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Thynnascaris rhacodes sp. n.

(Nematoda : Ascaridoidea)

in fishes from the Israeli Mediterranean coast

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Summary.

Thynnascaris rhacodes sp. n. infects *Pelates quadrilineatus, Solea vulgaris, Boops boops, Lithognathus mormyrus, Obleida melanura, Diplodus vulgaris, D. sargus,* and *Sparus auratus* from the eastern Mediterranean Sea. Unique in that the cuticle on the female tail is wrinkled, the ascaridoid is further characterized by possessing 27 to 35 precloacal papillae, a body length of 11 to 85 mm, similar spicules 3 to 6 % of body length, a length-ratio of intestinal cecum to ventricular appendage of 1 : 1 to 5, and lips longer than wide.

Résumé.

***Thynnascaris rhacodes* sp. n. (Nematoda : Ascaridoidea) parasite de poissons de la Méditerranée le long de la côte d'Israël.**

Thynnascaris rhacodes n. sp. est parasite de *Pelates quadrilineatus, Solea vulgaris, Boops boops, Lithognathus mormyrus, Oblada melanura, Diplodus vulgaris, D. sargus,* et *Sparus auratus* en Méditerranée orientale. La nouvelle espèse se caractérise par la cuticule ridée de la queue de la femelle, 27 à 35 papilles préanales, un corps long de 11 à 85 mm, des spicules semblables ayant 3 à 6 % de la longueur du corps, une proportion longueur du caecum intestinal/appendice œsophagien de 1 : 1 à 5, et des lèvres céphaliques plus longues que larges.

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Presently, six species of adult *Thynnascaris* Dollfus, 1933, have been reported from fishes in the Mediterranean Sea (Yamaguti, 1961). Incidental to a collection of digeneans from marine fishes of the Israeli Mediterranean coast, Jacob H. Fischthal of State University of New York at Binghamton, collected several specimens of another species. These specimens were removed from the hosts, fixed in AFA, stored in a solution of 5 parts glycerine and 95 parts 70 % alcohol, and cleared by evaporating alcohol from the solution. All measurements are in microns unless stated otherwise, and figures were drawn with the aid of a drawing tube.

Thynnascaris rhacodes sp. n. (fig. 1-8)

Description.

Body reaching greatest width near midbody. Cuticle with inconspicuous annulations and single minute pair of lateral alae extending along posterior 1/50 of body length. Lips approximately equal in size, all longer than wide, bearing transparent cuticular flanges on lateral margins; flanges widest near base, constricted at anterior 1/3 of lip; dorsal lip with two lateral double papillae; subventral lips each wich single lateral papilla, amphid, and mediolateral double papilla; internal pulp pedunculated, short, slightly narrower proximally, with anterior lobes bluntly rounded. Dentigerous ridges absent. Interlabia height equal to or slightly greater than width at base; interlabial grooves lacking. Esophagus 8 to 17 % of body length. Ventriculus narrower than widest level of esophagus, usually broader than long; ventricular appendage septate, departing without angulation from posterior portion of ventriculus. Nerve ring located at anterior 7 to 23 % of esophagus. Excretory pore at or just posterior to level of nerve ring. Excretory duct extending posteriad, ending at excretory commissure connecting two lateral canals; lateral canals located in lateral cords, terminating posteriorly near ventriculus, each with single large nucleus at junction of commissure; anterior canals unequal, extending anteriorly just past nerve ring. Tail conical, with spined mucronate-extremity.

MALE (based on 7 mature specimens) : Body 15 to 27 mm long by 0.3 to 1.1 mm at greatest width; ratio of greatest width to length 1: 44 to 72. Lips 120 to 228 long by 106 to 173 wide. Nerve ring 0.2 to 0.9 mm from anterior extremity, 21 to 41 in breadth. Esophagus 2.0 to 5.4 mm long by 127 to 265 wide. Ventriculus 85 to 253 long by 120 to 234 wide; ventricular appendage 1.0 to 2.3 mm long by 33 to 283 wide. Intestinal cecum 0.2 to 0.6 mm long by 16 to 197 wide; ratio of cecal to ventricular appendage lengths 1: 1.9 to 5.0; ratio of cecal to esophageal lengths 1: 6 to 10. Spicules similar, alate, 3 to 6 % of body length, 0.8 to 2.9 mm long by 9 to 14 wide, equal in 3 specimens, right spicule longer in 3 specimens. Gubernaculum absent. Caudal papillae 31 to 39 pairs, becoming closer together and more medial as approaching cloaca; precloacal pairs 27 to 35; postcloacal pairs 5; adanal papillae lacking. Tail 147 to 245 long including spined mucronate process.

