

## Scientific Note: Biological notes on *Utetheisa pulchelloides* (Erebidae) in Tuamotu, French Polynesia

André Victor Lucci Freitas

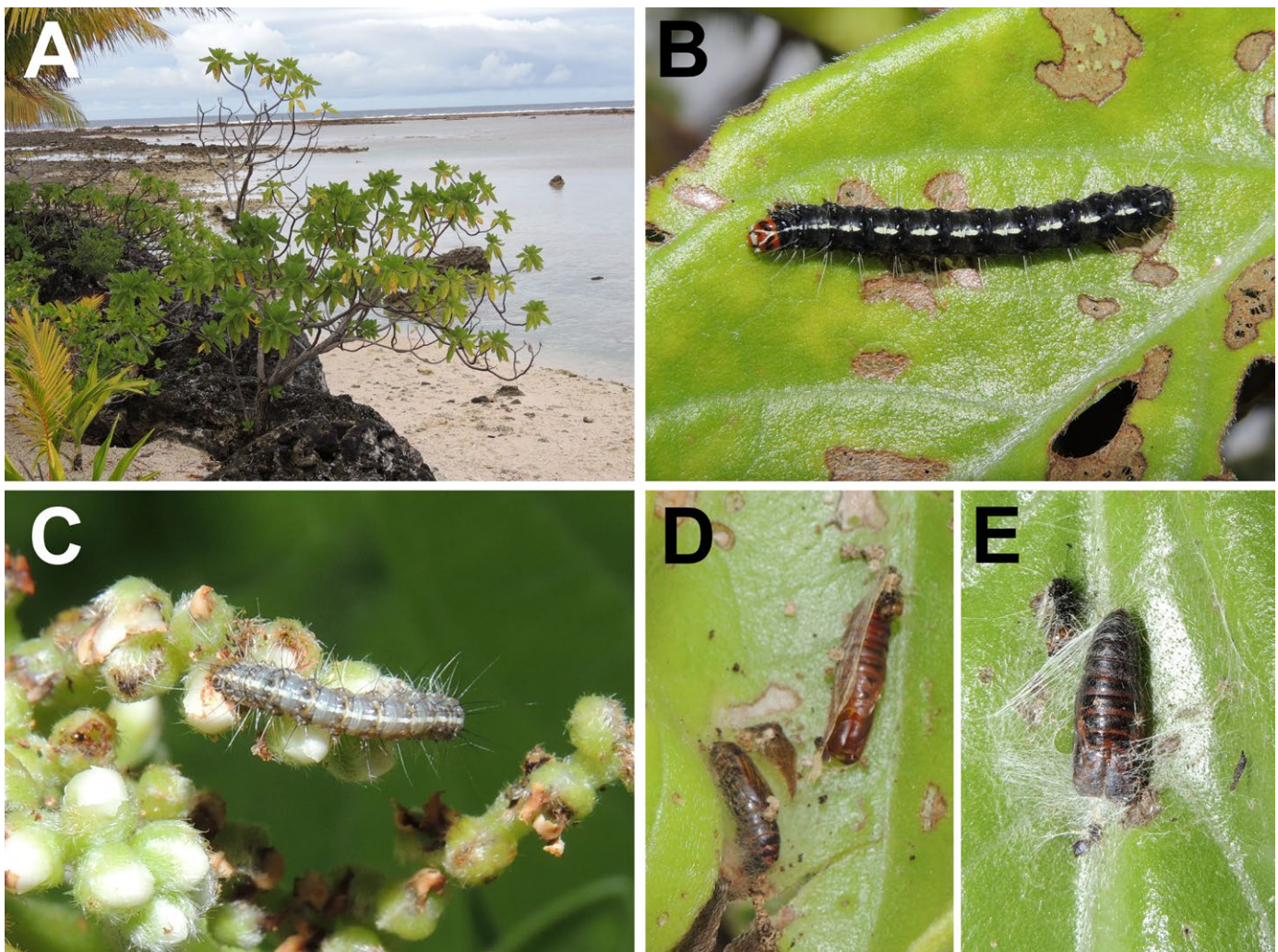
Departamento de Biologia Animal and Museu de Zoologia, Instituto de Biologia, Universidade Estadual de Campinas, CEP 13083-862, Campinas, São Paulo, Brazil, email: baku@unicamp.br

