

Species Status Assessment

Common Name: A noctuid moth **Date Updated:** December 21, 2023

Scientific Name: *Apamea inordinata* **Updated By:** Hollie Shaw

Class: Insecta

Family: Noctuidae

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

Apamea inordinata is found in southern Canada and the northern United States, reaching southward into Utah, Colorado and Nebraska. Continuing eastward, it is found in the Great Lakes region in the Midwest, eastern Quebec towards the Atlantic Coast south to New Jersey (Pacific Northwest Moths 2023). This species inhabits areas with dry sandy soils, containing grasses and sedges (NYNHP 2023b). Historical records show this species to be very local in Long Island, NY (Forbes 1948) and is currently known from eight locations (iNaturalist 2023, NYNHP 2023a). Additional research is needed to better assess the life history, demographics, and threats (NYNHP 2023b).

I. Status

a. Current legal protected Status

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

ii. **New York:** not listed; HPSGCN

b. Natural Heritage Program

i. **Global:** GU

ii. **New York:** S1 **Tracked by NYNHP?:** Yes

Other Ranks:

-IUCN Red List: not listed

-Northeast Regional SGCN: not listed

Status Discussion:

The global status is unknown and needs further analysis.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown		Not listed	Choose an item.
Northeastern US	Yes	Unknown	Unknown		Not listed	No

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
New York	Yes	Increasing	Increasing	2007-2022	Not listed, S1, HPSGCN	Choose an item.
Connecticut	Yes	Unknown	Unknown	Post-2012	Threatened, S2	Yes
Massachusetts	Yes	Unknown	Unknown	Unknown	Considered common (Mass Moths 2023)	No
New Jersey	No data	Choose an item.	Choose an item.			Choose an item.
Pennsylvania	Yes	Unknown	Unknown	Unknown	S1S2	No
Vermont	No	Choose an item.	Choose an item.			Choose an item.
Ontario	Yes	Unknown	Unknown			Choose an item.
Quebec	No data	Choose an item.	Choose an item.			Choose an item.

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 known monitoring activities or regular surveys for this species. New York Natural Heritage Program has conducted some more recent surveys (NYNHP 2023a).

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

It appears that the range and abundance of this species is increasing based on recent reports from New York Natural Heritage Program (2023a) and iNaturalist (2023).

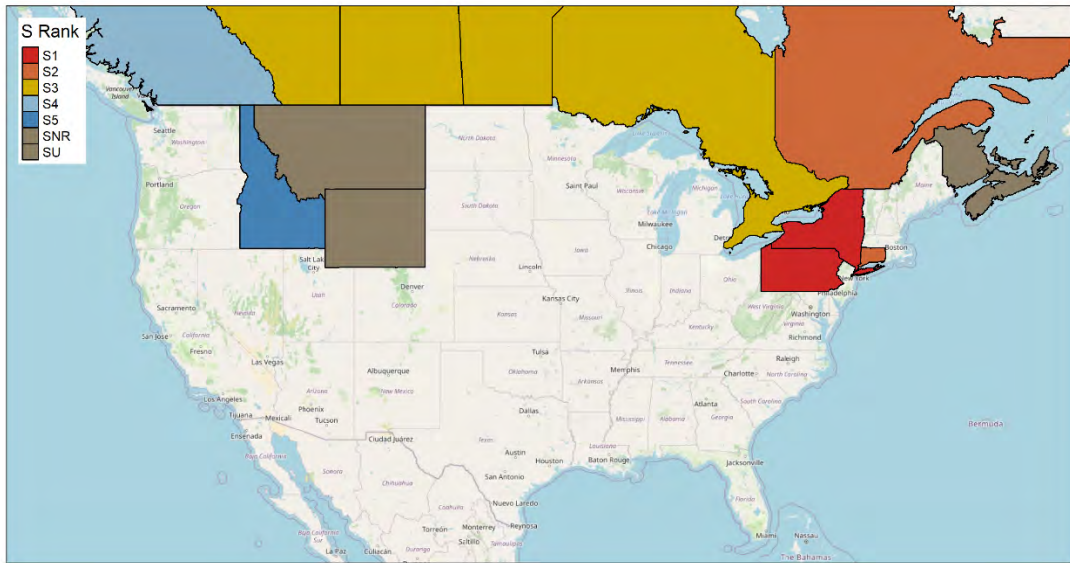


Figure 1. *Apamea inordinata* distribution and status (Distribution may not be complete. NatureServe 2023)

