

## GUATEMALA MOTH NOTES, 2. A NEW *NEOPOSTEGA* FROM GUATEMALA (LEPIDOPTERA: OPOSTEGIDAE)

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**ABSTRACT.**— The new species, *Neopostega nigrita* n. sp., is described from Guatemala.

**KEY WORDS:** Central America, distribution, *Neopostega nigrita* n. sp., Neotropical, taxonomy.

The family Opostegidae was recently monographed for the New World by Davis and Stonis (2007), treating 91 species. Following this work and that of several other works for other faunas of the world in recent years, the world fauna now includes 196 spp., but it can be estimated that the world fauna will total many more when other tropical regions are fully surveyed and studied for these tiny eye-cap moths (Davis and Stoner, 2007; Heppner, 1991, 1998).

No species of Opostegidae have been recorded for Guatemala until now. The present new species adds the first verified opostegid for Guatemala. However, some of the southern Mexican, Belize, and Costa Rican species should also occur there. The new species is interesting also inasmuch as it seems most related by genital characters of the male to *Neopostega asymmetra* Davis & Stonis, which is known thus far only from southern coastal Brazil.

The present new species is one of the few dark species known in the family, most being almost entirely white in wing maculation, and the only dark species thus far known in *Neopostega*. The dark body color of this species may be an adaptation for a more diurnal habit, as was suggested by Davis and Stonis (2007) for the early spring flying Chilean species, *Notiopostega atrata* Davis. The wing coloration is most similar to the Chilean species, *Notiopostega atrata* Davis, in possessing dark fuscous wings, with bluish to purplish iridescence (Fig. 1). The new species was collected from Malaise flight trap samples from the Guatemala-FSCA Lepidoptera Survey, suggesting a diurnal habit for the species.

The dark color of both species may be an advantage in cooler, temperate forests, such as the Valdivian forests of southern Chile, or in higher altitude oak forests in Guatemala where the new species was collected. Melanic individuals of *Pseudopostega cretea* (Meyrick) have also been reported but only from the northern limits of its broad range (Davis and Stonis, 2007). It is not known if the single dark specimen of *Pseudopostega fumida* Davis & Stonis, from lowland tropical forests, represents a melanic individual or the normal form.

The genus *Neopostega* was only recently described in the Davis and Stonis (2007) monograph, thus adding further interest to the new discovery in Guatemala. The other five species known in the genus are from Brazil (2 sp.), Venezuela (1 sp.), and Costa Rica (2



Fig. 1. *Neopostega nigrita*, adult male (Holotype).

sp.). One of the Brazilian species also occurs in Costa Rica, thus making the present new species and its relationship to a Brazilian species not that unusual but mainly a lack of adequate collecting records. The three species of *Neopostega* that occur in Costa Rica may likely also be found in Guatemala with further sampling. Since the surveys of 1878-1912 for the Biologia-Centrali Americana project, few collections of moths have been made in Guatemala until recently.

The specimens of the new species are all males. However, inasmuch as the family has just been monographed and the moth clearly is a new species, it is of interest to describe it. Hopefully, further specimens and the female can be found by future collecting in Guatemala.

### *Neopostega nigrita* Heppner & Davis, new species

Wingspan (n = 14): 8.7 - 10.2mm.

**Head:** lustrous purplish-black with tan between antennae and on frons; labial and maxillary palpi tan; antenna dark fuscous (about 4/5 FW length); antennal scape subequal to head width, tan with silvery distal 1/3. **Thorax:** lustrous purplish-black; tegula same; thorax venter and leg coxae tan, as also lower leg areas; rest of legs dark fuscous. **Forewing:** uniformly lustrous purplish-black to dark fuscous; venter same but duller. **Hindwing:** uniformly lustrous fuscous; venter same but duller.

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Fig. 2-4. Head morphology and coloration of *Neopostega nigrita*, showing front views with eyecaps down (2) and up (3), as well as dorsal view of head and eyecaps (4).

*Abdomen*: dark lustrous fuscous. *Male genitalia*: strongly quadrate in overall shape, with enlarged vinculum; uncus a short U-shaped fork; socius not evident; gnathos a setose, bent, tube-like elongation, supported by lateral extensions recurved ventrally from the uncus base; valva complex, short, about 2/3 length of genital capsule; valval base deeply divided into slender costal process and slightly longer, more acute basal process; saccular lobe with a slender, subacute, setose apex; cucullar lobe reduced, semicircular, with a marginal pectinifer possessing 32 spines; aedeagus short, straight, with a short curved spine and a larger strongly recurved spine. *Female*: unknown.

*Holotype* (male).- Guatemala: Purulha-Samana Rd., 3 km SW Purulha, Baja Verapaz, 12 Jun 2007, 1700m, J. B. Heppner and B. Sutton (flight trap) (male genitalia slide JBH 2567). *Holotype* is deposited with the Univ. del Valle, Guatemala City (on indefinite loan to the FSCA, Gainesville, FL).

*Paratypes* (n = 13).- Guatemala: same data as holotype, 13 m (FSCA). *Paratypes* to USNM, BMNH (London, England), and Zoologisches Museum (Berlin, Germany).

*Etymology*.- Named for the dark blackish wing maculation.

