

## STUDIES ON THE ROSACEAE FAMILY IN IRAN, NEW TAXA AND NEW RECORDS

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The following hybrids are described as new from different parts of Iran: *Amygdalus* x *kamiaranensis*, *A.* x *iranshahrii*, *A.* x *mozaffarianii* and *A.* x *yasujensis*. *Cotoneaster assadii* is described as a new species from N. Iran.

*Alchemilla caucasica*, *A. kurdica*, *A. retinervis*, *Amygdalus brahuica*, *A. korshinskyi*, *A. spinosissima* subsp. *spinosissima*, *Aremonia agrimonoides*, *Cerasus brachypetala* var. *bornmulleri*, *Cononeaster pruinosa*, *Crataegus* x *armena*, *C. curvisepala*, *C. davisii*, *C. sakanensis*, *C. sanguinea*, *C. turcomanica*, *Potentilla adenophylla*, *Pyrus turcomanica*, *Rosa villosa* and *R. webbiana* are new records for the flora of Iran.

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مطالعاتی درباره خانواده گل رز (Rosaceae) در ایران ، واحدهای رده‌بندی  
و گزارشات جدید

از محبوبه خاتم‌ساز

دو رگه‌های زیر که متعلق به مناطق مختلف ایران می‌باشند ، نامگذاری و شرح داده  
می‌شوند .

*Amygdalus x kamiaranensis*, *A. x iranshahrii*, *A. x mozaffarianii*, *A.*  
*x yasujensis*.

گونه *Cotoneaster assadii* از شمال ایران نامگذاری و شرح داده می‌شود.  
علاوه بر این گونه‌های :

*Alchemilla caucasica*, *A. kurdica*, *A. retinervis*, *Amygdalus brahuica*,  
*A. korshinskyi*, *A. spinosissima* subsp. *spinosissima*, *Aremonia*  
*agrimonoides*, *Cerasus brachypetala* var. *bornmulleri*, *Cononeaster*  
*pruinosa*, *Crataegus x armena*, *C. curvisepala*, *C. davisii*, *C.*  
*sakranensis*, *C. sanguinea*, *C. turcomanica*, *Potentilla adenophylla*,  
*Pyrus turcomanica*, *Rosa villosa*, *R. webbiana*.

بعنوان گونه جدید برای اولین بار از ایران گزارش داده می‌شوند .

## INTRODUCTION

My work on *Rosaceae* family was started from about 1982. Later, as the preparation of a flora of Iran in Farsi (Persian) was planned in the Central Herbarium of Iran (TARI), the work carried on to do that part of the Flora. The studies, more to the visiting different herbaria of Iran were completed with field observations, partly in the type localities of some taxa. In this course some new taxa and new plant records from different parts of Iran were recognized which are described here.

## NEW HYBRIDS

*Amygdalus x kamiaranensis* Khatamsaz & Assadi, hybr. nov.

*A. scoparia* x *A. haussknechtii*, characteribus intermediis.

Frutex ca. 2 m altus, subspinescens. Ramuli juveniles virides, teretes, virgati, glabri, demum brunnecenti - canescentes. Brachyblastis  $\pm$  numerosis. Folia ca. 15 - 22 x 3 - 4 mm, anguste - elliptica vel obovata, apice obtusa vel breviter acuta, basi decurrentia, sessilia, margine crenato - dentata et glandulosa, utrinque  $\pm$  pubescentia, subtus modo characteristico reticulato - nervosa, canescenti - viridia. Flores usque ad 15 - 18 mm

diaetro. Hypanthium campanulatum. Petala oblongo - obovata, rosea. Stamina numero, variabilia, ca. 25. Drupae ovatae, ca. 18 - 20 x 12 - 15 mm, subcompressae,  $\pm$  minute puberulae, apice obtusae vel brevissime acutae, breviter pedicellatae, ca. 3 mm longae. Putamina leviter tantum compressa, inconspicue carinata, omnino laevia vel prope basin sulcis brevibus nonnullis provisae.

