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AN ENCOUNTER WITH A MATING PAIR OF *HYPOPYRA PUDENS* WALKER IN SINGAPORE (LEPIDOPTERA: NOCTUIDAE: CATOCALINAE)

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INTRODUCTION

In Singapore, records of the noctuid moth, *Hypopyra pudens* Walker, 1858, are mostly from the remnant forested areas. Its final instar larva was recently documented and illustrated from a local specimen, which metamorphosed into a female (Leong, 2009). Here, we report our first encounter with a mating pair of this moth species, with distinct sexual dimorphism, a consistent characteristic witnessed in members of this genus (Holloway, 2005). This provided us with a valuable opportunity to better appreciate the differences in wing colour/pattern and extent of hair tuft development on the underwing and hindlimbs between the male and female adult moths.

Fig. 1. Dorsal view of mating pair of *Hypopyra pudens* (female above, male below), perched beneath a leaf of the bat laurel (*Prunus polystachya*; family Rosaceae) tree, ca. 2.5 m up from the forest floor. They were encountered on the night of 11 Jul.2009 (ca. 2200 hours) near Bukit Kallang, Central Catchment Nature Reserve. (Photograph by: Foo Sai Khoon).

OBSERVATIONS

While conducting a faunal survey near Bukit Kallang, MacRitchie Reservoir forest, on the night of 11 Jul.2009 (ca. 2200 hours), we sighted a pair of medium-sized moths (Fig. 1; wing-spans ca. 8–9 cm) perched under the large leaf of a tall, mature bat laurel (*Prunus polystachya*; family Rosaceae) tree. Upon careful inspection, TML recognized the species to be *Hypopyra pudens*, as the female clearly matched a moth that was earlier reared to metamorphosis (Leong, 2009: Fig. 4). The patterns of the male moth agreed most with that of the species, as illustrated in Holloway (2005: Pl. 6, moth 11). However, it should be noted that there is considerable intraspecific and interspecific variation in the shape and size of the central blackish patches in the forewings of males within the genus *Hypopyra* (Holloway, 2005).

The copulating pair were securely fastened at the apices of their abdomens, with the male suspended in a head-down position and fully supported by the female (Fig. 2). From the ventrolateral perspective, the characteristic elongated and dense scale tufts on the hindlimbs and hindwing were readily observed (Fig. 3). These features are known to be markedly developed in male moths of the *Hypopyra pudens* group (Holloway, 2005). Apart from the exceptionally hairy hindwings, the underside colour and markings of the forewings appeared to be comparable with those of the female (Leong, 2009: Fig. 5).

In the course of mating, the male was observed to occasionally swivel slowly its body in a clockwise motion, while still being attached to the female. The male would attain a position that was almost perpendicular to the female (Fig. 4). After remaining at this angle for a few minutes, the male would then ‘unwind’ itself and swing back to the parallel position. At ca. 2310 hours, we concluded our observations, but the moths continued to be entwined. Unfortunately, we were unable to estimate the entire mating duration, as we were uncertain of the times at which mating commenced and terminated. Nevertheless, it was an encouraging indication of the health and survival of this moth species in our remnant forests.

Fig. 2. View of mating moths from directly below,with the observer looking straight upwards, facing the male moth. The male was attached to, and dangling from the female’s abdomen. (Photograph by: Foo Sai Khoon).

Fig. 3. Ventrolateral view of the mating moths. The tufts of elongated hairs on its hindwing and hindlimbs were noticeable, that of the male being more pronounced than the female. (Photograph by: Foo Sai Khoon).

Fig. 4. Throughout the prolonged mating session, the male would occasionally rotate its body clockwise, remain in this position for a few minutes, then return to its original posture again. (Photograph by: Foo Sai Khoon).

Fig. 5. A Bornean example of *Hypoyra lactipex*, encountered at the Bukit Kana field research station, Bintulu Division, Sarawak, East Malaysia on the night of 31 Mar.2007 (ca. 2355 hours). (Photograph by: Leong Tzi Ming).

The other species of *Hypopyra* recorded from Singapore is *Hypopyra vespertilio* (Fabricius, 1787), and there is a reasonable chance that a third species, *Hypopyra lactipex* (Hampson, 1913) (Fig. 5) may also occur in our forests, as its geographical range encompasses Borneo, Peninsular Malaysia and Sumatra (Holloway, 2005). At the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research (RMBR), National University of Singapore there is a single representative specimen of this species from Peninsular Malaysia. It is a faded male, ZRC.LEP.182 (forewing length: 43 mm, body length: 34 mm) collected from Bukit Tangga, at 1,800 feet, Negri Sembilan in Sep.1915.

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