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A NEW SPECIES OF FILARIAL NEMATODES HASTOSPICULUM CUBAENSE SP. N. (DIPLOTRIAENIDAE: DICHEILONEMATINAE) FROM CUBAN SNAKES

V. BARUŠ and M. D. SONIN

Institute of Parasitology, Czechoslovak Academy of Sciences, Prague and Helminthological Laboratory, Academy of Sciences of the USSR, Moscow

Abstract. A new species *Hastospiculum cubaense* sp. n. from the hosts *Dromicus andreae nebulatus* and *Tropidophis melanurus ericksoni* is described. This new taxon for science is most closely related to the species *H. digiticaudum*, from which it differs mainly in the shape of caudal alae and in the number of caudal papillae in males, and in the shape of the posterior end of body in females.

While studying nematodes collected from Cuban snakes by Czechoslovak and Cuban helminthologists in 1965—1968, nematodes of the genus *Hastospiculum* Skrjabin, 1923 were found and are described below as a new species.

***Hastospiculum cubaense* sp. n.** (Fig. 1)

Typical host: *Dromicus andreae nebulatus* (Barbour, 1916), family Colubridae (in one dissected specimen, one fragment of male and fragments of three females). Other host: *Tropidophis melanurus ericksoni* (Schwartz et Thomas, 1960), family Boidae (in one dissected specimen, 1 female specimen and fragments of 5 females). Location: body cavity. Locality: Isla de Pinos (Cuba).

Description (based on the specimens from *D. andreae nebulatus*: at the anterior end there is an elongated chitinized epaulet-shaped formation having a pair of small chitinized tooth-like projections situated laterally. Oesophagus divided into a short muscular portion and a thick long glandular portion. Nerve ring situated somewhat higher to the junction of muscular and glandular portion of oesophagus.

Male (holotype): Length and width of body not determined. Cuticle transversely striated and bearing transverse swellings or ridges situated at random. Caudal alae surround the posterior end of tail. Length of alae 0.21 mm, maximum width 0.03 mm. Alae are ornamented with rows of small punctate swellings and supported by six pairs of pedunculate papillae, of which four pairs are pre-cloacal, one pair para-cloacal and one pair post-cloacal. There are also three pairs of sessile papillae, one of which is situated on both sides of cloaca and the other two are placed at the end of tail, the smallest and almost terminal papillae appearing to be phasmids. Length of tail including alae 0.08 mm, width of body at the level of cloaca 0.10 mm.

Spicules irregular in length and different in shape. Left spicule longer, straight, 0.86 mm long, maximum width 0.01 mm. A thin spicular sheath, which may be considered as ala, is well discernible. Right spicule in the shape of sword, much shorter and slightly wider than left spicule, 0.22 m long, 0.015 mm wide.

Female (allotype): Length and maximum width of body not determined. Cuticle transversely striated, transverse swellings or ridges absent. Instead, there are tiny bumps situated at random, but more densely at tail end. Length of muscular portion of oesophagus 0.37 mm, distance between anterior end of body and nerve ring 0.31 mm, body width at the level of nerve ring 1.05 mm. Vulva not protruding, distance between

