

SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 91, NUMBER 11

Johnson Fund

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JOHNSON-SMITHSONIAN DEEP-SEA EXPEDITION
TO THE PUERTO RICAN DEEP

TWO NEW NEMATODES

(WITH ONE PLATE)

BY

B. G. CHITWOOD

Zoological Division, Bureau of Animal Industry,
U.S. Department of Agriculture



(PUBLICATION 3243)

CITY OF WASHINGTON
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In this paper are described two nematodes collected by the First Johnson-Smithsonian Deep-Sea Expedition to the Puerto Rican Deep. One of the species, *Parathelandros anolis*, new species, taken from a lizard, *Anolis cristatellus*, is of special interest, since it appears to belong to a group which is composed, as a rule, of parasites of arthropods. The other species, *Ascarophis cestus*, new species, was collected from a deep-sea fish, *Coelorhynchus* sp.

Family THELASTOMATIDAE

PARATHELANDROS ANOLIS, n. sp.

Plate 1, figs. 1-6

Male (incomplete specimen) 926 μ long by 76 μ wide exclusive of lateral alae, or 137 μ wide including lateral alae. Alae distally bifurcate, sometimes trifurcate, extending from cervical region to level of anus. Cuticular striae deep. Esophagus 184 μ long, consisting of a corpus 140 μ long by 19 μ wide, an indistinct isthmus, and a bulb 43 μ long by 43 μ wide. Excretory pore 270 μ from anterior extremity. Cloacal opening 220 μ from posterior extremity (distal portion of tail missing). Tail attenuated, filiform, without spines. Genital papillae consisting of one pair of preanal papillae, two pairs of postanal papillae, and one medioventral double postanal papilla on posterior lip of anus. Spicule absent.

Female 2.016 to 2.58 mm long by 180 to 224 μ wide. Cuticle distinctly annulated in cervical and anal regions. Extremely narrow. paired sublateral alae present. Oral opening trilobed. Cephalic papillae consisting of eight large labiopapillae (dorsodorsals, laterodorsals, lateroventrals, and ventroventrals), papillae unequal (see pl. 1, fig. 1); amphids slightly raised, situated at posterior level of papillae. Stoma inconspicuous. Esophagus 320 to 400 μ long. Corpus 230 to 245 μ

long by 25 to 30 μ wide, isthmus 40 μ long by 20 μ wide, bulb 80 μ long by 80 to 90 μ wide. Nerve ring 170 μ from anterior extremity. Excretory pore 275 to 320 μ from anterior extremity. Anus 680 to 760 μ from posterior extremity; tail filiform, bearing paired spines. Vulva preequatorial, 320 to 360 μ from anterior extremity, immediately posterior to excretory pore. Vagina 790 μ long, directed posteriorly, vagina vera 117 μ long, vagina uterina 673 μ long; amphidelphic. Eggs 102 to 104 μ long by 43 to 51 μ wide.

Host.—*Anolis cristatellus*. U.S.N.M. no. 9034f.

Location.—Rectum.

Type locality.—Pueblo Viejo, Puerto Rico.

Type specimens.—U.S.N.M. Helm. Coll. no. 8746; paratypes no. 8747.

Parathelandros anolis appears to be closely related to *P. mastigurus* Baylis, 1930, the only other species of the genus. *P. anolis* differs from *P. mastigurus* in the absence of a spicule in the male, the extremely narrow sublateral alae of the female, and the presence of spines on the tail of the female, there being a spicule in the male of *P. mastigurus* which also has wide lateral alae in the female, and no spines on the tail.

The affinities of the genus *Parathelandros*, as evidenced by the study of *P. anolis*, are worthy of comment. The cephalic papillae being eight in number, separate and distinct from one another, place this genus in the Thelastomatidae rather than with the Oxyuridae, since the cephalic papillae in the Oxyuridae consist of only four papillae which represent complete fusions of the eight papillae of thelastomatids. Since this is the chief distinguishing character between the two families, it appears necessary to remove *Parathelandros* from the Oxyuridae.

The alae of *P. anolis* are particularly interesting, since they show in cross-section characters not generally known. The sublateral alae of the female (pl. 1, fig. 5) appear to correspond to the lateral alae of the male (pl. 1, fig. 3), the latter probably being formed by the extension and fusion of paired sublateral alae.

Family SPIRURIDAE

ASCAROPHIS CESTUS, n. sp.

Plate 1, figs. 7-10

Cuticle minutely striated except near anterior extremity, becoming wrinkled here and forming a collar (pl. 1, fig. 8). Oral opening

surrounded by two indistinctly trilobed pseudolabia. Cephalic papillae consisting of completely fused dorsodorsal-laterodorsal and ventroventral-lateroventral; remaining papillae rudimentary.

Male 5.5 mm long by 85 μ wide. Stoma 60 μ long. Esophagus 890 μ long, consisting of a narrow anterior muscular part 200 μ long by 18 μ wide and a wide posterior glandular part 690 μ long by 40 μ wide. Nerve ring 140 μ from anterior extremity. Cloacal opening 155 μ from posterior extremity. Genital papillae consisting of four pairs of preanal and five pairs of postanal papillae. Left spicule 260 μ long, setiform, apparently alate. Right spicule 65 μ long, thick, hooklike. Caudal alae vesicular.