Typus: Iran, prov. Kordestan, 28 km from Sanandaj to Kamiaran, 1400 m, 15.6.1977, Assadi 60582 (holotypus TARI). Paratypus: Kordestan: 40 km from Sanandaj to Kamiaran, village Koochak - Charmo, 1430 m, 30.3.1987, Fattahi 120 (flowering stage).

Shrub, ca. 2 m high, subspinescent. Young branches green, thin, glabrous, then greyish brown. Short shoots  $\pm$  numerous. Leaves ca. 15 - 22 x 3 - 4 mm, narrowly elliptic or obovate, acute to obtuse, decurrent or sessile, crenate, glandulose - dentate at the margin, pubescent on both sides, reticulate below, greyish - green. Flowers to 15 - 18 mm diameter. Hypanthium campanulate. Petal oblong - obovate, pink. Stamens numerous, ca. 25. Drupe ovate, ca. 18 - 20 x 12 - 15 mm, subcompressed,  $\pm$  puberulent, obtuse or acute. Pediceles

ca. 3 mm long. Stone compressed, keeled, with indistinct grooves only near the base.

*Amygdalus* x *iranshahrii* Khatamsaz, hybr. nov.

Probabiliter hybrida *A. scoparia* et *A. eburnea* characteribus intermediis.

Frutex, subspinescens. Ramuli juveniles virides, teretes, virgati, glabri, demum brunnescenti - canescentes. Brachyblastis ± numerosis. Folia 10-12(-15) x 2.5(-4)mm, anguste spathulata, apice obtusa vel erosula, basi decurrentia, sessilia, margine indistincte imprimis in parte superiore remote crenato - serrata et glandulosa, glauca, glabra. Flores ignoti. Drupae ca. 12 x 10 mm, ovato-globulares, flavescenti - griseae, velutinae. Pedicellis 2 - 4 mm longis. Putamina leviter tantum compressa, brunnea, laevia, sed ad basem inconspicue sulcata, apice subobtusa, basi ± oblique truncata, carinata.

Typus: Iran, prov. Fars, 36 km from Khonj to Lar, 700 m, Assadi & Sardabi 41672 (holotypus TARI).

Shrub, subspinescent. Young branches green, thin, glabrous, then greyish brown. Short shoots ± numerous. Leaves ca.

10 - 12(-15) x 2.5 (-4) mm, narrowly spathulate, obtuse or erose at the apex, decurrent, sessile at base, indistinctly and scatteredly crenate - serrate and glandular at margin, glaucous, glabrous on both surfaces, flowers unknown. Drupe ca 12 x 10 mm, ovate - globular, yellowish - grey, velutinous. Pedicel 2 - 4 mm long. Stone compressed, brown, smooth but indistinctly sulcate at base, subobtuse at apex, ± oblique - truncate at base, keeled.

*Amygdalus* x *mozaffarianii* Khatamsaz, hybr. nov.

Probabiliter hybrida *A. scoparia* et *A. brahuica* characteribus intermediis.

Frutex, subspinescens. Ramuli juveniles virides, teretes, virgati, pubescentes, vetustiores brunnescente - virides, demum grisei. Brachyblastis ± numerosis. Folia 12 - 18 x 2 - 4 mm, elliptico - lanceolata vel oblanceolata, apice obtusa vel acuta, basi decurrentia, subsessilia, reticulata, remote crenato - serrata et glandulosa, utrinque ± persistenter canescenti - puberula. Flores ignoti. Pedicelli pubescentes. Drupae usque ad 15x12 mm, irregulariter subrotundatae, asymericae, flavescenti - griseae, vilosae. Putamina leviter tantum compressa, brunnea, apice obtusa, basi ±

