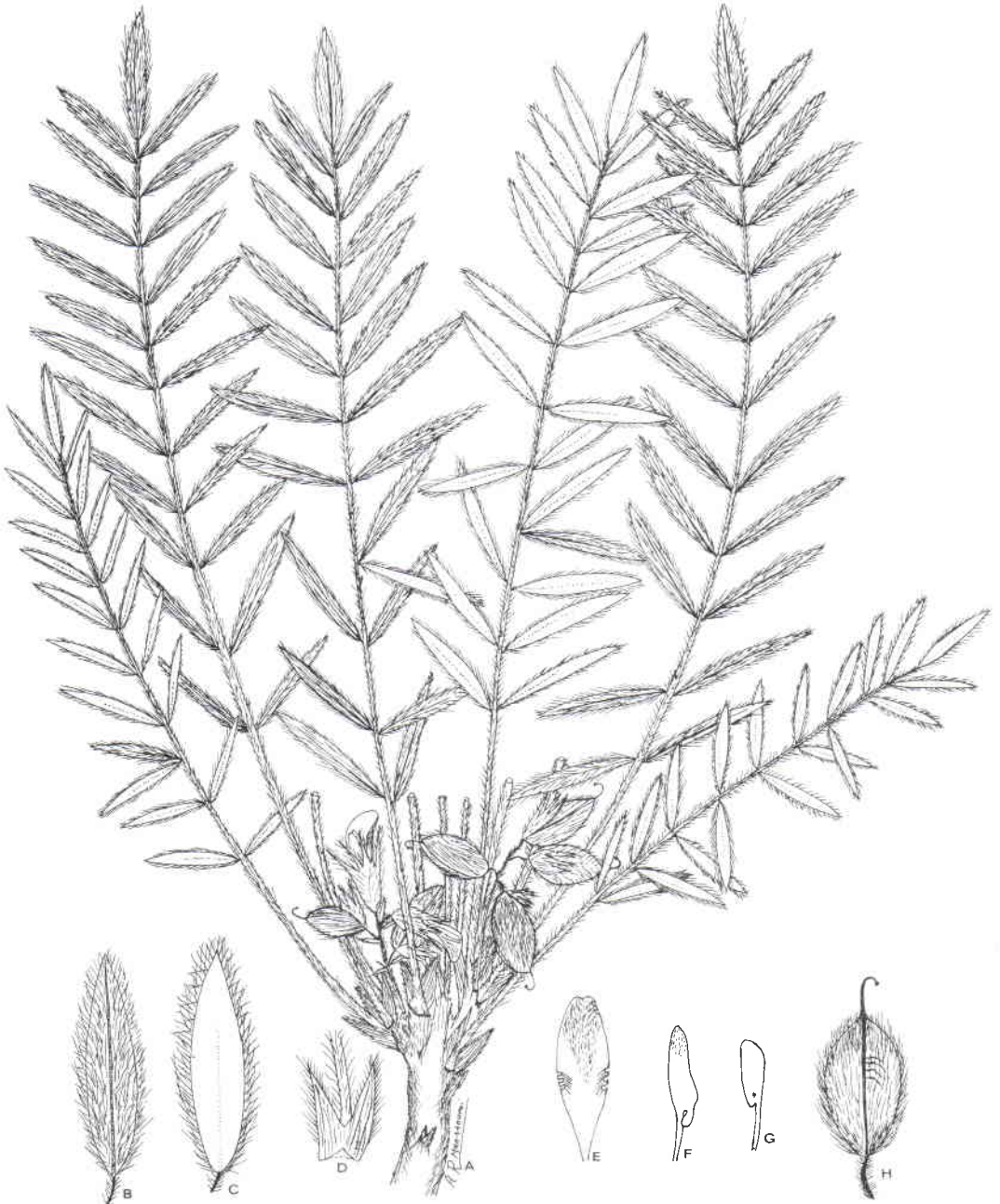


Fig. 1. *Astragalus mozaffarianii*. —A. Habit (x 0.5).—B,C. Leaflet, s lower and upper surfaces (x 1). —D. Stipule (x 0.5). —E. Standard (x 1). —F. Wing (x 1). —G. Keel. (x 1). —H. Fruit (x 1).

