

Species Status Assessment

Common Name: Shadowy arches moth **Date Updated:** January 18, 2024

Scientific Name: *Drasteria adumbrata* **Updated By:** Hollie Shaw

Class: Insecta

Family: Erebidae

Species Synopsis (a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York):

The shadowy arches moth is currently known as *Drasteria adumbrata*. It was reclassified from the genus *Synedoida* (Poole 1989). There are two subspecies, the western *D. a. saxea* and the eastern *D. a. alleni*. *D. a. alleni* ranges from eastern Alberta eastward to Nova Scotia and includes parts of New York State. The western *D. a. saxea* spans from southern British Columbia and southwestern Alberta southward to California and Colorado (Richards 1939, Forbes 1954). The species is known from one location in New York, in West Plattsburg Pine Barrens, Clinton County, along a power-line right of way in a degraded pine barrens community (NYNHP 2024). The reported observation from Washington County New York is not confirmed and there is no specimen at the New York State Museum (T. McCabe, personal communications, January 17, 2024).

I. Status

a. Current legal protected Status

i. **Federal:** Not listed **Candidate:** no

ii. **New York:** Not listed; SGCN

b. Natural Heritage Program

i. **Global:** G5

ii. **New York:** S1S2 **Tracked by NYNHP?:** Yes

Other Ranks:

-IUCN Red List: not listed

-Northeast Regional SGCN: not listed

- US National Rank: N4

-Canada National Rank: N5

Status Discussion:

This species appears to be common throughout the core part of its range (NatureServe 2024). New York is at the eastern edge.

II. Abundance and Distribution Trends

| Region | Present? | Abundance | Distribution | Time Frame | Listing status | SGCN? |
|-----------------|----------|-----------|--------------|------------|-------------------|-------|
| North America | Yes | Stable | Stable | | No listed, N4 | - |
| Northeastern US | Yes | Unknown | Unknown | | Not listed | No |
| New York | Yes | Unknown | Unknown | current | Not listed, S1S2, | Yes |
| Connecticut | No | - | - | | | - |
| Massachusetts | No | - | - | | | - |
| New Jersey | No | - | - | | | - |
| Pennsylvania | No | - | - | | | - |
| Vermont | No | - | - | | | - |
| Ontario | Yes | Unknown | Unknown | | Not listed, SU | - |
| Quebec | Yes | Unknown | Unknown | | Not listed, SNR | - |

Column options

Present?: Yes; No; Unknown; No data; (blank) or Choose an Item

Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item

SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York *(specify any monitoring activities or regular surveys that are conducted in New York):*

There are no monitoring programs or regular surveys in New York. This species was found on a single date in 1993 (NYNHP 2024).

Trends Discussion *(insert map of North American/regional distribution and status):*

Trends are unknown. The only known capture date was in June 1993 (NYNHP 2024). The reported observation from Washington County New York is not confirmed and there is no specimen at the New York State Museum (T. McCabe, personal communications, January 17, 2024).

