

**ENDOPARASITES OF SOME AMPHIBIA,
REPTILES AND SMALL MAMMALS
FROM TRINIDAD.**

by C. O. R. Everard
(Trinidad Regional Virus Laboratory,
P.O. Box 164, Port-of-Spain).

During field studies on the virology and ecology of arboreal and terrestrial vertebrates collected from northern Trinidad during the past 10 years, animals that were killed, or those that died, were examined for endoparasites, including some haemoparasites. The main collection areas were Chaguaramas, the north coast road to Maracas, Santa Cruz Valley, the sugar cane belt in the Piarco area, Aripo Savannahs/Waller Field, Turure Forest, and Vega de Oropuche.

The endoparasites identified are listed under the host animals found infected. Local and English language common names, where known, are given for the host species to assist with recognition. Data on the sites of parasitic infection have been omitted from the following lists.

AMPHIBIA

HOST

Bufo marinus (Linn.), Common toad: Crapaud; SALIENTIA – Bufonidae.

ENDOPARASITES

Choledocystus Revera & Cuocola (probably *intermedius*);
TREMATODA.

Oswaldocruzia mazzai Travassos; NEMATODA – Strongyloidea.
Ochoterenella Caballero; NEMATODA – Filarioidea.

REPTILIA

HOST

Ameiva ameiva Cope, Zandolee; LECERTILIA – Teiidae.

ENDOPARASITES

Oochoristica Lühe; CESTODA – Cyclophyllidea.

Physaloptera Rudolphi; NEMATODA – Spiruroidea.

Spinicauda amarali Pereira; NEMATODA – Oxyuroidea.

Saurositus Macfie; NEMATODA – Filarioidea.

Piratuba Freitas & Lent (possibly a new species); NEMATODA – Filarioidea. *

Centrorhynchus Lühe (possibly *spinosum*); ACANTHOCEPHALA.

Tupinambis nigropunctatus Spix., Matte; LACERTILIA – Teiidae.

Physaloptera Rudolphi; NEMATODA – Spiruroidea.

Amphisbaena alba Linn., Two-headed snake; Bachac snake; LACERTILIA – Amphisbaenidae.

Raillietiella (Diesing) Sambon (probably *giglioli*); PENTASTOMIDA Cephalobaenida.

Epicrates cenchria maurus Gray, Rainbow boa; Mapepire Velour or Jack; OPHIDIA – Boidae.

Hastospiculum onchocercum Chitwood; NEMATODA – Filarioidea.

Corallus enydris cookii Gray, Cook's tree boa; Cascabel or Mapanare; OPHIDIA – Boidae.

Haemogregarina Danilewsky (possibly *lühei*); PROTOZOA – Coccidia.

Drancunculus Reichard; NEMATODA – Dracunculoidea.

Boa constrictor constrictor (Linn.), Common boa; Macajuel; OPHIDIA – Boidae.

Haemogregarina Danilewsky (possibly *terzii*); PROTOZOA – Coccidia.

Haemogregarina Danilewsky (possibly *juxtannucleare*); PROTOZOA - Coccidia.

Ophiotaenia La Rue (possibly *grandis*); CESTODA – Proteocephaloidea.

Crepidobothrium gerrardi Baird; CESTODA – Proteocephaloidea.

Kalicephalus chitwoodi Caballero; NEMATODA – Strongyloidea.

