

## TWO NEW SPECIES FROM ROSACEAE AND BORAGINACEAE IN IRAN

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Two new species of *Rosaceae* and *Boraginaceae* are described. *Crataegus zagrica* from SW. Iran and *Heliotropium esfahanicum* from central Iran. *C. zagrica* differs from all species of the genus *Crataegus* in Iran by having deciduous sepals in fruits and *H. esfahanicum* differs from *H. samoliflorum* by having hairs which located in the middle of the corolla lobes, subulate hooked intercalary lobes and hairy nutlets.

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دو گونه جدید از تیره‌های گل سرخ و گل گاوزبان از ایران

محبوبه خاتم‌ساز

دو گونه جدید از تیره‌های گل سرخ و گاوزبان به نامهای *Crataegus zagrica* از جنوب غربی و *Heliotropium esfahanicum* از مرکز ایران نام گذاری و معرفی می‌گردند. گونه *C. zagrica* از کلیه گونه‌های جنس ولیک در ایران با داشتن کاسه ریزان در زمان میوه متمایز می‌گردد. گونه *H. esfahanicum* با گونه *H. samoliflorum* با داشتن کرک در داخل جام گل، زائده بین لب‌های درفشی خمیده و فندقه کرکدار اختلاف دارد.

## INTRODUCTION

In the course of my study on *Rosaceae* family which was started from about 1982, several new *Crataegus* species were recognized (Khatamsaz 1988, 1991 and 1992). Now, a new species is recognized from West of Iran. Also in studies on the specimens of *Heliotropium* in the herbarium of TARI considering available literature (Riedl 1967 and Akhiani 1994) for preparing, *Boraginaceae* family for the Flora of Iran (in Farsi), one new species appears to be undescribed. These two species are described here.

### *Crataegus zagrica* Khatamsaz, sp. nov.; fig. 1.

Arborescens, 4-5 m alta, spinis carentibus. Rami juveniles pubescentes, cortice purpureo-grisei. Folia opace glaucescentia, 3-6 cm longa, 2-6 cm lata, ambitu late ovata, basi truncata, profunde incisa vel incisione infima rarissime fere ad nervum medianum pertinente, lobis 3-5, acutis, irregulariter dentatis, supra glabris vel laxissime pilulosis, subtus pubescentibus, petiolo piloso. Inflorescentia multiflora, laxa, pedicelli et pedunculi villosi. Flores ignoti; sepala in fructus decidua. Fructus

subglobosus, 10 mm in diam., ruber.

Pyrenis 2.

*Typus.* Iran, Chaharmahal-e Bakhtiari, Darreh Bazoft, Tang-e Hooni, 1700 m, 12 Oct. 1999, Khatamsaz 79862 (holotypus TARI).

*Other specimens seen.* Chaharmahale Bakhtiari, Darreh Bazoft, 1350 m, Khatamsaz & Shahriari 68069; Chaharmahale Bakhtiari, Darreh Bazoft, after Chebd, to Lebdi, 1750 m, Mozaffarian 58032.

Tree to 4-5 m high; shoots unarmed. Young shoots pubescent, with the purplish-grey bark. Leaves light glaucous-green, dull, 3-6 cm long, 2-6 cm broad, broadly ovate, truncate at the base, deeply incised, 3-5 fid, often very deeply so, nearly to midrib, irregularly dentate, glabrous or less often sparsely puberulent above, pubescent beneath; petiole pilose. Inflorescence many flowered, loose; pedicels and peduncles villous. Flowers unknown; sepals deciduous in fruit. Fruits subglobose, 10 mm in diam., red. Nutlets 2.

The new species differs from all species of the genus *Crataegus* in Iran by having deciduous sepals in fruits.

