

SOME HELMINTHS OF THE WOOLLY  
OPOSSUM IN PANAMA<sup>1</sup>

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This paper contains descriptions of five apparently new species of helminths which have been collected in Panama from the Pale Woolly Opossum, *Philander laniger pallidus* Thomas.<sup>2</sup> One of these, a filarial worm from the body cavity, appears to require a new genus for which the name *Cortiamosoides* is proposed. The other four are members, respectively, of the nematode genera *Trichuris* and *Subulura* and of the trematode genera *Opisthorchis* and *Platynosomum*. In addition, brief notes are given on some other helminths which have been encountered in this same host.

*Cortiamosoides* n. g.

*Diagnosis.* Filarioidea; Dipetalonematidae; Dipetalonematinae: With a conspicuously projecting buccal capsule and, in both sexes, a digitiform posterior extremity which is decorated with conical processes. Eight head papillae. Mouth opening circular, without lips. Buccal walls heavily chitinized, continuous with those of a narrower cylindrical vestibule. Esophagus muscular throughout. Rectum well developed, with cuticular lining in both sexes. Anus at some distance from posterior extremity. Nerve ring not close to anterior end but within the region of the first fourth of the esophagus and anterior to the vulva in the female. Tail of male coiled. Spicules unequal and dissimilar; the left longer with a tubular proximal portion, a twisted central portion, and a filamentous terminal portion; right spicule shorter with a tubular proximal portion and a curved, more delicate, distal portion. Caudal alae present, supported by paired postanal papillae. No preanal papillae. No accessory piece. Female opisthodelphic, the two uteri running antieriad, converging to form a long common trunk which continues antieriad into a relatively long vagina. Vagina terminating in a large muscular ovjector at the vulvar orifice. Vulva anterior, in region of esophagus. Eggs numerous, with delicate membranes, hatching *in utero*. Microfilariae without sheaths in blood stream. Parasites of the abdominal cavity of mammals (marsupials).

*Type species.* *Cortiamosoides philanderi* n. sp. *vide infra*.

*Cortiamosoides* is related to *Litomosoides* Chandler, 1931, but differs from this genus in the presence of conical processes on the posterior end, in the arrangement of papillae in the male, and in the more anterior position of the vulva in the female. Moreover, the structure of the buccal capsule in *Cortiamosoides* seems to distinguish this genus from other filarial genera.

<sup>1</sup> From The Gorgas Memorial Laboratory, Panama, R. P., Herbert C. Clark, M. D., Director.

<sup>2</sup> Host identification from Goldman (1920) page 54.

*Cortiamosoides philanderi* n. sp.

(Figs. 1-12)

*Diagnosis.* *Cortiamosoides*: Slender and cylindrical. Females about three times as long as males. Eight head papillae which appear to be arranged in submedian pairs, one of each pair being more prominent (Fig. 2). Cuticle (Fig. 12) thin, with delicate superficial transverse striations at intervals of 1 to  $2\mu$ , superimposed upon longitudinal bands varying from 6 to  $40\mu$  in width. A variable number of minute cuticular tubercles usually present on the anterior end of the male (Fig. 3). Head about  $50\mu$  in diameter in both sexes. Oral opening (Fig. 2) 5 to  $6\mu$  in diameter. Buccal walls, in profile view (Fig. 1), well chitinized. Buccal cavity wider than deep, about 11 by  $6\mu$ . Vestibule cylindrical and narrow, about  $6\mu$  deep, with cuticular walls continuous with those of the buccal capsule. Esophagus nearly uniform in diameter, varying from about  $20\mu$  anteriorly to  $32\mu$  posteriorly, about same length in both sexes, 770 to  $870\mu$ . Intestine straight and relatively narrow. Anus removed from posterior end. Tip of tail, in both sexes, with terminal, and paired subterminal, conical processes.

*Males* 29 to 55 mm. long by about  $180\mu$  in greatest diameter. Cloacal opening  $200\mu$  from posterior extremity. Tail loosely spiral, terminating in a cuticular projection on each side of which is a small conical process (Fig. 4). Anterior to these, another pair of lateral processes, one on each side. Caudal alae narrow and short, arising just anterior to the cloaca and extending about two-thirds of the distance from the anus to the tip of the tail. Each ala supported by five fleshy mobile papillae, all postanal. In some specimens, an additional pair of small, sessile, postanal submedian papillae. Left spicule (Fig. 6) longer, about  $255\mu$ , with a straight proximal portion about  $135\mu$ , a twisted middle portion about  $40\mu$ , and a terminal filamentous portion about  $80\mu$  in length. Right spicule (Fig. 7) shorter,  $140\mu$ , with a proximal straight portion about  $85\mu$  long, curved and alate distally.