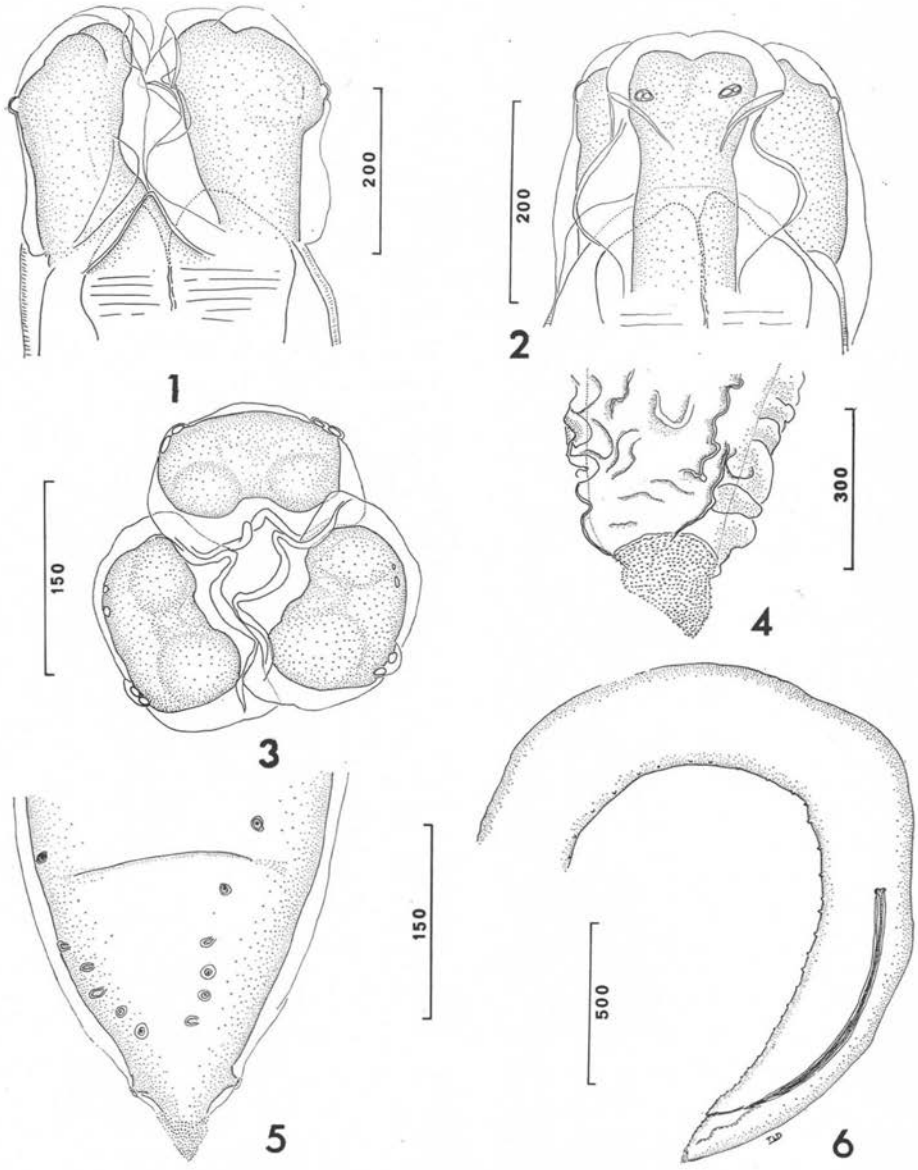

Fig. 1-6. *Thynnascaris rhacodes*. 1. Ventral view of lips showing interlabium. 2. Dorsal view of lips. 3. *En face*. 4. Mucronate process of female tail, lateral view. 5. Posterior end of male showing postcloacal papillae, ventral view. 6. Posterior end of male (holotype), lateral view.

