

First record of *Leptus* sp. Latreille, 1796 (Acari: Erythraeidae) from Itaipuaçu beach, Maricá, RJ, Brazil

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ABSTRACT: First record of larvae from genus *Leptus* (Acari: Erythraeidae) in Itaipuaçu beach, Rio de Janeiro, Brazil.

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Erythraeid mites from genus *Leptus* Latreille 1796 have more than 80 cosmopolitan species widespread in the World (Haitlinger 2006). In the Neotropical and Nearctic regions, 36 species are known (Southcott 1992; Haitlinger 2000). The species of this genus have 7 larval stages. The life cycle of parasitic larval stages of *Leptus* sp. includes arthropods as host, while nymphs and adults are free living (Southcott 1992; Haitlinger 2000; McAloon and Durden 2000).

Several authors have reported the occurrence of *Leptus* sp. as parasite of arthropods such as opiliones (Fain *et al.* 1987), aphids (Kamram *et al.* 2009), the honeybee *Apis mellifera* Linnaeus 1758 (Teixeira 2011), and the scorpion *Pimeliaphilus joshuae* Newell & Ryckman 1966 (Mohamed and Mohamed 2011).

The genus *Tricharaea* Thomson 1869 (Diptera: Sarcophagidae) includes more than 15 species, some related to human faeces and bovine liver (Pape 1996; d'Almeida and Almeida 1998; Marchiori *et al.* 2003; Marchiori *et al.* 2004). *Tricharaea* (*Sarothromyia*) *femoralis* (Schiner 1868) is usually associated with beaches and is reported to Bahamas, Brasil, Cuba, Dominica, Honduras, Ilhas Turks and Caicos, Panamá, Porto Rico, Suriname (Lopes and Leite 1990).

The present note reports the first occurrence of *Leptus* sp. larvae in Itaipuaçu beach, located at an impacted rural area of Rio de Janeiro, southeastern Brazil (22°58'0" S, 43°1'0" N). This beach is situated about 13 km east of the entrance to Guanabara Bay and has a length of approximately 10 km of orientation east to west and is bounded to the west by Elephant Rock and east by the Itaipuaçu Pontal (Silva *et al.* 2008). Four mite larvae were found attached to the gena (Figure 1), leg (Figure 2), abdomen, and thorax of a single specimen of *T. (S.) femoralis*.

Mite larvae were collected from flies captured with traps made with plastic bottles (Cunha and Lomônaco 1996), with raw fish as bait, in February and April 2011. The specimens were cleared in lactophenol for identification. Semi-permanent slide mounts were made using Hoyer's mounting media as preservative (Flechtmann 1973) and examined under optical light microscopy. Each specimen was identified at genus level following Krantz and Walter (2009), and was similar to mite larvae observed by Flechtmann (1980) that described the larval stage as



FIGURE 1: Larvae of *Leptus* sp. attached in the gena of *Tricharaea* (*Sarothromyia*) *femoralis* (magnification = 50×).



FIGURE 2: Larvae of *Leptus* sp. attached in the leg of *Tricharaea* (*Sarthromyia*) *femoralis* (magnification = 50×).

“Initially small, almost imperceptible, yellowish, often increasing the volume and starting to show a red-orange alive”.

Both larval mites and flies are deposited in the collection of the Setor de Entomologia Médica e Forense, Instituto Oswaldo Cruz, Fundação Oswaldo Cruz (IOC/FIOCRUZ), 10.ii.2011, leg. C. Carriço. Z. T. Pinto, R. L. Caetano.

Occurrence of genus *Leptus* was reported to Vietnam, East Asian where three mite larvae of *Leptus* (*Leptus*) *holgeri* Haitlinger 1999 were associated with Acrididae (Orthoptera) (Haitlinger 2013). Specimens of *Leptus josifovi* Beron 1975 were reported from Bulgaria and Croatia in Europe (Beron 1975; Haitlinger 2004) and from Corsica and Sardinia, Mediterranean associated with Orthoptera (Haitlinger 2007).

In Central America mite larvae from *Leptus* sp. have been reported for Panamá in association with arthropods from human corpses (Bermúdez and Pachar 2010) and with blowflies (Calliphoridae: Diptera) (Miranda and Bermúdez 2008).

This genus occurs in three countries from South America: Colombia, Peru and Brazil.

In Colombia, *Leptus ariel* Southcott 1989 is related to *A. mellifera* (Morales 1995). Losada (1947) was the first author to verify this genus parasitizing honeybees for this country.

In Peru 14 mites larvae from *Leptus* sp. were recovered from intersegmental membranes of the abdominal tergites and sternites of honeybees from Cerro de Pasco city (Flechtmann 1980).

In Brazil Pereira et al. (2012) collected *Leptus* sp. in association with predatory and phytophagous

Heteroptera bugs in a secondary Forest in Viçosa, Minas Gerais state. Three species from genus *Leptus* were associated with canopy tangerine in Montenegro, Rio Grande do Sul state (Morais et al. 2007). The first association between *Leptus* sp. larvae and honeybees in this country was reported for São José dos Campos, São Paulo state (Teixeira 2011).

This note is the first record of larvae mite from genus *Leptus* both for Itaipuaçu district as parasitizing *T. (S.) femoralis*. This new record extends the geographic distribution of *Leptus* sp. and reinforces the need to spend more research effort on the fields of ecology and zoogeography of this genus.

AUTHORS' CONTRIBUTION STATEMENT: Zeneida Teixeira Pinto collected the data, identified the mite and wrote the text. César Carriço collected the data, identified the mite and wrote the text. Rebecca Leal Caetano collected the data, identified the mite and wrote the text. Rodrigo Rocha Barbosa collected the data and identified the fly. Paloma Martins Mendonça collected the data and photographed the mite. Margareth Maria de Carvalho Queiroz analysed and reviewed the text.

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