## EXPLANATION OF PLATE I

*Cortiamosoides philanderi* n. g. and n. sp.

- FIG. 1. Side view of head of female.  
FIG. 2. Anterior view of head of female.  
FIG. 3. Anterior end of male.  
FIG. 4. Side view of tail of male.  
FIG. 5. Anterior end of female.  
FIG. 6. Left spicule.  
FIG. 7. Right spicule.  
FIG. 8. Ventral view of tail of female.  
FIG. 9. Side view of tail of female.  
FIG. 10. Unsheathed microfilariae from blood.  
FIG. 11. Sheathed larva from vagina of adult female.  
FIG. 12. Surface view of cuticle, highly magnified.

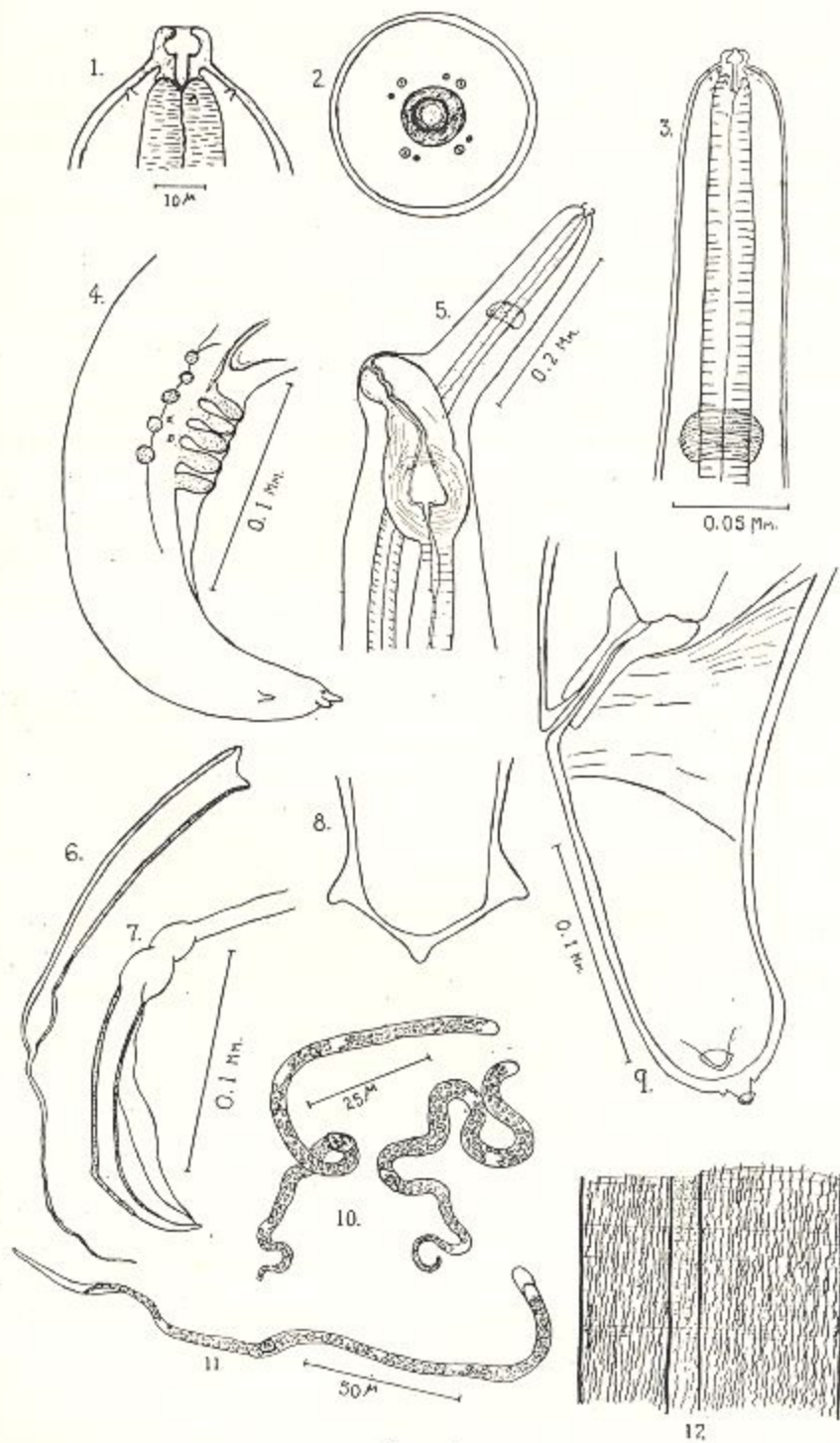


PLATE I



*Females* 86 to 150 mm. long by  $400\mu$  in maximum diameter. Anal orifice 200 to  $240\mu$  from posterior extremity. Tip of tail (Figs. 8, 9) provided with lateral conical processes. Vulva prominent, about  $280\mu$  from anterior end. Body, anterior to vulva, directed antero-dorsad and relatively narrow (Fig. 5). Two uteri, uniting at about 3.5 mm. from anterior end to form a common trunk (2 mm. long) continuous anteriorly with the vagina. Vagina 55 to  $70\mu$  in diameter, running anteriorly about  $800\mu$  to terminate in a thick muscular ovijector measuring about 100 to  $180\mu$ . Embryos *in utero* (Fig. 11) apparently normally with sheaths, measuring, exclusive of sheath, about  $170\mu$  by  $4\mu$ . Microfilariae from blood (Fig. 10) without sheaths, 135 to  $160\mu$  long by 4 to  $5\mu$  wide. First germ cell 77 to  $94\mu$  from anterior end, dividing the body in a ratio of about 6 to 4. Nerve ring from anterior end, 26 to  $36\mu$ ; excretory pore, 46 to  $56\mu$ ; anal pore, 103 to  $120\mu$ .

