

Cotoneaster spp.

Cotoneaster

Introduction

Cotoneaster, a medium-sized genus of the Rosaceae, consists of 90 species, distributed in temperate regions of Europe, North Africa, and most areas of Asia (except Japan). In China, 58 species occur mainly in the south and southwest area of the country^[184].

Species of *Cotoneaster* in ChinaLeaves and colorful fruits of *Cotoneaster microphyllum*.

Scientific Name	Scientific Name
<i>C. acuminatus</i> Lindl.	<i>C. mongolicus</i> Pojark.
<i>C. acutifolius</i> Turcz.	<i>C. morrisonensis</i> Hayata
<i>C. adpressus</i> Bois	<i>C. moupinensis</i> Franch.
<i>C. affinis</i> Lindl.	<i>C. multiflorus</i> Bge.
<i>C. ambiguus</i> Rehd. et Wils.	<i>C. nitens</i> Rehd. et Wils.
<i>C. apiculatus</i> Rehd. et Wils.	<i>C. nitidifolius</i> Marq.
<i>C. bullatus</i> Bois	<i>C. nitidus</i> Jacq.
<i>C. buxifolius</i> Lindl.	<i>C. obscurus</i> Rehd. et Wils.
<i>C. chengkangensis</i> Yü	<i>C. oliganthus</i> Pojark.
<i>C. coriaceus</i> Franch.	<i>C. pannosus</i> Franch.
<i>C. dammerii</i> Schneid.	<i>C. reticulatus</i> Rehd. et Wils.
<i>C. dielsianus</i> Pritz.	<i>C. rhytidophyllus</i> Rehd. et Wils.
<i>C. divaricatus</i> Rehd. et Wils.	<i>C. rotundifolius</i> Wall. ex Lindl.
<i>C. fangianus</i> Yü	<i>C. rubens</i> W. W. Smith.
<i>C. foveolatus</i> Rehd. et Wils.	<i>C. salicifolius</i> Franch.
<i>C. franchetii</i> Bois	<i>C. sanguineus</i> Yü
<i>C. frigidus</i> Wall. ex Lindl.	<i>C. schantungensis</i> Klotz
<i>C. glabratus</i> Rehd. et Wils.	<i>C. sherriffii</i> Klotz
<i>C. glaucophyllus</i> Franch.	<i>C. silvestrii</i> Pamp.
<i>C. glomerulatus</i> W. W. Smith	<i>C. soongoricus</i> (Regel et Herd.) Popov
<i>C. gracilis</i> Rehd. et Wils.	<i>C. subadpressus</i> Yü
<i>C. harrovianus</i> Wils.	<i>C. submultiflorus</i> Popov
<i>C. harrismithii</i> Flinck et Hylmö	<i>C. taylorii</i> Yü
<i>C. hebeophyllus</i> Diels	<i>C. tenuipes</i> Rehd. et Wils.
<i>C. horizontalis</i> Dcne.	<i>C. turbinatus</i> Craib
<i>C. integerrimus</i> Medic.	<i>C. uniflorus</i> Bge.
<i>C. langei</i> Klotz	<i>C. verruculosus</i> Diels
<i>C. melanocarpus</i> Lodd.	<i>C. wardii</i> W. W. Smith
<i>C. microphyllum</i> Wall. ex Lindl.	<i>C. zabelii</i> Schneid.

I. *Cotoneaster microphyllum*

Small leaf cotoneaster, rock spray cotoneaster.

Taxonomy

Family: Rosaceae

Genus: *Cotoneaster* B. Ehrhart

Description

Cotoneaster microphyllum is a dwarf evergreen shrub that can grow to 1 m tall. The nearly cylindrical, spreading branches are reddish brown or darker, yellow-pubescent, and gradually glabrous. Slightly rolled downward in the margin, the thick leaves are leathery, obovate to oblong-obovate, 4-10 mm long and 2.5-7 mm wide, with apex being obtuse, rarely retuse or acute, and base broadly cuneate. Upper surface of the leaves is glabrous or sparsely pubescent; the lower surface is pale and pubescent. Appearing from May to June, the terminal inflorescence is 1 cm in diameter, usually solitary, or occasionally in groups of three, with bell-shaped hypanthium that is sparsely pubescent outside and glabrous inside. Sepals are ovate-triangular and apically obtuse. White petals are spreading, suborbicular, about 4 mm in length and width. The fruit, a red, globose, drupe-like pome, 5-6 mm in diameter and often containing two pyrenes, appears in August to September^[184].

Habitat

Cotoneaster microphyllus occurs on rocky mountain slopes, in thickets, and in river valleys, at elevations of 2,000–4,200 m^[184].

Distribution

Cotoneaster microphyllus occurs in Sichuan, Tibet, and Yunnan provinces^[184].

