

Velvet worm (Onychophora) on Pulau Ubin

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Subject: Velvet worm, unidentified taxon (Onychophora).

Subject identified by: Authors.

Location, date and time: Pulau Ubin, along Jalan Mamam; 15 October 2016, 1140 hrs.

Habitat: Secondary forest, located approximately 100 m from mangrove swamp.

Observers: Authors.

Observation: A velvet worm measuring approximately 55 mm when fully extended was found among the contents of a fallen log in an advanced state of decay (see accompanying picture). A video of the animal may be viewed at: <https://youtu.be/7F68LuhSVTQ>.



Onychophoran of about 55 mm on decaying log at Pulau Ubin. Screenshot from video by Mark K. L. Wong

Remarks: With the exception of the exotic species *Paraperipatus papuensis* (Sedgwick, 1910) documented from Singapore Botanic Gardens in the 1960s (Van Der Lande, 1991), previous records of onychophora in Singapore include a single presumably native species that is restricted to old-growth forest in the Bukit Timah Nature Reserve (Murphy, 1973; Murphy et al., 2008) and mature secondary forest in the Central Catchment Nature Reserve (Court, 2012; Yeo, 2013). Although initially identified as '*Eoperipatus sumatranus*' (see Murphy et al., 2008), this taxon has since been regarded as nomen dubium on the basis of a lack of type

specimens and a conclusive type locality (Oliveira et al., 2012). Hence, despite its ‘endangered’ status locally (Murphy et al. 2008), the identity of Singapore’s native onychophoran species has yet to be reconciled.

Although we are unable to identify the present animal, its discovery is nevertheless significant. It seems to be the first record of an onychophoran from Singapore’s offshore islands, and may also be the first account of these animals occurring in relatively young secondary forest in Singapore. The original natural vegetation on Pulau Ubin was cleared in the early 20th century to make way for granite quarries (Cornelius-Takahama, 2004). It is of interest to note that a whip spider, a whip scorpion, and the green tree snail (*Amphidromus atricallosus temasek*), uncommon invertebrates usually associated with forest habitats, have also showed up recently on Pulau Ubin (Ng, 2016; Tan & Xu, 2013).

In addition to mature forests on Singapore Island, secondary forests on offshore islands may support populations of seemingly rare invertebrates as shown by the present record. Considering the very limited dispersal potential of velvet worms – a consequence of high habitat specificity and desiccation intolerance (McDonald & Daniels 2012) – it may be worth investigating the viability of potentially small, isolated populations on Singapore’s offshore islands.

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