

NEW RECORDS OF HEDYSAREAE (PAPILIONACEAE) FROM IRAN

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Onobrychis cyri var. *cyri*, *Onobrychis cyri* var. *angustifolia* and *O. sosnovskyi* belong to the section *Onobrychis*, *O. argyrea* from the section *Heliobrychis* and *Hedysarum monophyllum* belongs to the section *Subacaulia* are reported from Iran as new records for the first time.

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Key words. *Onobrychis*, *Hedysarum*, *Hedysareae*, new records, *Papilionaceae*, Iran.

گزارش‌های جدید از قبیله هدی زاره (خانواده بقولات) از ایران

حسن امیرآبادی زاده، کارشناس ارشد پژوهشی مرکز تحقیقات کشاورزی و منابع طبیعی خراسان رضوی.

O. sosnovskyi و گونه های *Onobrychis cyri* Grossh. var. *cyri*, *O. cyri* Grossh. var. *angustifolia* Grossh. واریته های

Hedysarum و *O. argyrea* Boiss و Grossh. متعلق به جنس اسپرس بر اساس نمونه های هرباریومی از شمال غرب و گونه

monophyllum Boriss. متعلق به جنس هدی زارم از شمال شرق ایران برای اولین بار گزارش می‌گردند.

INTRODUCTION

The *Hedysareae* tribe has been revised for the preparation of the treatment for the Flora of Iran (Assadi 1989) by the author. In this project several localities in Iran have been visited and herbarium specimens of Khorassan Razavi Research Center of Agricultural and Natural Resources (MRCH), Research Institute of Forests and Rangelands (TARI) and herbarium of Ferdowsi University of Mashhad (FUMH) have been studied and named. Flora Orientalis (Boissier 1872), Sirjaev (1926), Flora of the USSR (Fedtschenko & Grossheim 1948), Flora of Turkey (Hedge 1970), Flora of Iraq (Townsend 1974), Flora Iranica (Rechinger 1984), Choi & Ohashi (1996 and 2003) and Amirabadi-zadeh & al. (2007) were used for identification of the species. Here, I report two new varieties and three new species of the genera *Onobrychis* and *Hedysarum* for the flora of Iran.

RESULTS

New records

Onobrychis cyri Grossh., Zap. Nauchno-prikl. Otd. Tifl. Bot. Sada 6: 123 (1929).

Syn.: *O. bungei* Sirjaev, *Onobr. Gen. Rev. Crit.* 1: 159 (1925) p.p.; *O. viciaefolia* Trautv., Tr. B. S. IV 133 (1876), non Scop.(1772); *O. sativa* Radde, Grundzüge 279, 297 (1899), non Lam. (1778).

---var. ***cyri***

Specimens seen. Azerbaijan: Kalibar, highlands of Barzandagh village, route of Peygham to Asheghloo, 1990 m, Amirabadi-zadeh, Ghahremani & Imani 6084 (MRCH); Kalibar, Arasbaran forest, forked road of Vayghan, 1250 m, Zarifi 10038 (MRCH); 75 km from Khajeh toward Sonagoon copper mine, 2340 m, Amirabadi-zadeh, Ghahremani & Imani 6081 (MRCH).

---var. ***angustifolia*** Grossh., Fl. URSS. 13: 259 (1948). –Fig. 1.

Specimens seen. Azerbaijan: Kalibar, Arasbaran forest, toward Vinagh, 900 m, Zarifi 10057 (MRCH); 1250-1400 m Zarifi 10013 (MRCH); Protected area of Arasbaran, NW of Vinagh, 1300- 1400 m, Assadi & Vosoughi 24673 (TARI); Horand toward Tanbakoloo forest, at the margin of forest, 1500 m, Zarifi 10067 (MRCH).

According to Grossheim (1948) *Onobrychis cyri* was previously known only from Caucasus: Armenia, Azerbaijan, Georgia, Russian Federation, Checheno-



Fig. 1. *Onobrychis cyri* var. *angustifolia* (10057 MRCH).



Fig. 2. *Onobrychis sosnovskyi* (6065 MRCH).



Fig. 3. *Onobrychis argyrea* (10026 MRCH).



Fig. 4. *Hedysarum monophyllum* (11833 MRCH).

Ingushetia, Dagestan, Kabardino-Balkaria, Karachay-Cherkessia, Krasnodar, North Ossetia and Stavropol. The cited collections extend its distribution to NW Iran. *O. cyri* belongs to the subgen. *Onobrychis* sect. *Onobrychis*. It has two varieties in Iran: var. *cyri* with oblong to elliptic leaflets, up to 13 mm long and var. *angustifolia* with linear to narrow lanceolate leaflets, up to 40 mm long.

