

GOLD MOTHS OF THE SOUTHWESTERN UNITED STATES AND NORTHERN MEXICO (LEPIDOPTERA: NOCTUIDAE)

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ABSTRACT.— Species of the noctuid moths in the genus *Neumoegenia*, subfamily Amphipyriinae (tribe Amphipyriini), from the southwestern United States and adjacent areas of northern Mexico, have large patches of brilliant iridescent gold or gold-green on their forewings. Some species of these "gold" moths, as well as those in a similar genus, *Chalcopasta* (tribe Stiriini), are discussed and illustrated.

KEY WORDS: Amphipyriinae, Amphipyriini, *Basilodes*, California, *Chalcopasta*, Chihuahua, Guerrero, Nearctic, *Neumoegenia*, New Mexico, North America, Plusiinae, Puebla, Sonora, Stiriini, systematics, Tabasco, Texas.

Although brilliantly colored, and at times common in southern Arizona and neighboring regions, the "gold" moths of the American Southwest and Mexico (especially the genus *Neumoegenia*) are not well known. They have not been illustrated or written about since 1910, except for species of *Chalcopasta* discussed by Hogue (1963). Their biologies remain unknown.

NEUMOEGENIA Grote

The noctuid genus *Neumoegenia* was described by Grote (1882a) for a new species discovered in southeastern Arizona with brilliantly shining golden forewings, *Neumoegenia poetica* Grote; further details on the species were briefly noted in a subsequent paper (Grote, 1882b). Later, two additional species were described: *N. coronides* (Druce, 1889) and *N. albavena* (Ottolengui, 1898), plus names now considered synonyms. *Neumoegenia* is now placed in the tribe Amphipyriini (Poole, 1989).

Ottolengui (1898) illustrated all the species of *Neumoegenia*, although using names now considered synonyms except for one, but his illustrations show these moths to have the forewings more shining metallic-like green than golden in color. His new species, *Kallitrichia sagittalba* Ottolengui (1898) he described as metallic green in color, yet is now considered a synonym of *N. poetica* Grote. These species have shades of metallic coloration and, depending on light angles, can appear greenish to golden in color. The usual form of *N. poetica* in particular, however, is the golden colored form which is illustrated herein (Fig. 1-2). Holland (1903) also illustrated *N. poetica* but only as a line drawing. Druce (1889) illustrated two of the species: *N. coronides* and *N. poetica* (under a different name). Hampson (1910) also illustrated *N. poetica* in his large catalog series on Noctuidae, but again as a line drawing.

The three known *Neumoegenia* species all occur in southeast Arizona, being an arid habitat extending north from neighboring areas of Sonora and Chihuahua, Mexico. The species undoubtedly also occur in extreme southwestern New Mexico, possibly also western Texas. Due to lack of adequate collecting, actual records for northern Mexico are lacking, but the type series of some of the named species are from southern Mexico (Guerrero and Tabasco). The original descriptions of the northern species only note "Arizona"

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Fig. 1-2. Adults of *Neumoegenia poetica*: 1) male; 2) female (FSCA).

as type localities, however, *N. poetica* is common at times in such places in southeast Arizona as Ash Canyon, in the Huachuca Mts. (Cochise Co.), and Ramsey Canyon, in the Santa Rita Mts. (Pima Co.), in mid-July.

CHALCOPASTA Hampson

Other golden moths are in the tribe Stiriini, in the genus *Chalcopasta* Hampson (1908) (species often previously placed in *Basilodes*). Although the gold pattern in some of the included species are more like some of the Plusiinae with gold patches, and not as broadly golden as in *Neumoegenia* species, many also have very golden

forewings. *Chalcopasta* now has 10 valid species, with about an equal number of named synonyms (Poole, 1989). These species are mostly from Mexico (Sonora to Puebla and Guerrero), but 3 species were described from Arizona and one from the deserts of southeastern California (one named synonym is from New Mexico). Perhaps the most common species, occurring in Texas as well, is *Chalcopasta howardi* (H. Edwards) (Fig. 3), originally described as a plusiine species but having the broad golden area as in *Neumoegenia* species. Like *Neumoegenia*, biologies of *Chalcopasta* species are unknown (Hogue, 1963).

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Fig. 3. *Chalcopasta howardi* (FSCA).