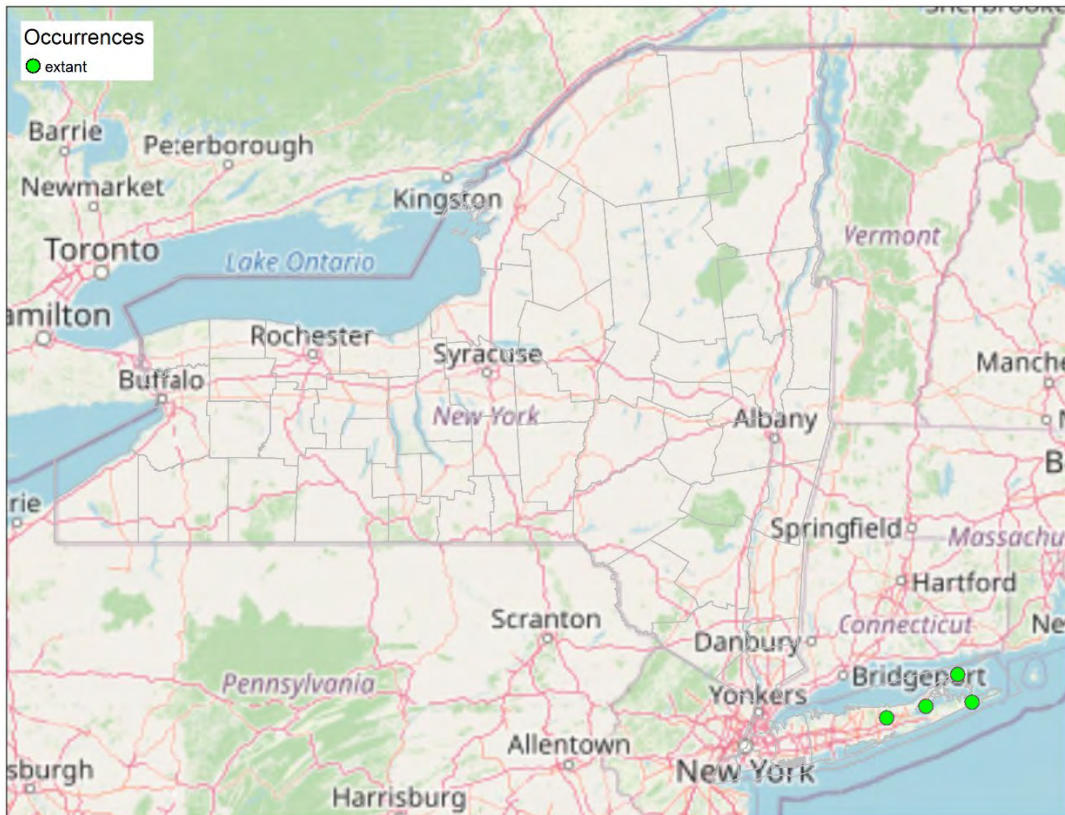


Figure 2. *Apamea inordinata* distribution (NYNHP 2023)

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	7	1	5-10

Table 1. Records of *Apamea inordinata* in New York.

Details of historic and current occurrence:

The moth is historically recorded from the eastern part of Long Island and Charlotte, New York (Forbes 1954). Currently, there are seven extant locations on Long Island from Jamaica Bay to Napeague State Park (iNaturalist 2023, NYNHP 2023a).

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	1600

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):

1. Old Field/Managed Grassland
2. Pasture Hay
3. Cultivated Crops/Pasture Hay
4. Salt Marsh

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Pollinator Species?	Habitat/Community Trend	Time frame of Decline/Increase
No	No	Choose an item.	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:

A. inordinata is found in dry, open prairies and sandy habitats (Pacific Northwest Moths 2023). This is also true for New York where the species has been found in sandy areas with grasses or sedges on Long Island (NYNHP 2023b).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	Choose an item.	Choose an item.	Yes	Yes	Choose an item.

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):

In New York, *A. inordinata* adults have been found in May and June (NYNHP 2023a). According to Pacific Northwest Moths (2023), adults are present from the early May to mid-June. Adults can rarely be found at lights in October in New York (NYNYP 2023b). Little is known about the life history other than when adults are present. It is assumed that the larvae feed on grasses (Pacific Northwest Moths 2023).

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

Threats to this species in New York State are uncertain. Elimination and fragmentation of habitat by commercial and residential development are probably the most significant threats (NYNHP 2023b). General threats identified to affect moth species include habitat loss and degradation caused by development; habitat fragmentation; alteration of natural fire regimes; 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, over grazing of host plants by wild deer populations, and off-road vehicle use (NYSDEC 2005). There are no specific studies showing artificial lighting causing a decline in *A. inordinata* populations, however, there are there are broad scale studies that have shown artificial lighting to be a partial cause in changes in moth behavior and predation rates, which could affect population levels (Frank 2006).

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.
7. Natural System Modifications	7.1 Fire & Fire Suppression		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.1 Habitat Shifting & Alteration	(southern limit of range)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Apamea inordinata*.

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:

Some of the locations are on protected, managed lands.

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

Minimizing lighting to maintain dark sky conditions would be beneficial (NYNHP 2023b). Reduce fragmentation and manage grassland habitats.

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 *Apamea inordinata*.

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions 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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Date first prepared	February 19, 2013
First revision	February 4, 2014 (Samantha Hoff)
Latest revision	December 21, 2023 (Hollie Shaw)