*Host.* *Philander laniger pallidus* Thomas.

*Location.* Body cavity.

*Locality.* Panama, R. P.

*Specimens.* U. S. Nat. Mus. Helm. Coll. 42988, type; 42989, paratype.

In 1934, Tisseuil described a filarial worm from the body cavity of *Philander philander* in South America which may have been the species described herein, but he gave no identification and only superficially described the parasite.

*Trichuris marsupialis* n. sp.

(Figs. 13-15)

*Diagnosis.* *Trichuris* (Trichinellidae). *Male.* Posterior part of body (Fig. 13) 4.2 to 4.5 mm., relatively long and slender, with an average diameter of  $180\mu$ . Anterior (esophageal) part somewhat variable in length but not more than twice as long as the posterior part, with a maximum diameter of  $120\mu$ . In the two specimens examined the esophago-intestinal junction was a little more than three-fifths of the body length from the anterior end. Testis (*t*) arising just behind origin of cloaca and running anteriorly to the esophagus where it turns back to form a broad vas deferens (*vd*), which is a straight tube about 1.4 mm. long, bearing one or two constrictions. Ejaculatory duct (*ed*) slightly longer (1.58 mm.) than the vas

EXPLANATION OF PLATE II

*Trichuris marsupialis* n. sp.

FIG. 13. Posterior part of body of male, *ct*, cloacal tube; *ed*, ejaculatory duct; *i*, intestine; *st*, spicular tube; *t*, testis; *vd*, vas deferens.

FIG. 14. Spicule sheath and spicule.

FIG. 15. Vulvar region of female.

*Subulura lanigeri* n. sp.

FIG. 16. Tail of male.

FIG. 17. Head of male.