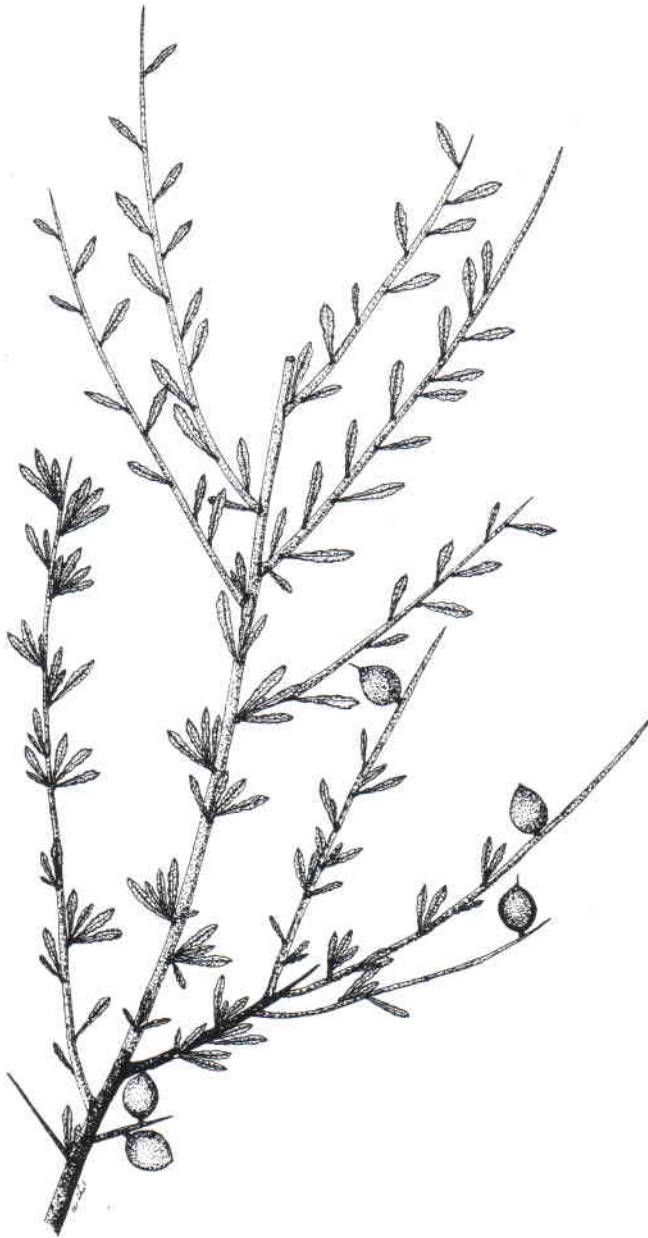


Fig. 1. *Amygdalus x iranshahrii* (x 0.63).

oblique truncata, inconspicue reticulato-sculcata, sulcis longitudinalibus in utraque latere carinae percurrentibus.

Typus: Iran, Prov. Baluchestan, E. slope of Kuh-e Taftan from Sangan, 2300—2900 m, Mozaffarian 53243 (holotypus TARI).

Shrub, subspinescent. Young branches green, thin, pubescent, brownish-green, then grey. Short shoots  $\pm$  numerous. Leaves 12—18 x 2—4 mm, elliptic-lanceolate, obtuse or acute at apex, decurrent, sessile at base, reticulate, indistinctly crenate-serrate and glandular at margin,  $\pm$  persistently greyish pubescent. Flowers unknown. Pedicels pubescent. Drupe to 15 x 12 mm irregularly subrounded,  $\pm$  asymmetric, yellowish-grey, villous. Stone subcompressed, brown, obtuse at apex,  $\pm$  oblique, truncate at base, indistinctly reticulate-sulcate, often with grooves along the keel.

*Amygdalus* x *yasujensis* Khatamsaz, hybr. nov.

Probabiliter hybrida *A. scoparia* et *A. elaeagnifolia* Spach subsp. *elaeagnifolia* characteribus intermediis.

Frutex, subspinescens. Ramuli juveniles virides, teretes, virgati, pubescentes.

*Brachyblastis*  $\pm$  numerosis. Folia 7—12 x 3—5 mm, forma valde variabilia, ovato-lanceolata, anguste elliptica, obovata vel spatulata, crenulata, interdum glandulosa, apice acuta vel obtusa, basi decurrentia, subsessilia vel brevissime petiolata, utrinque griseo-pubescentia sed subtus densiora. Florae 16—20 mm diametro, pedicellati; pedicelli albo-tomentosi. Hypanthium campanulatum. Petala obovata, alba. Stamina ca. 20—25. Fructus ignotus.

