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Ultrastructural characterization of *Tricholeiperia leiperi* in new host *Desmodus* in the Restinga in Rio de Janeiro, Brazil

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INTRODUCTION & AIM

Bats are members of the mammalian fauna, known for their high species richness and diversity, and play a crucial role as reservoirs of emerging and re-emerging zoonotic pathogens.

Thirty-five bat species have been reported in the coastal ecoregion of Restinga, in the state of Rio de Janeiro. *Trachops cirrhosus* is a carnivore/insectivore, feeding primarily on insects, lizards, and frogs. *Desmodus rotundus* is a hematophagous bat, feeding on the blood of other mammals (domestic and wild).

Nematodes of the genus *Tricholeiperia* have been reported in bats of the families Noctilionidae and Phyllostomidae.

The objective of this study is to contribute to the detailed ultrastructure of *T. leiperi* by performing a detailed characterization using scanning electron and confocal microscopy, in addition to reporting parasitism in *D. rotundus* for the first time.

METHOD

A total of 11 *T. cirrhosus* and 33 *D. rotundus* specimens were captured over five nights using mist nets. After euthanasia, the recovered helminths were preserved in 70% ethanol and subsequently examined for their morphological characteristics.

HOST CAPTURE

HELMINTH COLLECTION

MORPHOLOGY

DEHYDRATION

CRITICAL POINT METHOD WITH CO2

METALLIZATION

SCANNING ELECTRON MICROSCOPIES

RESULTS & DISCUSSION

Eight *T. cirrhosus* specimens were parasitized by *T. leiperi*, while only two *D. rotundus* specimens were parasitized. The helminths were identified through morphological and morphometric taxonomic characteristics, such as the shape of the cephalic vesicle, the presence of cervical papillae, the division at the distal end of the spicules, the size and arrangement of the bursa rays, the conspicuous vulva flap, and the presence of tubercles on the tip of the female's tail.

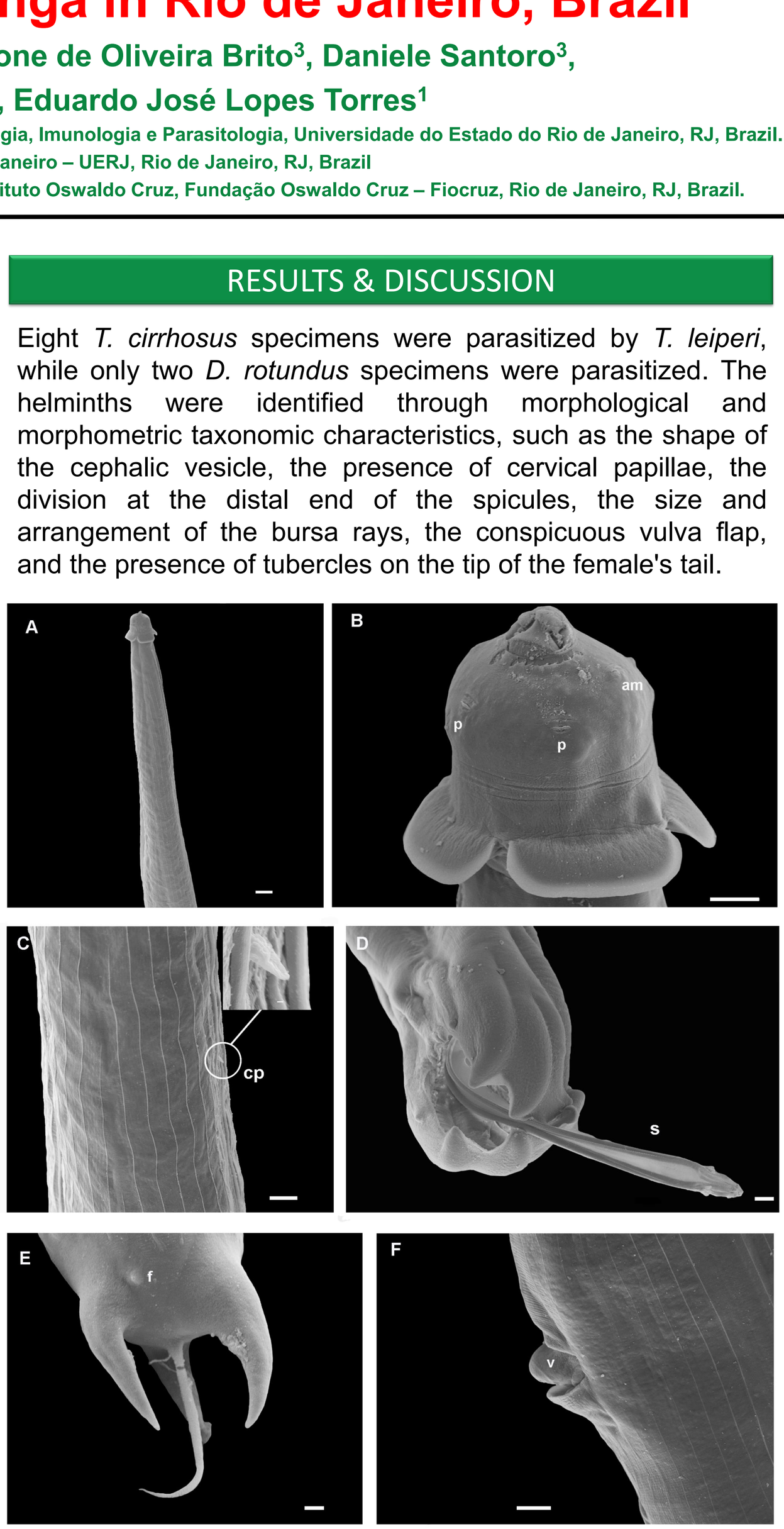

Figure: (A) Anterior region *Tricholeiperia leiperi*; (B) Anterior end, showing the cephalic papillae (p) and amphid (am); (C) Anterior region, detail cervical papillae (cp); (D) Posterior region of male, showing spicule (s); (E) Posterior region female, with tubercles on the tip tail; (F) Detail of the vulva (v), in lateral view.

CONCLUSION

The observed morphological characteristics involve the species *T. leiperi* previously described in *T. cirrhosus*, and this is the first report of *T. leiperi* in *D. rotundus*. This finding highlights the importance of studying parasite biodiversity in hosts across different biomes, particularly in heavily impacted ecosystems such as Restinga.

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