*Discussion*.- The present new species occurs in an oak forest habitat at about 1700m elevation, not far from the town of Purulha, along the Purulha to Samana road (dirt) where it passes through remnant portions of mature oak forest. This site is on the east slope of the same mountain area that includes the Biotop Quetzal Reserve but is much drier than the latter forest area. The oak forest habitat (Fig. 6) contains considerable numbers of epiphytes and is relatively moist, but still drier than the wet cloud forest by the Quetzal Reserve. Thus far, June is the only month the adults are known to fly and in 2007 this was still rather dry inasmuch as the rainy season was late. Only males were obtained and it is possible these were part of a male lekking assemblage, but it is not known if any females were about and did not come into the trap or if females were still emerging.

This new species has genital characters remarkably similar to the Brazilian *N. asymmetra*, as already noted. One character that is very different in *N. nigrita* is the symmetrical juxta below the gnathos, which are asymmetrical in *N. asymmetra*. The wing color, however, is most unusual in being nearly black, rather than mostly white as is usual in most opostegids.

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Fig. 5. *Neopostega nigrita*, male genitalia (inset of aedeagus).

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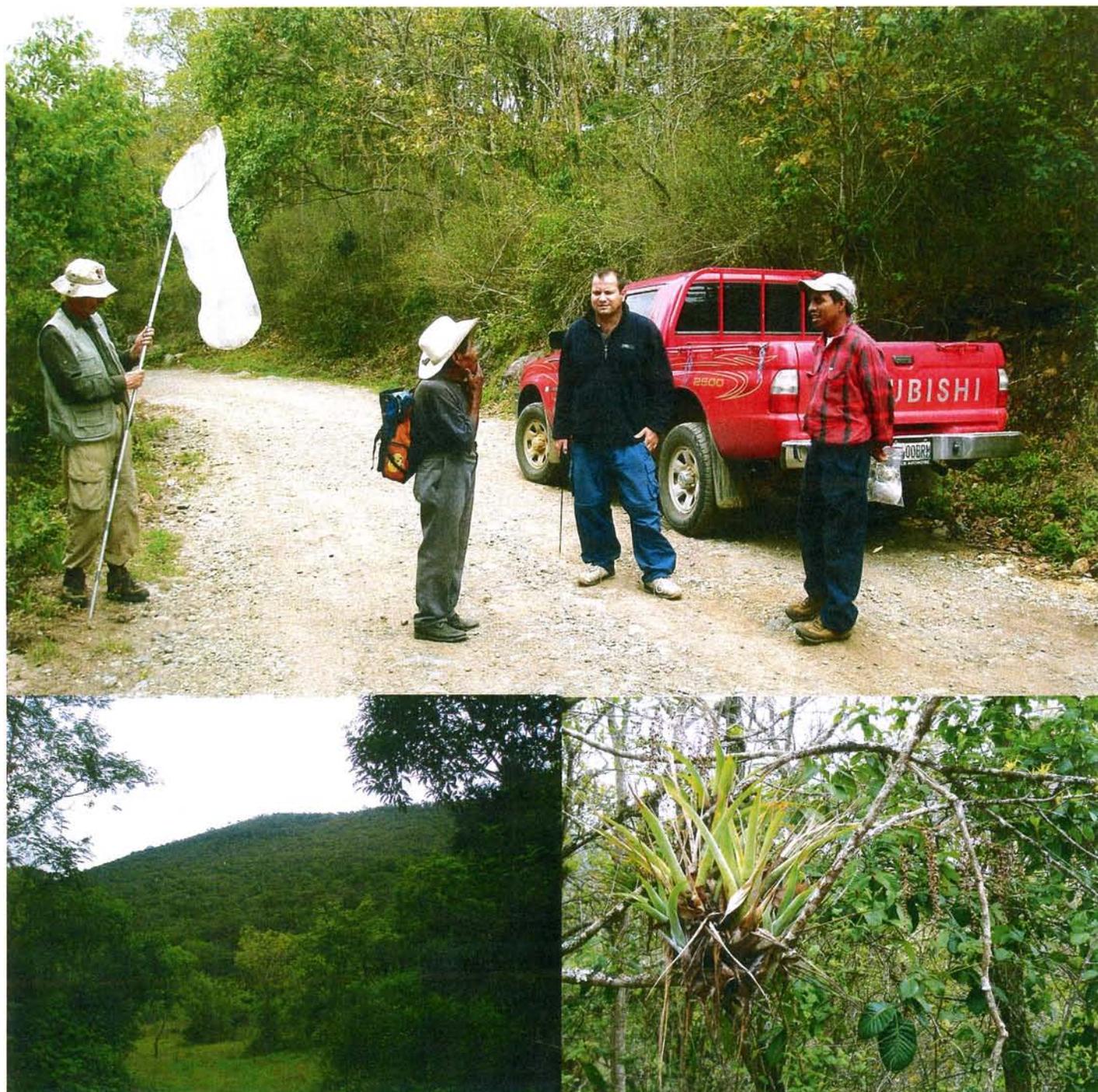


Fig. 6. View of the general habitat of *Neopostega nigrita*, at the Purulha-Samana Road oak forest, Jun 2007, ca. 1700m elevation, where the flight trap was located (left to right are John Bedford, a local Purulha resident, José Monzón, and assistant Faustino Camposeco), with inset of typical bromeliad in the trees (below right), and view of nearby hill forest (below left) in wetter season (Sep 2008).