Bracteae 7–8 mm longae, lanceolatae, supra sparse longe pilosae margine longe ciliatae. Pedicelli 8–10 mm longi, tenues, plus minus deflexi, longe pilosi. Calyx 17–19 mm longus, basi breviter gibbosus, longe pilosus, dentibus linearibus tubum aequantes. Corolla flava, pilosa. Vexillum 22 mm longum, lamina oblongo-panduriforme, apice emarginata, in medio leviter contracta, basi angulata in unguem brevem cuneatim angustata, dorsa dense breviter pilosa. Alae 19 mm longae, lamina oblonga, apicem versus angustata, extus pilosa, in parte media leviter contracta, basi late auriculata, supra auricula breviter dilatata, ungue laminam aequilongo. Carina alis paulo brevior, 16 mm longa, lamina triangulari-elliptica, glabra, basi angulata, ungue laminam aequilongo. Ovarium breviter stipitatum, pilosum, stylo glabro. Legumen oblique ellipticum, 20 mm longum et 10 mm latum, ventro leviter carinatum, dorso applanatum, dense longe patenter villosum, biloculare.

*Diagnose.* Planta ob indumentum e pilis longis ad 5 mm longis patentibus et foliolis longis lineari-lanceolatis insignis.

*Typus.* Persia: Azarbayejan, 28 km from Kivi to Ardabil, Sangabad area, 8 km from Sangabad to Piraghaji, 1650 m, 17.6.1980, Mozaffarian & Nowrozi

34294 (holotypus TARI; dup. herb. PODLECH).

The species is named in the honour of the type collector, Mr. V. Mozaffarian from TARI.

## 2. *Astragalus neo-podlechii* Maassoumi, *sp. nov.*

Sect. *Caprini*

*Description.* Perennis, acaulis, pilis brevibus patentibus obtectis, caudex multiceps. Apice rachidibus anni precedentis induratis. Stipulae 7–9 mm longae, lanceolatae, longitudinaliter nervosae, albi-hirsutae vel margine tantum ciliatae, basi per 3–5 mm petiolo adnatae. Folia 15–20 cm longa; petiolo lamina 3–4 plo brevior, sicut rachis striati-sulcato, dense breviter patenter hirsuto. Foliola 15–20 juga, linearia, complicata, 4–7 mm longa et 0.6–1.5 mm lata, utrinque breviter patenter pilosa. Inflorescentiae subradicales, 4–5 florum, pedunculo 1.5–2 cm longo piloso. Bracteae 2–3 mm longae, lineari-subulatae, pilosae. Pedicelli 4 mm longi, patenter hirsuti, Calyx 11–12 mm longus, tubulosus, basi leviter gibbosus, breviter hirsutus; dentibus 2–3 mm longis, tubo 3-plo brevioribus. Corolla glabra, flava, demum violacea. Vexillum

