

THE SPIDER *THERIDION MELANOSTICTUM* (ARANEAE, THERIDIIDAE), A RECENT INTRODUCTION TO GALAPAGOS?

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SUMMARY

The theridiid spider *Theridion melanostictum* O. Pickard-Cambridge 1876 is reported as a possible recent introduction to Galapagos, having been found only in samples from Santa Cruz island collected from 2010 onwards.

RESUMEN

La araña *Theridion melanostictum* (Araneae, Theridiidae), ¿una reciente introducción en Galápagos? La araña *Theridion melanostictum* O. Pickard-Cambridge 1876 es reportada como una posible reciente introducción en Galápagos, ya que ha sido encontrada solo en muestras de la isla Santa Cruz colectadas desde 2010 en adelante.

INTRODUCTION

The spider fauna of the Galapagos archipelago has been well studied. A first synthesis of all collections between Darwin's visit in 1835 and N. and J. Leleup's in 1964–5 was given by Roth & Craig (1970). The islands were later sampled between 1968 and 1980 by S. Riechert and W.G. Reader, whose material was only recently studied (2010–11) by one of us (LB), who also sampled all major islands with his Belgian team from 1982 to 2010. Other important sampling was done in the same period (1985–96) by the Canadian team of S. Peck, and in the urban and agricultural zones of the inhabited islands between 2003 and 2006 by the Charles Darwin Research Station. An analysis of all these data was given by Baert (2013). In total, 700 localities scattered over the whole archipelago and from the coast up to the highest summits have been sampled, including the remote islands of Wolf and Darwin. The most intensively sampled island by far is Santa Cruz, with its large urban and agricultural zones.

We report here an additional species which probably represents a new introduction to Galapagos.

METHODS

On analyzing spider samples collected by NW by means of beating vegetation in the Santa Cruz agricultural zone above El Chato and at the Caseta Occidente in 2011 and 2012, a number of small theridiid spiders were found which appeared to represent a species not before found on Santa Cruz. Two males were collected in a field with many Avocado *Persea americana* trees

(probably an old plantation: 0°38'S, 90°25'W) near the El Chato ranch, along the road running south from Santa Rosa towards the El Chato reserve area at c. 370 m altitude, on 4 Apr 2011. Twelve males, ten females and one subadult male were collected in a young coffee plantation (0°42'S, 90°21'W; plants up to 2.5 m tall) along the west side of the road to Caseta Occidente at 156 m alt., on 13 Apr 2012.

Theridion males are quite easy to identify but females are not. We therefore re-examined two theridiid females collected by F. Hendrickx in a mangrove stand in front of the cemetery of Puerto Ayora (0°44'33"S, 90°18'35"W) on 31 Jan 2010, which could not be identified at that time.

Specimens were examined and measured with a Wild M5 stereomicroscope, and drawn and photographed using a Wild M10 stereomicroscope. The female genitalia were cleared in a methylsalicylate solution.

RESULTS

All the specimens were identified by JVK as belonging to the cosmopolitan species *Theridion melanostictum* O. Pickard-Cambridge 1876. The following description is based on the Galapagos specimens. Total length: males 2.2–2.6 mm, females 2.4–2.8 mm. Cephalothorax creamy coloured with blackish borders and median longitudinal black stripe; sternum creamy, variably suffused with black; abdomen creamy, the dorsum with broad median white leaf-shaped pattern, sides with white and greyish dots and venter with median black dot; legs creamy, articulations variably suffused with black. The left male palp and the female epigyne are depicted in Figs 1 and 2.

