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## *Xylophanes titana* (Druce) (Lepidoptera: Sphingidae) in Trinidad

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## *Xylophanes titana* (Druce) (Lepidoptera: Sphingidae) in Trinidad

*Xylophanes titana* (Druce) was described from Panama, and is reported from Mexico to southern Brazil. Adults can be identified by comparison with Figs. 1-2. The row of pale markings on the hind wing upper surface are pale yellow. Only one other Trinidad sphingid has similar yellow markings: *X. tersa tersa* (Drury), which is a common species found throughout the island in disturbed situations. However, the upper surface of the forewings and body of *X. tersa* is more uniformly brown, and in particular it (and other similar species not found in Trinidad) lacks the pair of white dorsal lines on the abdomen which can be clearly seen in Fig. 1. *Xylophanes tersa* occurs as far north as the southern USA, and there are many pictures of adults and caterpillars available on the internet.



Fig. 1. Male *Xylophanes titana*, collected at light, Morne Bleu Textel Installation, 29.ix.1978, upperside.



Fig. 2. Underside of specimen illustrated in Fig. 1.

In the normal resting position of the living moth (Fig. 3), the yellow hindwings are not visible, and the double dorsal line on the abdomen will distinguish *X. titana* from

other *Xylophanes* spp. found in Trinidad.

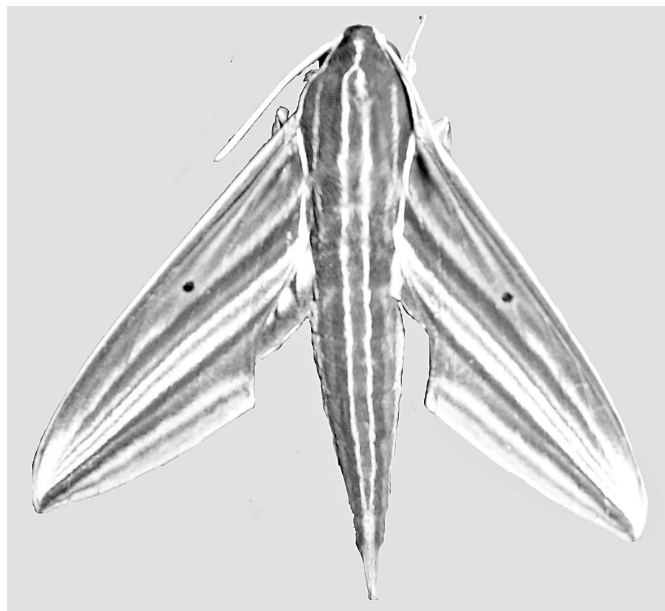


Fig. 3. Adult *X. titana* in normal resting position, Simla, vi.2006 (Photo: M. Botham).

*Xylophanes titana* was first recorded from Trinidad by Stradling *et al.* (1983), who recorded one male from 3,767 trap-nights using mercury vapour light moth traps in the St. Augustine area, in the period 1969-1977. In contrast, they report six specimens from 20 trap-nights at Simla, Arima Valley. Since then I have found it to be an occasional species, males coming to light in the Northern Range (Arima-Blanchisseuse Road, milestone 9  $\frac{3}{4}$ ; Morne Bleu Textel; North Coast Road, Carisal Trace) and have seen up to five specimens in one evening. I have no records from central or southern Trinidad.

In addition to the localities reported above, I have one record from Morne Catharine, based upon a final instar caterpillar that I collected 21.i.1980 on a vine, *Endlichera umbellata* (Rubiaceae), which was identified for me at the time by Dr. C. D. Adams of the National Herbarium. Williams & Cheesman (1928) state that *E. umbellata* is "general in the northern part of Trinidad." If *X. titana* were restricted to this food plant in Trinidad, this would explain its apparent absence from central and southern Trinidad.

The caterpillar pupated 19 days after collection on 9.ii.1980. Pupation was in a flimsy, loose, silken cocoon amongst leaves and soil at the bottom of the rearing

container. I did not record the date of adult emergence, although pupation did not last long, maybe 2-3 weeks.

Thoracic segments 1 (3 mm long) and 2 (5 mm long) are retractable within the following segments (Fig. 4). Sometimes the caterpillar will swing the front part of the body to one side (Fig. 5), appearing to emphasise the eye markings on segments T3-A1, and the resemblance to a snake, i.e. an apparent threat to potential predators.