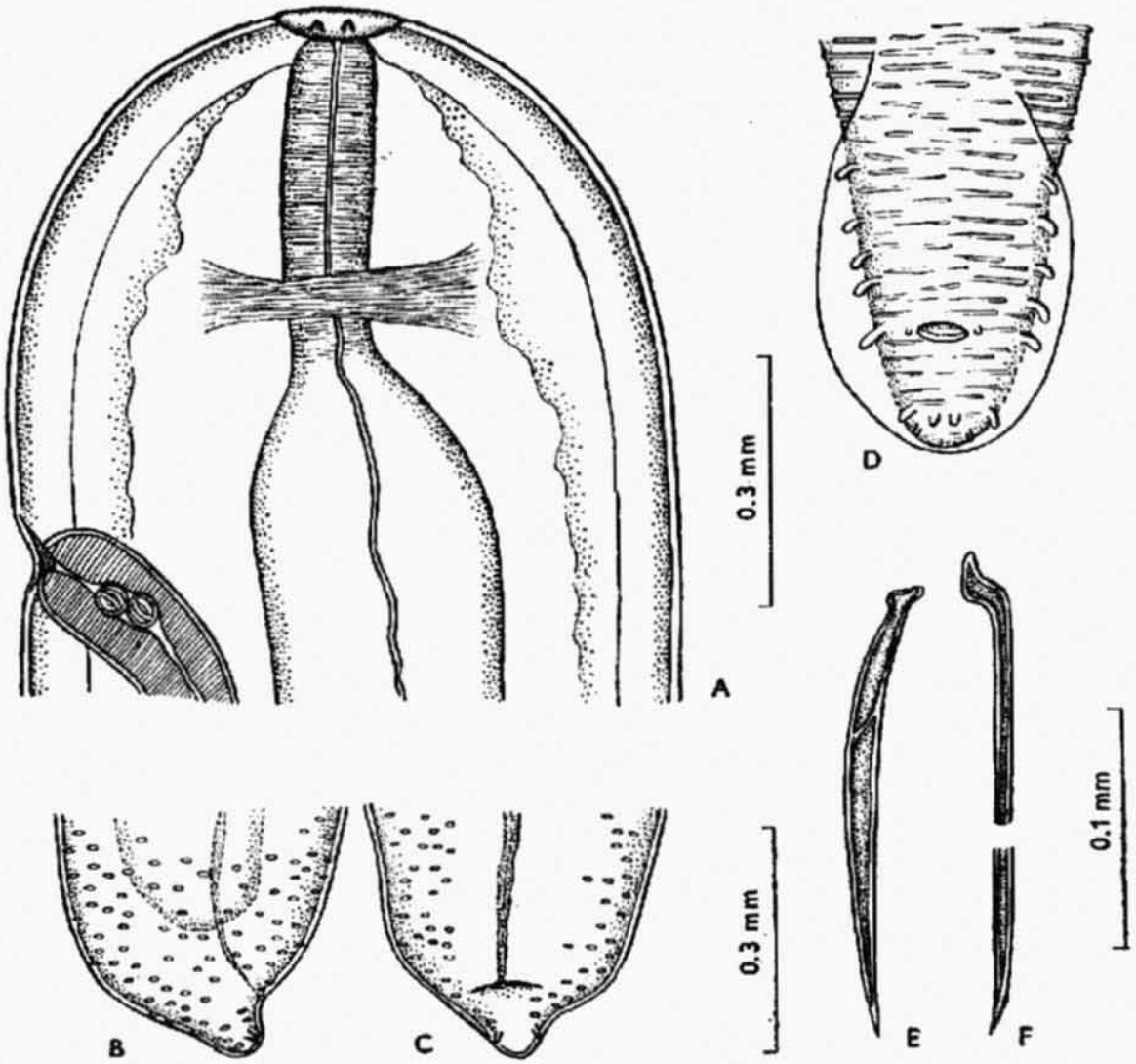

Fig. 1. *Hastospiculum cubaense* sp. n. A — anterior body end of female (lateral view); B — posterior body end of female (lateral view); C — the same (ventral view); D — posterior body end of male (ventral view); E — short spicule; F — distal and proximal end of long spicule.

vulva and anterior end of body 0.70 mm. Vulva leading to thick muscular vagina. Eggs with thick shells, round, each containing differentiated larva. Egg measurements 0.035—0.040 × 0.040—0.045 mm. Posterior end of body has a characteristic conical projection with phasmids situated on both sides of it. Tail length 0.09 mm.

One female specimen from *T. m. melanurus* was only slightly damaged, 39 mm long, maximum width 0.9 mm. Length of muscular portion of oesophagus 0.38 mm, of glandular portion 2.19 mm. Vulva placed 0.54 mm from anterior end of body. Egg measurements 0.035—0.040 × 0.035—0.040 mm. Tail length 0.07 mm.

DIFFERENTIAL DIAGNOSIS

At present the genus *Hastospiculum* Skrjabin, 1923 comprises 8 species (c. f. Sonin, 1968). In the length of spicules the specimens described by us are related to the species *H. bipinnatum* (Linstow, 1889), *H. digiticaudum* Freitas, 1955; *H. gouldi* Yorke et Maplestone, 1926 and *H. uncertenum* (Vuylsteke, 1953). In other species the spicules are 2—4 times as long.

The species *H. uncertenum* has been described from agamas of Central Africa. It differs from all other representatives of the genus, including those described by us, in the presence of two large tooth-like formations covering nearly all the surface of anterior end of body.

The species *H. bipinnatum* has been described from monitors of North Africa. The description of this species is very brief and is regarded by many authors studying filarial nematodes of reptiles as "species inquirenda". Although a detailed description of *H. bipinnatum* is lacking, we think that our specimens cannot be listed to this species due to the fact that they were found in places considerably distant from one another and that their definitive hosts have different systematic position. The same may be applied to *H. gouldi*, described from monitors of Australia. Apart from this, both mentioned species do not possess the transverse protuberances or ridges on cuticle of males and bumps on cuticle of females which are so characteristic for specimens described by us.

Most closely related to specimens described by us is the species *H. digiticaudum* found in snakes of the family Colubridae in Brazil. In the measurements of spicules and ornamentation of cuticle this species is very similar to the nematodes described by us. However, there are essential differences which do not allow to list our specimens to the species *H. digiticaudum*. These differences are:

1. Caudal alae in male nematodes described by us meet posteriorly, while in males of *H. digiticaudum* alae are not surrounding the tail end and do not meet. Freitas (1955), who described *H. digiticaudum*, does not consider such a shape of caudal alae to be the most characteristic feature of the species.
2. The male specimen described by us has 6 pairs of clearly discernible large pedunculate papillae, and also three pairs of sessile papillae, while in *H. digiticaudum* only 5 pairs of pedunculate and no sessile papillae were registered.
3. Tail ends of females described by us have a characteristic projection, at the base of which are phasmids; tail end of females of *H. digiticaudum* is rounded.

Besides, it should be emphasized that the definitive hosts of nematodes described by us, *D. andreae nebulatus* and *T. m. melanurus*, are endemic species of the Cuban fauna.

On the basis of the aforesaid we assume that the parasites described by us are representatives of a species new for science. We have named it *Hastospiculum cubaense*, sp. n., according to the place of its finding.

The type and allotype are deposited in the collection of the Humboldt Museum in Berlin, the paratypes are in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences in Prague.

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V. B., Parasitologický ústav ČSAV, Flemingovo n. 2, Praha 6, ČSSR