**Key words:** Boraginaceae, *Heliotropium*, moth, tiger moth

The genus *Utetheisa* s. str. comprises about 20 species of usually colorful diurnal moths occurring worldwide, including small oceanic islands and atolls (DaCosta, 2010; Roque-Albelo & Landry, 2009). Among these, *Utetheisa pulchelloides* Hampson, 1907 is a common species occurring on several islands of the Indian Ocean, Indo-Australian and Pacific tropics, Australia, New Caledonia, Norfolk and New Zealand (Holloway, 1977). The immature stages and host-plants of the species are well known, although no detailed description of

early stages have been provided so far (Harding, 1976, but see Comstock, 1966).

Field observations were made from July 12-14, 2013 in the Pearl Beach Resort motu in Tikehau Atol, Tuamotu Archipelago, French Polynesia (15°6'25"S 148°11'57"W), a small reef islet (150 m wide and 300 m long) near Tuherahera village. Larvae of *Utetheisa pulchelloides* were observed feeding on *Heliotropium foertherianum* Diane & Hilger (Boraginaceae) (= *Argusia argentea* (L. f.) Heine), a common shrub growing



**Figure 1.** Natural history of *Utetheisa pulchelloides* in Tikehau atoll, Tuamotu Archipelago, French Polynesia. **A.** General view of a *Heliotropium foertherianum* shrub growing near the sea. Later instars feeding on leaves (**B**) and on flower buds (**C**) of its host plant. A pupa (**D**) and two empty pupal cases (**D**, **E**) attached to leaves of the host plant.

from just above the high tide line (Fig. 1a). This host plant is also known to be used by other species of *Utetheisa* in the Indo-Pacific region (Robinson, 1971; Robinson & Robinson, 1974). After an intensive search, immature stages of *U. pulchelloides* were found in most of the searched shrubs (30 out of 45 shrubs) in the northwest side of the motu (they were apparently rare or absent in other groups of plants searched in the north and west sides of the islet). Immature stages (larvae and pupae) were most commonly found on shaded leaves from 40 cm to 2 m above ground (shaded leaves were also preferred by larvae in a more detailed study in Australia (Lowman, 1984)). In some plants, up to 30 larvae could be found feeding on leaves, flowers and flower buds (Fig. 1b, c). High abundances of larvae of *U. pulchelloides* have been previously recorded on small islands in Australia (Lowman, 1984). Small larvae (< 7 mm) were observed grazing on the under surface of leaves while larger larvae consumed the entire leaf producing holes in the limb (Fig. 1b). Pupae were observed attached by silk beds inside leaf shelters made by partially bent green leaves (n = 34) (Fig. 1d, e) (see also Harding, 1976). Although some species of *Utetheisa* are known to pupate among fallen leaves on the soil surface (Pande, 1972), pupating on plant leaves far from the soil is apparently common in the few reared species of *Utetheisa* (Tella, 1955; Pande, 1972). This behavior would be advantageous for species such as *U. pulchelloides* that breed near the sea and on oceanic islands, where high tides could easily kill pupae on the ground.

Adults were also locally abundant; 10 to 30 individuals could be recorded flying during a walk in a linear transect of 30 m near the hostplants. It would be interesting to investigate why the immature stages of *U. pulchelloides* are common on some clusters of plants while being virtually absent on other nearby bushes. Although Lowman (2013) presented some hypotheses, this subject is far from being understood. Finding out which factors explain the small-scale spatial distribution of this species may be an important step for a better understanding of its success in colonization of oceanic islands.

#### ACKNOWLEDGMENTS

To my wife Graziela C. Chagas for making my dreams of visiting French Polynesia come true. To Rodrigo Cogni and Andrei Sourakov for reading the final version of the manuscript. I also thank the Brazilian CNPq (grant 303834/2015-3) and FAPESP (grants 2011/50225-3). This publication is part of the RedeLep (Rede Nacional de Pesquisa e Conservação de Lepidópteros) SISBIOTA-Brasil/CNPq (563332/2010-7).

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