- Physaloptera** Rudolphi; NEMATODA – Spiruroidea.
- Hastospiculum onchocercum** Chitwood; NEMATODA – Filarioidea.
- Dracunculus** Reichard; NEMATODA – Dracunculoidea.
- Porocephalus clavatus** (Wyman) Sambon; PENTASTOMIDA – Porocephalida.
- Spilotes pullatus pullatus** (Linn.), Tigre or Tigro; OPHIDIA – Colubridae (Aglypha).
- Haemogregarina** Danilewsky; PROTOZOA – Coccidia.
- Chironius carinatus** (Linn.), Golden tree snake: Yellow Matchete; OPHIDIA – Colubridae (Aglypha).
- Haemogregarina** Danilewsky; PROTOZOA – Coccidia.
- Pseustes poecilonotus polylepsis** (Peters), Liana snake or Bird-eating snake; OPHIDIA – Colubridae (Aglypha).
- Raillietiella** (Diesing) Sambon; PENTASTOMIDA – Cephalobaenida.
- Leimadophis reginae reginae** (Linn.), High woods coral or Reticulated snake; OPHIDIA – Colubridae (Aglypha).
- Centrorhynchus** Luhe (possibly a new species); ACANTHOCEPHALA. *
- Onicola** Travassos or **Oligacanthorhynchus** Travassos; ACANTHOCEPHALA.
- Raillietiella** (Diesing) Sambon (probably **furcocerca** or **bicaudata**); PENTASTOMIDA – Cephalobaenida.
- Clelia clelia clelia** (Daudin), Cribo or Mussurana; OPHIDIA – Colubridae (Opisthoglypha).
- Onicola** Travassos or **Oligacanthorhynchus** Travassos; ACANTHOCEPHALA.
- Kiricephalus** (Stephens); PENTASTOMIDA – Cephalobaenida. †
- Lachesis muta muta** (Linn.), Bushmaster: Mapepire Z'anana; OPHIDIA – Viperidae.
- Haemogregarina** Danilewsky (possibly **seligmanni**); PROTOZOA – Coccidia.
- Crepidobothrium gerrardi** Baird; CESTODA – Proteocephaloidea. †

Kalicephalus Molin NEMATODA – Strongyloidea.

Porocephalus clavatus (Wyman) Sambon; PENTASTOMIDA – Porocephalida.

Bothrops atrox (Linn.), Fer-de-lance: Mapepire Balsin; OPHIDIA – Viperidae.

Porocephalus clavatus (Wyman) Sambon; PENTASTOMIDA –

MAMMALIA

HOST

Didelphis marsupialis marsupialis Linn., Black-eared Opossum: Manicou; MARSUPIALIA – Didelphidae.

ENDOPARASITES

Hamanniella microcephala Rudolphi; ACANTHOCEPHALA.

Marmosa fuscata carri (J. A. Allen & Chapman), Lesser Trinidadian Murine Opossum; MARSUPIALIA – Didelphidae.

Skrjabinofilaria skrjabini Travassos; NEMATODA – Filarioidea.

Porocephalus (juveniles); PENTASTOMIDA – Porocephalida.

Marmosa mitis chapmani J. A. Allen, Greater Trinidadian Murine Opossum; MARSUPIALIA – Didelphidae.

Aspidodera Railliet & Henry; NEMATODA – Oxyuroidea.

Aspidodera raillieti Travassos; NEMATODA – Oxyuroidea.

Trichuris Roederer; NEMATODA – Trichuroidea.

Skrjabinofilaria skrjabini Travassos; NEMATODA – Filarioidea.

Porocephalus (juveniles); PENTASTOMIDA – Porocephalida.

Caluromys philander trinitatis (Thomas), Woolly Opossum: Manicou gros-yeux; MARSUPIALIA – Didelphidae.

Skrjabinofilaria skrjabini Travassos; NEMATODA – Filarioidea.

Rattus norvegicus (Berkenhout), Norway Rat or Wharf Rat (introduced); RODENTIA – MURIDAE.

Moniliformis moniliformis Bremser; ACANTHOCEPHALA.

Rattus rattus rattus (Linn.), Black Rat or Roof Rat (introduced); RODENTIA – Muridae.

Taenia taeniaeformis (Batsch) cysticercus; CESTODA Cyclophyllidea.

Oryzomys capito velutinus (J. A. Allen & Chapman), Terrestrial Rice Rat: RODENTIA – Cricetidae.

Trypanosoma forattini Coutinho & Pattoli; PROTOZOA – Protomonadina. †

Porocephalus (juveniles); PENTASTOMIDA – Porocephalida.

Akodon urichi J. A. Allen & Chapman, Grass Mouse; RODENTIA – Cricetidae.

Trypanosoma Gruby; PROTOZOA – Protomonadina.

Hymenolepis diminuta Rudolphi; CESTODA – Cyclophyllidae.

Aspidodera Railliet & Henry; NEMATODA – Oxyuroidea.

Trichuris Roederer; NEMATODA – Trichuroidea.