Economic Importance

Cotoneaster microphyllus is well suited for use as an ornamental because of its graceful white flowers in spring and brilliant red fruit in autumn^[184].

Related Species

There are 4 varieties within the species:

- 1) *Cotoneaster microphyllus* var. *conspicuous* Messel has a wider growth form and broader leaves and fruits, and occurs at elevations of 2,700–3,300 m in the Brahmaputra River valley, Tibet. The fruit has important ornamental value due to its persistent brilliant color.
- 2) *Cotoneaster microphyllus* var. *glacialis* Hook. f. occurs in rocky mountainous areas at elevations of 3,900–4,200 m in southeastern Tibet.
- 3) *Cotoneaster microphyllus* var. *cochleatus* (Franch.) Rehd. et Wils., with revolute leaves, and occurs in Yunnan and Sichuan.
- 4) *Cotoneaster microphyllus* var. *thymifolius* (Baker) Koehne has relatively narrow, revolute leaves and bright red fruit, occurs at elevations of 3,000–4,000 m, in northwestern Yunnan, and southeastern Tibet^[184].

II. *Cotoneaster pannosus*

Taxonomy

Family: Rosaceae

Genus: *Cotoneaster* B. Ehrhart

Description

Cotoneaster pannosus is a semi-evergreen shrub up to 2 m in diameter with arch-like branches. Branchlets are thin, dark brown, and initially covered with short, dense hairs that are shed as it matures. Leaves are elliptic or ovate, 1–2.5 cm long and 0.8–1.5 cm wide, obtuse or acute apically and



broadly cuneate at the base, with midrib impressed on the glabrous or sparsely pubescent upper surface and raised on the densely tomentose lower surface. Generally consisting of less than ten flowers (21 at the maximum), corymbs are 1–3 cm in diameter and 1.5–2.5 cm in length, with dense hair-covered pedicel and rachis. Bracts are linear and caducous. Flowers are 8 mm in diameter, with bell-shaped calyx and triangular, apically short acuminate or acute sepals; both are glabrous inside and densely hairy outside. Petals are white, broadly ovate or subglobose, 3–3.5 mm in length with an obtuse apex and a short claw-bearing base. Fruits are red, globose or ovate, 7–8 mm in diameter, enclosing two pyrenes.

Flowers appear in June to July and fruits in October^[184].

Habitat

Cotoneaster pannosus occurs in mountainous scrub land, rocky areas, or wastelands at elevations of 1,100–3,200 m^[184].

Distribution

Cotoneaster pannosus is native to Sichuan and Yunnan^[184].

Related Species

One variety, *C. pannosus* var. *robustior*, has narrowly elliptic leaf blades, and occurs in northwestern Sichuan. Another two cotoneasters are apparently similar to *C. pannosus*. *C. franchetii*



Cotoneaster pannosus invading mountainous scrubland.

Bois is distinguished by the densely pubescent upper leaf surface, shorter petioles, erect petals, and orange fruits containing three pyrenes; *C. silvestrii* Pamp. has thinner leaves, which are sparsely hairy on the underside, and yellow stamens. The fruits contain a single pyrene.^[184]

Natural Enemies of *Cotoneaster*

Eight fungi and three arthropods are reported to attack members of the genus *Cotoneaster*.



Fungi

Phylum	Family	Species	H. R.	Ref.
Ascomycota	Erysiphaceae	<i>Phyllactinia pyri</i> (Castagne) Homma	po	22
Basidiomycota	Incertae sedis	<i>Aecidium cunninghamianum</i> Barclay	mo	23
		<i>Coleopuccinia kunmingensis</i> F.L. Tai	o	23
		<i>Roestelia nanwutaiana</i> (T.L. Tai & C.C. Cheo) Jørst.	oo	23
		<i>Roestelia sikangensis</i> (Petr.) Jørst.	oo	23
	Pucciniaceae	<i>Gymnosporangium clavariiforme</i> (Jacq.) DC.	po	23
		<i>Gymnosporangium confusum</i> Plowr.	oo	23
Anamorphic <i>Mycosphaerella</i>		<i>Pseudocercospora cotoneastri</i> (Katsuki & Ts. Kobay.) Deighton	oo	110 [†]

[†] Recorded as *Pseudocercospora cotoneasteris* (Kats. et Kobayashi) Deighton

Arthropods

Order	Family	Species	H. R.	Ref.
Coleoptera	Scolytidae	<i>Scolytus abaensis</i> Tsai et Yin	mo	140
			oo	182
Homoptera	Pseudococcidae	<i>Pseudococcus comstocki</i> (Kuwana)	po	150
Lepidoptera	Arctiidae	<i>Arctia flavia</i> (Fueszly)	oo	40 [‡]
			oo	41

[‡] Recorded as *Phragmatobia flavia* (Fuessly)