

## A NEW SPECIES OF ONOBRYCHIS SECT. HELIOBRYCHIS (TRIBE HEDYSARAE) FROM IRAN

H. Amirabadi-zadeh, M. Abbassi & M. Ranjbar

Amirabadi-zadeh, H., Abbassi, M. & Ranjbar, M. 2007 08 01: A new species of *Onobrychis* Sect. *Heliobrychis* (tribe *Hedysarae*) from Iran. -*Iran. Journ. Bot.* 13 (1): 53-56. Tehran.

*Onobrychis mozaffarianii* is described and illustrated as a new species from Iran. It is an endemic plant species and distributed in central regions of the country and for the first time is introduced to plant world. The new species is related to *O. andalunica* which is compared with.

Hassan Amirabadi-zadeh (corresponding author) and Massoud Abbassi, Herbarium of Khorassan Research Center of Agricultural & Natural Resources, P. O. Box 91735- 488, Mashhad, Iran; e-mail: amirabadizadeh@kanrrc.ac.ir. -Massoud Ranjbar, Department of Biology, Herbarium Division, University of Bu-Ali Sina, P. O. Box 65175/4111, Hamadan, Iran, e-mail: ranjbar@baus.ac.ir.

Key words. *Hedysarae*, new species, *Onobrychis mozaffarianii*, *Papilionaceae*, Iran.

گونه جدیدی از جنس *Onobrychis* بخش *Heliobrychis* از ایران

حسن امیرآبادی زاده، مسعود عباسی و مسعود رنجبار

گونه *Onobrychis mozaffarianii* از نواحی مرکزی ایران به عنوان گونه جدیدی برای دنیا به همراه تصویر شرح داده می شود. این گونه با گونه خویشاوند خود *O. andalunica* مقایسه می گردد.

### Introduction

Reviewing different species of *Onobrychis* (tribe *Hedysarae*) for the preparation of Flora of Iran (Assadi 1978), a new species in section *Heliobrychis* from Esfahan province was identified. In this study, different collected specimens of the genus comprising field and herbarium specimens were investigated. The studies were mainly based on the herbarium specimens of the Research Institute of Forest and Rangelands (TARI). Flora Iranica (Rechinger 1984), Flora of Turkey (Hedge 1970), Flora of Iraq (Townsend 1974), Flora of W. Pakistan (Ali 1977) Flora of the USSR (Grossheim 1948) and also Sirjaev (1926) treatment of the genus were used as the main literature.

Section *Heliobrychis* was described by Boissier (1872) which comprises 19 species. On the basis of our results, general characteristics of the section are described as plants perennial or annual; pods crestless covered with pinnate bristles, orbicular, stipitate, along with a curved suture bearing seeds.

***Onobrychis mozaffarianii* Amirabadizadeh, sp. nov. – (fig.1).**

*Type.* Iran, Prov. Esfahan, Semirum, Hanna, between Maurak and Khina to Khafr, 1900 m., 9. VI.1992, Mozaffarian, 71263 (holotypus TARI).

Differt ab *Onobrychis andalunica* Bornm. indumento dense appresso sericeo (nec villosa), foliis basalibus 1-2 jugis (nec 2-4), petiolis longioribus ad 20 cm. longis (nec 10-15 cm.), calyce brevioris, 6.5-7 mm. longo (nec 9 mm.); corolla brevioris, vexillum 17.5 mm. longo (nec 20 mm.), alis 12-12.5 mm. longis (nec 11mm.), petalis aureis (nec flavis).

Perennial, up to 40 cm. high, suffruticose, silver green, covered all over with dense silky-velvet hairs, many stemmed. Stem erect-strict, grooved, branched in upper parts; nodes distinct and long. Root robust, woody, dark brown. Stipules free, 3.5-6.5 mm. long, subulate. Basal leaves with 1-2 pairs of leaflets and very long petiole; petiole up to 20 cm. long; stem leaves with 2 and rarely 3 pairs of leaflets and shorter petioles; leaflets ovate-elliptic, 9-16 × 13-26 mm., thick, with very dense silky hairs on both sides, mucronate, midrib outstanding; terminal leaflets slightly longer than the others, 15-20.5 × 20-26 mm, ovate to broad elliptic, with conspicuous petiolules 1.5-1.7 mm. long; petioles thick and grooved. Peduncle distinctly longer than leaves, up to 27 cm. long, 2.5-3 times longer than the leaves, loose in top; racemes with many large flowers, dense in the beginning, then remote. Bracts 2-3 mm.

