

Multiflora Rose, *Rosa multiflora* Thunb.

Rosaceae.

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I. Nomenclature: A) *Rosa multiflora* Thunb. (Fig. 1); B) Multiflora rose; C) Synonyms: *Rosa Dawsoniana* Hort., *R. polyantha* Sieb. & Zucc., *R. polyanthos* Roessia., *R. thyrsoflora* Leroy, *R. intermedia*, Carr., and *R. Wichurae* Kock.



Fig. 1. Multiflora rose. A) berrylike hips, B) leaf, note pectinate stipules (arrow), C) stem (cane).

II. History: The genus *Rosa* is a large group of plants comprised of about 150 species, of which one-third are indigenous to America. *Gray's Manual of Botany* (Fernald 1970) lists 24 species (13 native; 11 introduced, 10 of these fully naturalized) for our range. Gleason and Cronquist (1968) cite 19 species (10 introductions). The disagreement in the potential number of species encountered in Pennsylvania arises from the confused taxonomy of a highly variable and freely crossing group. In fact, there are probably 20,000 cultivars of *Rosa* known. Bailey (1963) succinctly states the problem: "In no other genus, perhaps, are the opinions of botanists so much at variance in regard to the number of species."

The use of roses by mankind has a long history. The Romans acquired a love for roses from the Persians. After the fall of Rome, roses were transported by the Benedictine monks across the Alps, and by the 700's AD garden roses were growing in southern France. The preservation and expansion of these garden varieties were continued by monasteries and convents from whence they spread to castle gardens and gradually to more humble, secular abodes. For a fascinating history of rose culture the paper by Touw (1981) is recommended.

Multiflora rose is merely one of the plethora of rose types. In 1804 *Rosa multiflora* var. *carnea* Thory was introduced into England (Loudon 1866). This taxon is an adventive from Asia. Plants were first sent from China through the work of Thomas Evans of the English East India Company. By 1817 this rose was well distributed throughout continental Europe, and later it became the parent of the cultivars known as multiflora ramblers. The original (typical) *R. multiflora* did not reach European gardens until 1862 when Coignet, a French engineer employed by the Japanese government, sent seeds to the mayor of Lyons, France. This material was shared with Guillot, a local nurseryman, and in 1875 plants were distributed in Europe and America (Shepherd 1978). However, some plants of multiflora rose must have arrived in the New World before the 1875 circulation of French material because Eaton (1833) lists *R. multiflora* (sic) (Japanese rose, exotic) in his *Manual of Botany, Plants of North America; The Indigenous Plants and Common Cultivated Exotics Growing North of the Gulf of Mexico*.

Since this time, multiflora rose has been widely distributed by rosarians. Its genes have filtered into many cultivated roses by hybridization. The typical *Rosa multiflora* was subsequently employed as a ground cover and agent against erosion from whence it has spread to cultivated and uncultivated fields alike.

III. Technical Evaluation: This perennial plant has climbing, scrambling or trailing stems covered with curved thorns. *Leaves:* compound, composed of 7-9 leaflets, elliptic to obovate, obtuse or merely acute; *stipules:* conspicuously (irregularly) pectinate-serrate and glandular-ciliate; *inflorescence:* many flowered (corymbose); *sepals:* often prolonged into a lanceolate appendage; *petals:* white to pale-pink, 1.0-2.0cm; *styles:* connate (united into a column) and exerted (protruding from the orifice of the hypanthium), appearing as a circular/elevated or pentagonal button, brown to gray, 2-3 mm in diameter; mature fleshy, berrylike *hips*, red to red brown, 5-9 mm long x 4-7 mm wide, bearing 1 to 3 (+) mature seeds (achenes) (others aborted) 4-5 mm long x 3 mm wide, straw colored (Fig. 2); *distribution:* a native of eastern Asia, both cultivated and escaped. It is distributed along fence rows, in meadows and pastures, rangeland, abandoned fields, wastelands, verges of highways (Fig. 3), and forested land; *flowers:* May-June (Fig. 4), fruit ripening Aug.-Sept.

Fig. 2. Multiflora rose hips and achenes (at arrow) removed from hips.

Fig. 3. Roadside habitat of multiflora rose.

Fig. 4. Multiflora rose flowers produce a showy display in early summer.

IV. Diagnostic characters: Styles united into a column; comblike, often glandular, stipules where leaf petioles meet the stem; thorns located between stipules (infrastipular prickles) (Fig. 1c).

V. Confused Taxa: Table 1 lists diagnostic characters for 12 species in the genus *Rosa* that occur in Pennsylvania. The characters given will easily separate multiflora rose from other native or naturalized species in the genus.

