

Agrius cingulata (Pink-spotted Hawkmoth)

Order: Lepidoptera (Butterflies and Moths)

Class: Insecta (Insects)

Phylum: Arthropoda (Arthropods)



Fig. 1. Pink-spotted hawkmoth, *Agrius cingulata*.

[<http://mothphotographersgroup.msstate.edu/species.php?hodges=7771>, downloaded 1 April 2015]

TRAITS. Some of the largest moths belong to the family Sphingidae, with wingspans ranging from 2.5cm to almost 25cm (Messenger, 1997). The pink-spotted hawkmoth is medium-sized, with a wingspan of 9.5-12cm. The antennae thicken from the base to the middle then taper off towards the end in a characteristic hook (Crisler, 2013). They have stout bodies that taper to a point (Fig. 1) with the females having thicker heavier, slightly wider bodies (Messenger, 1997). The body and forewings are spotty brown and grey and the hind wings are striped brown-grey and black, with pink bases. The abdomen has 4-5 pink bands on each side separated by black bands (Crisler, 2013). The larva is commonly known as the sweet potato hornworm (BugGuide, 2004) and hatches from nearly spherical eggs approximately 1mm in diameter, which are translucent and have a greenish tint. The first instar caterpillar has a white body with a black

caudal (tail) horn. Later instars may grow to about 9-10 cm and can be green, brown, grey or yellow with dorsolateral black diagonal stripes. The stripes are usually connected to a lateral line of black oval spots where the spiracles (breathing pores) can be found, and the head may be green or brown with three dark stripes on either side (BugGuide, 2004).

DISTRIBUTION. *Agrius cingulata* can be found in the area between Brazil and central USA (Fig. 2), including Trinidad and Tobago. The range usually expands north to Canada and south to Argentina during the respective hemisphere summer months. It is also introduced in Hawaii and Europe (Crisler, 2013).

HABITAT AND ACTIVITY. They may be found in various open habitats including fields, grasslands and gardens. The larvae are ravenous herbivores and are active day and night. The adults are nocturnal and crepuscular (active at night and during twilight and dawn).

FOOD AND FEEDING. The larvae feed on sweet potato, jimson weeds, paw paw and other plants in the *Solanaceae* (potato) and *Convolvulaceae* (morning glory) families. The adults feed usually on deep, sweet-smelling flowers such as jimson weed and morning glory (BugGuide, 2004; Buchman, 2015).

POPULATION ECOLOGY. Temperature is the most important deciding factor of distribution. *Agrius cingulata* tend to prefer warmer temperatures as seen in their distribution between northern Argentina and the central United States inclusive of the Caribbean. It has also been observed that the migratory pattern of the population especially those of Central America and the Caribbean show that the population further north tend to migrate further north for that hemisphere's summer months and the populations further south tend to migrate further south for those summer months. It has also been noted that the spread of this species is very possible because ideal conditions exist in Africa such as temperature and food like sweet potato that is a staple food in many African countries (Ballesteros-Mejia et al., 2011).

REPRODUCTION. The females secrete pheromones from their anal glands at the tip of the abdomen which are picked up by males miles away on their antennae which have special receptors for this purpose causing their antennae to be thicker and is used as a mark of this species sexual dimorphism. The eggs may be laid singly or in pairs or groups and hatch in 2-8 days but usually around 5 days (Messenger, 1997).

REFERENCES

- Ballesteros-Mejia, Liliana, Ian J. Kitching, and Jan Beck. "Projecting the Potential Invasion of the Pink Spotted Hawkmoth (*Agrius Cingulata*) Across Africa." *International Journal of Pest Management* 57 (February 2011): 154-157. doi:10.1080/09670874.2010.546439.
- Buchman, Steve. "Hawk Moths or Sphinx Moths." US Forest Service. Accessed April, 2015. http://www.fs.fed.us/wildflowers/pollinators/pollinator-of-the-month/hawk_moths.shtml.
- BugGuide, 2004. "Species *Agrius Cingulata* - Pink-spotted Hawkmoth - Hodges#7771 - BugGuide.Net." Welcome to BugGuide.Net! Last modified March 30, 2004. <http://bugguide.net/node/view/3084>.
- Crisler, James. "Pink-Spotted Hawkmoth (*Agrius Cingulata*) | Ninnescah Biology Field Station, Kansas." Welcome to Ninnescah Life | Ninnescah Biology Field Station, Kansas. Last modified November 2013. <http://ninnescahlife.wichita.edu/node/711>.
- Messenger, Charlie, "The Sphinx Moths (Lepidoptera: Sphingidae) of Nebraska" (1997). Transactions of the Nebraska Academy of Sciences and Affiliated Societies. Paper 72. <http://digitalcommons.unl.edu/tnas/72>

Author: Oluseyi Todd

Posted online: 2015



Fig. 2. Distribution of *Agrius cingulata* in North America and South America.

[http://eol.org/data_objects/21089715, downloaded 1 April 2015]

For educational use only - copyright of images remains with original source