Female 11 to 12.3 mm long by 100 to 120 μ wide. Stoma 55 to 58 μ long. Esophagus 1.1 to 1.12 mm long, consisting of an anterior part 215 to 270 μ long by 19 μ wide and a posterior part 850 to 885 μ long by 47 to 60 μ wide. Nerve ring 157 to 180 μ from anterior extremity; excretory pore 190 to 220 μ from anterior extremity. Anus 119 to 150 μ from posterior extremity; tail slightly attenuated, distally blunt. Vulva preequatorial, 4.8 mm from anterior extremity in specimen 12.3 mm long. Vagina directed anteriorly, 125 μ long; uteri divergent. Eggs 38 μ long by 32 μ wide.

Host.—*Coelorrhynchus* sp. (J-S 650).

Location.—Intestine.

Locality.—Station 101 (lat. 18°40'30" N., long. 64°50' W.).

Type specimens.—U.S.N.M. Helm. Coll. no. 8153; paratypes no. 8754.

At the present time there seems to be no satisfactory means of separating the genera *Ascarophis* and *Spinitectus*. The presence of spines, which has generally been regarded as characteristic of the genus *Spinitectus*, can no longer be considered sufficient. Baylis (1929) described a species, *S. guntheri*, without spines, which he placed in that genus, and this view cannot be criticized, for Mueller and Van Cleave (1932) have shown that spines in these forms are merely modified edges of posteriorly projecting annules. The presence or absence of spines is apparently not correlated with other characters such as the stoma, vagina, origin of uteri, or number of genital papillae.

Ascarophis cestus is similar to *A. acipenserina* (syn. *Cyclozone acipenserina* Dogiel, 1932) in having a cuticular "collar," a character upon which the genus *Cyclozone* was based. Dogiel considered the collar as a homolog of cordons characteristic of the Acuariinae. As may easily be seen from the accompanying illustration (pl. 1, fig. 8),

this does not appear to be a correct interpretation, since young adult specimens show merely a slight wrinkling of the cuticle in this region, the wrinkling becoming more pronounced with age. The most outstanding difference between *A. cestus* and *A. acipenserina* is that the esophagus is only 9 to 16 percent of the body length in the former species, whereas it is 37 to 47 percent of the body length in the latter species. Tendencies toward cuticular modification are present in some other species of the genus, but such modifications usually take the form of serrate annules.

REFERENCES

BAYLIS, H. A.

1929. Parasitic Nematoda and Acanthocephala collected in 1925-1927. Discovery Reports, vol. 1, pp. 541-560.

MUELLER, F. F., and VAN CLEAVE, H. J.

1932. Parasites of Oneida Lake fishes. Part II. Descriptions of new species and some general taxonomic considerations, especially concerning the trematode family Heterophyidae. Roosevelt Wild Life Ann., vol. 3, no. 2, pp. 79-138.

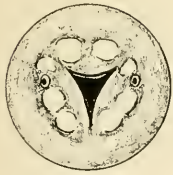
EXPLANATION OF PLATE

Parathelandros anolis, n. sp.

- FIG. 1. Head of female, *en face* view.
- FIG. 2. Esophageal region of female, lateral view.
- FIG. 3. Cross-section of male, showing lateral alae.
- FIG. 4. Posterior end of male, lateral view.
- FIG. 5. Cross-section of female, showing sublateral alae.
- FIG. 6. Tail of female, lateral view.

Ascarophis cestus, n. sp.

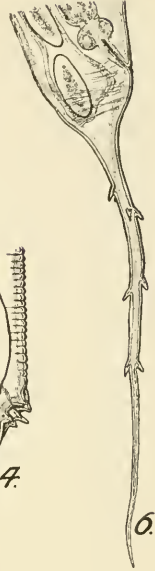
- FIG. 7. Head, *en face* view.
- FIG. 8. Head, dorso-ventral view.
- FIG. 9. Vulvar region of female, lateral view.
- FIG. 10. Caudal region of male, somewhat twisted.



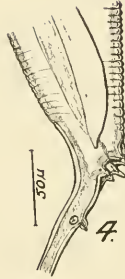
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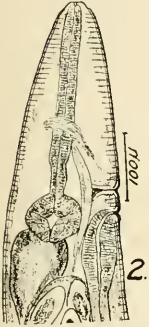
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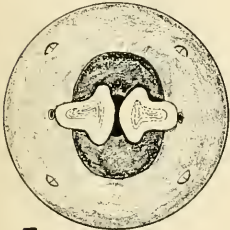
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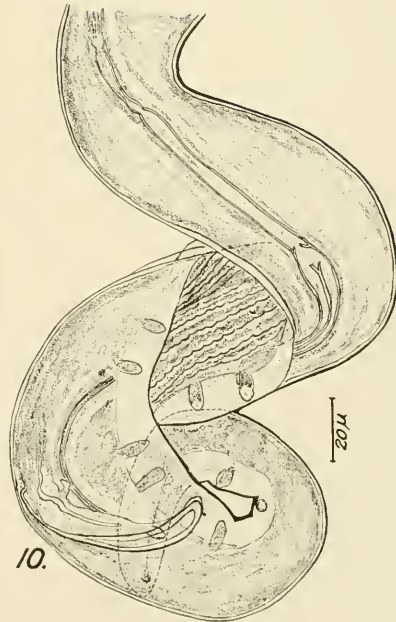
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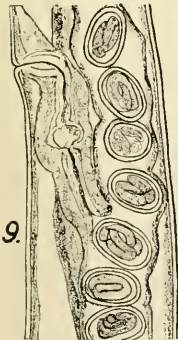
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8.



10.



9.

NEW NEMATODES
(For explanation, see page 4.)