long, equaling the pedicel, lanceolate. Bracteoles 2, small. Sepals 6.5-7 mm. long; teeth subulate-linear, equal or somewhat longer or rarely shorter than the tube. Corolla golden yellow, concolor; standard 16.5 × 17.5 mm., emarginate, more or less orbicular, pilose; wings 12-12.5 mm. long, lanceolate-linear, acute, glabrous, auriculate; keels larger than standard, 18.5 mm. long, non oblique, oblong, glabrous, with a claw

6.5 cm. long. Anthers 1.1-1.3 mm. long; ovarium 1.1 × 1.5 mm., ovate, covered with hispid hairs, 1-ovule, stipitate; ovules 0.5×0.9 mm., with a stipe 1.6 mm. long. Juvenile pods with very dense long silky hairs and yellowish, pitted, spiny on the surfaces and margins of disc; spine dark purple.

Table 1: Morphological differences between *Onobrychis mozaffarianii* and *O. andalunica*.

Characters	<i>O. mozaffarianii</i>	<i>O. andalunica</i>
Indumentum	densely silky – velvet	villous
Leaflet pair number	1– 2(-3)	2 – 4
Petioles length (in basal leaves)	up to 20 cm.	up to 10–15 cm.
Calyx length	6.5–7 mm.	9 mm.
Standard length	17.5 mm.	20 mm.
Corolla color	golden yellow	yellow

*Flowering period.* Late May to June. *Fruiting period.* Late June to early July.

*Habitat.* Growing on grey marl soils of the Irano-Turanian region.

*World distribution.* Endemic of Iran.

*Distribution in Iran.* Central regions (fig. 2).

*Onobrychis andalunica* is the closest relative to the new species but differs from it in many characters such as kind of hairy covering, number of leaflet pairs, length of petiole in basal leaves, sepal and corolla dimension and petal color. Differences between the new species and *O. andalunica* are compared in table 1.

### Acknowledgements

We thank the director and curators of the Herbarium of Research Institute of Forests and Rangelands (TARI).

### References

- Ali, S. I., 1977: Papilionaceae in Flora of W. Pakistan, no.100: 326-333. –Islamabad and Karachi.
- Assadi, M. 1978: Plan of the Flora of Iran. –Tehran.
- Boissier, E. 1872: *Onobrychis* in Flora Orientalis, vol. 2: 525-553. –Genevae and Basiliae.
- Grossheim A.A. 1948: Leguminosae: *Onobrychis* in Flora of the U.S.S.R., vol. 13: 244-281. –Moskva and Leningrad.
- Hedge I. C. 1970: Leguminosae- *Onobrychis* in Flora of Turkey, vol. 3: 560-589. \_Edinburgh.
- Rechinger, K. H. 1984: Papilionaceae in K. H. Rechinger Flora Iranica, no.157. A: 426-428. –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: Papilionaceae in Flora of Iraq, vol. 3: 471-493. –Baghdad.

