Some Acanthocephalans from Panama and Colombia[1]

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ABSTRACT: Eighteen species of Acanthocephala (in 11 genera) are listed from neotropical Panama and Colombia. Of these species, 10 are new locality records. Additionally, the findings of: *Centrorhynchus giganteum* in *Buteogallus urubitinga* and *Leucopternis semiplumbea*; *Oncicola oncicola* in *Felis wiedii*; and *Quadrigyrus torquatus* in *Hoplias microlepis* represent new host records.

Little is known of the acanthocephalans of Panama and Colombia. Only a few reports of these parasites in the area have been published (e.g., Dunn, 1934; Calero et al., 1950; Takos and Thomas, 1958; Thatcher and Porter, 1968; Nickol and Thatcher, 1971).

The present paper is a list of the acanthocephalans which we have encountered in vertebrate hosts during the past 9 years in the two countries.

Materials and Methods

Acanthocephalans were removed from the intestinal tracts of the hosts by inserting dissecting needles near the proboscides. They were then left in tap water until turgid with the proboscides extruded. They were fixed in a heated solution of alcohol–formalin–acetic acid (AFA), stained in Mayer's carmalum stain, cleared in methyl salicylate, and mounted in Canada balsam.

Results and Discussion

Acanthocephala Rudolphi, 1808

Family Centrorhynchidae Van Cleave, 1916

Centrorhynchus albidus Meyer, 1932

HOST: *Micrastur semitorquatus* (Vieillot) (collared forest-falcon).

SITE: Lower intestinal tract.

LOCALITY: Chilibre, Provincia de Panama, Panama. R. P.

Ninety-eight specimens of this species were recovered from a single collared forest-falcon obtained near Panama City.

Centrorhynchus tumidulus (Rud., 1819)

HOST: *Heterospizias meridionalis* (Latham) (savanna hawk).

SITE: Lower intestinal tract.

LOCALITIES: Province of Panama, R. P.; Department of Meta, Colombia.

This species was found in one savanna hawk in Panama, and in a hawk of the same species in eastern Colombia. Four specimens of *C. tumidulus* were recovered from each of these two birds. This parasite has been reported previously from Brazil, Cuba, Uruguay, Venezuela, and India. We report the species in Panama and Colombia for the first time.

Centrorhynchus giganteus Travassos, 1921

HOSTS: *Heterospizias meridionalis* (Latham) (savanna hawk); *Buteogallus urubitinga* (Gmelin) (great black hawk); *Leucopternis semiplumbea* Lawrence (semiplumbeous hawk).

SITE: Lower intestinal tract.

LOCALITIES: Provinces of Panama and Colon, R. P.

From four to 42 specimens of this parasite were recovered from one each of the host hawks listed above. In the savanna hawk, *C. giganteus* was found in a mixed infection with *C. tumidulus*, and in the great black hawk, it was accompanied by *Oligacanthorhynchus iheringi*. The findings of *C. giganteus* in the great black hawk and the semiplumbeous hawk represent new host records, and this acanthocephalan has not been reported previously from the Republic of Panama.

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Centrorhynchus sp.

HOST: *Leucopternis princeps* (Schlater) (barred hawk).

SITE: Lower intestinal tract.

LOCALITY: Anchicaya, Valle, Colombia.

Two specimens of the rare barred hawk were examined, and they contained 2 and 182 specimens of an unidentified species of *Centrorhynchus*, respectively. Because of poor fixation of the parasites, it has not been possible to fully identify them, but they appear to represent an undescribed species.

Family Oligacanthorhynchidae Southwell and Macfie, 1925

Oligacanthorhynchus iheringi Travassos, 1917

HOST: *Buteogallus urubitinga* (Gmelin) (great black hawk).

SITE: Lower intestinal tract.

LOCALITY: Pacora, Province of Panama, R. P.

Nine specimens of this species were encountered in a single great black hawk killed near Panama City. These specimens were found in a mixed infection with 42 specimens of *C. giganteus*. This is a new locality record for the species.

Hamanniella microcephalus (Rud., 1819)

HOST: *Didelphis marsupialis* L. (common opossum); *Metachirus nudicaudatus* L. (brown-masked opossum).

SITE: Lower intestinal tract.

LOCALITIES: Province of Panama and Colon, Panama; Departments of Valle, Cauca, Chocó, and Meta, Colombia.

This conspicuous and widespread species is common in the opossums of Panama and Colombia. In Panama the species has been collected from both the Pacific and Caribbean coasts, and in Colombia we have seen specimens from the Pacific coastal lowlands, the Andean valleys, and the eastern plains area. This species has been taken in Colombia from sea level to about 6,000 feet in elevation. It is probable that *H. microcephala* occurs throughout both of these countries wherever the common opossum is able to survive. The infection rate for the species is about 10 to about 50% and the intensity of infection ranges from one to about eight worms per host.

Prosthenorchis elegans (Diesing, 1851)

HOST: *Saguinus geoffroyi* Pucheran (marmoset).

SITE: Lower intestinal tract.

LOCALITY: Province of Panama, R. P.

This species was reported in the marmosets of Panama by Thatcher and Porter (1968). They reported seven of 161 marmosets infected with one to 12 worms per host. This parasite apparently infects jungle populations of marmosets at a very low level, but it can become a serious problem in animals that are kept in captivity for any length of time. There can be no doubt that *P. elegans* does cause deaths in marmoset and monkey colonies as has been pointed out by Takos and Thomas (1958).

Prosthenorchis lenti Machado, 1950

HOST: *Saguinus geoffroyi* (marmoset).

SITE: Lower intestinal tract.

LOCALITY: Province of Panama, R. P.