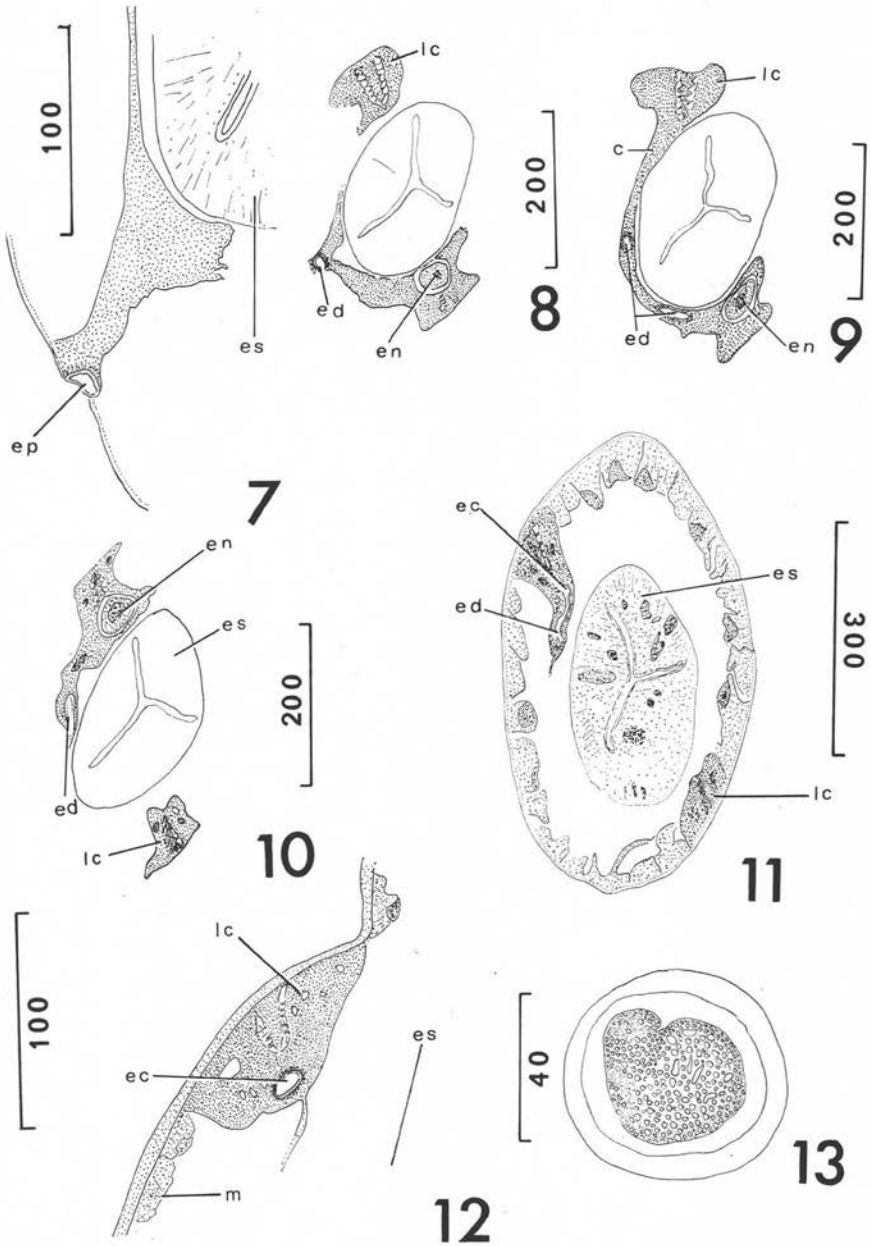

Fig. 7-13. *Thynnascaris rhacodes*. 7-12. Cross-sections of excretory system showing excretory pore (7), commissure (8, 9, 10), the two excretory nuclei (8, 9, 10), and excretory canal (11, 12). 13. Egg.

c. : commissure, e.c. : excretory canal, e.d. : excretory duct, e.n. : excretory nucleus, e.p. : excretory pore, es. : esophagus, i. : intestine, l.c. : lateral cord, m. : muscle cell.