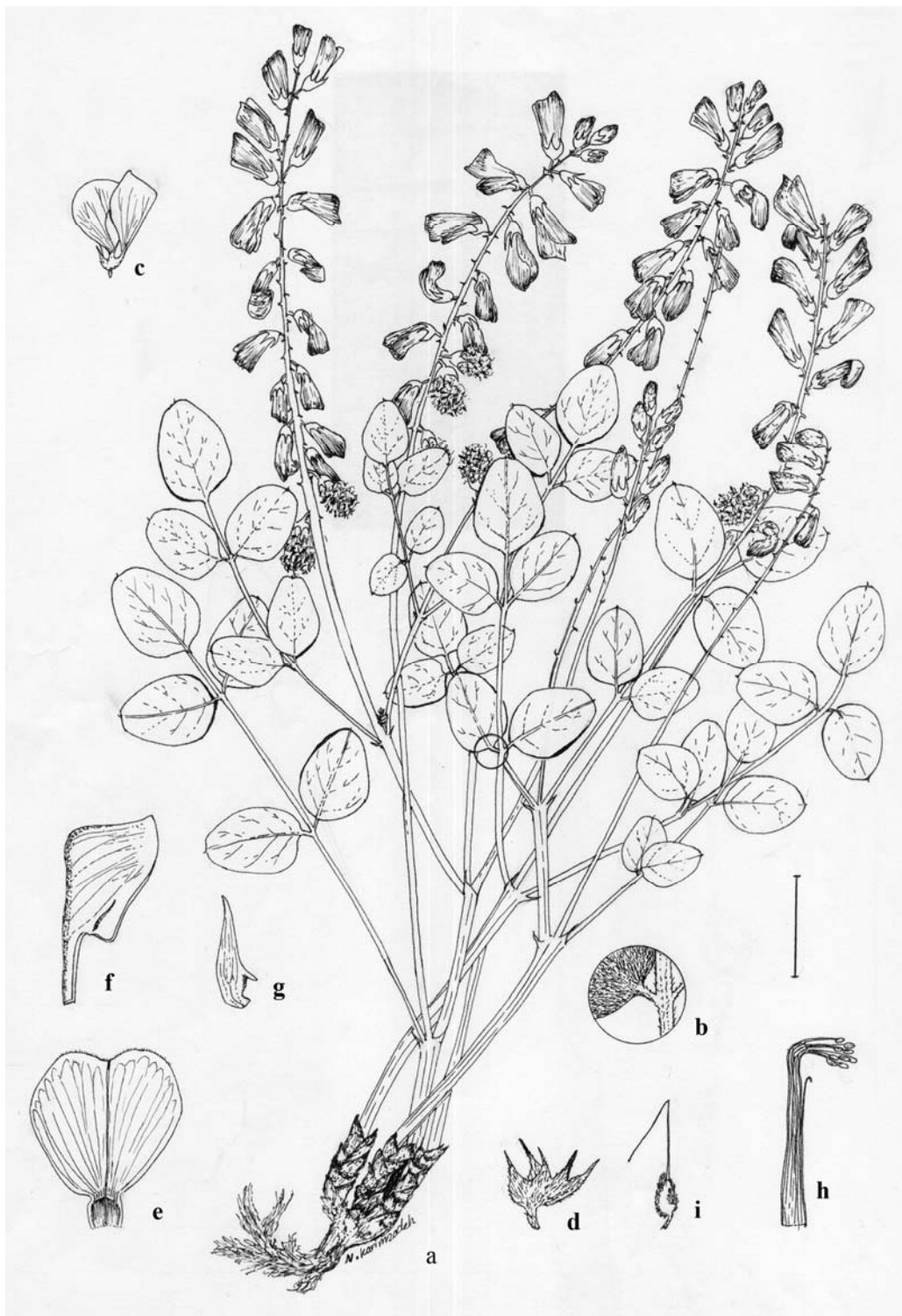


Fig. 1. *Onobrychis mozaffarianii* – a: habit; b: leaf (indumentum view); c: flower; d: calyx; e: standard; f: keels; g: wing; h: androecium; i: pistil. – Scale bar for a = 1.4 cm, b = 0.6 cm, c = 2 cm, d-i = 1 cm.

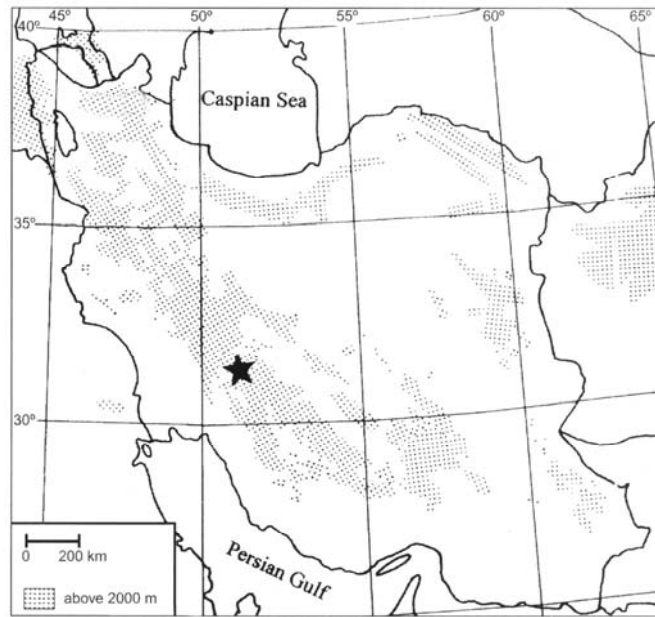


Fig. 2. Distribution of *Onobrychis mozaffarianii*.