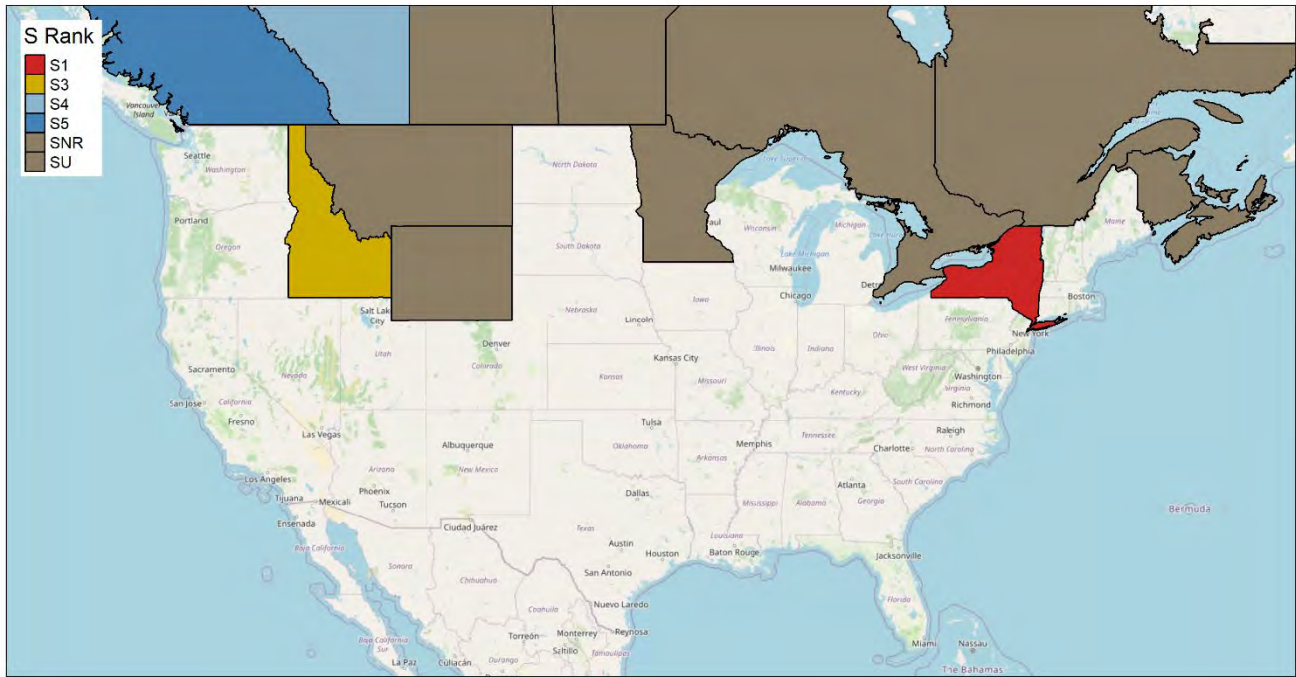


Figure 1. *Drasteria adumbrata* distribution and status (Data may be incomplete. NatureServe 2024)

