

STUDIES ON THE GENUS *COTONEASTER* MEDIK. IN IRAN, NEW RECORDS AND KEY

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Cotoneaster integerrimus, *C. melanocarpus*, *C. morulus*, *C. multiflorus*, *C. rechingeri* and *C. suavis* are reported as new records to Iran. A new key for the identification of the known species of the genus *Cotoneaster* in Iran is presented.

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گزارشات جدید و کلید شناسایی جنس شیرخشت (*Cotoneaster*) در ایران
از: محبوبه خاتمساز

گونه‌های زیر بعنوان گونه جدید برای فلور ایران ذکر میگردد.

Cotoneaster integerrimus, *C. melanocarpus*, *C. morulus*, *C. multiflorus*, *C. rechingeri*, *C. suavis*.

علاوه بر این یک کلید شناسایی برای گونه‌های جنس شیرخشت (*Cotoneaster*)
که تاکنون از ایران شناسایی شده ارائه میشود.

Introduction

The author since 1983 has identified most of the Iranian herbarium specimens of the genus *Cotoneaster* in the herbarium of Research Institute of Forests and Rangelands (TARI). Also the materials of the genus in the herbaria of Plant Pests Diseases Research Institute (EVIN), the college of Natural Resources and the college of Agriculture at Karaj have partly been seen or identified by the author. In this course 6 new records have so far been known from Iran and it seems, in spite of that the plant family *Rosaceae* has been done in K. H. Rechinger *Flora Iranica*, still necessity of doing a new revision for the genus in Iran is needed. This article contains 6 new records and a new key for the Iranian species of the genus.

new records

1. *Cotoneaster integerrimus* Medik.

Azərbaycan: Arasbaran Protected Area, 2300—2800 m, Assadi & Sardabi 24199, Runemark & Assadi 21901, Assadi & Sardabi 24168 (det. M. Assadi).

A widespread species distributes from Europe through S. Russia, Crimea, Caucasica and NW. Iran. It was previously indicated from NW. of Iran by Browicz (1972 p. 130) but no specimen was cited in the treatment of the genus

Cotoneaster in *Flora Iranica* (cf. Riedl 1969 p. 15).

2. *Cotoneaster melanocarpus* (Bge.) Fischer

Azərbaycan: Arasbaran Protected Area 1000—2300 m, Assadi & Sardabi 24142, Runemark & Assadi 22035, Assadi & Sardabi 24293, Assadi & Vosughi 24726, Wendelbo & Assadi 27928; Kaleybar, 1400 m, Mozaffarian 43574, 43581.

New to the flora of Iran and *Flora Iranica* (Riedl l.c.) area, A widespread species from N. & C. Europe, S. Russia, Crimea, Caucasica, C. Asia, Siberia, Mongolia to NW. Iran.

3. *Cotoneaster morulus* Pojark.

Lorestan: 63 km on the road from Aligoodarz to Shuolabad, 2200 m, Assadi 43484 - A. — Kordestan: Piranshahr 1300—1400 m, Runemark & Mozaffarian 29140; Marivan 1500 m, Keshavarzy & Sardabi 22150. — Azərbaycan: Urumieh, Siami 30388, 30158.

New to the flora of Iran. It was described from Soviet Azərbaycan and distributes from Caucasica to NW. and W. Iran to E. Anatolia.

4. *Cotoneaster multiflorus* Bge.