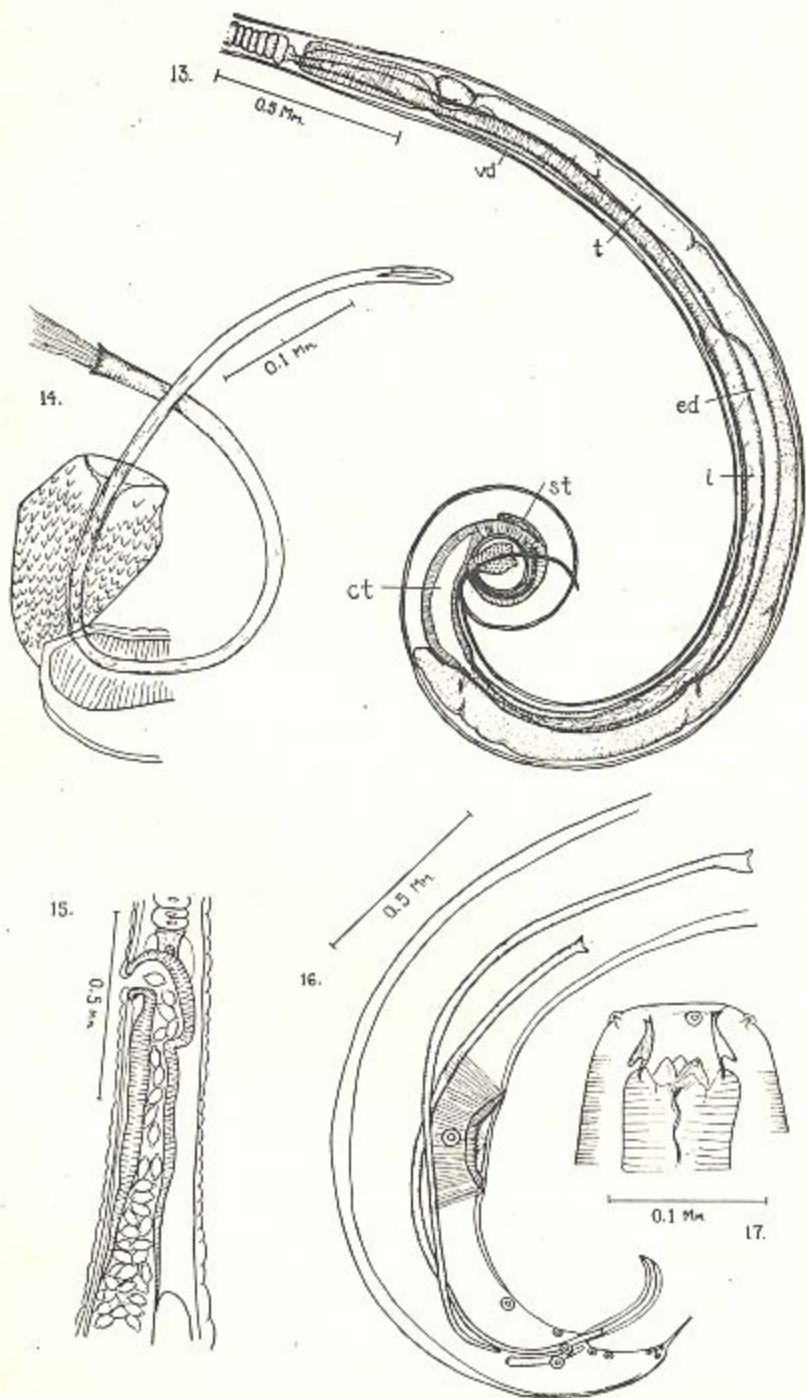


PLATE II

deferens. Cloacal tube (*cl*) thick and muscular, about  $865\mu$  long. At a point a little more than half way along the cloacal tube, the spicular tube (*st*) arises as a small forwardly directed diverticulum, about  $120\mu$  long. Spicule  $730\mu$  long, with a proximal diameter of  $16\mu$ , tapering to about  $4\mu$  near its tip. Spicule sheath (Fig. 14), short and broad, protrusible, and armed with anteriorly directed, blunt spines. Intestine (*i*) quite narrow throughout.

*Female*: Posterior part of body 6 mm. long by 400 to  $640\mu$  in diameter. Esophageal region 14.7 to 15.8 mm. with a maximum diameter of  $165\mu$ . The anterior portion of the body is, therefore, in the female, about  $2\frac{1}{2}$  times the length of the thick part of the body. Vulva (Fig. 15) slightly posterior ( $85\mu$ ) to esophago-intestinal junction, salient, with thick muscular sphincter. Ovary arising near the posterior end of the body and running anteriorly to the vulva, turning back as a narrow tube which immediately enlarges into a large uterine sac, filled with eggs, and occupying most of the body cavity. Vagina (including ovjector) long (about  $670\mu$ ) and narrow, containing eggs in tandem arrangement. Eggs 65 to  $68\mu$  by  $33\mu$ . Excluding the opercula, the eggs are about  $55\mu$  long.

*Host*. *Philander laniger pallidus* Thomas.

*Location*. Large intestine.

*Locality*. Panama, R. P.

*Specimens*. U. S. Nat. Mus. Helm. Coll. 42990, type; 42991, paratype.

Two whipworms have been described from marsupials, *Trichuris minuta* (Rudolphi, 1819) (reviewed by Chandler, 1930) and *T. peramelis* Baylis, 1932. An undetermined species was recorded by Dikmans in 1931. The present species resembles *T. minuta* in some respects. In *T. minuta*, however, the anterior portion of the body is relatively longer and the testis arises more posteriorly in the region of the spicular tube. There are, moreover, differences between male specimens of these species in the relative lengths of the reproductive organs. In *T. marsupialis*, for example, the vas deferens is relatively longer and the cloaca relatively shorter (only slightly longer than the spicule). Also *T. minuta* is a much larger species. Little is known of the variations occurring within either of these species, but it has seemed probable that the designation of the present species as new will prove to have been correct.

*Subulura lanigeri* n. sp.