Three specimens of this species were reported from two marmosets in Panama by Thatcher and Porter (1968). *P. lenti* is smaller than *P. elegans* and it lacks the cephalic collar.

Prosthenorchis luehei Travassos, 1917

HOST: *Nasua narica* L. (coatimundi).

SITE: Lower intestinal tract.

LOCALITIES: Provinces of Panama and Colon, R. P.

This species was found in two of two coatis from Central Panama with infections of 23 and 47 worms per host. Chandler (1953) reported a natural infection of *Prosthenorchis* in a coati from Mexico. He called his specimens *P. spirula* accepting the opinion of Dollfus (1938) that *P. luehei* is synonymous with *P. spirula*. Discovery that *P. luehei* parasitizes Panamanian coatis helps bridge the discontinuity in distribution of this species. The fact that *P. spirula* was not present in Panamanian primates, including 251 specimens representing five species of Cebidae examined by Thatcher and Porter (1968), adds evidence that *P. luehei* is a distinct species.

Prosthenorchis procyonis Machado, 1950

HOST: *Procyon cancrivorus* Cuvier (crab-eating raccoon).

SITE: Lower intestinal tract.

LOCALITY: Province of Colon, R. P.

Eight specimens of this species were obtained from a single crab-eating raccon in Panama. Two juvenile hosts of the same species were negative for the parasite. This paper represents the first report of *P. procyonis* in Panama.

Oncicola oncicola (Ihering, 1892)

HOST: *Felis onca* L. (jaguar); *F. wiedii* Gray (margay cat); *F. pardalis* L. (ocelot).

SITE: Lower intestinal tract.

LOCALITIES: Province of Colon, R. P.; Departments of Choco and Meta, Colombia.

This species was found in three of three jaguars in Panama, one of two ocelots in Colombia, and one of one margay cats in Colombia. The number of worms per host ranged from six to more than 100. The present paper represents a range extension for the species, and the margay cat is a new host record.

Macracanthorhynchus hirudinaceus (Pallas, 1781)

HOST: *Sus scrofa* L. (domestic pig).

SITE: Lower intestinal tract.

LOCALITY: Department of Valle, Colombia.

This species is a common parasite of pigs in Valle, Colombia. Many specimens of the species have been seen, but no special study has been made to determine the infection rate or intensity.

Family Gigantorhynchidae Hamann, 1892

Gigantorhynchus echinodiscus (Diesing, 1851)

HOST: *Tamandua tetradactyla* L. (anteater).

SITE: Intestinal tract.

LOCALITY: Province of Panama, R. P.

Dunn (1934) reported this species from a captive anteater at the Gorgas Memorial Laboratory in Panama City. Although eight anteaters of the same species were examined in Panama, and two were autopsied in Colombia, this species was not seen in the present study.

Gigantorhynchus ortizi Sarmiento, 1954

HOST: *Metachirus nudicaudatus* L. (brown-masked opossum).

SITE: Lower intestinal tract.

LOCALITIES: Darien Province, R. P.; Departments of Choco, Meta, and Nariño, Colombia.

This species was originally described from the brown-masked opossum from Peru. It has not been reported from any other country. *G. ortizi* appears to be host specific for *M. nudicaudatus*, and in this host the infection rate approaches 100%. Numerous worms per host (20 to 60) are the rule, and in several of the hosts examined, the intestinal tract appeared to be nearly occluded by these parasites.

Family Neoechinorhynchidae Van Cleave, 1919

Neoechinorhynchus prochilodorum Nickol and Thatcher, 1971

HOST: *Prochilodus reticulatus* Steindachner ("bocachico," small-mouthed fish).

SITE: Intestinal diverticula.

LOCALITIES: Sonso Lake and Cauca River (at Cali), Valle, Colombia.

The type locality of this species is the Sonso Lake, Valle, Colombia. Since the original description, we have found this species in the same fish host from the Cauca River.

Gorytocephalus plecostomorum Nickol and Thatcher, 1971

HOST: *Plecostomus plecostomus* L. (armored catfish).

SITE: Intestinal tract.

LOCALITY: Cárdenas River, Province of Panama, R. P.

This species has been found only in the type host and in the type locality. Three other genera of armored catfish (*Pseudancistrus*, *Chaetostomus*, and *Sturisoma*) were examined in Colombia and were found to be negative for acanthocephalans. *G. plecostomorum* may well be of limited distribution.

Family Quadrigyridae Van Cleave, 1920

Quadrigyrus torquatus Van Cleave, 1920

HOST: *Hoplias microlepis* (Günther) (dogfish).

SITE: Intestinal tract.

LOCALITY: Juan Mina, Chagres River, Panama Canal Zone.

Four specimens of this species were obtained from a single dogfish from the Chagres River in Central Panama. *Q. torquatus* was described from Venezuela, and has been reported from Surinam (Ortlepp, 1924). The present paper presents new host and locality records for the species.

Family Moniliformidae Van Cleave, 1924

Moniliformis moniliformis (Bremser in Rud., 1819)

HOST: *Rattus rattus* L. (common rat); accidentally in *Aotus trivirgatus* Humboldt (night monkey).

SITE: Lower intestinal tract.

LOCALITY: Province of Panama, R. P.

This species was seen commonly in the rats of Panama City, and Calero et al. (1950) reported an infection rate of 16%. A single immature specimen of *M. moniliformis* was also recovered from the intestinal tract of a night monkey in Panama. This specimen has been reported by Thatcher and Porter (1968), who regarded it as an accidental infection. Vives and Zeledón (1957) reported an infection rate of 18.4% for this species in the rats of Costa Rica.

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