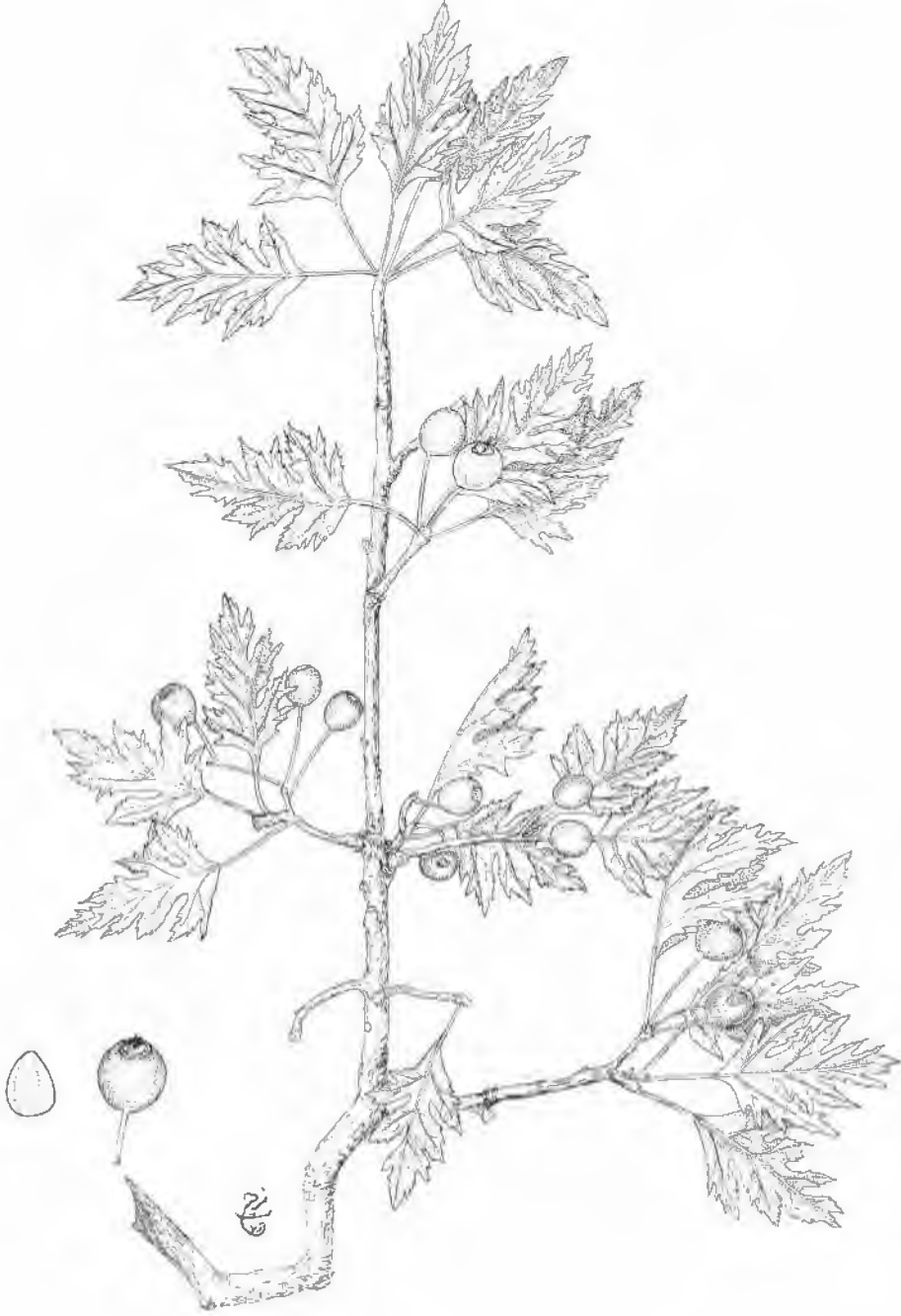


Fig. 1. *Crataegus zagrica* (x0.65); fruit and seed (x1.3).

***Heliotropium*                      *esfahanicum***

Khatamsaz, **sp. nov.**; fig. 2.

(Sect. *Pseudobucanion* Riedl)

Planta annua, multicaules, caulis erectus, ad 50 cm altus. Indumentum totius plantae e pilis brevibus appressiusculis, et glandulis minutis sessilibus numerosissimus immixtis, imprimis in caule et in ramis interdum crispulis hirsutis, Caules valde divaricatim ramosi. Folia omnia caulina parvula, longe petiolata, petiolis 3-15 mm longis; lamina obovata, 5-16 mm longa, 3-8 mm lata, basi cuneata, apice obtusa, margine integerrima, nervis supra paulo impressis subtus paulo prominentibus. Inflorescentiae laxae elongatae, usque ad 20 cm longae, floribus valde distantibus. Calyces sessiles, 3-4 mm longi, laciniis anguste linearibus, cum nuculis deciduis. Corolla calycem paulo superans, 4 mm longa, tubo subcylindrico, fauce valde constricto, extus retrorse hispido, intus hirsuto, limbo tubo triplo vel quadruplo brevior, lobis 5 ellipticis rotundatis, inter lobos sparsissime pilosa, 5 secundariis paulo brevioribus, subulato-linearibus in tubum incurvato-inflexis. Antherae medio in tubo sitae, lineares, apiculatae, apiculo incurvato. Stigma elongato-conicum, pilosum; stylus dense et longe pilosus. Nuculae late ovatae, albo-villosae.