TABLE I
Native and Feral *Rosa* Species; Italicized Characters Indicate Key Differences
from *R. multiflora*

1. *Rosa multiflora* Thunb. (multiflora rose): flowers white (pinkish); styles united into a column; lfls. 7-9; pectinate, glandular-ciliate stipules; introduced and common, NY and south in eastern United States.
2. *Rosa setigera* Michx. (prairie-rose): styles united into a column; *leaflets* (lfls.) 3 (occasionally 5); thickets and fence rows; native; (= *R. rubifolia*).
3. *Rosa Wichuraiana* Crep.: styles united into a column; *stipules dentate*; flws. white or pink; lfls. 7-9; introduced from eastern Asia (distributed by Arnold Arboretum, Harvard Univ. in 1890 as a ground cover), often planted along highways.
4. *Rosa eglanteria* L. (sweet brier, eglantine): *styles distinct*, pubescent; flws. 3-5 cm wide, pink; copious *glandular hairs* (sticky and fragrant) on *upper and lower leaf surfaces*; *stipules entire*; sepals unlike in size and shape, outer pinnatifid; native of Europe, frequently escaped from cultivation; found in clearings, thickets, and along roadsides; (= *R. rubiginosa*).
5. *Rosa micrantha* Sm. (sweet brier, eglantine): like *R. elantheria* above, only flowers 3 cm wide or less; native of Europe, frequently escaped from cultivation.
6. *Rosa canina* L. (dog-rose): *styles distinct*; *stipules linear* (of uppermost leaves dilated); lfls. glabrous beneath; sepals unlike in size and shape, outer pinnatifid; flws. pink to white; native of Europe, rarely escapes in our range, along lanes, roads,
7. *Rosa rugosa* Thunb.: *twigs villous-tomentose*; *pubescence covers young prickles* (absent on old prickles and hybrids); introduced from Asia, occasionally escapes from cultivation.
8. *Rosa gallica* L. (French rose): *flws. Solitary*, not subtended by a bract; *lfls.* 3-5, softly woolly beneath to sparsely pubescent; bi- or tri-dentate; *stipules adnate*; sepals not reflexed; an alien from Europe, rarely escapes in our range.
9. *Rosa centifolia* L. (cabbage-rose): similar to *R. gallica* above; differs in double flws., buds and pedicels sticky fragrant with numerous glandular hairs; pedicels nodding.
10. *Rosa spinosissima* L. (Scotch rose) flws. Solitary, not subtended by a bract; lfls. 7-11; native to Eurasia, occasionally escapes from cultivation.
11. *Rosa carolina* L.: *stipules entire to glandular-dentate*; sepals entire, reflexed after anthesis; infrastipular prickles straight; internodal prickles numerous; native to North America; troublesome plant in wet meadows, low ground, forming unsightly thickets; (= *R. humilis*, *R. Lioni*, *R. obovata*, *R. Housei*); hybridizes freely with the other species of the genus (Fig. 5).
12. *Rosa cinnamomea* L. (cinnamon-rose) *styles distinct*; petals *dark rose*; lfls. *densely pubescent beneath and along the rachis*; introduced from Eurasia, a rarely escaped from cultivation, however, it runs wild and persists about old premises, along fences, in cemeteries, and along lanes.

Fig. 5. Achenes of Carolina rose, a common weed of wet habitats meadows, sometimes confused with multiflora rose.

Several varieties of *Rosa multiflora* have been formally named. The typical form with small, single white flowers originating in Japan and Korea has been designated *R. multiflora* Thunb. var. *Thunbergiana* Thory. *Rosa multiflora* var. *cathayensis* Rehd. & Wilson (given specific status as *R. cathayensis* (Rehd. & Wilson (L. H. Bailey) is a pink-flowered form from China. It probably is the progenitor of two varieties: 1) var. *carnea* (= var. *plena* Regel, and *R. florida* Poir., resulting from *R. chinensis* x *R. multiflora cathayensis*) with multiple pink petals and 5-7 leaflets; and 2) var. *platyphylla* Thory (= Seven sisters rose) with larger, deep pink flowers. A form of *Rosa multiflora* var. *platyphylla* is the well-known 'Crimson Rambler', one of the best known climbing roses.

Multiflora roses hybridize extensively, often displaying parentage by the presence of pectinate stipules. The following hybrids, varieties, or relatives have either been discovered in nature, or raised experimentally:

Rosa multiflora var. *platyphylla* 'Crimson Rambler' x *R. Wichuraiana*: = *R. barbierana* Rehd., fls. 5-7, larger; petals in a single whorl, carmine, whitish at base; flws. 4-5 cm across.

R.m. xR. rugosa = *R. iwara* Sieb., single, small white flws. (= *R. yedoensis* Makino with small pink flws.). *Rosa iwara* was introduced from Japan by Siebold in 1832.

R.m. x R. chinensis = *R. polyantha* Hort., non *R. polyantha* Roessig. nec *R. polyantha* Sieb. & Zucc., is a trade name for these hybrids that are low shrubs with numerous, rather small, double flowers.

