

# ROCHELIA RETROSEPALA (BORAGINACEAE), A NEW SPECIES FROM IRAN, AND HORMUZAKIA AGGREGATA, A NEW RECORD FOR THE FLORA OF IRAN

M. Khatamsaz

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*Rochelia retrosepala* is described as new to science. *Hormuzakia aggregata* (Lehm.) Gusuleac is reported for the first time from Iran.

Mahboubeh Khatamsaz, Research Institute of Forests and Rangelands, P. O. Box 13185-116, Tehran, Iran.

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گونه *Rochelia retrosepala* یک گونه جدید از ایران و *Hormuzakia aggregata*

گزارش جدید برای فلور ایران

محبوبه خاتم ساز

گونه *Rochelia retrosepala* به عنوان گونه جدید برای علم گیاهشناسی شرح داده می شود. گونه *Hormuzakia aggregata* برای اولین بار از ایران گزارش می گردد.

## Introduction

The plant family *Boraginaceae* in Iran has been revising for the preparation of Flora of Iran. Materials of the herbaria W, G, TARI, IRAN and some other herbaria of Iran were studied. These studies were completed with field observations. In this course some new species were described (Khatamsaz 1992, 1994, 1996, 1999, 2000). In this paper a new species in the genus *Rochelia* is described and a new record is reported for the flora of Iran. All materials are preserved in the herbarium of TARI.

### *Rochelia retrosepala* Khatamsaz, sp. nov. -Fig. 1.

Planta annua, usque ad 35 cm sub fructus alta, multicaulis, ramosa,  $\pm$  recta, subappresse hispidula. Folia basalia spathulata, 10-40 mm longa, 2-7 mm lata, petiolata; caulina linear-oblonga, 10-20 mm longa, 2-5 mm lata. Inflorescentiae laxiusculae, elongatae, bracteatae. Pedicelli floriferi brevissimi, fructiferi 2-3 mm longi, horizontaliter patentes vel recurvati. Calyx floriferi  $\pm$  2 mm longus, fructiferi 6-7 mm longus, apice incurvatus, anguste linearis, retrorsus. Corolla minima,  $\pm$  3 mm longa, caerulea, subcylindrica, lobis 5 suberectis. Antherae 5, inclusae. Stylus filiformis; stigma indistincte capitatum. Nuculae 2, oblongae vel ovato-oblongae,  $\pm$  4 mm longae, stellatim papillosae.

*Typus.* Esfahan: Fereidunshahr, Cheshmeh Langan, 2550 m. Nowroozi and Shams 11685 (holotypus TARI).

Annual. Stems in fruit elongating, up to 35 cm high, many, often branching from middle, rarely from base,  $\pm$  erect with appressed or slightly spreading bristles. Basal leaves spathulate, 10-40 mm long, 2-7 mm wide, like stem covered with appressed bristles on

tubercles, petiolate; cauline leaves linear-oblong, 10-20 mm long, 2-5 mm wide. Inflorescence loose, considerably elongating, with bracts. Pedicels short, in fruit 2-3 mm long, spreading or recurved. Calyx  $\pm$  2 mm long, in fruit 6-7 mm long, hamately curved, narrow linear, turned backwards. Corolla small  $\pm$  3 mm long, sky blue, cylindrical, with 5 semierect lobes. Stamens 5; filaments very short; anthers enclosed in corolla. Style slender, included; stigma capitate. Nutlets 2, oblong or ovate-oblong,  $\pm$  4 mm long, covered with stellate anchorlike short tubercles.

The new species with its reflexed sepals is distinguished from all other *Rochelia* species of Iran.

### *Hormuzakia aggregata* (Lehm.) Gusuleac. -Fig. 2.

Hormuzgan: S. of Minab, Gaz river, Pobot PS-83; Khuzistan: Aghajari, 180 m, Foroughi 3295; Balouchestan: Ghasreghand, 16 km Rask road, 450 m, Shirdelpour 10765.

Annual herb, 5-20 cm high, covered with dense spreading tubercle-based bristles. Stems procumbent, branched. Basal leaves rosulate, oblanceolate to oblong. Inflorescences very dense, more or less corymbose to capitate. Bracts foliaceous. Flowers nearly sessile. Corolla light blue. Nutlets 4, horizontally curved and helmet-shaped, hollow at base, with a broad dentate basal ring and a deep horizontal cleft above the basal ring around its ventral side.

The genus *Anchusa* L. has about 40 species with a mainly Mediterranean and West Asian distribution. Some of the species have been segregated from *Anchusa*, as for example the genera *Lycopsis* L., *Hormuzakia* Gusul., *Phyllocara* Gusul. (Gusuleac 1929). Many workers have studied both the macromorphology and micromorphology of



Fig. 1. *Rochelia retrosepala* ( $\times 0.58$ ); corolla ( $\times 8.7$ ); fruit ( $\times 5.8$ )



Fig. 2: *Hormuzakia aggregata* ( $\times 1$ ); corolla ( $\times 8$ ); nutlet ( $\times 5$ ).

*Anchusa*. These include Lawrence (1937), Smith (1931, 1932), Britton (1951), Rechinger (1967), Chamberlain (1977) and Diez (1983, 1994). Pollen morphology supports separation of the genera *Anchusa* and *Hormuzakia* (Diez, 1994). *H. aggregata* and its synonym *Anchusa aggregatga* Lehm. have not previously been recorded from Iran (Riedl, 1967).

It grows mainly along the coast and riversides from Sicily and Tunisia eastwards to Iran.

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