Typus: Iran, prov. Kohgiluyeh-Boirahmad, Yasuj, Sisakht, 2000 m, Foroughi 8114 (TARI).

Shrub, subspinescent. Young branches green, thin, pubescent. Short shoots  $\pm$  numerous. Leaves 7—12 x 3—5 mm, strongly variable, ovate-lanceolate, narrowly elliptic, obovate, or spatulate, crenate, sometimes glandular, acute or obtuse at the apex, decurrent or sessile or petiolate, grey pubescent on both sides but more densely beneath. Flowers with white tomentose pedicels, 16—20 mm diam. Hypanthium campanulate. Petal obovate, white. Stamens ca. 20—25. Drupe unknown.

#### NEW SPECIES

*Cotoneaster assadii* Khatamsaz, sp. nov.

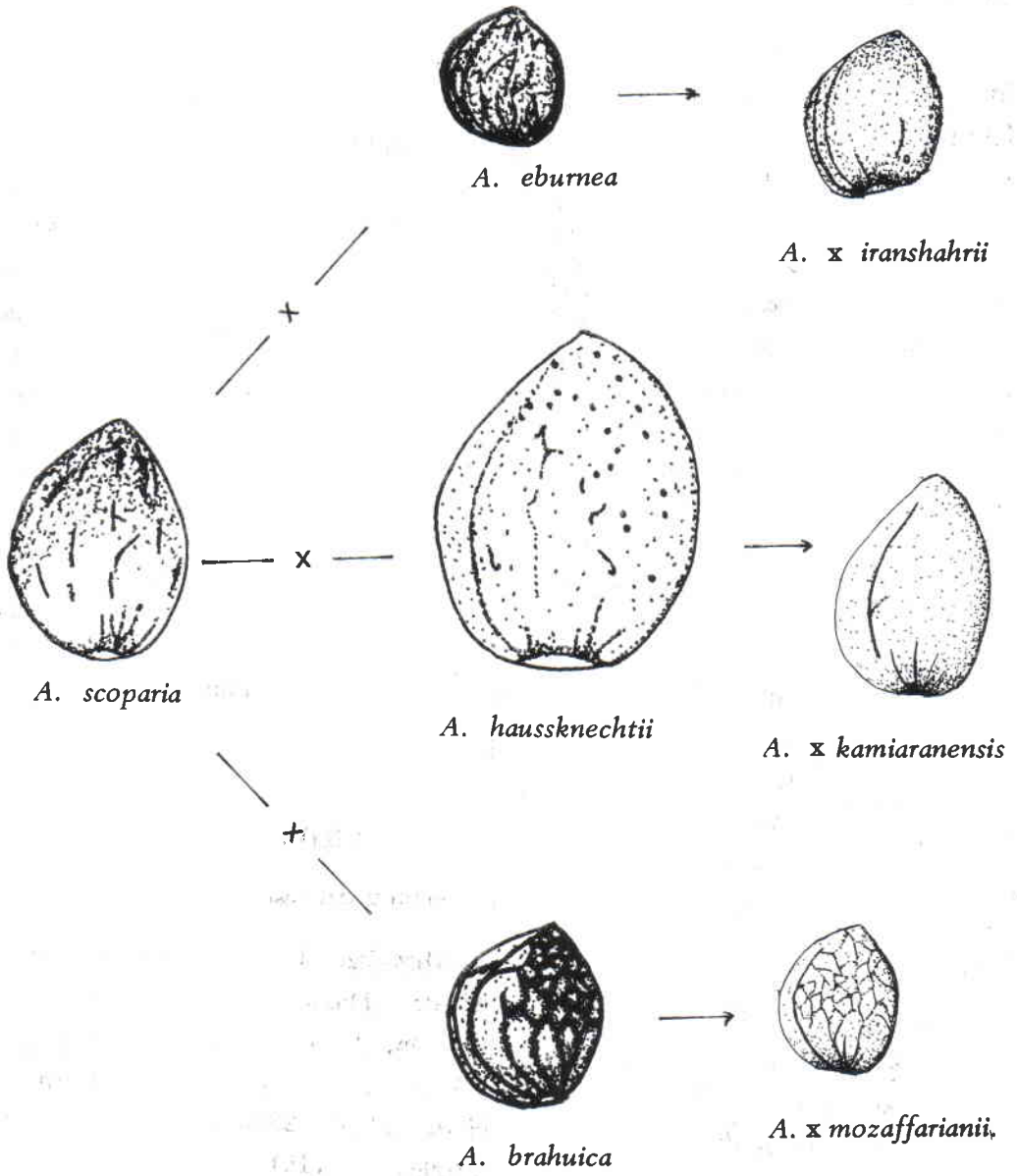


Fig. 2. Stones of some newly described *Amygdalus* hybrids and their probable parents (x 2).

(sect. *Chaenopetalum* Koehne).

Frutex ca. 3 m altus, ramuli hornotini initio breviter appresse tomentosi, deinde fere glabri, annotini fusco-atropurpurei, striati, rami vetustiores cinerei. Folia late elliptica vel orbicularia, 18–30 mm longa et 10–22 mm lata, basi cuneata, apice obtusa vel emarginata, supra luteo-viridia, sparse pilosa, subtus luteo-velutino-tomentosa, nervo mediano valde prominentia. Petiolus crassus, pilosus, 3–7 mm longus. Inflorescentia erecta, 3–10 flora, pedunculi et pedicelli breves, 0.5–2.5 mm longi, robusti ut hypanthium et dentes calycis tomentosi. Corolla 7–9 mm diam.; petalis albis patentibus, suborbicularibus, 2.5–3.5 mm longis, unguiculo brevi intus velutino-villoso. Stamina ca. 16–20, Styli 2. Fructus erectus, breviter (1–2.5 mm) pedicellatus, maturi aurantiacus, subglobosus vel obovoideus, 7.5–9.5 mm longus, 3.5–4.5 mm latus, villosulus. Pyrenis. 2.

