

## **The Fruit-Feeding Butterfly *Pareuptychia ocirrhoe* (Nymphalidae: Satyrinae) Feeding on Extrafloral Nectaries**

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THE FRUIT-FEEDING BUTTERFLY *PAREUPTYCHIA OCIRRHAE* (NYMPHALIDAE: SATYRINAE)  
FEEDING ON EXTRAFLORAL NECTARIES**Additional key words:** Neotropical region, opportunistic behavior, sandy forest, Euphorbiaceae

Tropical butterflies can be divided in two feeding guilds: nectar-feeders and fruit-feeders. Nectar-feeding species gather most of their nutritional requirements from flower nectar, while fruit-feeding butterflies feed on rotting fruits, feces, tree sap and some other decaying organic matter (Young 1975, DeVries 1987). In the Neotropics, fruit-feeding butterflies include members of the subfamilies Biblidinae, Charaxinae, Satyrinae (tribes Satyrini, Brassolini and Morphini) and Nymphalinae (tribe Coeini). Due to their attraction to rotting fruits, these butterflies are easily sampled with bait traps (Shuey 1997), and have been extensively used as models to assess levels of anthropogenic disturbance to the environment (e.g. Ribeiro et al. 2008; 2012, Bonebrake et al. 2010).

The fruit-feeding habit evolved several times in nymphalid butterflies probably as an escape route from periods of low flower abundance (Krenn et al. 2001). Most species have a proboscis adapted to suck fluids from moist surfaces, which is morphologically different from that of nectar-feeding butterflies (Krenn 2010).

On 24 July 2011, in a sandy forest vegetation (“restinga”) of Ubatuba (São Paulo State, SE Brazil), an individual of *Pareuptychia ocirrhoe* (Fabricius, 1776) (Satyrinae: Satyrini) was observed at 1338 h feeding on extrafloral nectaries (EFNs)—nectary glands not directly related to pollination (see Koptur 1992)—of a passion vine (Passifloraceae) at the edge of a trail of the sandy forest (Fig. 1A).

The butterfly was flying 40–50 cm above ground along the trail, moving from one edge to the other, sometimes landing on the vegetation. At some point it started to flutter around the plants for a few seconds before landing on a leaf of the liana. Then it moved toward the petiole and started to feed on the EFNs (Fig. 1B). This behavior was repeated a few times and each time it fed for a few seconds before flying off the plant. When disturbed the butterfly flew to higher foliage along the trail, returning to the liana after a few minutes.

Feeding on EFNs by adult butterflies is commonly observed in specialized ant-tended lineages of Lycaenidae and Riodinidae, but is rare in other families

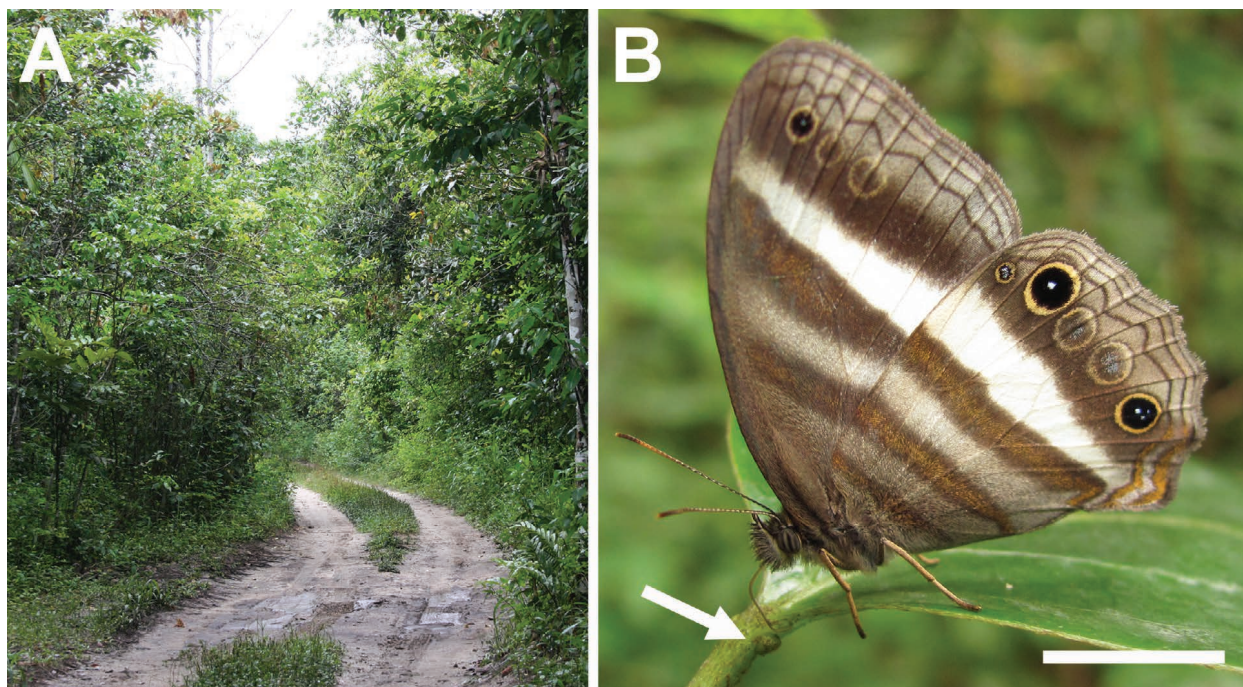


FIG. 1. **A** – Trail along the sandy forest where the *Pareuptychia ocirrhoe* was observed (Ubatuba, state of São Paulo, southeastern Brazil); **B** – Feeding by *Pareuptychia ocirrhoe* on the extrafloral nectary (arrow) of a Passifloraceae plant. Scale bar = 8mm.

(Vila & Eastwood 2006). Thus it appears that feeding on EFNs by *P. ocirrhoe* is an opportunistic behavior.

Fruit-feeding butterflies are usually attracted to the volatiles produced by the fermentation process of their food sources, which differs from nectar-feeding butterflies that are attracted mainly by color displays (Sourakov et al. 2012). So the opportunistic behavior showed by *P. ocirrhoe* is possibly related to volatiles released by sugar fermentation around the gland.

This behavioral record of *P. ocirrhoe* is important because it shows that fruit-feeding butterflies are able to explore alternative food sources. This opportunistic behavior could be especially important in periods when their natural food sources are scarce.

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