

A record of a micro-moth pest, the Teak Defoliator, *Hyblaea puera* (Cramer, 1777), apparently new to the Gulf Region (Lepidoptera: Hyblaeidae)

by Michael P.T. Gillett

Three specimens of an unknown diurnal moth were captured in Wadi Musah, northern Oman, in September 1997 whilst collecting butterflies. The moths were flying around mature bushes of *Vitex agnus-castus* and visiting their bright blue flowers, which were also attracting a variety of butterflies, including Lime (*Papilio demoleus demoleus*), African Emigrant (*Catopsilia florella*), Desert White (*Pontia glaucoma*), Salmon Arab (*Madais fausta*), Pea Blue (*Lampides boeticus*), Mediterranean Pierrot (*Tarucus rosaceus*), Small Cupid (*Chilades parrhasius*), Blue Pansy (*Junonia orithya here*), Plain Tiger (*Danaus chrysippus chrysippus*), Painted Lady (*Vanessa cardui cardui*) and Millet Skipper (*Pelopidas thrax thrax*).

On examination, the moths were found to be stout-bodied with a wingspan of 3.5 – 4.0 cm. The dark forewings were indistinctly marked in shades of chocolate brown and grey and the hindwings were black with two irregular and variable bands of bright orange-yellow (Figure 1). Superficially, the moths resembled members of the large macro-moth family Noctuidae (owlet moths), particularly those of the subfamily Catocalinae, many of which have brightly contrasting underwings coloured black and red, yellow or orange. However, besides not matching any known catocaline moth from the region, the shape of the wings and other features did not look quite right for the Noctuidae and suggested that the moths probably belonged to one of the lesser known families of micro-moths despite their relatively large size.

The specimens remained unidentified until December 2004, when quite by chance an illustration of an Australian moth, *Hyblaea sanguinea*, was seen in an encyclopedia dealing with the biology of the Lepidoptera (Sbordoni and Forestiero, 1985). The illustration was of a moth that was clearly similar to the Omani specimens in wing shape, general colouration and pattern of markings. Further study of the encyclopedia and an internet search yielded information that the genus *Hyblaea* contains only a few species and is the only genus making up the family Hyblaeidae. The systematic position of this family is uncertain and at times, it has been placed in various superfamilies including Noctuoidea (indicating a supposed relationship with Noctuidae) and in the micro-moth superfamily Yponomeutoidea (underscoring a possible link with the clearwing moths, family Sesiidae). Currently, it is retained in the micro-moths, but is included in the Pyraloidea. However, its relationship to the Pyralidae and other families of this superfamily remains unclear. Comparison of the Wadi Musah moths with illustrations of material displayed on the internet indicate convincingly that they are examples of *H. puera* (Cramer, 1777), a rather well known pest species, but one whose geographical origin is now obscured (Schneider, 1999). The larvae of this moth feed on the leaves of the teak tree,



Figure 1. Habitus of the Teak Defoliator moth *Hyblaea puera* from Wadi Musah, Oman. The top specimen is a female with a male of slightly smaller size shown below. (Photograph by Ashok Prasad, Department of Medical Education, FMHS, UAE University).

Tectona grandis, hence the commonly applied name of Teak Defoliator moth. Possibly originating in Java, this moth is now distributed throughout the tropical and subtropical regions of the world, including Australia, the Indian Sub-continent, Africa and the Americas, including the Antilles (see Note) (Barnes, 2002; CSIRO Entomology, 2004; Peres-Filho *et al.*, 2002).

The larval food is not confined to the leaves of the teak tree since other members of the family Verbenaceae are also eaten, including *Vitex* spp. In the United Arab Emirates and northern Oman, *Vitex agnus-castus* is commonly planted in towns and gardens and has become naturalised in wadis in the Hajar Mountains, possibly as a result of its long-established use as a medicinal plant. Another possible food-plant from this family is *Clerodendrum inerme*, a common hedging plant in the region. Other recorded food-plants for *H. puera* (Herbison-Evans and Common, 2004) are the genera *Bigonia*, *Catalapa*, *Spathodea* and *Millingtonia* (Bigoniaceae) and the Grey Mangrove, *Avicennia marina* (Avicenniaceae), which is locally common along the coasts of the UAE and Oman.

Given the widespread occurrence of the Teak Defoliator and the availability of at least two suitable larval food-plants in the Gulf Region, the moth's presence there should perhaps come as no surprise. However, it does not seem to have been previously recorded from the region and its apparently isolated occurrence to date only in Wadi Musah seems to pose something of a mystery. It has not been recorded since 1997 in Wadi Musah and, therefore, any further records of its occurrence in the Gulf Region, whether from Hajar Mountain localities, towns with planted *Vitex agnus-castus* or from the vicinity of coastal mangrove areas would be of great interest. Potentially this species, if permanently established in the region, could inflict significant damage both on mangroves and on selected landscaping plants.

In summary, the discovery of *H. puera* in northern Oman represents not only a new species record for the Gulf Region, albeit a potentially pestiferous one, but also a newly recorded family for the area for the Lepidoptera. Altogether over 20 families and nearly 300 species of butterflies and moths are now known from the UAE and northern Oman, making the Lepidoptera indisputably the best-known major order of insects in the region. However, in particular the micro-moths of the region still remain poorly collected and little studied and much more work will be required before even a reasonably complete account of the lepidopterous fauna of this important region can be accomplished.

Note: Whilst working on this account of *H. puera*, I took two examples of the moth at light on Saba island, Netherlands Antilles, during November 2006.

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