

RESEARCH NOTES

New Lymantriidae Record for Peninsular Malaysia: *Toxoproctis hemibathes* (Swinhoe)

(Rekod Baru Lymantriidae untuk Semenanjung Malaysia: *Toxoproctis hemibathes* (Swinhoe))

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ABSTRACT

*This paper reports on a new record of the itch moth from the family Lymantriidae, Toxoproctis hemibathes (Swinhoe), for Peninsular Malaysia. The islands of Sumatera and Borneo are known to be within the geographical range of Lymantriidae, their habitat preference being the wetland and coastal forests. Our study showed that this species can also erupt in large numbers in specific locations in the southern parts of Peninsular Malaysia and thus, our finding is considered a new record for T. hemibathes (Swinhoe). This specimens were collected using portable ultra violet (UV) light trap during a population outbreak of this species in the Labis District of Johore.*

*Keywords: Itch moth; geographical range; lowland forests; Lymantriidae; specimen*

ABSTRAK

*Laporan ini merupakan rekod baru tentang rama-rama yang menyebabkan kegatalan daripada famili Lymantriidae, Toxoproctis hemibathes (Swinhoe), di Semenanjung Malaysia. Kepulauan Sumatera dan Borneo diketahui berada dalam lingkungan geografi rama-rama ini, habitat pilihannya ialah kawasan yang lembap dan hutan pantai. Kajian kami menunjukkan bahawa spesies ini boleh meledak dalam jumlah yang besar di lokasi tertentu di bahagian selatan Semenanjung Malaysia dan dengan demikian, ia merupakan rekod baru untuk T. hemibathes (Swinhoe). Spesimen telah dikumpul dengan menggunakan perangkap cahaya ultra violet (UV) mudah alih ketika ledakan populasi spesies ini berlaku di Mukim Labis Johor.*

*Kata kunci: Hutan tanah rendah; lingkungan geografi; Lymantriidae; rama-rama penyebab kegatalan; spesimen*

INTRODUCTION

*Toxoproctis hemibathes* (Swinhoe) 1999, (Heterocera: Lymantriidae) moths from the genus *Toxoproctis* have a very uniform male genitalia characteristics. The genus is named in memory of L.J. Toxopeus, who led the third American-Dutch expedition to the interior of Dutch New Guinea in 1938 and 1939, mainly for entomological collection, most of which is now kept in the National History Museum (Naturalis) in Leiden (RMNH). However, the name could also possibly reflect the dermal irritation inflicted by the larvae and adults upon contact with the human skin. The biogeographic distribution pattern of this genus is intermediate, occurring in Sundaland and Sulawesi, Moluccas and New Guinea (Holloway 1999). Their natural habitats are heath, swamp and coastal forests, but rather infrequently in the lowlands.

From our observations of field specimens collected on the 15<sup>th</sup> August 2007 during the moth outbreak in the district of Labis in Johore state, the *T. hemibathes* female has a scale turf (a bunch or cluster of small, usually soft and flexible parts, as feathers or hairs, attached or fixed closely together at the base and loose at the upper end)

at the apex of the abdomen, and this is used to cover the eggs mass to protect it (Holloway 1999). Members of this genus have hairy wings with pale or dull grayish yellow color pattern and the scales can be a direct source of dermal irritation. The male differs markedly from the female in that the size of its wingspan, which ranges from 1.0 to 1.5 cm long in males and from 2.5 to 3.0 cm long in females. When reared in captivity the females can lay between 20 and 100 eggs per adult individual. The eggs are often laid upright in tight masses and well protected within the hairy cocoon, each egg having a domed, circular or slightly flattened shape. The larvae have long and dense secondary setae on verrucae (warts or epidermal outgrowths). The Scanning Electron Microscope (SEM) micrograph of these setae showed the presence of tufts of dorsal hairs on the abdomen, thorax and prolegs of larvae (Figure 1). Holloway (1976) noted that these hairs could be unioordinal homoideous setae that could become poisonous. The larvae have been observed to feed readily and exclusively on *Ficus benjamina* L. leaves (Family: Moraceae) and rejected other plant species. According to Robinson et al. (2001) the host plants for this genus included Rubiaceae, Annonaceae

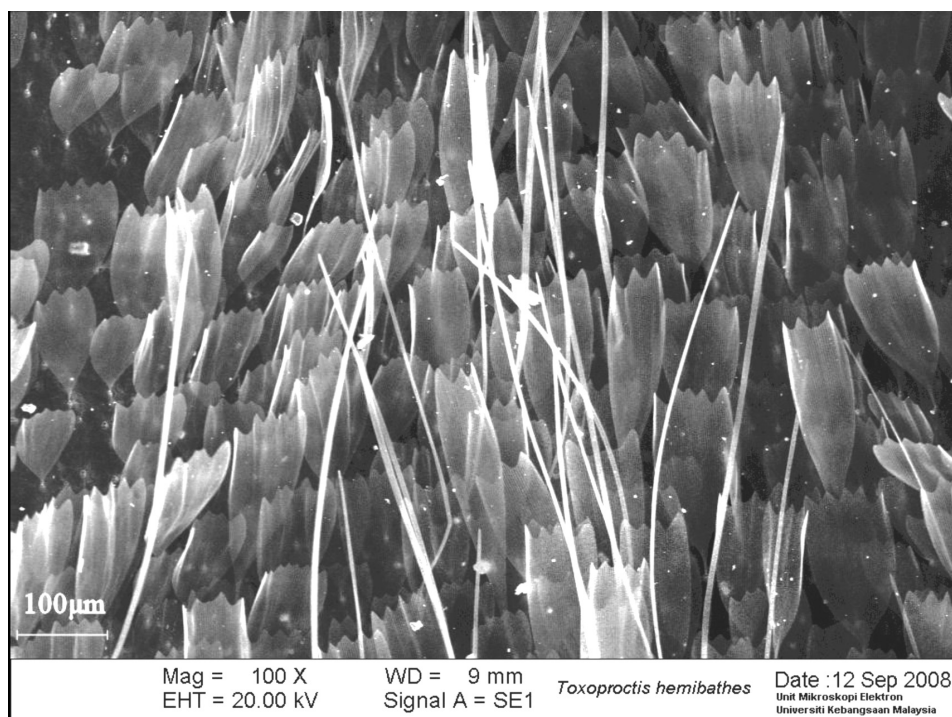


FIGURE 1. Close-up of *Toxoproctis hemibathes* Swinhoe scale under Scanning Electron Microscope

and Nelumbonaceae. However, observations could not be made for the complete life cycle of *T. hemibathes*, and this could be due to unfavorable laboratory conditions such as humidity, light intensity or temperature that could affect the growth of the larvae and inhibit their successful development to the adult stage (Holloway 1976).

#### NEW RECORDS

*Toxoproctis hemibathes* (Swinhoe) comb. n. 1999, *Malay. Nat. Jour* (53), 70-71

*Euproctis hemibathes* Swinhoe, 1906, *Ann. Mag. Nat. Hist* (7), 17: 542.

Material examined. Labis, Johore. 15.viii.2007, Norela, S, Faizal, M. R, & Zabidi. (lowland trop. rain forest and oil palm estate at light. 3 ♀, 2 ♂).

The specimens have been compared with the diagnosis of this species as described by Holloway (1999). The record confirms the occurrence of this species in the Labis District of Johore, Peninsular Malaysia, although it was first recorded from Padang, Sumatera (as its synonym *Euproctis hemibathes* Swinhoe) in 1906. There is no mention of the species details in Peninsular Malaysia. Thus, this was a new record for Peninsular Malaysia.

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