

SHORT COMMUNICATION

First record of an onychophoran (Onychophora, Peripatidae) feeding on a theraphosid spider (Araneae, Theraphosidae)

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Abstract. A velvet worm (*Peripatus* sp., Peripatidae) was observed and photographed while feeding on a theraphosid spider, *Hapalopus butantan* (Pérez-Miles, 1998). The present note is the first report of an onychophoran feeding on “giant” spider.

Keywords: Prey behavior, velvet worm, spider

Onychophorans, or velvet worms, are organisms whose behavior remains poorly understood due to their cryptic lifestyle (New 1995) and by the fact they are rare in the Neotropics (McGlynn & Kelley 1999). Consequently reports on hitherto unknown aspects of the biology and life history of onychophorans are urgently needed.

Onychophorans are almost all carnivores that prey on small invertebrates such as snails, isopods, earth worms, termites, and other small insects (Hamer et al. 1997). They are widely distributed in southern hemisphere temperate regions and in the tropics (Reinhard & Rowell 2005). Small spiders are likely to be consumed by onychophorans. Laboratory studies have focused on some aspects of the behavior of onychophorans (Read & Hughes 1987; Monge-Nájera et al. 1993; Barclay et al. 2000a,b; Sunnucks et al. 2000; Reinhard & Rowell 2005). For example, Read & Hughes (1987) observed that the onychophoran *Macroperipatus torquatus* in prey choice experiments would catch ctenid spiders instead of crickets.

Due to the cryptic lifestyle of the onychophorans, it seems unlikely that either non-cryptic or “giant” spiders represent common prey items. Here we present a chance encounter of an individual of *Peripatus* sp. (Onychophora) feeding on a large theraphosid spider, *Hapalopus butantan* (Pérez-Miles, 1998). To our knowledge, this is the first description of an interaction between onychophorans and theraphosids and also the first biological information for onychophorans in the rainforests of Brazilian Amazon.

The observations reported here were seen when we were part of an invertebrate monitoring campaign in Juruti River Plateau, Juruti, Pará, Brazil in February 2007. The area is comprised of *terra firme* (dry land) and the fieldwork that result in behavioral reports was conducted mostly in undisturbed mature forest at the Igarapé Mutum valley (02°36'10"S, 56°12'25"W) (Pinto-da-Rocha & Bonaldo 2006).

On 7 February 2007 at about 2200 h, following the collection of a nocturnal arachnid sample (active visual searching), one of us (N.F. Lo-Man-Hung) noted an onychophoran (*Peripatus* sp.) feeding on a spider (*H. butantan*) on a small leafless branch approximately 50 cm above the ground. The dorsal region of the spider was entangled by an adhesive substance probably discharged from the oral papillae of the onychophoran (Fig. 1). The onychophoran was grasping, cutting, and feeding on the ventral region of the spider's abdomen, near the spinnerets (Fig. 2). The spider was an adult female with a cephalothorax 22 mm in length, while the onychophoran had a total length of 35 mm. The onychophoran was observed to discharge further quantities of the same adhesive substance. Both the onychophoran and the spider were deposited in the collection of Museu Paraense Emílio Goeldi, Curator A.B. Bonaldo, (MPEG(ONY)0001 and MPEG(ARA)10006, respectively, under the code JURU005-181.

Unfortunately, we cannot verify whether the onychophoran actively preyed (hunted and killed) upon the spider or whether the spider was found already dead. The theraphosid *H. butantan* lives in rotten trunks or under the roots of buttress trees and are frequently found wandering

on the floor forests (pers. obs.). Onychophorans are capable of preying on animals their own size, although the quantity of glue used in an attack increases up to about 80% of the total capacity for larger prey (Read & Hughes 1987). It may be that encounters with larger prey items, such as that observed by us, are more common than previously supposed.

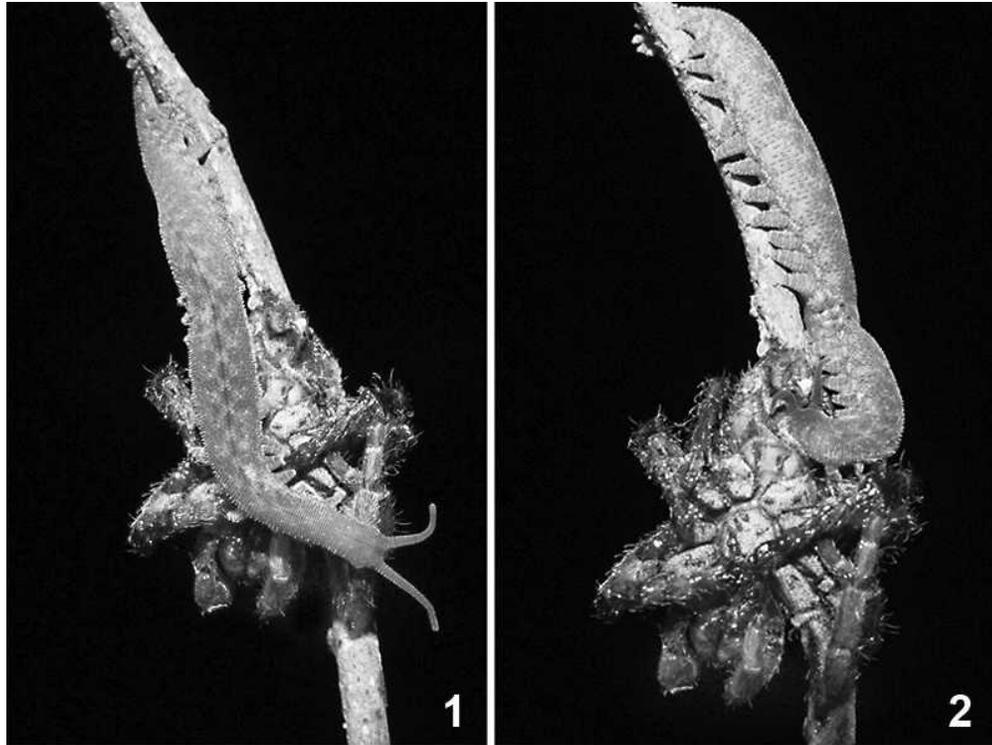
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Figures 1,2.—Onychophoran (*Peripatus* sp.) feeding on a theraphosid spider (*Hapalopus butantan*) in a *terra firme* Amazonian rain forest, Juruti, Pará, Brazil. 1. Spider glued to the stick by the dorsal region; 2. Onychophoran grasping and feeding on the ventral region of the spider near the spinnerets on the abdomen (photos by F.E. Pimenta).