### Description of the Final Instar Caterpillar

The mature caterpillar measured 55 mm at rest (Fig. 4) and 70 mm when extended (Fig. 6). Head rounded, 5 mm width; brown with a lighter brown triangle pointing down each half of the epicranium. T1-A1 with a thin black dorsal line, within a dorsal area that is brown-orange mottled with yellow; this area is separated by a thin dull yellow dorso-lateral line from the dark chestnut lateral area. A pair of false eyes protrude on segments T3-A1 (Figs. 4-6) in the line of the dull yellow dorso-lateral line; the central area of each eye is black with a white arc below this and a yellow arc dorsally, and narrowly black around the circumference. A2-8 with a thin dull orange dorsal line; dorsally with eight dark, speckled bands on each segment on a dull orange background; a slightly brighter orange diamond-shape dorsally in the middle of each segment; a narrow white dorso-lateral line continues from the dull yellow dorso-lateral line on segments T1-A1; below this a pale diagonal stripe on each segment, starting at the dorso-lateral stripe on the posterior margin of each segment and descending into the posterior portion of the anterior segment. On segment A8 the white diagonal lines run posteriorly to the caudal horn, and the dorsal area between the two lines is darker. The horn is dark, short, 5 mm, and droops strongly downwards. Posterior to the horn reddish-brown with a darker dorsal line. The dark spiracles are just below the diagonal line, surrounded by a paler area. Legs and prolegs dark.



Fig. 4. Fifth instar *Xylophanes titana* caterpillar, lateral view, normal resting position.



Fig. 5. Fifth instar *Xylophanes titana* caterpillar, dorsal view, possible false threat position.



Fig. 6. Fifth instar *Xylophanes titana* caterpillar, lateral view, possible false threat position (the background has been edited out to make the posture clear).

### Description of the Pupa

45 mm long, 10 mm at the widest, at the end of the wing cases (Figs. 7 and 8). Proboscis sheath attached to pupa, but the anterior part on the head shows a strong bulge. Cremaster thin, 4 mm long, black. Colour pale creamy brown with black speckles; a strong black dorsal line, and the spiracles and area immediately around them forming a prominent black spot; there is a thin black line across the anterior margin of the eye and the antennae.



Fig. 7. Emerged pupa of *Xylophanes titana*, lateral view.



Fig. 8. Emerged pupa of *Xylophanes titana*, dorso-lateral view.

Moss (1912) reared this species once from two caterpillars collected in eastern Peru, and illustrated one caterpillar. The food plant was an unidentified vine, which he believed to be related to *Spermacoce*, i.e. a species of Rubiaceae. The illustration and description of the caterpillar and pupa match that reported here, i.e. the caterpillar was predominantly brown-orange, except that Moss describes the eye-spots as “light-ringed grey eye-spots”.

Janzen and Wallwachs (2007) database of caterpillar rearing in northwest Costa Rica lists eight rearing records of *X. titana*, all from *Manettia reclinata*, another Rubiaceae vine. The database includes excellent photographs of caterpillars, pupae and adults of *X. titana* from Costa Rica. In contrast to my observations and those of Moss (1912), the caterpillars illustrated from Costa Rica, although very similar in form and markings, are green – dull green laterally, brighter dorsally and yellow-green

dorsally on segments T1-A1. Different colour morphs of Sphingidae caterpillars, particularly green and brown ones, are well known, but it is curious that in this case the three caterpillars from South America (two found by Moss and the one reported here) are of a brown-orange form, while all the caterpillars from Costa Rica are of a green form. The possibility of local races, or even sibling species merits evaluation.

I thank Marc Botham for letting me use his photo in Fig. 3.

## REFERENCES

- Moss, A. M.** 1912. On the Sphingidae of Peru. *Transactions of the Zoological Society of London*, 20: 73-135.
- Janzen, D. H.** and **Hallwachs, W.** 2007. Dynamic database for an inventory of the macrocaterpillar fauna and its food plants and parasitoids of Area de Conservacion Guanacaste (ACG), northwestern Costa Rica. <http://janzen.sas.upenn.edu>. (Last accessed 4.1.2007).
- Stradling, D. J., Legg, C. J.** and **Bennett, F. D.** 1983. Observations on the Sphingidae (Lepidoptera) of Trinidad. *Bulletin of Entomological Research*, 73: 201-232.
- Williams, R. O.** and **Cheesman, E. E.** 1928. Rubiales. *Flora of Trinidad and Tobago* 2(1): 1-48.

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