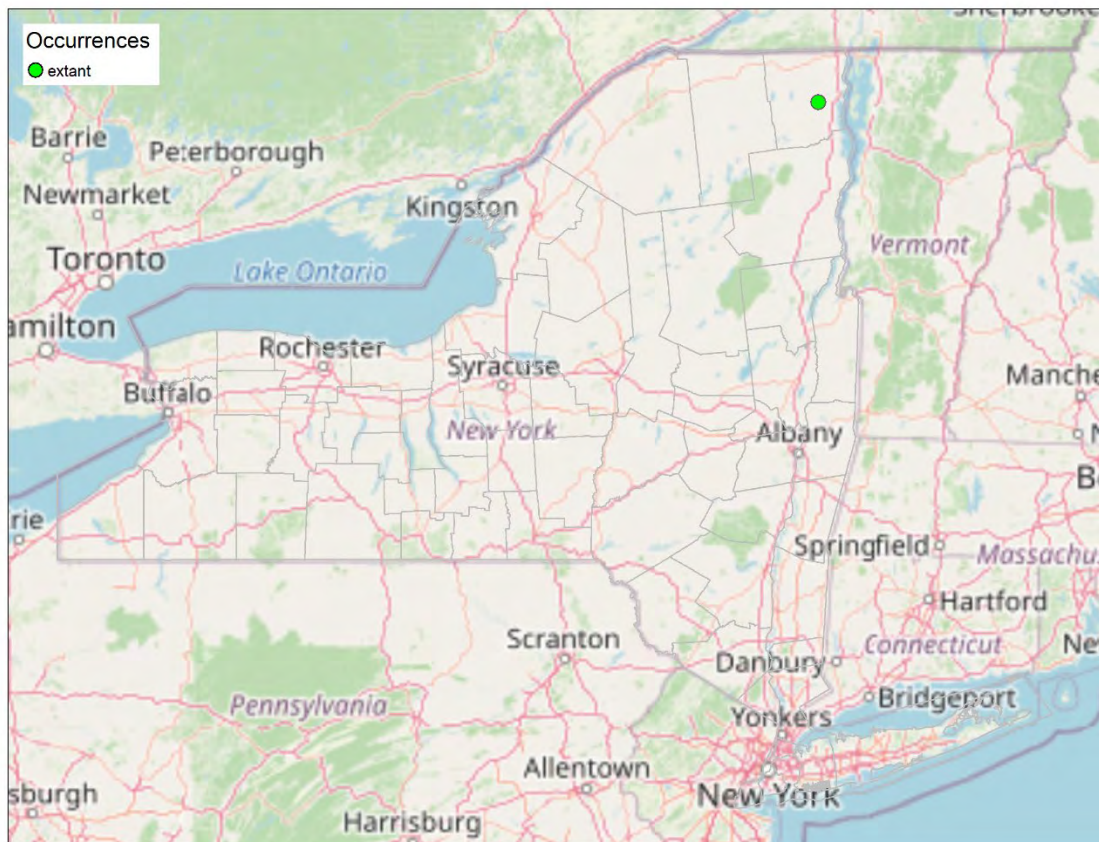


Figure 2. *Drasteria adumbrata* distribution in New York (NYNHP 2024)

III. New York Rarity (provide map, numbers, and percent of state occupied)

| Years | # of Records | # of Counties | % of State |
|------------|--------------|---------------|------------|
| Pre-2000 | 1 | 1 | <1% |
| 2000- 2023 | 0 | 0 | 0% |

Table 1. Records of *Drasteria adumbrata* in New York.

Details of historic and current occurrence:

This species was found in 1993. There are no other confirmed observations in New York (NYNHP 2024).

New York’s Contribution to Species North American Range:

| Percent of North American Range in NY | Classification of NY Range | Distance to core population, if not in NY |
|---------------------------------------|----------------------------|---|
| 1-25% | Peripheral | 3800 km |

Column options

Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item

Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

IV. Primary Habitat or Community Type (from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):

- Oak Forest Pine Barrens

Habitat or Community Type Trend in New York

| Habitat Specialist? | Indicator Species? | Pollinator Species? | Habitat/Community Trend | Time frame of Decline/Increase |
|---------------------|--------------------|---------------------|-------------------------|--------------------------------|
| - | - | - | Unknown | |

Column options

Habitat Specialist, Indicator Species and Pollinator Species: Yes; No; Unknown; (blank) or Choose an item

Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

In New York, shadowy arches moths were found in pitch pine heath barrens with blueberry shrubs dominant in the understory (NYNHP 2024). In the western portion of the range, they are found in dry montane woodland; sandy, open woods (University of Alberta 2024); and open coniferous woods and open meadows in the Cascade and Rocky Mountains (Pacific Northwest Moths 2023).

V. Species Demographic, and Life History:

| Breeder in NY? | Non-breeder in NY? | Migratory Only? | Summer Resident? | Winter Resident? | Anadromous/Catadromous? |
|----------------|--------------------|-----------------|------------------|------------------|-------------------------|
| Yes | - | - | Yes | Yes | - |

Column options

First 5 fields: Yes; No; Unknown; (blank) or Choose an item

Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion (*include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize*):

Adults were trapped in June in New York (NYNHP 2024) and it appears to be most frequently capture in June in western North America (University of Alberta 2024). This species often flies during the day. Larval foodplants are known to be blueberry (*Vaccinium* spp.) and bearberry (*Arctostaphylos uva-ursi*) (University of Alberta 2024).

