

## Morphology Characterization of Nematodes associated of Parasitic Otitis in Bovines

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The parasitic otitis presents veterinary impact due to infection caused by bacterial and nematodes species resulting in an intense inflammatory process, which may affect both the external and internal ear and has been reported in hot and humid countries. The species *Metarhabditis freitasi* and *M. costai* have been described as being responsible for creating the parasitic otitis in Gir cattle (*Bos taurus indicus*). The objective of this work is to identify the nematodes that cause otitis using scanning electron microscopy (SEM). Samples were collected of inflammatory exudate from four Gir cattle ear canals with otitis clinical signals. These animals are from an experimental farm of EPAMIG - Empresa de Pesquisa Agropecuária de Minas Gerais, in the municipality of Itabira, MG, Brazil. Nematodes were recovered of the exudate using swabs and immediately washed in PBS, fixed with Karnovsky's solution, adhered on glass coverslips and post-fixed in osmium tetroxide. Posteriorly the samples were dehydrated in ethanol series, critical point dried, mounted in a metal stub, coated with gold and analyzed using a conventional SEM FEI-Quanta 250 and a field emission SEM Zeiss Auriga Compact. Our results by SEM identified three species: *M. freitasi*, *M. costai* and *Rhabditis* sp. All species presents the anterior end with a triangular oral opening surrounded with three lips, two latero-ventral and one dorsal. Each latero-ventral lip is ornamented with three papillae and one phasmid and the dorsal presents four papillae. The differences between these species are observed in the posterior end of males, mainly in the length of the tail and the morphology and spicule size. We conclude that nematodes *Metarhabditis* are the main cause of the parasitic otitis in Brazil, and this parasitosis also can be promoted by *Rhabditis* sp., and, according to our data, this nematode may be a new parasite species. Molecular analysis in progress for to clarify phylogenetic relations, especially *Rhabditis* sp.

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### Keywords

Metarhabditis, Otitis, Scanning Electron Microscopy