*Typus.* Esfahan, Kuh-e Sofeh, 1900-1920 m, Zarre 72045 (holotypus TARI).

Annual, much branched from base, erect, up to 50 cm high. Indumentum appressed, mixed with long patent hairs and minute glands. Stem divaricately branched. Leaves petiolate; petioles 3-15 mm long; lamina obovate, 5-16 mm long, 3-8 mm broad, cuneate at the base, obtuse at the top, margin entire; nerves impressed on the upper side, slightly prominent in lower side. Inflorescence terminal, elongated; cymes up to 20 cm long; flowers distant. Calyx sessile, 3-4 mm long; lobes narrowly linear, deciduous. Corolla longer than calyx, 4 mm long, tubular, with constricted throat, outside villose, inside pilose, densely hairy so in the middle of lobes; corolla lobes short, rounded; intercalary lobes subulate-linear, slightly shorter than primary lobes, hooked. Anthers inserted near the middle of corolla tube, apiculate; tips hooked. Stigma conical-elongate, pilose, bilobed; style long, densely hairy. Nutlets broadly ovoid, covered by white hairs.

*Heliotropium esfahanicum* is very unique in the genus *Heliotropium*, for having hairs inside the corolla lobes, shape of intercalary lobes and glanduliferous stem. It

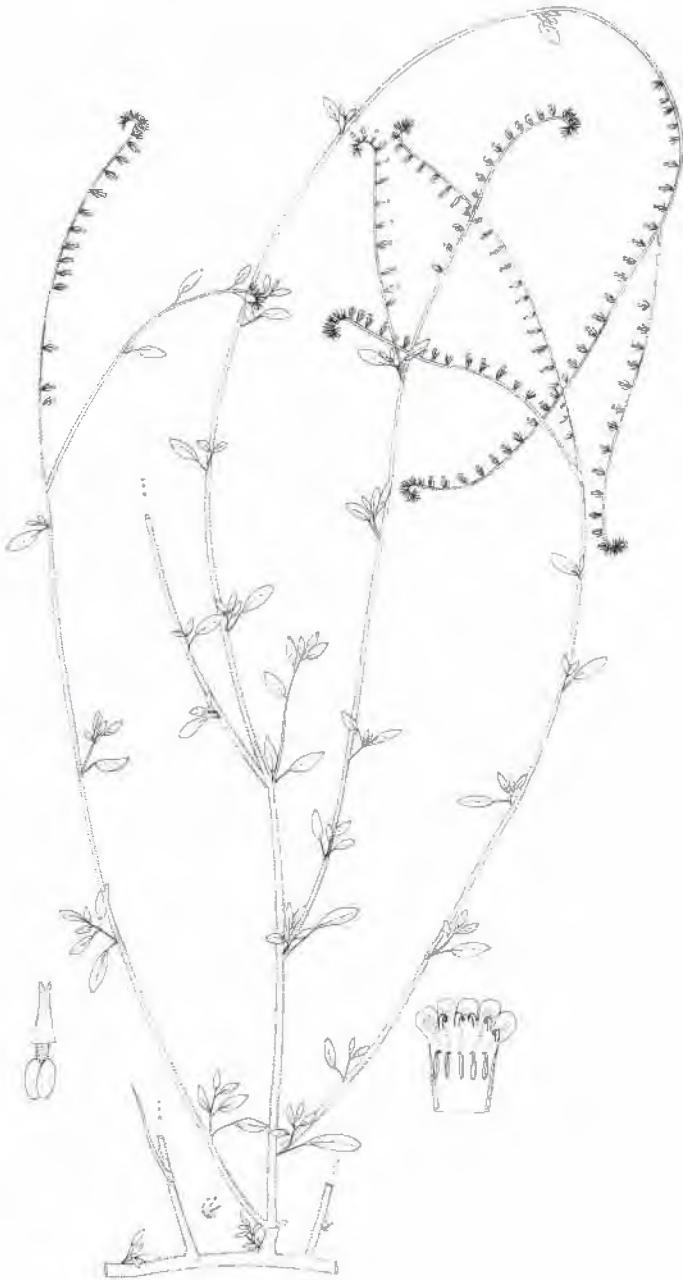


Fig. 2. *Heliotropium esfahanicum* (x0.45); floral parts (x2.5).

is close to *H. samoliflorum* Bge. but differs from it by having hairs which are located in the middle of the corolla lobes, subulate hooked intercalary lobes and hairy nutlets.

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