

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Invertebrate Abstract

Element Code: IILEY15020

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Astyliis* sp. 1
COMMON NAME: A Notodontid Moth
SYNONYMS:
FAMILY: Notodontidae

AUTHOR, PLACE OF PUBLICATION:

TYPE LOCALITY: Ash Canyon, Huachuca Mountains, Arizona.

TYPE SPECIMEN: Noel McFarland, Museum unknown. Specimen seen by Paul Opler and photo sent to J.G. Franclemont.

TAXONOMIC UNIQUENESS:

DESCRIPTION: For the family the adults are medium sized to large, typically with a relatively long forewing and stout body that extends two or more times the width of the hind wing. The head often has scale tufts or crests. The antennae are usually bipectinate to the tip in the male, filiform or sometimes bipectinate in the female. Proboscis is usually well developed and coiled. The abdomen is densely covered with long, slender scales and sometimes dorsal scale tufts at the base. The tips of the tibial spurs are serrated. These are mostly dull-colored, tan, brown, or gray moths. The larval body is stout, nearly bare, sometimes with a long secondary setae, often possessing one or more protuberances. Larvae have two MD setae above the spiracle on abdominal segments, whereas other noctuoids have only one.

AIDS TO IDENTIFICATION: Larvae have two MD setae above the spiracle on abdominal segments, whereas other noctuoids have only one.

ILLUSTRATIONS:

TOTAL RANGE: Only known locality is in Ash Canyon (Huachuca Mountains) in Arizona on the private property of Dr. Noel McFarland who is interested in selling it. Private housing development surrounds his land. No similar species is known from Mexico, although it could occur there.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: According to NatureServe (2004), adult males are powerful fliers but heavily laden females are probably not. Very few species feed as adults and so they probably do not live long.

REPRODUCTION: In the Order Lepidoptera, segmental appendages of the abdomen are absent except for vestiges that may form parts of the genitalia. The genitalia of both sexes are often complex and bear characteristic spines, teeth, setae, and scale tufts. These structures are important in complex courtships and matings, preventing hybridization between unsuitable males and females. During copulation in males, a median, tubular organ (the aedeagus) is extended through an eversible sheath (vesica) to inseminate the female. The female genitalia exhibit a number of different patterns of the internal ducts and the openings, varying from a condition in which there are no special genital openings, insemination and egg laying taking place through a single aperture, shared with the excretory system, to one in which there are two specialized openings, one for insemination and one for oviposition, both distinct from the anus.

The testes of the male are paired in primitive lepidopterans but fused into a single organ in advanced forms. In both cases, the sperm ducts are paired. As in other insects, the sperm pass from the testes down paired ducts for storage in sacs called seminal vesicles. The female reproductive system consists of paired ovaries, paired accessory glands that provide the yolks and shells of the eggs, and a system of receptacles and ducts for receiving, conducting, and storing sperm. The individual oviducts join to form a common oviduct that leads to the vagina. In copulation, the male deposits a sperm capsule (spermatophore) in a receptacle (bursa copulatrix) of the female. The spermatophore releases the sperm, which swim into the oviduct and thence to the seminal receptacle (bulla seminalis) where they are stored until egg laying, which may be hours, days, or months after mating.

FOOD HABITS: For the family, larval foods include a wide diversity of dicot angiosperms, mainly woody shrubs and trees; a few feed on grasses.

HABITAT: Mixed oak/juniper woodland.

ELEVATION:

PLANT COMMUNITY:

POPULATION TRENDS: Unknown

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS: None

MANAGEMENT FACTORS: Threats to this species include its extremely limited known range. A single event, such as an extensive fire, could eliminate this moth's only known habitat.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Life history, population status, and population range studies need to be performed.

LAND MANAGEMENT/OWNERSHIP: Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

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