VI. Threats (*from NY 2015 SWAP or newly described*):

Threats that affect this species are fire suppression and off-road vehicle use in occupied habitat (NYNHP 2024). General threats identified to affect moths include habitat loss and degradation caused by development; habitat fragmentation; natural succession of shrubland, woodland, and barrens habitats; land clearing; coastal erosion; and sea level rise. Past use of chemical biocides to control spongy moth and other pest insects continues to kill native Lepidoptera (Schweitzer 2004). Introduced parasitoid flies have been known to negatively affect native Lepidoptera (Boettner et al. 2000). Other threats may include invasive species, light pollution affecting reproductive success, and over grazing of host plants by wild deer populations (NYSDEC 2005).

| Threat Level 1 | Threat Level 2 | Threat Level 3 | Spatial Extent | Severity | Immediacy | Trend | Certainty |
|---|--|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1. Residential and Commercial | 1.1 Housing & Urban Areas | (habitat loss) | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| 6. Human Intrusions & Disturbance | 6.1 Recreational Activities | 6.1.1 Motor vehicles (offroad) | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| 7. Natural System Modifications | 7.1 Fire & Fire Suppression | 7.1.2 Suppression in the fire regime | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| 8. Invasive & Other Problematic Species | 8.1 Invasive Non-Native Plants & Animals | 8.1.1 Terrestrial animals (parasitoid flies) | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| 8. Invasive & Other Problematic Species | 8.2 Problematic Native Plants & Animals | 8.2.3 Localized increase in invertebrate grazing (deer) | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| 9. Pollution | 9.6 Excess Energy | 9.6.1 Light pollution | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| 11. Climate Change | 11.1 Habitat Shifting & Alteration | - | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

Table 2. Threats to *Drasteria adumbrata*.

Are there regulatory mechanisms that protect the species or its habitat in New York?

Yes:

No: ✓

Unknown:

If yes, describe mechanism and whether adequate to protect species/habitat:

Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:

Habitat management that includes prescribed burns or other management techniques to ensure that suitable habitat remains. Prohibit off-road vehicle use.

| Action Category | Action | Description |
|---|---|--------------------------------------|
| A.1 Direct Habitat Management | A.1.0.0.0 Direct Habitat Management | Site Management |
| A.2 Direct Species Management | A.2.0.0.0 Direct Species Management | Invasive/problematic species control |
| B.3 Outreach | B.3.0.0.0 Outreach | Awareness and Communications |
| C.6 Design and Plan Conservation | C.6.0.0.0 Design and Plan Conservation | Site/Area Protection |
| C.6 Design and Plan Conservation | C.6.0.0.0 Design and Plan Conservation | Resource/Habitat Protection |
| C.7 Legislative and Regulatory Framework or Tools | C.7.0.0.0 Legislative and Regulatory Framework or Tools | Policies and Regulations |

Table 3. Recommended conservation actions for *Drasteria adumbrata*.

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for moths.

Easement acquisition:

_____ Where appropriate, acquire easements to promote moth protection and conservation.

Fact sheet:

_____ Create fact sheets covering moths.

Habitat management:

_____ Determine best management regime for moth species, including fire and other forms of management.

Habitat monitoring:

_____ Develop standardized measures of habitat parameters for each species of listed moth.

_____ Investigate threats to food and host plants.

_____ Monitor land development projects.

Habitat research:

_____ Examine role of light pollution as threat to moths.

_____ Determine host/ food plant.

Life history research:

_____ Investigate the metapopulation dynamics of those species which warrant it.

_____ Examine role of introduced parasites and predators in threats to moths.

Other action:

_____ Develop standard definition of what is needed for "viable" populations of moths.

_____ Research the role of pesticide use in threats to moths.

Population monitoring:

_____ Inventory of species within historical range.

_____ Develop standardized survey protocols for moths.

Private fee acquisition:

_____ Where appropriate, encourage/assist private entities to acquire land for moth protection and conservation.

State fee acquisition:

_____ Where appropriate, acquire land essential to moth protection and conservation.

State land unit management plan:

_____ Incorporate needs of moths into state land management plans.

VII. References

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| Originally prepared by | Shawn Ferdinand |
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