

## Caterpillars and a food plant of *Hemiceras pallidula* Guenée (Lepidoptera, Notodontidae) in Tobago, West Indies

*Hemiceras pallidula* Guenée is a little-known prominent moth (Lepidoptera, Notodontidae), described from Rio de Janeiro, south-east Brazil, and found south to Argentina and north to Mexico, but absent from the Amazon Basin (Schintlmeister 2022). DNA barcodes (Hebert *et al.* 2003) and barcode index numbers (BINs) (Ratnasingham and Hebert 2013), as used in the Barcode of Life database (BOLD, <https://www.boldsystems.org/>), provide corroboration for discriminating similar species. Material identified as *H. pallidula* appears in at least three BINs in BOLD, so that it appears there may be cryptic species involved under this name. Nevertheless, BIN BOLD:AAA6651 is found from Mexico to Paraguay and based on currently available sequences, is the most likely to be the true *H. pallidula* and the species treated here. *Hemiceras pallidula* was first reported from Tobago by

Cock (2017). Although Schintlmeister (2022) listed it from both Trinidad and Tobago, Cock (2021) was not aware of any specimens from Trinidad in his account of the Notodontidae of Trinidad & Tobago. A. Schintlmeister (pers. comm. 2025) clarified that the only record from Trinidad was a specimen in the National Museum of Natural History, Washington, collected at St. John by D. Hardy and W. Rowe, which he mistook for a Trinidad specimen rather than a Tobago specimen. Hence, there are no confirmed records of this species from Trinidad. Here we report on the caterpillar and food plant Hairy Pois Doux, *Inga oerstediana* Benth. ex Seem. (Fabaceae) from Tobago. *Inga oerstediana* (Fig. 1) is an indigenous species, widespread in South America, that has been confused with the exotic pois doux, *I. edulis* Mart. in Trinidad and Tobago. Thus, in the *Flora of Trinidad and Tobago*, Williams (1931)



Fig. 1. The *Inga oerstediana* foodplant of the first *Hemiceras pallidula* in situ at Mason Hall.



treated this species as *I. edulis*, and listed herbarium records from Plum Road, Trinidad, and 'The Widow', Tobago. These records have been re-identified as *I. oerstediana*, as listed by (Baksh-Comeau *et al.* 2016).

The first author (CM) found a 35 mm long caterpillar on a self-seeded *I. oerstediana* sapling, two metres tall, growing in shade at Mason Hall, Tobago, 11 February 2025 (Fig. 1, [iNaturalist 270491246]), very close to the site of the original Tobago record from The Widow (aka the Widow's Lot). This caterpillar (Fig. 3, [iNaturalist 261357355]) prepared to pupate the following day, but pupation was not observed. The adult moth (Fig. 7, [iNaturalist 263294509]) emerged on 27 February 2025 and was released. On 26 June 2025, a group of 28 small caterpillars were found feeding gregariously on the abaxial surface of a single leaf of a nearby *I. oerstediana*

sapling (Fig. 2, [iNaturalist 292930088]). This group of caterpillars had already skeletonised 2-3 nearby leaves (Fig. 2). Some of the caterpillars were taken into captivity to rear, and by 3 July they measured 33 mm and it was clear that they were the same species (Fig. 4, [iNaturalist 294854454]). From 5 July, the caterpillars started to construct lightly-



**Fig. 3.** Dorsal view, mature caterpillar of *Hemiceras pallidula*, on *Inga oerstediana*, Mason Hall, 11 February 2025 [iNaturalist 261357355]. The white spots along the dorsum are reflections. Scale in mm.



**Fig. 4.** Final instar caterpillars of *Hemiceras pallidula* on *Inga oerstediana*, Tobago, Mason Hall, collected 26 June 2025, photographed 3 July 2025, pupated about 6 July 2025 [iNaturalist 294854454].



**Fig. 2.** Group of medium grown caterpillars of *Hemiceras pallidula* on *Inga oerstediana*, Tobago, Mason Hall, 26 June 2025 [iNaturalist 292930088].



silked pupal chambers between a food plant leaf and the transparent base of the rearing container (Fig. 5, [iNaturalist 295415701]). They started to pupate on 6 July and emerged on or by 22 July. The pupa was plain reddish-brown, with a sparse coating of short, pale, erect setae and was 18 mm long (Fig. 6, [iNaturalist 295754951]).



**Fig. 5.** Prepupa of *Hemiceras pallidula* in silken pupal chamber between *Inga oerstediana* leaf and the base of the rearing container, Tobago, Mason Hall, collected 26 June 2025, photographed 5 July 2025, pupated about 6 July 2025 [iNaturalist 295415701].



**Fig. 6.** Pupa of *Hemiceras pallidula* reared on *Inga oerstediana*, Tobago, Mason Hall, collected as caterpillar 26 June 2025, pupated and photographed 6 July 2025 [iNaturalist 295754951].



**Fig. 7.** Adult male *Hemiceras pallidula* moth reared from caterpillar shown in Fig. 3.

The head of the mature caterpillar is smooth, shiny orange-brown in the dorsal two-thirds and black in the ventral one-third, with an irregular dividing line. The thorax (T) and abdomen (A) are smooth with scattered erect setae, and marked with colourful longitudinal stripes, and dark dorsal spots on A3 and A8. The dorsum is translucent dull green-brown, darker centrally; crossed with a yellow bar before and after the black spot on A3; posterior to the black spot on A8 yellow, with small black markings; anal claspers black posteriorly. A continuous yellow subdorsal line; below this a dark green-brown line, followed by a white line, another dark line, another white line and a yellow lateral line; below this another dark line, another white line, and then the subventral and ventral area is translucent dark with a maroon tint laterally and on the posterior segments. The spiracles are black with a white margin and embedded in the lower margin of the lateral yellow line. True legs black; prolegs maroon.

The younger caterpillars collected on 26 June (Fig. 2) were 12-14 mm long; head shiny orange-brown; thorax and abdomen similar to the mature caterpillar; dorsal black spots on A3 and A8 not bordered with yellow; the dorsolateral line only slightly yellow; details of spiracle, legs and prolegs cannot be made out from the photographs taken.

CM has regularly photographed *H. pallidula* at domestic lights at Mason Hall, so it is no surprise that it is breeding in the area. Janzen and Hallwachs (data in BOLD) reared this species (BOLD:AAA6651) from several species of *Inga* in Costa Rica, but their database with photographs of early stages is off-line so we cannot compare the Tobago caterpillars with theirs. The use of *Inga* spp. as food plants suggests there is no reason why *H. pallidula* should not be present and equally common in Trinidad, yet this is not the case, and this is one of a small number of species of moths found in Tobago, but not in Trinidad.

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