(Figs. 16 and 17)

*Diagnosis*. *Subulura*. (Heterakidae). Male 10.2 mm. long by  $400\mu$  in greatest diameter. Female 16.2 mm. by  $600\mu$  or more. Cuticle with transverse and longitudinal striations. Four prominent submedian head papillae and two less conspicuous lateral papillae. Tail of both sexes terminating in a cuticular spike, 100 to  $160\mu$  long. Buccal capsule well developed (Fig. 17), nearly square, 33 to  $40\mu$  on a side. Three teeth, well developed. Esophagus,



including bulb, 1.2 mm. in the male. Anus to tip of tail in male, 310 $\mu$ . Spicules equal, 1.85 mm. long, alate. Gubernaculum triangular, grooved proximally on its ventral surface, 215 $\mu$  long. Sucker well developed, 520 $\mu$  anterior to cloaca, having a diameter, including rim, of 290 $\mu$ . Eleven pairs of caudal papillae situated as follows (Fig. 16): 1 lateral to sucker, 1 medio-lateral and 1 submedian between sucker and cloaca, 2 lateral to cloaca, 2 shortly postanal and medio-lateral, 2 caudal and medio-lateral; between the latter pairs, 2 additional pairs of lateral papillae, one pair being quite small. There are thus 3 pairs of preanal papillae, 2 pairs of adanal papillae, and 6 pairs of postanal papillae. In the female the vulva is located about 2/5 of the length of the worm from the anterior end, thus dividing the body in a 2:3 ratio.

*Host.* *Philander laniger pallidus* Thomas.

*Location.* Large Intestine.

*Locality.* Panama, R. P.

*Specimens.* U. S. Nat. Mus. Helm. Coll. 42992, type; 42993, paratype.

Two species of *Subulura* have been described from marsupials, *S. peramelis* Baylis, 1930 and *S. interrogans* Lent and Freitas, 1935. The present species is closely allied to these and somewhat intermediate between them. It differs from *S. peramelis* mainly in the structure of the cephalic extremity and in having fewer teeth, relatively shorter spicules, and a terminal tail-spike in the female. It is more nearly like *S. interrogans*, although it is distinctly longer, has a well developed buccal capsule and sucker, and lacks cervical alae. Also, the present species differs from both of the above in the number of caudal papillae described for the male.

*Opisthorchis pricei* n. sp.

(Figs. 18 and 19)

*Diagnosis.* *Opisthorchis*. (*Opisthorchidae*). Body elongate, flat, transparent, narrowing toward both extremities. Cuticula delicate, unarmed, and moderately striated longitudinally. The only complete specimen available is 9.67 mm. long by 1.35 mm. in maximum width (fixed and stained). Two broken specimens show a maximum width of 2 mm. Oral sucker terminal, 375 to 429 $\mu$  in diameter. Acetabulum smaller, 214 to 267 $\mu$ , located in anterior fourth of body, 1.65 to 2.40 mm. from anterior end. ? Prepharynx absent. Pharynx well developed, 180 to 254 $\mu$  long by 174 to 188 $\mu$  in diameter. Esophagus short (up to 147 $\mu$  in specimens available). Ceca arise almost immediately behind the pharynx, 650 to 740 $\mu$  from anterior end, and extend nearly the full length of the body. Excretory pore terminal; excretory vesicle tubular, intertesticular, and postovarial. Lateral collecting canals extra-cecal, arising anteriorly beyond acetabulum. Ovary and testes in posterior fourth of body, coarsely lobed, and more or less tandemly placed. Maximum thickness of ovary about 455 $\mu$ ; of the anterior testis, 460 to 536 $\mu$ ; of the

posterior testis, 570 to 630 $\mu$ . Vasa efferentia running dorsal to uterus, uniting about 1.5 mm. from genital pore to form a short vas deferens which is continuous with a tubular, more or less coiled, seminal vesicle. Ootype and seminal receptacle well developed, the former measuring about 672 $\mu$  in its longest direction, and the latter, 336 to 402 $\mu$ . Laurer's canal present. Uterus preovarial and intercecal. In the type specimen (Fig. 18) one of the anterior loops of the uterus makes an extra-cecal excursion, but this appears to be atypical. Vitellaria arranged in groups of acini on each side with a division at the level of the ovary. On the right side, there are 5 to 6 vitelline "clusters" anteriorly and not more than 4 posteriorly. On the left side there are 4 anterior and 4 posterior "clusters." On both sides the vitellaria extend well beyond the posterior testis but do not invade the anterior third of the body. Genital pore immediately preacetabular. Eggs numerous, narrow, 30 to 32 $\mu$  long.

*Host.* *Philander laniger pallidus* Thomas.

*Location.* Bile ducts of liver.

*Locality.* Panama, R. P.

*Specimens.* U. S. Nat. Mus. Helm. Coll. 42994, type.

The presence of divided vitellaria with a break in the region of the ovary places the present species in the subgenus *Amphimerus* (of Erhardt, 1935, after Barker, 1911) where it most closely approximates *O. pseudofelineus* Ward, 1901. It differs from this species, however, in the more posterior extension of the vitellaria and in the greater lobulation of the ovary.

*Platynosomum allentoshi* n. sp.