Typus: Iran, Mazanderan, Siahisheh, S. slopes, 2200 m, Khatamsaz & Assadi 43257 (holotypus TARI); paratypus idem 47607, 47599 (flowering stage.)

Shrub ca. 3 m high, branchlets of this year's growth at first shortly appressed tomentose, then glabrous; branchlets of last year dark purple, striate, branches

becoming ash-grey. Leaves broad, elliptic or orbicular, 18–30 mm long, 10–22 mm wide., cuneate at base, obtuse or emarginate at apex, yellowish green, scatteredly pilose above, yellowish velutinous-tomentose beneath, middle nerve strongly prominent. Petioles thick, pilose, 3–7 mm long. Cymes erect, 3–10 flowered, peduncle and pedicel short, 0.5–2.5 mm long, robust; hypanthium and calyx tomentose. Corolla 7–9 mm diam.; petal white, spreading, suborbicular, 2.5–3.5 mm long, clawed; claw velutinous-villous. Stamens ca. 16–20. Styles 2. Fruit erect, shortly (1–2.5 mm) pedicelled, orange in maturity, subglobose or obovate, 7.5–9.5 mm long, 3.5–4.5 mm wide, villous. Pyrenes 2.

## NEW RECORDS

### *Alchemilla caucasica* Buser

Azarbayejan: Heroabad, Kuh-e Almas, 2350m, Makuii 9960; Shahbil, Kuh-e Sabalan, 2900 m Foroughi and Assadi 13843 - A. — Mazandaran: Kujor, Kikuh Mont. 2000–2300 m, Khatamsaz & Gholizadeh 57151.

### *Alchemilla kurdica* Rothm. ex Bornm.

Hamadan: Hamadan, ca 8 km E. of





Fig. 3. *Cotoneaster assadii* (x 0.68).

Ganjnameh, 2750 m, Assadi & Mozaffarian 36871. (det. Sabeti).