O. sosnovskyi Grossh., Zap. Nauchno-Prikl. Otd. Tiflissk. Bot. Sada 5: 162 (1926). –Fig. 2.

Syn.: *O. stenostachya* Freyn & Sint. subsp. *sosnovskyi* (Grossh.) Hedge in P. H. Davis, Fl. Turkey 3: 567 (1970).

Specimen seen. Azerbaijan: Bazargan region, frontier between Iran and Turkey, Ghuje-dagh mountain, 2180 m, Amirabadi-zadeh 6065 (MRCH).

The new species belongs to the sect. *Onobrychis*. It was reported by Rechinger (1984) from northeastern Turkey and beyond the Caucasus (Oltin Distr.). *O. sosnovskyi* is characterized by the longer wings, than calyx.

O. argyrea Boiss., Diagn. Pl. Or. Nov. ser. 1 (9): 107 (1849). –Fig. 3.

Specimen seen. Azerbaijan: 2-12 km W Zenuz, 1500-1700 m, Zarifi 10026 (MRCH).

This species belongs to the sect. *Heliobrychis* and described from Cappadocia in eastern Asia minor. Its general distribution is Balkan-Asia Minor, Armenia-Kurdistan and may be found in S. Transcaucasica. *Onobrychis argyrea* is a perennial herb with sericeous or pannose indumentum. Corolla yellow, concolor; keel glabrous.

Hedysarum monophyllum Boriss., Not. Syst. Leningrad 10: 81 (1947). –Fig. 4.

Specimen seen. Khorassan: Quchan to Dargaz, near Ali Bolagh road, 1500 m, Amirabadi-zadeh & Paryab 5943 (MRCH); Chenaran, Boghmech toward Hezar Masjed mountain before the watershed boundary, 2840 m, Mozaffarian, Amirabadi-Zadeh & Zadbar 11833 (MRCH); 97 km NW. Mashhad, between Karimabad and Kuh-e Hezarmasjed, 2450 m, Joharchi & Zangooei 15700 (FUMH).

Hedysarum monophyllum is from the sect. *Subacaulia* and reported by Rechinger (1984). It was described for the first time from the Kopet Dagh region in Turkmenistan. It is easily distinguished from *Hedysarum renzii* by larger calyx up to 21 mm and two linear bracteoles up to 7 mm long.

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REFERENCES

- Amirabadi-zadeh, H., Abbassi, M. & Ranjbar, M. 2007: A new species of *Onobrychis* sect. *Heliobrychis* (tribe Hedysareae) from Iran. –The Iranian Journal of Botany, 13 (1): 53-56.
- Assadi M. 1989: Plan of the Flora of Iran. –Research Institute of Forests and Rangelands. Tehran.
- Boissier, E. 1872: *Hedysarum* and *Onobrychis* in *Flora Orientalis*, vol. 2: 511-553. –Geneva, Basilease and Lugundi.
- Choi, B. H. & Ohashi, H. 1996: Pollen morphology and taxonomy of *Hedysarum* and its related genera of the tribe Hedysareae (Leguminosae-Papilionoideae). –Journal of Japanese Botany 71: 191-213
- Choi, B. H. & Ohashi, H. 2003: Generic criteria and an infrageneric system for *Hedysarum* and related genera (Papilionoideae-Leguminosae). –Taxon, 52: 567-576.
- Fedtschenko B. A. & Grossheim A. A. 1948: *Hedysarum* and *Onobrychis* in Komarov, V. L. et al. (eds), *Flora of the U.S.S.R.*, vol 13: 199-281. –Moscow, Leningrad.
- Hedge I. C. 1970: *Onobrychis* in *Flora of Turkey and the East Aegean Islands*, vol. 3: 560-589. –Edinburgh University Press.
- Rechinger, K. H. 1984: Hedysareae in Rechinger, K. H (ed.), *Flora Iranica*, no.157: 365-469. –Graz.
- Sirjaev, G. 1926, "Onobrychis generis revisio critica", - publication de la faculte' des sciences de L'Universite Masaryk (Brno) 76: 1-165.
- Townsend C. C. 1974: *Onobrychis* in *Flora of Iraq*, vol. 3: 471-493. –Published by the Ministry of Agriculture of the Republic of Iraq, Baghdad.