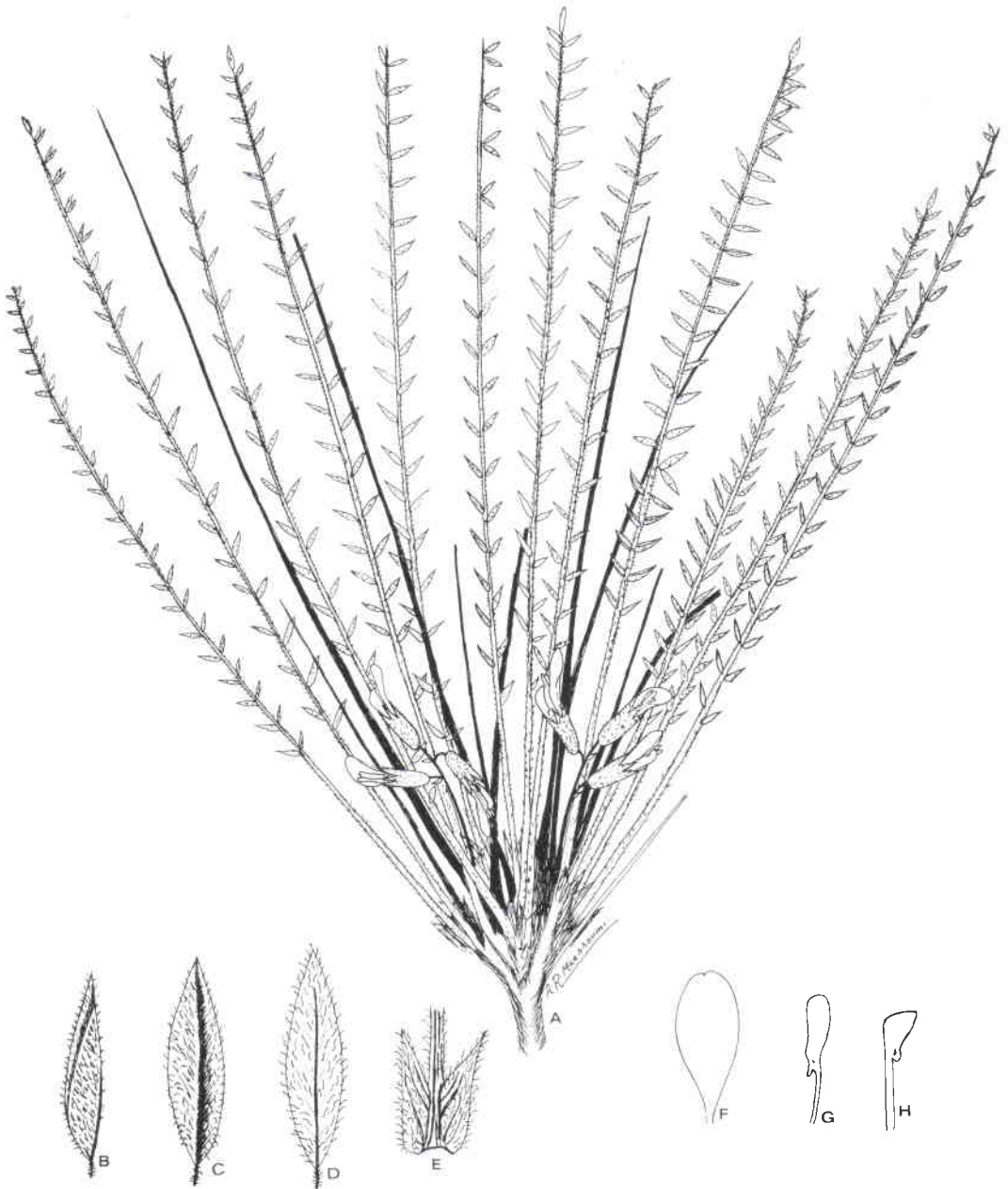


Fig. 2. *Astragalus neo-podlechii*. —A. Habit (x 0.58). —B. Folded leaflet (x 4). —C & D. Leaflet,s upper and lower surfaces. —E. Stipule (x 1). —F. Standard (x 1). —G Wing (x 1). —H. Keel (x 1).

20 mm longum; lamina obovato-oblonga, 8 mm lata, apice leviter incisa, basi in unguem brevem contracta. Alae 19 mm longae; lamina oblonga, apicem versus leviter dilatata, antice rotundata, basi breviter auriculata, ungue laminam aequante. Carina alis paulo breviora, 15 mm longa; lamina oblique oblonga, dorso recurvato apice rotundata, ungue lamina paulo longiore. Ovarium fere sessile, pilosum, stylo sub stigmatate glabro. Legumen oblongum, dorso ventroque rotundatum, apice rostro 2 mm longo, hirsutum, semibiloculare.

*Diagnose.* Differt ab *A. johannis* Boiss. indumento e pilis brevibus patentibus (nec appressis) consistente, dentibus calycis 2—3 (nec 4—7) mm longis, stylo

sub stigmatate glaber.

*Typus.* Persia: Fasa, Kharman-Kuh, 2900 m, 6.6.1983, Mozaffarian 46924 (holotypus TARI; isotypus hb. PODLECH). The species is named in the honour of Prof. Dr. D. Podlech from München.

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