*Alchemilla retinervis* Buser

Azarbajejan: Maku to Khoy, mountains SW. of Kelisa - Kandi, 2400 — 2650 m, Assadi & Mozaffarian 30336.

*Amygdalus brahuica* Boiss. subsp. *brahuica*

Baluchestan: Kuh-e Taftan from Tamen-dan and Paylak, 2700 — 3800 m, Mozaffarian 53076.

This species was described by Boissier (1872 p. 645) from the mountains Hurbab and Chehel Belutschiae which are apparently in Pakistan. Parsa (1948 p. 535) mentions it from Baluchestan mountains, but does not refer his record to any specimens, probably taking it directly from Boissier, s record. Browicz (1969 p. 181) mentions it only from Afghanistan and Pakistan.

*Amygdalus korshinskyi* (Hand - Mazz.) Bornm.

Azarbajejan: Urumieh, Ghasemlou, 1430 m, Sabeti & Siami 30103 and 30111; Naghadeh, 10 km to Oshnavieh, 1600 m, Siami 4041 and 6107 - A; Urumieh, 1600 m, Farbodnia & Zehzad 30138 and 4042

*Amygdalus spinosissima* Bge. subsp. *spinosissima*

Khorassan: Ca. 50 km NNE of Kashmar, near the village Bezgh, 1900 m, Assadi & Mozaffarian 35792.

Parsa l.c. mentions *A. spinosissima* from Khorasan, but apparently the specimen which he refers to the species is included in *A. spinosissima* Bge. subsp. *turcomanica* (Lincz.) Browicz by Browicz l.c. p. 180.

*Aremonia agrimonoides* (L.) DC.

Mazandaran: SE. of Ramsar, E. of Janat-Rudbar, 1550 m, Runemark & Maassoumi (det. Assadi & Khatamsaz).

The genus is new to the flora of Iran.

*Cerasus brachypetala* Boiss. var. *bornmulleri* (C.K. Schneider) Browicz

Hamadan: ca. 20 km S. of Nahavand, Kuh-e Garou, 2600 m, Assadi & Mozaffarian 36964.

*Cotoneaster pruinosa* Klotz

Baluchestan: E. slope of Kuh-e Taftan from Sangan, 2700 — 2900 m, Mozaffarian 53249; E. slope of Taftan from

