

GAILLONIA DEZFULENSIS (RUBIACEAE), A NEW SPECIES FROM SOUTH WEST IRAN

S. Yusef Naanaie & M. Assadi

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Gaillonia dezfulensis is described as a new species from Salan mountain in N. Dezful, Khuzestan province. The new species is distinguished by having opposite apparently three lobed leaves. It is compared with its closest relative *Gaillonia bruguieri* A. Rich. ex DC., and *G. kandharensis* Ehrend. & Qarar ex Ehrend. & Schonb.

Sedigheh Yusef Naanaie (correspondence), Agricultural and Natural Resources Research Center of Khuzestan, Khuzestan, Iran email <Snanaei@yahoo.com>. -Mostafa Assadi, Research Institute of Forests & Rangelands, P. O. Box. 13185-116, Tehran, Iran.

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معرفی گونه *Gaillonia dezfulensis* به عنوان گونه‌ای جدید از جنوب غرب ایران

صدیقه یوسف نعنائی، کارشناس ارشد مرکز تحقیقات کشاورزی و منابع طبیعی استان خوزستان.

مصطفی اسدی، استاد پژوهش مؤسسه تحقیقات جنگلها و منابع طبیعی کشور.

گونه *Gaillonia dezfulensis* به عنوان گونه‌ای جدید از کو ه سالن در شمال دزفول در استان خوزستان نامگذاری و معرفی می‌گردد. این گونه با گونه‌های نزدیک به آن *G. bruguieri* و *G. kandharensis* مقایسه می‌گردد و با داشتن برگهای به ظاهر سه لوبه به خوبی از سایر گونه‌ها متمایز می‌گردد..

Introduction

Among the herbarium specimens collected in Khuzestan province, a collection of *Gaillonia* species seemed to be interesting. It seemed in the beginning that the specimens are quite distinguished among all of the *Rubiaceae* members by having apparently three lobed leaves. Further studies showed that the specimens are a new species. This new species is described as *Gaillonia dezfulensis* in this paper.

Materials and methods

A herbarium named the herbarium of Agricultural and Natural Resources Research Center of Khuzestan province was established in the city of Ahawaz, the centre of province. It was tried to name the specimens of this herbarium by using different Floras and papers, i. e. Flora Iranica (Rechinger, 1963-2010), Linczevski (1973), Flora of Iraq (Townsend & Guest, 1980), Flora of Pakistan (Nezamodin & Qaiser, 1989), Flora of Iran (Assadi & al., 1989) and Thulin (199). The specimens were partly compared with the named specimens in TARI herbarium, where the duplicates are mostly

preserved. Among the specimens, several new species have been found and described. Also, many species new to the flora of Iran have been introduced. A new species is described in this paper.

Results and discussion

Gaillonia dezfulensis Naanaie & Assadi, **sp. nov.** (Fig. 1.)

Species nova foliis oppositis apparter 3-lobatis distinguenda, differt a *G. kandharensis* corollis 10-14 mm longis (nec 4-5), olivaceis (nec albis), a *G. bruguieri* foliis magis latioribus, lanceolato-ovatis (nec linearibus vel lanceolatis).

Plant perennial, with branched woody base, 18-25 cm tall, densely hirsute. Stems many, arising from the woody base; lower and older branches whitish; upper branches grayish, fragile; internodes 8-20 mm long. Leaves opposite; lower leaves simple, entire, narrowly lanceolate or lanceolate, aristate at the tip, 16-40 mm long and 2-5 mm broad; middle leaves stipulate, lanceolate, 3 nerved, 13-25 mm long and 5-9 mm



Fig. 1. *Gaillonia dezfulensis* ($\times 1$); flower and bracts ($\times 5$); calyx ($\times 10$); corolla and ovary ($\times 11.5$).

broad; stipules narrowly lanceolate extrorsely falcate, connate to the middle of leaves, 12-15 mm long and 1-2 mm broad; segments spiny at the tip; spines 2-4 mm long. Floral leaves similar to the middle leaves. Flowers ± sessile, 1-3 at the axil of floral leaves, hermaphrodite; lateral flower often immature. Bracts long, lanceolate, membranous, 1-3.5 mm long. Calyx tubular, 3-3.5 mm long and 1 mm broad, densely covered with short crisped hairs; teeth 5, triangular, unequal, 0.5- 0.75 mm long. Corolla hypocrateriform; dark olive green, 10-14 mm long, densely hairy outside; tube 7.5-9 mm long, 1 mm broad; lobes 5, linear, hooded and fleshy at the apex, ca. 5 mm long. Stamens 5, unequal, 3 long excluded and 2 short included; filaments ca. 10-13 mm long; anthers dorsifixed, yellow. Style filiform, excluded, densely papillose, ca. 3 mm long. Stigma bifid. Ovary biloculed; each locule with one ovule. Shizocarp oblong, dark brown, whitish dotted, ca. 4 mm long.

Typus. Iran, Khuzestan province, Dezful, Shahion, 10 km after road Miankuh to Salan mountain, 1045 m, 29.05.2001, S, Naanaie & R. Mohammadi 5173 (holotypus TARI, isotypus herbarium of Agricultural and Natural Resources Research Center of Khuzestan).

Flowering and fruiting time. May-June

Habitat. The new species is restricted on gypsum soil slopes in dry forest area with another species *Convolvulus gonocladus* Boiss., *Capparis parviflora* Boiss., *Pycnocycla ceaspitosa* Boiss. & Hausskn., *Gypsophila* sp. and *Pimpinella eriocarpa* Banks & Soland.

This species has been known only from the type locality. However, the authors did not find any other specimens of it in any Iranian herbaria. Morphologically, the closest relative of this species are *G. bruguieri* and *G. kandharensis*. It differs from *G. bruguieri* by having lower lanceolate leaves, longer corolla up to 14 mm (not to 4-9 mm) with longer linear lobes ca. 5 mm (not to 1-2 mm), dark green olive corolla (not rose colour or white), unequal stamens, 3 long excluded and 2 short included. The three species are distinguished in the following key.

Key to *G. bruguieri*, *G. kandharensis* and *G. dezfulensis*

1. Leaves (10-) 15-30×1-4 mm, linear or often lanceolate; upper leaves stipulate connecting to the middle of leaves, 3-fid. Corolla (4.5-) 7-9 mm, rose coloured. Stamens exerted ***G. bruguieri***
- Leaves 10-21-40×(1,5-) 2-6 mm, lanceolate or often lanceolate-ovate; upper leaves stipulate connecting to the middle of leaves, 3-5 fid **2**
2. Corolla 10-14 mm long, dark olive green, densely hairy outside. Stamens unequal, 3 long excluded and 2 short included ***G. dezfulensis***
- Corolla 4-5 (-9) mm long, white or rose. Stamens exerted ***G. kandharensis***

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