Drummond's Rock-cress

Boechera stricta fruits

Photo credits: *Stephen M. Young*

Scientific Name *Boechera stricta* (Graham) Al-Shehbaz

Family Name Brassicaceae Mustard Family

Did you know?
This is the only species of Boechera in North America that has pick-shaped hairs on the lower stem. Even though it is an obvious biennial in our area, there are certain locations in the mountains of the West where the plants are definitely perennial. The common name refers to its former scientific name, "Arabis drummondii", after Thomas Drummond, an early 19th century Scottish botanist who explored the Rocky Mountains and southern U.S. "Boechera", the new genus name, is after the Danish botanist Tyge W. Bocher.

Summary

Protection Threatened in New York State, not listed federally.

This level of state protection means: listed species are those with: 1) 6 to fewer than 20 extant sites, or 2) 1,000 to fewer than 3,000 individuals, or 3) restricted to not less than 4 or more than 7 U.S.G.S. 7 ? minute topographical maps, or 4) listed as threatened by U.S. Department of the Interior.

Rarity G5, S2

A global rarity rank of G5 means: This species is demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
A state rarity rank of S2 means: This plant is threatened/imperiled in New York because of rarity (typically 6-20 populations or few remaining individuals) or is vulnerable to extirpation from New York due to biological factors.

Conservation Status in New York

There are 11 current populations but most of them have fewer than 100 plants each. There are more than 30 historical populations, so more occurrences are expected to be found.

Short-term Trends

The short-term trend seems stable but only a few occurrences have been revisited in recent years. Population sizes fluctuate, so more years of survey are needed to accurately determine short-term trend.

Long-term Trends

There were over 30 historical populations known throughout the state, but only 10 populations are currently documented. The long-term trend seems to indicate a decline, but more surveys of historical records may discover that this trend is not severe.

Conservation and Management

Threats

Probably the highest threat to the species is succession where the plants grow in human-disturbed areas the site is allowed to succeed to the woody plants that were there originally. The threat seems low in naturally open rock outcrops and sandy areas.

Conservation Strategies and Management Practices

In human-disturbed areas the disturbance may need to be maintained to prevent succession, while still taking care to prevent the destruction of the plants themselves.

Research Needs

Research into the specific habitat requirements of this species would help steer surveys to the most likely areas where it would be found.

Habitat

In New York this species has been collected most often from rocky ledges, cliffs, or ravines, though it also has been found at disturbed sites including trails, mowed areas, and sandy roadsides (New York Natural Heritage Program 2007). Basic or circumneutral ledges, gravels and thickets (Fernald 1970). Various habitats (Gleason & Cronquist 1991).

Associated Ecological Communities

Other Probable Associated Communities

Calcareous cliff community
Shale cliff and talus community
Shale talus slope woodland

Associated Species

Balsam Fir (*Abies balsamea*)
Box Elder (*Acer negundo*)
Striped Maple (*Acer pensylvanicum*)
Red Maple (*Acer rubrum*)
Mountain Maple (*Acer spicatum*)
Red Baneberry (*Actaea rubra*)
Garlic Mustard (*Alliaria petiolata*)
Wild Sarsaparilla (*Aralia nudicaulis*)
Jack-in-the-pulpit (*Arisaema triphyllum*)
Southern Lady Fern (*Athyrium filix-femina*)
Mountain Paper Birch (*Betula cordifolia*)
Paper Birch (*Betula papyrifera*)
American Harebell (*Campanula rotundifolia*)
Bromelike Sedge (*Carex brunnescens*)
Blue Ridge Sedge (*Carex lucorum*)
Spotted Knapweed (*Centaurea stoebe*)
Blue Bead-lily (*Clintonia borealis*)
Poverty Oatgrass (*Danthonia spicata*)
Wavy Hair Grass (*Deschampsia flexuosa*)
Northern Bush-honeysuckle (*Diervilla lonicera*)
Rock Whitlow-grass (*Draba arabisans*)
Evergreen Woodfern (*Dryopteris intermedia*)
Marginal Wood Fern (*Dryopteris marginalis*)
American Beech (*Fagus grandifolia*)
Largeleaf Avens (*Geum macrophyllum*)
Fragrant Cudweed (*Gnaphalium obtusifolium*)
Flaxleaf Whitetop Aster (*Ionactis linariifolius*)
Canada May-flower (*Maianthemum canadense*)
Northern Beech Fern (*Phegopteris connectilis*)
Red Spruce (*Picea rubens*)
Eastern White Pine (*Pinus strobus*)
Glaucous Bluegrass (*Poa glauca*)
Bluegrass (*Poa pratensis*)
Downy Solomon's-seal (*Polygonatum pubescens*)
Appalachian Rockcap Fern (*Polypodium appalachianum*)
Rock Polypody (*Polypodium virginianum*)
Red Oak (*Quercus rubra*)
Black Raspberry (*Rubus occidentalis*)
Red Elderberry (*Sambucus racemosa*)
Virginia Saxifrage (*Saxifraga virginiensis*)
Three-toothed Cinquefoil (*Sibbaldiopsis tridentata*)
American Mountain-ash (*Sorbus americana*)
Northern Meadow-sweet (*Spiraea alba*)
Early Meadow-rue (*Thalictrum dioicum*)
Tall Meadow-rue (*Thalictrum pubescens*)
New York Fern (*Thelypteris noveboracensis*)
Heart-leaved Foam-flower (*Tiarella cordifolia*)
American Basswood (*Tilia americana*)

