Herrera, H. W. (2014). CDF Checklist of Galapagos Terrestrial Nematodes - FCD Lista de especies de Nematodos terrestres Galápagos. *In*: Bungartz, F., Herrera, H., Jaramillo, P., Tirado, N., Jiménez-Uzcátegui, G., Ruiz, D., Guézou, A. & Ziemmeck, F. (eds.). Charles Darwin Foundation Galapagos Species Checklist - Lista de Especies de Galápagos de la Fundación Charles Darwin. Charles Darwin Foundation / Fundación Charles Darwin, Puerto Ayora, Galapagos:
http://www.darwinfoundation.org/datazone/checklists/terrestrial-invertebrates/terrestrial-nematodes/ Last updated: 29 Sep 2014

CDF Checklist of Galapagos Terrestrial Nematodes

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Last updated: 29 Sep 2014

Abstract

This Checklist of Galapagos Terrestrial Nematodes includes a total of all 14 taxa reported from the Galapagos Islands.

For each name, detailed information is provided: its Galapagos distribution in islands groups or bioregions generated from the specimen records, comments about the taxonomy (especially synonyms), the origin (native and introduced), taxon status (accepted vs. rejected records) and relevant literature references.

Introduction

This publication lists all species of Galapagos Terrestrial Nematodes currently known.

Nematodes are a group of roundworms which are common in moist habitats such as wet soils, plant tissue, and the body fluid and tissues of animals. Nematodes have a cylindrical, non-segmented body that ranges from 1 millimeter to over a meter in length in some taxa, with a tapered posterior tip and a blunt anterior head. They are covered in a cuticle which sheds periodically as the organism grows.

Although they lack a circulatory system, nematodes have a complete digestive system and are able to transport nutrients through their bodies using a fluid in the pseudocoelom body cavity. Nematode movement is controlled by longitudinal muscles which contract to produce a thrashing motion (Campbell & Reece, 2002).

Nematodes play an important role in decomposition and nutrient cycles, however they are also capable of becoming pests and health hazards, with some taxa attacking agricultural plants or parasitizing animals (Campbell & Reece, 2002).

Terrestrial nematodes have been found on several of the Galápagos Islands, including: Santa Cruz, Floreana, Fernandina, Española, Santa Fé, and Isabela. Some nematode species in the Galápagos (including some members of Atractis sp.) are parasitic, and have been known to use Galápagos giant tortoises as hosts on Isla Santa Cruz (Bursey & Flanagan, 2002).

Methods

This checklist of all known Galapagos Terrestrial Nematodes is automatically generated using the online database of the Charles Darwin Foundation Galapagos Species Checklist.

All CDF Galapagos Species Checklists represent the synthesis of many different records: literature citations, data from previously unpublished reports (grey literature), specimen records of natural history collections located in Galapagos and all over the world. To the best of their knowledge authors of the individual checklists revised all available data. When new information becomes available,

the taxonomy of a group changes or new species are discovered, the CDF online database and thus this publication becomes updated.

For many poorly known species groups the higher taxonomic classification still regularly changes according to how our knowledge about species being related changes. In many well known groups the phylogeny is somewhat stable, but to avoid confusion, in particular for groups where taxonomic changes are frequent, all checklists presented here are sorted alphabetical according to genus name and specific epithet. Please refer to the website for the currently accepted taxonomic hierarchy of each group.

Please be aware that the distribution presented here is automatically generated from specimen records and does not always accurately reflect the known distribution for all species.

For marine species, the distribution generally refers to the five main bioregions of the archipelago (Far Northern, Northern, Western, South Eastern and the Elisabeth Bay Bioregion). For the terrestrial species more than 120 islands, islets and small rocks have been aggregated into Islands Groups, thus, for example, the island group "Santa Cruz" includes smaller islands like Santa Fé, Plaza Norte, Plaza Sur, Baltra, Daphne Mayor, Daphne Minor, and others.

IUCN red-list assessments presented here may deviate from the global IUCN list for the following reasons:

- for well known species groups like vascular plants or vertebrates updates proposed to the IUCN are shown instead of the outdated, but currently accepted status;
- for poorly known species groups (e.g., lichenized fungi) a general assessment is currently not possible and the list presented here is a regional red-list list for Galapagos archipelago.

Numbers of the species included in this list are auto-generated. Adding up the number of species in each category will not always equal the total number indicated. Some species have insufficient data to be categorized while others (e.g., category eradicated) will not be included in the total.