Mazandaran: Chalus valley, Siahbisheh,

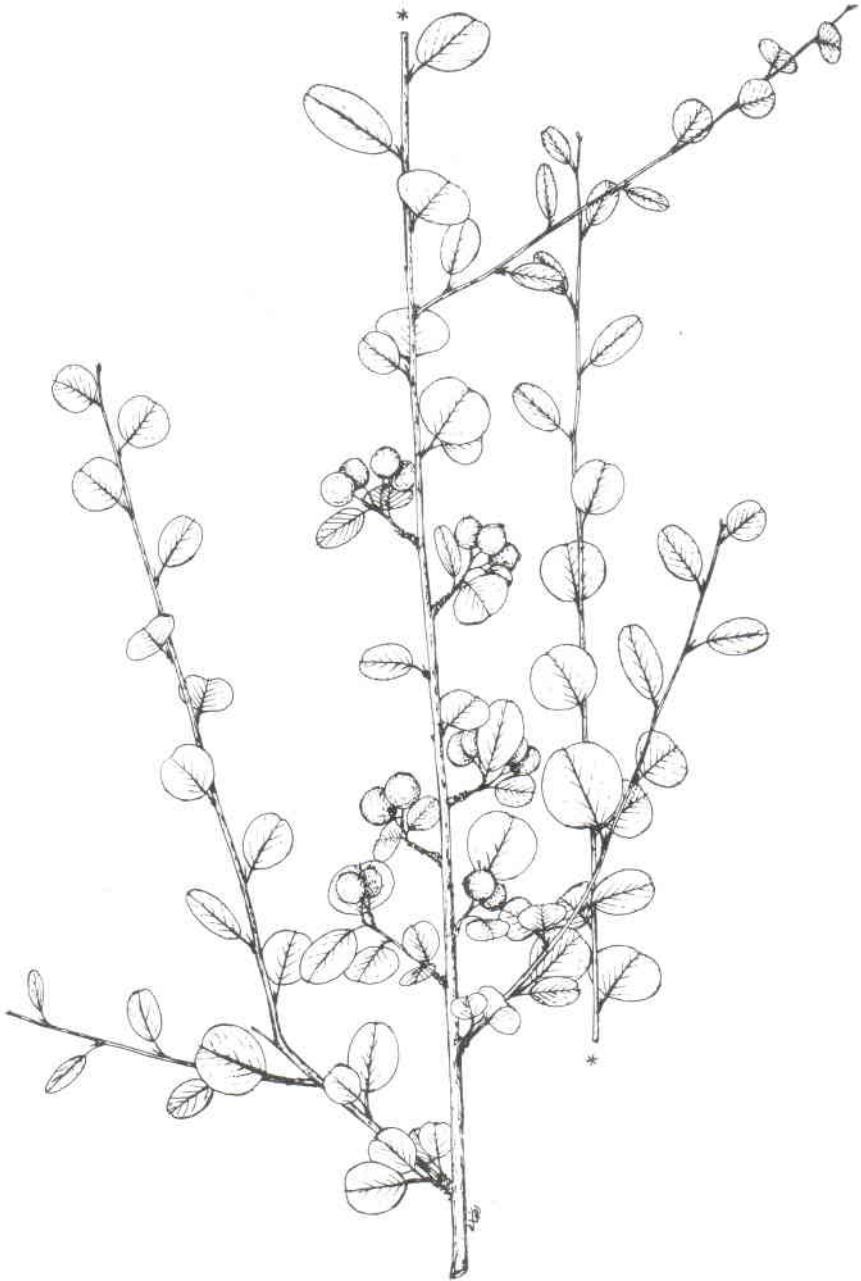


Fig.1. *Cotoneaster luristanicus* (x 0.6).

2200 — 2300 m, Assadi & Khatamsaz 43259, Wendelbo & Varnecke 18653, Assadi & Khatamsaz 47606.

In *Flora Iranica* (cf. Riedl l.c. p. 17) only mentioned from Afghanistan and therefore a new record for Iran. This species is locally rather frequent in Chalus valley and distributed in Caucasia, E. Anatolia, C. Asia to C. China.

5. *Cotoneaster rechingeri* Klotz

Hormozgan: Bandar-Abbas, mts. of Bokhon, 1500 — 2000 m, Mozaffarian, Banihashemi & Shahinzadeh 44729.

New to Iran, It was previously known only from the type locality in Pakistan (cf. Riedl 1969 p. 191).

6. *Cotoneaster suavis* Pojark.

Khorasan: Kopet-Dagh range 2300 m, Edmondson 1213.

This species was indicated only from Turcomania and Afghanistan in *Flora Iranica* (Riedl 1969 p. 18).



Fig.2. *Cotoneaster rechingeri* (x 0.4).

Key to the species

1. Styles (nutlets) mostly 3, rarely 2 or 4; petals pink or reddish, erect (section *Orthopetalum*). 2 + styles (nutlets) mostly 2; petals



Fig.3. *Cotoneaster turcomanicus*(x 0.6).