Eastern Poison Ivy (*Toxicodendron radicans*)
Woodsia sp.
Common Alexanders (*Zizia aurea*)

Identification Comments

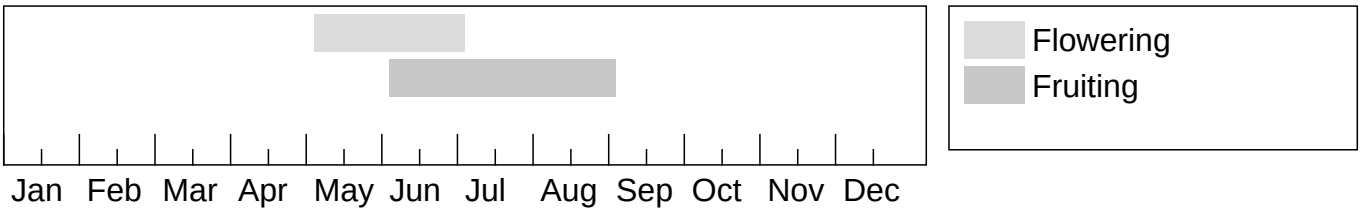
Drummond's rock-cress is a tap-rooted biennial herb. Like other Boechera species, it has a compact rosette of basal leaves, the lowest of these spoon-shaped with toothed margins and the remainder lyrate (fiddle-shaped) - pinnatifid and pubescent. From this base grows a single stalk, smooth and often glaucous, 15 to 30 cm tall, bearing both leaves and flowers. The leaves of the stem have clasping lobes (auricles) at the base, and are 2 to 8 cm long, and the flowers have 4 small (less than 1 cm long) white petals. These mature into slender elongate fruit called siliques, which are 4-7 cm long, flat, held erect or appressed against the stem, and each holding two rows of seeds.

Best Life Stage for Identifying This Species

Specimens with flowers or with mature fruit, or preferably, both, are best for identification.

The Best Time to See

Drummond's Rock-cress flowers in May, and the fruits persist until late August.



The time of year you would expect to find Drummond's Rock-cress in New York.

Similar Species

Turritis (formerly Arabis) glabra has slightly longer but narrower round fruit (5-9 cm long by 0.8-1.3 mm wide) and the stem commonly has simple or star-shaped hairs, especially towards the base. Boechera divaricarpa has fruit that are not strongly ascending or appressed to the stem, but rather tend to be loosely ascending to divergent, and its basal leaves have fine star-shaped hairs on both sides. Before the distinct flattened fruit of Boechera stricta develop, it may also resemble B. laevigata, which has longer, less numerous leaves (5-15 cm long, averaging 13 below the first flower), and sepals that are more than half as long as the petals.

Taxonomy

Kingdom Plantae
└─ **Phylum** Anthophyta
  └─ **Class** Dicots (Dicotyledoneae)
    └─

Order Capparales
└─ **Family** Brassicaceae (Mustard Family)

Synonyms

Arabis drummondii (Gray)
Boechera drummondii ((A. Gray) ?.L?ve & D.L?ve)

Additional Resources

Links

University of Wisconsin Herbarium
http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=ARADRU
USDA Plants Database
http://plants.usda.gov/java/nameSearch?mode=sciname&keywordquery=ARABIS+DRUMMONDII
New York Flora Atlas
http://www.newyork.plantatlas.usf.edu/Plant.aspx?id=6424
NatureServe Explorer
http://natureserve.org/explorer/servlet/NatureServe?searchName=ARABIS+DRUMMONDII
Google Images
http://images.google.com/images?q=ARABIS+DRUMMONDII
Colin's Virtual Herbarium
http://www.colinherb.com/Cruciferae/Arabis/Drummondii/Arabis_drummondii.htm

Best Identification Reference

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