(Fig. 20)

*Diagnosis.* *Platynosomum*. (Dicrocoeliidae). Medium sized distomes, fairly wide and robust, brownish in color when alive. Cuticula thin, without obvious markings. Fixed specimens from 3 to 5.7 mm. long by 0.9 to 1.5 mm. wide. Acetabulum close to anterior end, 520 to 600 $\mu$  in diameter. Oral

EXPLANATION OF PLATE III

*Opisthorchis pricei* n. sp.

FIG. 18. Photomicrograph of type specimen. (dorsal view). (Taken by Dr. C. M. Johnson of the staff of the Gorgas Memorial Laboratory.)

FIG. 19. Drawing, partly reconstructed, of entire specimen (dorsal aspect).

*Platynosomum allentoshi* n. sp.

FIG. 20. Drawing of entire specimen (ventral aspect).

*Gnathostoma didelphis* Chandler, 1932

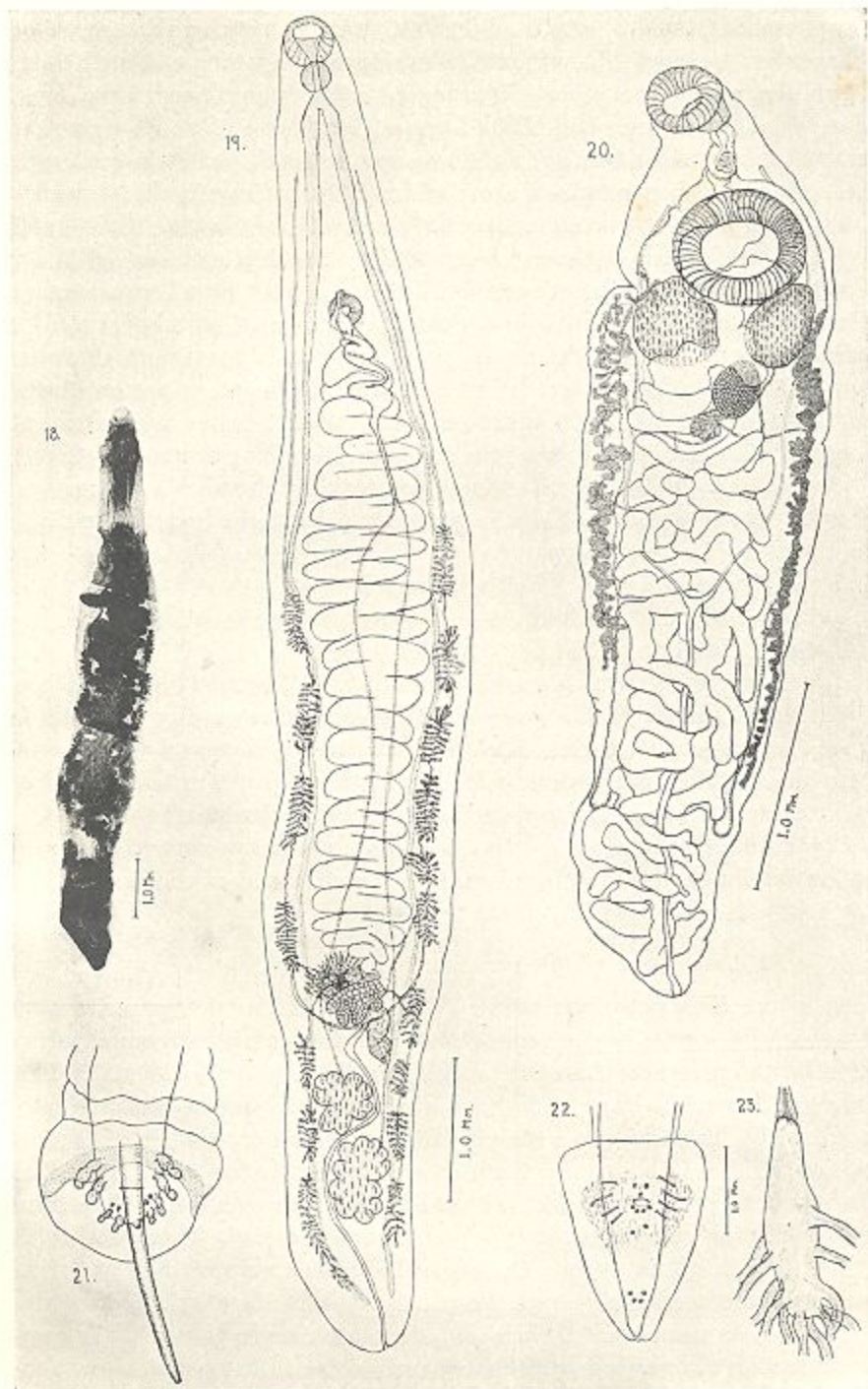
FIG. 21. Free-hand sketch of tail of male (ventral aspect).