Results

Names of taxa included in this checklist: 14 (9 accepted, 4 unidentified taxon, 1 new to science).

Origin of the taxa included: 2 accidental.

1. ***Ancylostoma caninum*** (Ercolani, 1859) Hall, 1913
   Taxon status: Accepted name; taxon occurs in Galapagos.
   Origin: No Data.
   Galapagos Distribution: Santa Cruz.
   References: Gingrich, E.N. et al. (2010).

2. ***Ascaridia galli*** Schrank, 1788
   Taxon status: Accepted name; taxon occurs in Galapagos.
   Origin: No Data.
   Galapagos Distribution: Santa Cruz.
   References: Gottdenker, N.L. et al. (2005).

3. ***Atractis marquezi*** Bursey & Flanagan, 2002
   Taxon status: Accepted name; taxon occurs in Galapagos.
   Origin: No Data.
   Galapagos Distribution: Santa Cruz.
   References: Bursey, C.R. et al. (2002).

4. ***Capillaria sp.***
   Taxon status: Taxon not identified to species, subspecies, form or variety.
   Origin: No Data.

Galapagos Distribution: Santa Cruz.
References: Gottdenker, N.L. et al. (2005), Parker, P.G. et al. (2006).

5. ***Contracaecum sp.***
Taxon status: Taxon not identified to species, subspecies, form or variety.
Origin: No Data.
Galapagos Distribution: Santa Cruz.
References: Gottdenker, N.L. et al. (2008), Parker, P.G. et al. (2006).

6. ***Dirofilaria immitis*** (Leidy, 1856)
Taxon status: Accepted name; taxon occurs in Galapagos.
Origin: Introduced, Accidental.
Galapagos Distribution: Isabela.
References: Levy, J.K. et al. (2008).

7. ***Dispharynx sp.***
Taxon status: Taxon not identified to species, subspecies, form or variety.
Origin: No Data.
Galapagos Distribution: Santa Cruz.
References: Gottdenker, N.L. et al. (2005), Gottdenker, N.L. et al. (2008), Parker, P.G. et al. (2006).

8. ***Gen. nov. Onchocercidae indet. sp. nov.***
Taxon status: Unpublished name (Nomen nudum).
Origin: No Data.
Galapagos Distribution: Santa Cruz.
References: Merkel, J. et al. (2007), Parker, P.G. et al. (2006), Siers, S. et al. (2010).

9. ***Heterakis gallinarum*** Schrank, 1788
Taxon status: Accepted name; taxon occurs in Galapagos.
Syn.: Heterakis gallinae
Origin: No Data.
Galapagos Distribution: Santa Cruz.
References: Gottdenker, N.L. et al. (2005).

10. ***Oxyspirura mansoni*** (Cobbold, 1879)
Taxon status: Accepted name; taxon occurs in Galapagos.
Origin: No Data.
Galapagos Distribution: Santa Cruz.
References: Gottdenker, N.L. et al. (2005).

11. ***Punchaulus gemellensis*** De Ley & Coomans, 1996
Taxon status: Accepted name; taxon occurs in Galapagos.
Origin: No Data.
Galapagos Distribution: Santa Cruz.
References: De Ley, P. et al. (1996).

12. ***Tetrameres sp.***
    Taxon status: Taxon not identified to species, subspecies, form or variety.
    Origin: No Data.
    Galapagos Distribution: Santa Cruz.
    References: Gottdenker, N.L. et al. (2005).

13. ***Toxocara canis*** Werner, 1782
    Taxon status: Accepted name; taxon occurs in Galapagos.
    Origin: Introduced, Accidental.
    Galapagos Distribution: Santa Cruz.
    References: Gingrich, E.N. et al. (2010).

14. ***Tylocephalus auriculatus*** Anderson, 1966
    Taxon status: Accepted name; taxon occurs in Galapagos.
    Origin: No Data.
    Galapagos Distribution: Santa Cruz.
    References: De Ley, P. et al. (1996).

Acknowledgements

We are grateful for the financial report received for this project. Please refer to the website (www.darwinfoundation.org/datazone/checklist/) for a detailed list of all our donors.

This checklist would not be possible without adjunct and collaborating scientists, and volunteers of the Charles Darwin Foundation. The following scientists and volunteers have contributed to the CDF Checklist of Galapagos Terrestrial Nematodes: Henri W. Herrera.

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