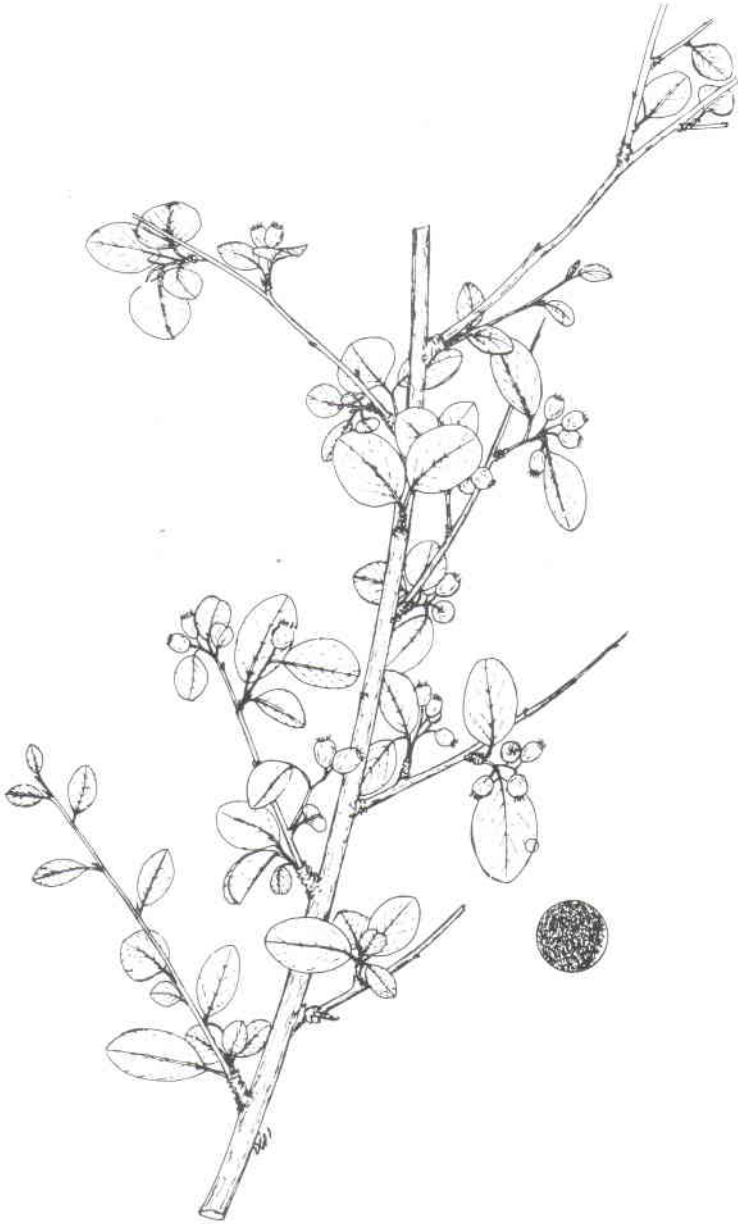


Fig.4. *Cotoneaster tyttocarpus* (x 0.65).

- white, spreading (section *Chaenopetalum*). 3
2. Fruit black, covered by waxy bloom; cymes \pm elongate, 3 — 8 (12) flowered; petals longer than sepals.
C. melonocarpus (Bge.) Fischer + Fruit red; cymes short (1—) 2 — 3 (—4)-flowered; petals as long as sepals. *C. integerrimus* Medicus
3. Cymes elongate with many flowers (up to 20); leaves rather large; petiole longer than 5 mm. 4
 + Cymes short with few flowers (up to 12); leaves rather small; petiole shorter than 5 mm. 6
4. Fruit black, pruinose; leaves broadly obovate to orbicular.
C. insignis Pojark.
 + Fruit red or purple; leaves ovate or elliptic. 5
5. Inflorescence glabrous or slightly pubescent; leaves glabrous above, glabrous or slightly hairy beneath.
C. multiflorus Bge.
 + Inflorescence tomentose; leaves glabrous or slightly hairy above, greyish velutinous-tomentose beneath. *C. suavis* Pojark.
6. Fruit black or blackish-purple, pruinose. 7
 + Fruit red or dark red, not pruinose. 13
7. Leaves as long as broad, rounded at base. 8
 + Leaves longer than broad, cuneate at base. 10
8. Leaves glabrous above, coriaceous, orbicular or orbiculate.
C. luristanicus Klotz
 + Leaves sparsely hairy and glandular above, orbicular to broadly elliptic. 9
9. Fruit black, 6—8(—9) mm diam.; leaves tomentose beneath.
C. nummularioides Pojark.
 + Fruit dark purple, 6—7 mm diam.; leaves velutinous beneath.
10. Mesocarp thick and fleshy; corolla 8—11 mm diam.; leaves rhomboid-elliptic to oblong-elliptic, 10—30 x 8—24 mm. 11
 + Mesocarp thin; corolla small, 6—8 mm diam.; leaves oblong-elliptic to obovate, 9—23 x 7—16 mm. 12
11. Leaves acute; fruit obovate; hypanthium pilose.
C. turcomanicus Pojark.
 + Leaves rounded or emarginate; fruit globose or subglobose; hypanthium villous-tomentose.
C. hissaricus Pojark.
12. Leaves yellowish-green, coriaceous, glabrous above or with a few hairs restricted mainly to the midrib, yellowish tomentose beneath, veins pinnate; branchlets thick.
C. morulus Pojark.
 + Leaves green, thin, glabrous above, greyish-green-tomentose beneath;

veins reticulate; branchlets thin.

C. tyttocarpus Pojark.

- 13. Flowers small (5–7 mm diam.); leaves narrowly oblong-elliptic. 14
+ Flowers bigger (8–12 mm diam.); leaves mainly orbicular to broadly ovate. 16

- 14. Inflorescence with 1–3 flowers; leaves narrow, 4–11 mm long, 2–5 mm wide. *C. rechingeri* Klotz
+ Inflorescence with 5–7 (–10) flowers; leaves 11–20 mm long, 6–12 mm wide. 15

- 15. Leaves elliptic to oblong-elliptic, attenuate at base, main vein usually prominent and purple.

C. discolor Pojark.

+ Leaves narrowly oblong-elliptic, broadly cuneate at base.

C. persicus Pojark.

- 16. Fruit bright red, 6–8 mm long; sepals bent inwards, adpressed and hiding the apex of fruit, pubescent

when young; leaves broadly elliptic to orbicular; inflorescence compact.

C. nummularius Fish. & Mey.

+ Fruit dark red, 8–10 mm long; sepals more or less erect in fruit; leaves ovate to elliptic; inflorescence loose. *C. ovatus* Pojark.

Acknowledgments

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