*Physaloptera turgida* Rudolphi, 1819

FIG. 22. Ventral aspect of tail of male.

FIG. 23. Free-hand sketch of uterine branches.





sucker smaller, 270 to 360 $\mu$  in diameter, terminal and weakly muscular. Prepharynx lacking. Pharynx well developed, averaging about 200 $\mu$  in length. Esophagus not over 270 $\mu$  long in relaxed specimens. Ceca fairly wide and terminating about 670 $\mu$  from posterior end of body. Excretory vesicle tubular and median; excretory pore terminal. Testes in horizontal plane near posterior margin of acetabulum. Left testis generally somewhat larger in greatest diameter, averaging about 430 $\mu$  by 265 $\mu$ . Right testis about 400 $\mu$  by 300 $\mu$ . Both testes essentially smooth in contour, although varying in shape in different specimens. Cirrus sac not prominent. Seminal vesicle well developed, resting just beneath esophagus. Genital pore median behind pharynx. Ovary definitely oval, varying in maximum diameter from 240 to 280 $\mu$ , behind testes and sub-median. Ootype on postero-dorsal margin of ovary. Vitellaria lateral, arising opposite testes and extending along outer border of ceca for about 2.25 mm., terminating anterior to posterior end of ceca. Uterus voluminous, essentially intercecal and postacetabular, occupying most all of the posterior part of the body. Eggs 33 to 36 $\mu$  by 19 to 23 $\mu$ , very numerous.

*Host.* *Philander laniger pallidus* Thomas.

*Location.* Bile ducts of liver.

*Locality.* Panama, R. P.

*Specimens.* U. S. Nat. Mus. Helm. Coll. 42995, type, 42996, paratype.

Although species of the genus *Platynosomum* are mainly parasitic in birds, they have nevertheless been reported from a wide variety of vertebrate hosts. It does not appear, however, that any species of this genus has hitherto been found in marsupials. The present species seems to be closest to *P. fistosum* Kossack, 1910. It is, however, a smaller worm with more extensive vitellaria, particularly toward the anterior end of the body.

#### NOTES ON OTHER HELMINTHS FROM THE WOOLLY OPOSSUM IN PANAMA

*Macielia macieli* (TRAVASSOS, 1915) TRAVASSOS, 1935

In a previous note, the writer (1938) referred to this parasite as a probable new species of the genus *Ostertagia*, the generic assignment being based on the presence of an accessory bursal membrane in the male. This structure appears to have been overlooked when the species was originally described by Travassos as a member of the genus *Cooperia*. In his recent revision of the Trichostrongylidae, however, Travassos (1937, page 55) has noted the presence of this and other previously overlooked structures and records this species as the type of the genus *Macielia* Travassos, 1935.

Although but four Woolly Opossums have been autopsied by us during as many years, we have been impressed by the paucity of trichostrongyles in this host as compared to their abundant occurrence in two other commoner species of opossums which frequently come to autopsy at this Laboratory. Moreover, Travassos (loc. cit., pages 443-4) lists no trichostrongylid



species for the South American Woolly Opossum. Likewise, in Oldham's (1933) catalog of "Helminth Parasites of Marsupials," no trichostrongyles are recorded for Woolly Opossums.

It appears, therefore, that *M. macieli* is the first trichostrongylid species to be reported from Woolly Opossums. Curiously, also, this is the first report of this species in marsupials, as well as its only record to date from this locality. It is of interest in this connection to record that *M. macieli* has also been taken by the writer from the common opossum, *Didelphis marsupialis etensis* Allen, and from the armadillo, *Dasybus novemcinctus fenestratus* Peters. The latter is a regional variety of the type-host for the species.

*Aspidodera railletii* Travassos, 1913

Several specimens of this species were taken from the large intestine of both the Woolly Opossum and the common opossum, mentioned above.

A recent review of the genus *Aspidodera* by Proenca (1937) gives good discussions of the several species but does not include a key for separating them. The following key, revised in accordance with data presented by Proenca and including the two new species described by him (*ansirupta* and *vazi*), has been useful to the present author:

Key to species of *Aspidodera*

- |   |                           |
|---|---------------------------|
| 1. Spicules short (360 $\mu$ or less) .....   | 2.                        |
| Spicules long (680 $\mu$ or more) .....   | 4.                        |
| 2. Lateral alae present .....   | 3.                        |
| Lateral alae absent .....   | <i>A. fasciata</i> .      |
| 3. Cephalic collar short (86-99 $\mu$ )—not extending beyond base of vestibule .....      | <i>A. ansirupta</i> .     |
| Cephalic collar longer (160-200 $\mu$ )—longer than vestibule ..                          | <i>A. binansata</i> .     |
| 4. Cephalic collar very long (386-500 $\mu$ ) .....                                       | <i>A. vazi</i>            |
| Cephalic collar shorter (88-304 $\mu$ ) .....   | 5.                        |
| 5. Cordons weakly looped; spicules 680-720 $\mu$ .....                                    | <i>A. subulata</i> .      |
| Cordons well looped; spicules 760-1900 $\mu$ .....  | 6.                        |
| 6. Cephalic collar not longer than vestibule; spicules very long (1200-1900 $\mu$ ) ..... | <i>A. scoleciformis</i> . |
| Cephalic collar longer than vestibule; spicules 760-1290 $\mu$ ..                         | 7.                        |
| 7. Spicules 760-1000 $\mu$ .....  | <i>A. railletii</i> .     |
| Spicules 1150-1290 $\mu$ .....  | <i>A. harwoodi</i> .      |

*Physaloptera turgida* Rudolphi, 1819. (Figs. 22 and 23)

This common stomach-worm of opossums was present in three of the four Woolly Opossums which were autopsied. Of six females dissected, five had twelve uterine branches (Fig. 23) and one had fourteen. This number has been variously given at nine, ten, or eleven (Travassos, 1920, p. 75:



Yorke and Maplestone, 1926, p. 355) although in Travassos's text figure (loc. cit., Plate 14, Fig. 5) twelve uteri are shown. Also it appears that there are typically two pairs of ventral caudal papillae in the male as shown in Fig. 22, while Travassos figured five caudal papillae arranged more or less in a horizontal line (loc. cit., Plate 13, Fig. 1).

*Gnathostoma didelphis* Chandler, 1932 (Fig. 21)

This species was discovered and figured by Dikmans in 1931 who provisionally assigned his specimens (two males) to the species *G. turgidum* Stossich, 1902, pending the availability of more material. The following year Chandler (1932) described it as a new species from immature specimens taken from the liver of the same species of opossum (*Didelphis virginiana*).

Several specimens assignable to this species were taken from the stomach of the Woolly Opossum. One male was buried in a tunnel under the submucosa from which it was removed by dissection. It measured 46 mm. long by 2.3 mm. in diameter, showed nine rows of spines on the head bulb, and the anterior half of the body was armed with characteristic spines as described by Dikmans and Chandler. The bursa was densely beset with simple spines and there were six pairs of fleshy caudal papillae (Fig. 21), two smaller than the other four. When this specimen was placed in normal saline solution, it was observed to expel a substance, considered to be seminal fluid, through a pore at the end of the extruded spicule.

*Oochoristica bivittata* Janicki, 1904

Several tapeworms were encountered in the small intestine on one occasion. The strobila measures up to 940 $\mu$  wide and the scolex is about 400 $\mu$  in diameter. The suckers are simple and large, about 150 $\mu$  in diameter. There are very few testes, only 7 or 8 in each proglottid posterior to the ovary. The cirrus sac is small and short (about 90 $\mu$ ). In accordance with data presented by Meggitt (1934) which compares some forty species contained within the genus *Oochoristica*, there seems to be little doubt that the present specimens are assignable to the species named above.

*Hamanniella microcephala* (Rudolphi, 1819) Travassos, 1915

A few gigantorhynchids (Acanthocephala) were obtained during the course of these studies all of which appear to be the same and are probably assignable to this species.

DISCUSSION AND SUMMARY

In the above paragraphs, diagnoses have been given of five helminths of the Woolly Opossum, *Philander laniger pallidus* Thomas, which appear

not to have been described heretofore. These species were designated as follows:

*Cortiamosoides philanderi* n. g. and n. sp.

*Trichuris marsupialis* n. sp.

*Subulura lanigeri* n. sp.

*Opisthorchis pricei* n. sp.

*Platynosomum allentoshi* n. sp.

The genus *Cortiamosoides* and the specific determinations of the two trematode species are thus named in recognition of the generous advice which the author has frequently received from Doctor W. W. Cort of the Johns Hopkins University School of Hygiene and Public Health, and from Doctor E. W. Price and Mr. Allen McIntosh of the United States Bureau of Animal Industry. These investigators are not responsible, however, for anything covered in this report.

In addition to describing new species, comments were made upon the occurrence of six other helminth parasites in the Woolly Opossum in Panama and a key was given for determining species of the genus *Aspidodera*. The apparent scarcity of trichostrongyles in the Woolly Opossum was mentioned. Other conspicuous absences among the helminths of this host, as compared to other opossums, are *Cruzia tentaculata* and species of the trematode genus *Rhopalias*. Finally, the several species discussed herein are new records both for locality and host.

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