

## Short Note

### New Distributional Record of *Hypochrosis cryptopyrrhata* Walker, 1862 (Geometridae: Ennominae) from Peninsular Malaysia

MUHAMAD IKHWAN BIN IDRIS<sup>1,2\*</sup> AND F. ABANG<sup>3</sup>

<sup>1</sup>Centre for Pre-University Studies, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, MALAYSIA

<sup>2</sup>Department of Zoology, Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, MALAYSIA

<sup>3</sup>Chancellery, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, MALAYSIA

\* Corresponding author. E-mail: mikhwanidris@gmail.com

Received: 12 October 2010; Accepted: 10 January 2011

The Geometridae form one of the largest families in the order Lepidoptera and have slender bodies with comparatively large wings. The flight of the adult is never strong, and they may often be disturbed from the foliage or tree trunks upon which they rest and hide during the day, and which they frequently resemble<sup>1</sup>. The Ennominae are the largest subfamily of the Geometridae, and a group that has a wide ecological range, occurring in all habitats except very high latitude and, in the tropics, altitudes<sup>2</sup>. Some ennomines show specificity to lowland forest types, such as heath, alluvial or mangrove forests<sup>2</sup>. The subfamily also includes several species that appear to fly predominantly in the forest understorey<sup>2</sup>. Ennominae are therefore, highly suitable for use as an environmental indicator group, except for their poor representation in open habitats<sup>3,4</sup>.

A macromoth diversity survey was conducted in Perlis State Park (6° 41' 51.7" N, 100° 11' 29.3" E) from the 18<sup>th</sup> to the 23<sup>rd</sup> August 2008 and from the 19<sup>th</sup> to the 24<sup>th</sup> July 2009. The Perlis State Park is situated in northwest Perlis and is the first protected area to be established in the northern part of Peninsular Malaysia and forms a transfrontier protected area with the Thaleban National Park in Satun, Thailand.

The area was partly logged in the late 1960s and early 1970s<sup>5,6</sup> and then proposed as protected area in 1997 and gazetted on the 21<sup>st</sup> November 2001 with an area of 50.15 km<sup>2</sup> in size, comprising 56% of the total forest reserves in the state (89.71 km<sup>2</sup>). Located in the north of Peninsular Malaysia, its forest is different from red 'meranti' forest that covers most of the forested area in Peninsular Malaysia, with the natural vegetation instead being characterized by seasonal white 'meranti-gerutu' forest, which is a deciduous forest with leaf fall during the dry season every year, and a mixture of vegetation on limestone<sup>7</sup>. Due to its location this park experiences an apparent monsoon climate (an average of annual rainfall 1789.4 mm), influenced by the southeast and southwest monsoon winds with heavy rainfall in October and April to May, and with a dry season between December and March<sup>8</sup>.

Four modified-Pennsylvanian light-traps were deployed; two at ground level (< 2 m) and two in the canopy level (≥ 20 m). Light-trapping was conducted from 1900 to 0700 hours and the trapped macromoths were collected the following morning. The light-traps were set up in Rainforest and Prince of Denmark trails. Several well-known plants were encountered along the Rainforest trail;



FIGURE 1. *Hypochrosis cryptopyrrhata* ♂ (16.48 mm)

*Macaranga* sp. (Mahang), *Duabanga grandiflora* (Berembang bukit), *Dipterocarpus grandiflorus* (Keruing belimbing), *Artocarpus elasticus* (Terap nasi) and *Terminalia calamansanai* (Jelawai mentalun), while *Cinnamomum parthenoxylum* (Medang kemangi), *Licuala* sp. (Pokok daun jin), *Ficus* sp. (Pokok ara), *Dipterocarpus* sp. (Keruing), *Parashorea stellata* (Gerutu), *Gonostylus* sp. (Ramin) and *Sandoricum koetjape* (Setoi tupai) were found along the Prince of Denmark trail.

A single male specimen of *Hypochrosis cryptopyrrhata* Walker, 1862 (Fig. 1) was sampled in one of the ground level light-traps in the Perlis State Park, Malaysia on the 20<sup>th</sup> July 2009. The specimen had a forewing length (wing base to apex) that is measured 16.48 millimeter. The specimen is the first record for this species in Peninsular Malaysia. Prior to this, the species is geographically distributed in Borneo and Sumatra<sup>2</sup> thus, making a new distribution

record for this common lowland and lower montane forest species<sup>2</sup>, although recently eleven individuals of the species were recorded from hill dipterocarp forest of Poring, Sabah, Malaysia<sup>9</sup>.

Perlis State Park is known as specialized areas as it lies in the northernmost part of Peninsular Malaysia; Malaysia-Thai border in a region that is described as Kedawi<sup>1,10</sup>. The monsoon climate of this region resembles that of southern Thailand rather than any other parts of Peninsular Malaysia<sup>6</sup>. Generally, this new record is a response to the low documentation of macromoth species distribution throughout the region. Taking butterfly as an example, some butterfly species found in this region occur in different habitats in the rest of Peninsular Malaysia and others are not found anywhere else in Peninsular Malaysia as a result of the monsoon climate of this region resembles that of southern Thailand rather than of other parts of Peninsular

Malaysia<sup>10</sup>. Other most recent butterfly studies carried out in the Kedawi region include those at Langkawi Island where several new records were made<sup>11-14</sup>. 178 butterfly species were recorded for Perlis State Park with 42 species of it are new records for the Kedawi region<sup>6</sup> having not previously been listed from this area<sup>10</sup>, or in subsequent publications. Possible reasons for the addition of new records are an extension of range of species not previously recorded in this area; and also species may have been overlooked by previous collectors because of their rarity in this region<sup>6</sup> but the former needs a complete compilation and intensive long-term study on the macromoth distribution. As indicated by the butterfly fauna, macromoths fauna could be expected to demonstrate a similar pattern and result if more studies and collection for macromoths to be done in this region and Peninsular Malaysia.

#### ACKNOWLEDGEMENTS

We are grateful for the financial support through research grant by MoHE FRGS DG/06/ (01)663/2007(28) to Professor Dr. Fatimah Abang and Professor Dr. Mohd Tajuddin Abdullah. We thank the Perlis Forestry Department (PHN.Ps.03/51 Jld.2 (58)) for the permit and permission to conduct this study within the park. My personal gratitude goes to the Perlis State Park staff, and especially Mr Abdul Aziz Abdullah and Mr Mohd Shukri Aziz (Park Officer) for their continuous help and support; Audrey Mengan Jackson Bundan for the lending the Moths of Borneo book collection and Jalani Mortada, Wahap Marni and Eileen Lit for their field assistance.

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