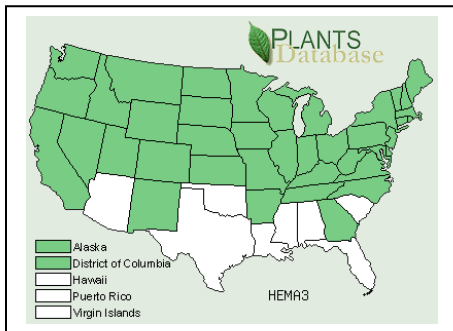


DAME'S ROCKET

(*Hesperis matronalis*)

IN BRIEF

Dame's rocket is a tall, showy, short-lived perennial in the mustard family. A prolific seed-producer, it has escaped from gardens and now invades roadways, woodland edges and forest interiors.



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Showy flowers of Dame's rocket

DESCRIPTION

Plant Habit. First-year plants develop into low rosettes at ground level and stay green all winter. Flowering plants start as a rosette in early spring, but soon send up an erect, 2-4 foot tall flower stem. Flower clusters branch out from the upper parts of the plant. It often grows in extensive



Rosette in spring with last year's dead flower stems.

stands.

Leaves. Rosette leaves are up to 6 inches long. Flowering-stem leaves are pointed and lance-shaped, 2-6 inches long, wider at the base, and attached alternately along the stem. Leaves decrease in size up the stem.

Lower leaves usually have short petioles (leaf stalks), while the upper leaves attach directly to the stem. There are widely spaced teeth along the leaf edges. Both stems and leaves are covered with fine hairs.



4-petaled flowers



Rosette in fall, first-year plant.



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Sharply toothed leaves that decrease in size as they ascend the stem

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Flowers. Each flower is 4-petaled, with colors on different plants ranging from purple or pink to white. Blossoms are 3/4 -1 inch wide and grow in branching clusters that lengthen over the 4-6 week flowering period. Each flower develops into a seedpod called a silique. Blossoming continues at the tips of the flowering branches, while at the same time seedpods ripen below. Flowers typically bloom from mid-May through June. If flowering parts are cut off, plants often will bloom again.

Fruits / Seeds. Ripening occurs over the summer and large quantities of seeds are produced in thin, wiry seedpods that are 2-5 inches long and slightly hairy. In late summer and fall they split lengthwise to release tiny dark brown seeds. Each plant is capable of producing hundreds of seedpods, each with abundant seeds. Seeds remain viable in the soil for many years.

Roots. The root system consists of a taproot and branching secondary roots.

Habitat. Dame's rocket prefers partial sun, moist to semi-dry conditions, and fertile loamy soil, but avoids acidic soil. It will tolerate full sun if there is sufficient moisture. Preferred habitats include lowland forests, moist meadows, woodland edges and openings, open woods, thickets, semi-shaded fence rows, and banks of ditches and roadsides.



Seeds

DISTINCTIVE FEATURES

- 4-petaled flowers, characteristic of the mustard family
- Long blooming season with showy clusters of purple to white flowers
- Lance shaped, alternate leaves become progressively smaller up the stem

LOOK-ALIKES

Dame's rocket resembles *Phlox* – but all *phlox* species have opposite leaves and 5-petaled flowers. The non-native Garden phlox, *Phlox paniculata*, is tall, blooms July to September and requires full sun. The native blue-flowered Forest phlox, *Phlox divaricata*, is smaller (up to 2 feet), grows in denser shade, and blooms April to June. It also resembles another non-native mustard -- Money plant (*Lunaria annua*) – which is grown in gardens and escapes as a weed. *Lunaria* has large, round, coin-like seed capsules, and leaves that are indented where they join the leaf stalk.



In bloom Dame's rocket (above) closely resembles *Phlox*



4-petaled flowers.

LIFE HISTORY AND INVASIVE BEHAVIOR

Reproduction is only by seed. Dame's rocket produces a basal rosette the first year and flowering stems the second and later years. Flowering stems die back to rosettes in fall. It lacks natural predators and diseases in North America and thus successfully competes with native species for water, light and nutrients, often forming dense monocultures. This species is at a relatively early stage of encroachment, so the

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extent of its impact on native vegetation and its patterns of spread are not well-documented. It is increasingly moving into high quality forests. Unfortunately, part of its success as an invasive plant is because of its widespread distribution in commercial “wildflower” seed mixes. Seeds readily escape gardens and enter natural areas via rainwater runoff, waterways, vehicle tires, footwear and animal fur.