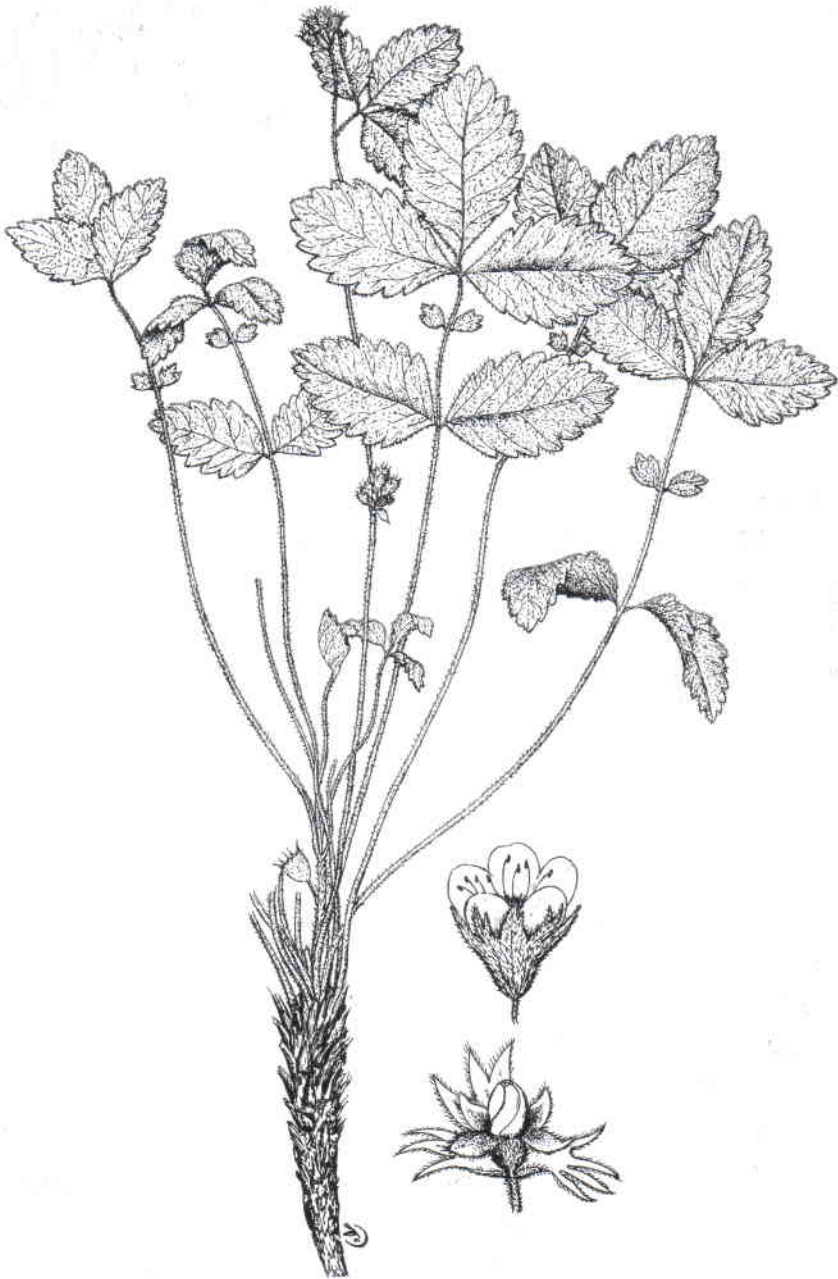


Fig. 4. *Aremonia agrimonoides* (x 0.55; flower and fruit x 5.5).

Sangan, Bon - Takhti and Khalabad, 1600 — 2300 m, Mozaffarian 58769.

*Crataegus x armena* Pojark.

Mazanderan: Siahbisheh, N. slopes, 2200 m, Assadi & Khatamsaz 47596; Karaj - Chalus road, Pol-e Zanguleh, 2300 m, Amin & Bazargan 19529; Chalus road, Siahbisheh, 2250m, Mozaffarian 45519 and 45521. — Azarbayejan: 30 km after Makou on road to Baralan, 1600m, Akbarzadeh & Salari 41145; 50 km to Khoy, Siami 30105; near Mianeh, Ishlagh, 1500 m, Sabeti 30408 and 20594; Paveh - Mahabad road, km 35, Siami 30200; Oshnavieh, Khyrabad, 1800 m, Siami 30213.

*Crataegus curvisepala* Lindman.

Lorestan: 13 km on road from Shoulabad to Aligoodarz, 1850 m, Runemark & Lazari 26366; 16 km from Shoulabad on the road to Aligoodarz, 1700 m, Assadi & Karimi 43493; Khoramabad: Dorud, Oshtorankuh, 1750 m, Riazi 9673. — Azarbayejan: Urumieh, Gasemlou, 1430 m, Siami 30204; 18 km on the road from Sardasht to Piranshahr, 1000 m, Runemark & Foroughi 19906; Gasemlou, 1600 m, Sabeti 8207 and 8122; 5 km W. of Urumieh, Band, Hatami 30222; Khoy,

Qris, 1900 m, Siami 30225; Mianeh to Tabriz, Sheikh - Safi, 1600 m, Sabeti 20653.

*Crataegus davisii* Browicz

Azarbayejan: 35 km on Sardasht - Pyran-shahr road, 1480 m, Siami 30214 and 30218.

*Crataegus sakranensis* Hadac & Chrtek

Kohgilouyeh & Boirahmad: Khafr, Kuh-e Dena, 2250 m, Riazi 8160. — Fars: Shiraz, Dasht-e Arjan, old road to Kazeron, first Kotal 2100 m, Foroughi 17431. — Kordestan: 15 km on road from Baneh to Marivan, 1500 m, Runemark & Mozaffarian 25945. — Azarbayejan: 40 km on Baneh - Sardasht road, 1500 m, Zehzad & Siami 30220; 18 km on the road from Sardasht to Piranshahr, 1000 m, Runemark & Foroughi 19905 (det. Assadi & Khatamsaz).