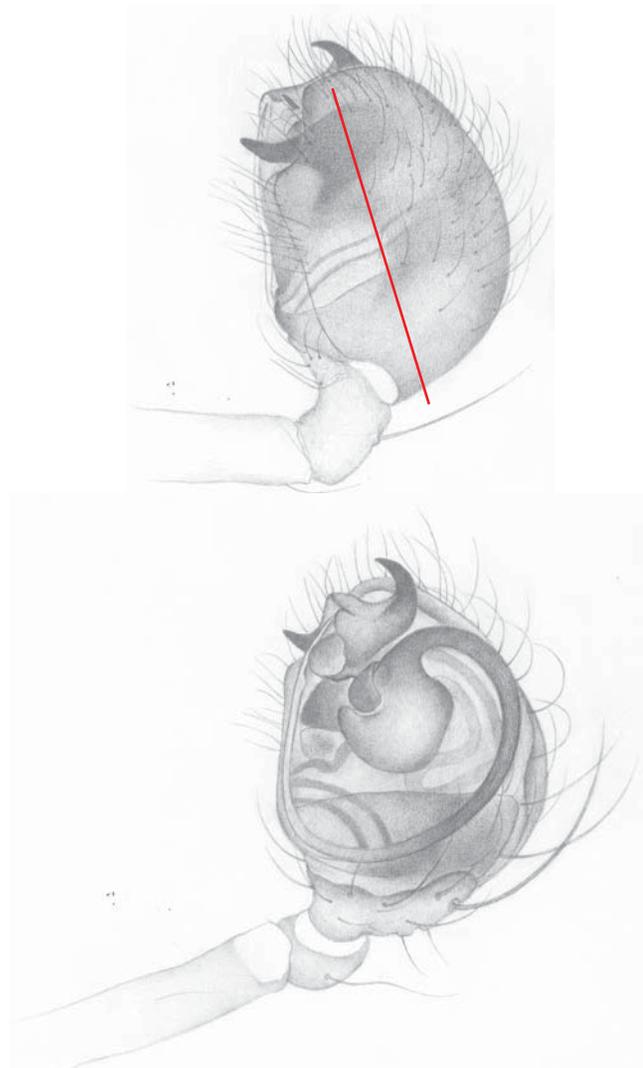


Figure 1. Male left palp: above, lateral view; below, ventral view. Length of cymbium (red line) 0.52 mm.

DISCUSSION

Given that *T. melanostictum* was not caught during the numerous intensive collections done before 2010 in the same vegetation zones and that the spider fauna of Santa Cruz is one of the best inventoried of the archipelago, the fact that this cosmopolitan species (Canary Islands, Mediterranean, Aldabra, Seychelles, China, Japan, Polynesia, North America, Hispaniola: Le Peru 2011, <<http://research.amnh.org/entomology/spiders/catalog>> consulted 9 Dec 2013) was found for the first time in the urban zone near the port of Puerto Ayora and later on in large numbers of both sexes in the agricultural zone of the island, strongly suggests that it was brought recently to the islands by man and that it quickly spread to the higher agricultural zone.

Theridiid spiders construct irregular space-webs known as cobwebs or gumfoot webs, with threads radiating in different directions. Prey, often ants, is overpowered in a wrap-bite attack involving sticky silk. Nothing is

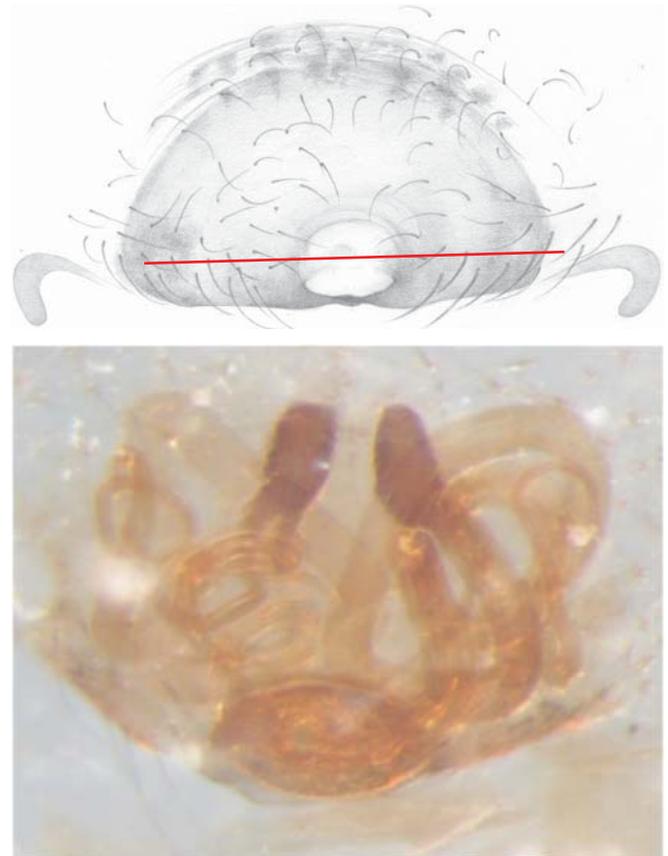


Figure 2. Epigynum: above, ventral view; below, vulva, ventral view. Width of epigastral fold (red line) 0.87 mm.

known of the likely impact of this species on the native invertebrate fauna.

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