IMPACTS ON FORESTRY AND FORESTERS

On Forestry: It competes with native herbaceous plants at the edges of woodlands, in woodland openings, and in semi-open forests. This competition for light, moisture, and nutrients may inhibit tree seedling germination and growth.

On Foresters: Seeds are easily spread via mud on tires and other equipment, and by sticking on or falling into boots, shoes and clothing.

CONTROL METHODS

	Method	Timing
Manual / Mechanical	Hand pulling or digging	Spring, early summer
	Burning	Spring, fall
Chemical	Foliar application (glyphosate, triclopyr)	Early spring, late fall

Mechanical: *Note: To prevent new infestations, make sure that “wildflower” seed mixes for home gardens do not contain this plant.*

Hand-pulling or digging flowering plants can be effective, especially in small infestations. **Hand pulling** alone is usually not practical in large or established patches, but is needed to catch flowering plants missed by other treatments. Plants can be pulled anytime during flowering and up until when seed pods are ready to shatter. Moist, loose soil conditions facilitate pulling. When pulled, stems may break off at the base and the taproot may resprout if not removed. Hand-pulling can increase seed germination through soil disturbance, but this can also expedite depletion of the seed bank. The site should be monitored for several years to eliminate newly emerging plants.



Seedlings in spring.

Important! If plants are pulled while in flower and left on the ground or composted, the seedpods can still ripen using energy in the stem and roots. It is best if they are bagged for the landfill or burned. In

large patches, or where removal is not possible, pile stems in the center of the most densely-infested area, where the seed bank is already presumed great. Covering with black plastic will help limit the production and spread of seed from these piles.

If this species is used in gardens, the flower stalk should be removed when the flowers begin to fade in order to prevent ripening of seed pods and thus reduce the spread of this plant.

Burning

Prescribed burning merits investigation as a control measure. Burning in the fall may kill rosettes. If timed right, spring burns will kill newly germinated seedlings and should set back the over-wintered rosettes. As a disturbance, burning may stimulate germination of the seedbank. Follow-up monitoring and using multiple control methods over several years may be necessary.

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Chemical: A foliar application of herbicides, such as glyphosate or triclopyr, can be effective for large infestations. Because rosettes stay green all winter, this application can be done either in very early spring or late fall to avoid damaging native vegetation. Temperatures should be over 50 degrees so the chemical will be absorbed.

NOTICE: *Use pesticides wisely. Always read the product label carefully. Follow all mixing and application instructions and wear all recommended protective gear and clothing. Contact your state department of agriculture for any pesticide use requirements, restrictions or recommendations. Many states require individuals involved in the application of pesticides be certified and licensed .*

[Click here](#) for further information on the use of pesticides.

HISTORY AND LORE

The genus name for Dame's rocket, *Hesperis*, is derived from the Greek *hesper*, which refers to the evening, potentially because this plant is known to be more sweet-scented in the evening. The species name *matronalis* means 'of matrons.' Other common names for this plant include Sweet rocket, Dame's violet and Mother-of-the-evening. Dame's rocket was introduced for ornamental purposes from Eurasia in the early 1600s. Its spread nationally has been accelerated by the inclusion of Dame's rocket in "wildflower" seed mixes for gardens. The leaves, oil and seeds of this plant are edible. The young leaves are rich in vitamin C and can be eaten raw as a cress substitute in salads. The plant is also cultivated for its essential seed-oil which is used in perfumes.

LINKS AND REFERENCES

Websites

Weedy Wildflowers of Illinois – Factsheet on Dame's rocket.

http://www.illinoiswildflowers.info/weeds/plants/dame_rocket.htm

Wisconsin DNR -- Dame's rocket factsheet.

http://www.dnr.state.wi.us/invasives/fact/dames_rocket.htm

Wisconsin DNR – Press release on Dame's rocket.

<http://www.dnr.state.wi.us/org/land/er/invasive/info/damesrocket.htm>

Plants for a Future - *Hesperis matronalis* facts

http://www.ibiblio.org/pfaf/cgi-bin/arr_html?Hesperis+matronalis

University of Wisconsin–Green Bay Herbarium – Dame's rocket photos and facts.

http://www.uwgb.edu/biodiversity/herbarium/invasive_species/hesmat01.htm

Books / Field guides

[Invasive Plants of the Upper Midwest: An Illustrated Guide to their Identification and Control](#), by Elizabeth J. Czarapata, University of Wisconsin Press, 2005.