*Crataegus sanguinea* Pall.

Mazanderan: Siahbisheh, S. slopes, 2200 m, Assadi & Khatamsaz 47609.

*Crataegus turcomanica* Pojark.

Khorasan: near Kalat-e Naderi, 1100 m,



Fig. 5. *Crataegus curvisepala* (x 0.9).

Assadi & Abouhamzeh 43396.

2600 -- 2700 m, Mozaffarian & Moham-  
madi 49094.

***Potentilla adenophylla* Boiss. et Hohenack.**

Mazanderan: SW. of Ramsar, E. of  
Javaherdeh, 1800 m, Runemark &  
Maassoumi 20719.

***Rosa webbiana* Wall. ex Royle**

Khorasan: ca. 25 km SW. of Darreh - Gaz,  
Tandooreh National Park, Chehel - Mehr,  
1200 m, Assadi & Maassoumi 50764.

***Pyrus turcomanica* Maleev**

Gorgan: Golestan forest, 770 m, Sabeti  
8110 (det. Sardabi).

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***Rosa villosa* L.**

Tehran: Shemshak, N. of Darbandsar,

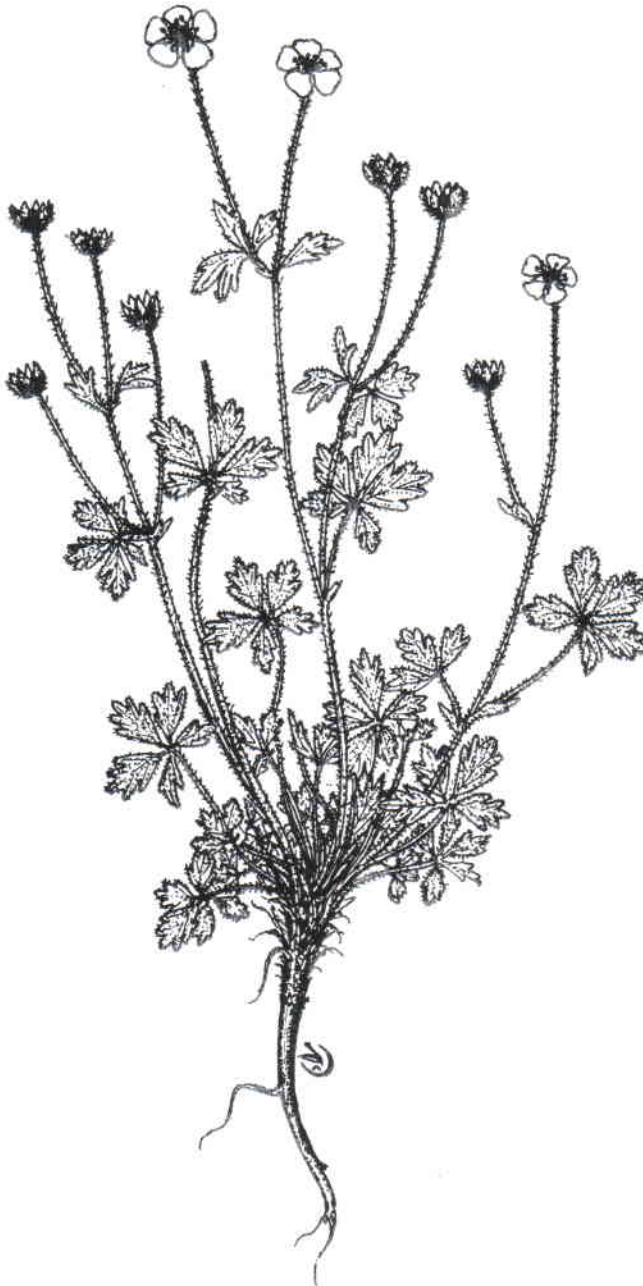


Fig. 6. *Potentilla adenophylla* (x 0.85).