R.m. x R. chinensis var. *minima* = 'Baby Rambler'

R.m. x R. moschata = *R. polyantha grandiflora*, = *R. moschata grandiflora*.

R.m. x R. borboniana 'General Jacqueminat' = *R. Dawsoniana* Hort., non Ellw. & Barry which is typical *R. multiflora*. This is the first hybrid of American origin (1888). Produces double rose-pink flws.

R.m. x R. setigera = De La Grifferaie

R.m. x R. gallica

R.m. xR. blanda = Ames 5 and 6

R.m. var. carnea x R. rugosa (?) = *R. multiflora* var. *platyphylla* Rehder & Wilson. Plants were sent to Charles Greville (London 1815) from China and cuttings were taken to France by Noisette 1819 (= Seven Sisters Rose, Grevillia Rose).

R. multiflora var. *alba* (? origin) introduced from Japan (1844). Chenault, more thorny and sturdy than typical *R. multiflora*.

R. watsoniana Crepin (? origin) is a close relative of *R. multiflora*. Blooms white to pink, 4.2 cm across, inflorescence a many-flowered pyramidal corymb; flts. 3-5, often mottled white.

R. maximowicziana Regel var. *Jackii* Rehder and *R. maximowicziana* Regel var. *pilosa* Nakai are large-flowered relatives that bloom 2 weeks later than *R. multiflora* (from Korea and Manchuria).

VI. Natural History: Taxonomic relationships are uncertain in the genus *Rosa* because of phenotypic plasticity and ease of hybridization. The resulting confusion has led to thousands of names appearing in the taxonomic literature. One consequence of a flexible genetic constitution is the appearance over the centuries of a multitude of cultivars, varying in petal number, petal color, growth habit, fragrance, armature (prickles or lack of them), flower clustering, and flower size. *Rosa multiflora* has been no exception in this miasma. The plant diseases listed in the *Index of Plant Diseases in the U.S.* (USDA Handbook 165, Washington, D.C., 1960) are too extensive to be enumerated here. Seventy-eight organisms exclusive of virus and other idiopathic agents, from throughout the United States, are provided.

VII. Economic Importance: A) Beneficial. Both *Rosa canina* and *R. multiflora* are used as root stocks in the nursery trade. Multiflora rose is the most useful understock in the nursery propagation of garden roses. A substantial proportion of rose plants produced in the U.S. are budded on one or more varieties of *Rosa multiflora*, a practice initiated by Bobbink and Atkins Co. (East Rutherford, NJ) in 1902. Several varieties of multiflora rose have been grown for flowers by gardeners, especially *R. multiflora* var. *platyphylla* ('Seven Sisters Roses' and the form 'Crimson Rambler'). It is an important progenitor of many prized garden roses. The introduction of 'Crimson Rambler' (*R. multiflora cathayensis* or its progeny, var. *platyphylla*) in 1893 further developed hybrid climbers. These were eventually replaced by the more superior hybrids of *R. Wichuraiana*. Yet many sports and hybrids of 'Crimson Rambler' abound; it is beyond the scope of this paper to enumerate them all. In conclusion, it can be stated that the 1800's saw *Rosa multiflora* rise in importance as a horticultural plant. In the 1900's multiflora rose was propagated and planted extensively for erosion control and as a ground cover for small game. The planting of multiflora rose as a 'living fence' has been encouraged by the U.S. Soil Conservation Service and many state wild game associations. Planted at one-foot intervals in average soil, it will become an effective hedge against all livestock except poultry within 3 to 6 years. These living fences serve as windbreaks and act as a haven for wildlife. It also acts as a permanent "snow fence."

B) Detrimental. As a weed, multiflora rose can extensively reduce the utility of pasture and meadow lands. The barbed canes (stems) make it an undesirable plant in centers of human activity. Birds distribute the seeds indiscriminantly, and the plants can appear virtually anywhere sufficient soil exists.

VIII. Control: Several control measures are recommended. Tordon 10K¹ (not to be used on cropland) 40 lbs/acre or 1 lb/1,000 sq. ft., applied in spring before growth starts, controls multiflora rose in permanent grass pastures and rangeland. In the same situation Banvel, 1 gal/100 gals water (100-200 gal. per acre), can be applied in spring after foliage is fully leafed out. Also, Roundup, 2 qts/A or a 1% solution applied when plant is in early to full bloom, spot treated, is recommended. On noncropland areas (including areas adjacent to domestic water supply reservoirs, lakes,

streams, or ponds) Krenite, 2 gal/A applied to the foliage during the 2-month period prior to autumn leaf coloration, will control the treated canes (branches) only. Thorough coverage is important for excellent control.

1. Disclaimer: When trade names are used, *no discrimination is intended and no endorsement by either the author or the Pennsylvania Department of Agriculture is implied.*

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