

Plant Diversity Website

Rosa setigera Michx.

Common Names: Prairie Rose, Climbing Rose, Climbing Prairie Rose, Prärie-Rose

Etymology: *Rosa* comes from the ancient Latin word *rosa* whose meaning has been lost. *Setigera* is a compound of two Latin words: *seti* meaning “bristle” and *gero* meaning “bearing”, therefore *setigera* means “bristle-bearing” (12).

Botanical synonyms (14):

Rosa rubifolia R. Brown

Rosa fenestrata Donn ex Trattinnick

FAMILY: Rosaceae (the Rose family)

Quick Notable Features:

- prickles recurved and flattened at the base
- flowers pink, showy, in dense mounds
- trailing or climbing by arching its stems
- stipules adnate more than half their length to petiole, without a fringe at margin



Plant Height: 2-4m in length (2, 15)

Subspecies/varieties recognized (2, 5):

R. setigera Michx. var. *setigera*,

R. setigera Michx. var. *tormentosa* Torr & Gray

R. setigera var. *serena*

Most Likely Confused with: other species in the genus *Rosa* that overlap its range, such as *Rosa multiflora*, *Rosa laevigata*, and potentially bristly members of the genus *Rubus*, the blackberries and raspberries.

Habitat Preference: Woods, thickets, fencerows, pastures, roadsides, and occasionally found in wetlands and along streams (1, 2, 5, 7, 8, 15). In Florida, it is suggested that it prefers upland environments (14).

Geographic Distribution in Michigan: Found in the southern counties: Berrien, Cass, Hillsdale, Kalamazoo, Lenawee, Monroe, Oakland, Wayne, Washtenaw, Jackson, and Macomb, and only in the northern Michigan county of Manson (1, 2).

Known Elevational Distribution: No specific information for this species was found, but gardening websites suggest it is hardy to Zone 4, and grows in the city of Denver, CO, suggesting it can tolerate an elevation of 1000m.

Complete Geographic Distribution: Native to the continental United States. Distribution is widespread throughout the northeast, southeast, north central, central and southern plains of the United States (5). It is also found in southwestern Ontario (2).



Vegetative Plant Description: The long stems are glabrous, arching or trailing. The plants are capable of producing clones by rerooting at arching tips that contact the soil. They have thick, prickles, that are either straight or slightly curved, but often flattened at the base. Leaves are palmately divided with three (to five rarely) serrate-margined leaflets (2-7cm long and 1-4cm wide). The terminal leaflet generally has a longer petiolule. Stipules are present, narrow, and either entire or with a

finely toothed margin. They can also be glandular or ciliate on their surfaces and margin and are adnate to the petiole for more than half their length (7, 15, 16). The ovate to ovate-oblong leaflets vary from glabrous to tomentose (especially along the veins below) within the currently recognized species (16, 21).

Climbing Mechanism: a trailing or scrambling vine, which uses only the recurved prickles for attachment (pers.obs.).

Flower Description: Inflorescences corymbose, often with leafy bracts below the flowers. Flowers 4-8cm across with five pointed, reflexed, deciduous sepals, five petals that are pink and 2-3cm long, stamens numerous, carpels numerous with styles united into a column half as long as the stamens or as long as the stamens. The pedicels, hypanthium, and sepals bear stipitate glands (15,16, 21). The plants are functionally dioecious, with only male or female organs functional in a single plant (19).

Flowering Time: Illinois: early to mid-summer, Canada: late June to mid-July, reported as "May to October" in the southeastern U.S. (11,15, 19).

Pollinator: A wide variety of flying pollinators from the families Andrenidae, Apidae (mainly *Apis mellifera*), Halictidae, Megachilidae, Syrphidae (mainly *Eristalis tenax*), and the genus *Xylocopa* (10). Also pollinated by one beetle: *Trichotinus piger* (11).

Fruit Type and Description: an aggregate of achenes enclosed in a fleshy "hip" derived from the hypanthium of the flower. This hip is red at maturity, globose, about 1cm in diameter. The fruit maintains the stipitate glands from the young ovary (15). The fruits are eaten, and the seeds likely dispersed, by small mammals and birds, including the Greater Prairie Chicken and Bob White Quail (18).



Seed Description: Crescent-shaped to oval achenes with a triangular cross-section. Multiple achenes, which measure 3-4 mm, are enclosed in a fleshy hip (6, 7).

Dispersal Syndrome: The fleshy hip certainly suggests dispersal by animals, and the fruits are attractive, as noted above, to a variety of animals. Rose hips are high in vitamin C, by some sources, as much as 14.6% of the dried pulp is vitamin C (17).



Distinguished by: *R. setigera* is distinguished from *R. laevigata* by flower color and stipule adnation: *R. laevigata* has white flowers and the stipules are free from the petiole for more than half their length. It is distinguished from *R. multiflora* also by the stipules, but this time *R. multiflora* has distinctly fringed stipules. *Rosa palustris* (Swamp Rose) is an upright shrub, rather than a climber. A simple way to distinguish raspberries and blackberries (*Rubus*) from

roses (*Rosa*) is that the genus *Rubus* will never have stipules fused to the petioles.

Other members of the family in Michigan (number species): *Agrimonia* (5), *Amelanchier* (6), *Aronia* (1), *Aruncus* (1), *Chamaerhodos* (1), *Crataegus* (45), *Dalibarda* (1), *Duchesnea* (1), *Filipendula* (1), *Fragaria* (2), *Geum* (9), *Malus* (3), *Physocarpus* (1), *Porteranthus* (2), *Potentilla* (14), *Prunus* (15), *Pyrus* (1), *Rosa* (14), *Rubus* (13), *Sanguisorba* (2), *Sorbaria* (1), *Sorbus* (3), *Spirea* (5), *Waldsteinia* (1). (source: 1)

Ethnobotanical Uses: Although no ethnobotanical data was found for *Rosa setigera*, a similar species, *Rosa blanda* has many medicinal uses. The roots, when ground up and boiled, make a paste that alleviates skin irritation. A wash for irritated eyes and a treatment of headache or lower back pain are also made from the roots. The skin of the rose hips is used to aid with stomach pain and digestion problems. The dried flowers are a suppressor of heartburn (9).

Phylogenetic Information: Rosaceae members are found in almost every inhabitable part of the world (16). Within this large family, *Rosa* is in the subfamily Rosoideae. Rosaceae belongs in the order Rosales, and is closely related to Ulmaceae, the elm family. Rosales are classified as members of the Eurosids I subclade in the Rosid clade. Rosids are core eudicots (14).

Interesting Quotation or Other Interesting Factoid not inserted above:

Rosa setigera is a cryptically dioecious dicot: although both male and female parts are made in every flower, the pollen of female flowers is collapsed and pollinators tend to spend more time foraging on the male flowers (which tend to be in larger numbers in male inflorescences). The plant's sex is very hard for the observer to determine, apart from these subtle considerations (10).

Rosa setigera is listed as a threatened plant in Canada (19).

Rose hips have been widely evaluated for their vitamin C content, and in the 1940's independent reports from Britain and the former Soviet Union demonstrated that at higher latitudes, rose hips of various *Rosa* species had higher vitamin C content (17).

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PRIMARY AUTHOR: Marko Melymuka & Robyn J. Burnham contributed to this account.

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 For additional information on Michigan Plant Diversity web pages please contact Robyn J. Burnham via email: rburnham@umich.edu