Protospirura Seurat; NEMATODA – Spiruroidea.

Heligmosomum Railliet & Henry; NEMATODA - Strongyloidea.

Porocephalus (juveniles); PENTASTOMIDA – Porocephalida.

Zygodontomys brevicauda brevicauda (J. A. Allen & Chapman), Trinidadian Cane Rat; RODENTIA – Cricetidae.

Hymenolepis diminuta Rudolphi; CESTODA – Cyclophyllidae.

Physaloptera Rudolphi; NEMATODA – Spiruroidea.

Heteromys anomalus anomalus (Thompson), Trinidadian Spiny Pocket Mouse or Pouched Rat; RODENTIA – Heteromyidae.

Heligmodendrium Travassos; NEMATODA – Strongyloidea.

Proechimys guyanensis trinitatis (J. A. Allen & Chapman), Lesser Trinidadian Spiny Rat; Long-tailed Pileri; RODENTIA – Echiomyidae.

Trypanosoma Gruby (possibly *rangeli* complex); PROTOZOA – Protomonadina.

Heligmosomum Railliet & Henry; NEMATODA – Strongyloidea.

Dipetalonema proechimyis Esslinger; NEMATODA – Filarioidea. *

Porocephalus (juveniles); PENTASTOMIDA – Porocephalida.

Echimys armatus castaneus (J. A. Allen & Chapman), Greater Trinidadian Spiny Rat of Porcupine Rat: Pileri; RODENTIA – Echiomyidae.

Dipetalonema proechimyis Esslinger; NEMATODA – Filarioidea. *

Herpestes auropuncattus (Hodgson), Small Indian Mongoose (introduced); CARNIVORA – Viverridae.

Physaloptera Rudolphi; NEMATODA – Spiruroidea.

Skrjabimocapillaria (possibly a new species) NEMATODA – Trichuroidea. *

Capillaria Zeder; NEMATODA – Trichuroidea.

* New species or presumptive new species

+ New record for Trinidad

† New host record.

New species described within the past year, or preliminary identifications which indicate a new species previously unknown to science are marked with an asterisk (*). Besides these new records, other endoparasites which have not been previously found on Trinidad are marked with a plus sign (+). A new host record has been indicated as follows: (†). Additional new records for Trinidad are probably contained within these lists, but they have not been included because of uncertainty. Species identification has not been possible in several instances because juvenile forms were represented, other stages in the life history required for complete identification were not present, or identifications could not be made from some genera containing a large number of species. These lists form an adjunct to the previous publications on Trinidadian endoparasites listed in the bibliography.

I am greatly indebted to Dr. L. F. Khalil and the Commonwealth Institute of Helminthology, St. Alban's AL1 3EW, England, for identifying the majority of the helminth parasites. In addition, I should like to thank the several other parasitologists who have assisted in identifying the following material.

Trypanosomes – Dr. O. E. Sousa, Gorgas Memorial Laboratory, P.O. Box 2016, Balboa Heights, Canal Zone.

Haemogregarines – Dr. G. H. Ball, Department of Zoology, University of California, Los Angeles, California.

Acanthocephala – Prof. G. D. Schmidt, University of Northern Colorado, Greeley, Colorado.

Filaria from some of the mammals – Dr. J. H. Esslinger, School of Public Health and Tropical Medicine, Tulane University, New Orleans, Louisiana.

Dracunculus and some filaria from snakes – Dr. R. Muller, London School of Hygiene and Tropical Medicine, London WC1 E7HT.

Two filaria from Amphibia and lizards – Dr. J. F. Schacher,

Division of Infectious and Tropical Diseases, School of Public Health,
University of California, Los Angeles, California.

Pentastomida – Prof. J. Teague Self, University of Oklahoma,
Norman, Oklahoma.

In addition, I would like to acknowledge, with thanks some specimens from *Lachesis* and *Proechimys* provided by Dr. E. S. Tikasingh and the technical assistance of Mrs. Lilawatee Bhagwandin, both of the Trinidad Regional Virus Laboratory. The studies and observations on which this note is based were conducted with the support and under the auspices of the Overseas Development Administration of the United Kingdom Government, the Medical Research Council of Great Britain, the Commonwealth Institute of Helminthology, the Trinidad Regional Virus Laboratory. The Rockefeller Foundation, and the Governments of Trinidad and Tobago, Jamaica, Guyana, Barbados, and the East Caribbean Territories.

REFERENCES

- Ashcroft, M. T. 1965. A hsitory and general survey of the helminth and protozoal infections of the West Indies, *Ann. Trop. Med. Par.*, 59: 478–493.
- Baylis, H. A. 1947. Some roundworms and flatworms from the West Indies and Surinam – I. Nematodes and Acanthocephala. *J. Linn. Soc., Zool. Sect.*, 41 (1940–1950): 394–405.
- Baylis, H. A. 1947. Some roundworms and flatworms form the West Indies and Surinam. II. Cestodes. *J. Linn. Soc., Zool. Sect.*, 41 (1940–1950): 406–414.
- Cameron, T. W. M. 1935. Studies on the endoparasitic fauna of Trinidad mammals – I. Some parasites of Trinidad deer. *Can. J. Research*, 13 (D): 89–96.
- Cameron, T. W. M. 1936. Studies on the endoparasitic fauna of Trinidad mammals – II. Additional parasites from Trinidad deer. *Can. J. Research*, 14 (D): 1–5.
- Cameron, T. W. M. 1936. Studies on the endoparasitic fauna of Trinidad mammals – III. Some parasites of Trinidad carnivores. *Can. J. Research*, 14 (D): 25–38.
- Cameron, T. W. M. 1936. Studies on the endoparasitic fauna of Trinidad mammals – IV. Further parasites from Trinidad deer. *Can. J. Research*, 14 (D): 165–167.
- Cameron, T. W. M. 1937. Studies on the endoparasitic fauna of

- Trinidad mammals – V. Further parasites from the ocelot. *Can. J. Research*, 15 (D): 24–27.
- Cameron, T. W. M. 1939. Studies on the endoparasitic fauna of Trinidad mammals – VI. Parasites of endentates, *Can. J. Research*, 17 (D): 249–264.
- Cameron, T. W. M. and Reesal, M. R. 1951. Studies on the endoparasitic fauna of Trinidad mammals – VII. Parasites of hystricomorph rodents. *Can. J. Zool.*, 29: 276–289.
- Esslinger, J. H. 1974. Two new species of *Dipetalonema* (Nematoda: Filarioidea) from neotropical echimyid rodents. *J. Parasit.*, 60 (3): 473–479.
- Everard, C. O. R., and Sousa, O. E. 1972. Recovery of *Trypanosoma forattini* Coutinho and Pattoli from Trinidadian rodent. *Rev. Saude publ.*, S. Paulo, 6: 283–285.
- Everard, C. O. R., Tikasingh, E. S., and Davies, J. B. 1974. The biology of *Dipetalonema proechimyis* Esslinger, 1974 (Nematoda: Filarioidea) in Trinidad. *J. Parasit.*, 60 (3): 556–558.
- Muller, R. 1971. *Dracunculus* and Dracunculiasis, p. 73–151. In: *Advances in Parasitology*, Vol. 9, (Dawes, B. Ed.), Academic Press, London and New York, 275 pp.
- Prudhoe, S. 1947. Some roundworms and flatworms from the West Indies and Surinam – III. Trematodes. *J. Linn. Soc., Zool. Sect.*, 41 (1940–1950): 415–419.
- Self, J. T. 1972. Pentastomiasis: Host responses to larval and nymphal infections. *Trans. Amer. Micros. Soc.*, 91: 2–8.
- Wolfgang, R. W. 1951. Studies on the endoparasitic fauna of Trinidad mammals – VIII. Parasites of marsupials. *Can. J. Zool.*, 29: 352–373.
- Wolfgang, R. W. 1953. Studies on the endoparasitic fauna of Trinidad mammals – IX. *Didelphonema*, a new genus of nematode from marsupials. *Can. J. Zool.*, 31: 519–521.
- Wolfgang, R. W. 1954. Studies on the endoparasitic fauna of Trinidad mammals – X. Parasites of Chiroptera. *Can. J. Zool.*, 32: 20–24.