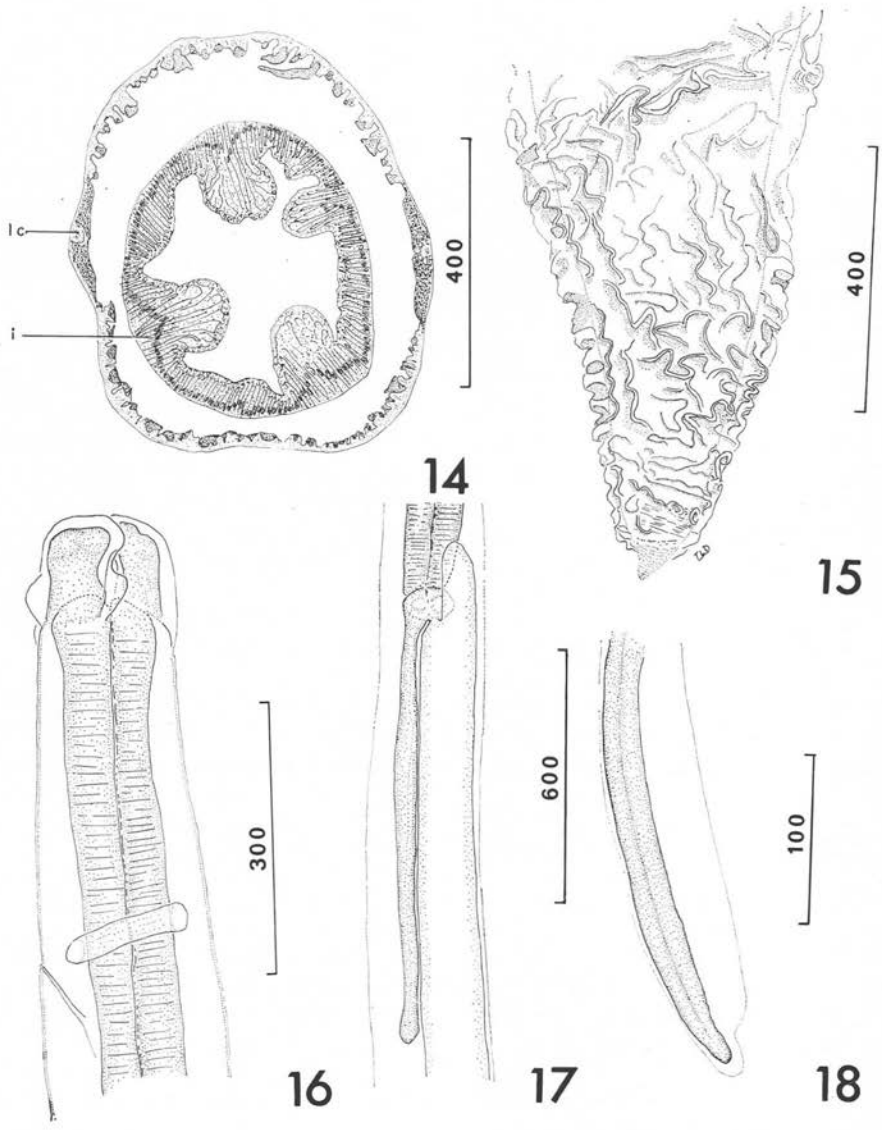

Fig. 14-18. *Thynnascaris rhacodes.* 14. Cross-section through intestine showing lateral cords. 15. Female tail, lateral view showing wrinkled cuticle. 16. Anterior end showing spacial relationship between excretory pore and nerve ring. 17. Body at level of intestinal-ventricular junction, lateral view. 18. Distal tip of spicule, lateral view.

FEMALE (based on 14 mature specimens): Body 11 to 85 mm long by 0.2 to 1.5 mm wide; ratio of greatest width to length 1: 42 to 70. Lips 108 to 370 long by 91 to 309 wide. Nerve ring 0.4 to 1.0 mm from anterior extremity, 29 to 61 in breadth. Esophagus 2.0 to 7.4 mm long by 120 to 614 wide. Ventriculus 154 to 346 long by 115 to 401 wide; ventricular appendage 0.8 to 2.7 mm long by 80 to 315 wide. Intestinal cecum 0.2 to 1.5 mm long by 65 to 333 wide; ratio of cecal to ventricular appendage lengths 1: 1.2 to 5.3; ratio of cecal to esophageal lengths 1: 5 to 19. Vulva without salient lips, opening 5 to 22 mm or 30 to 45 % of body length from anterior extremity. Uterus didelphic, opisthodelphic. Ovaries rarely extending beyond spined mucronate process 30 to 75 long. Cuticle with wrinkled folds from base of mucronate process to posterior tip of intestine.

FOURTH STAGE LARVA (based on 1 probable female specimen): Body 4.2 mm long by 86 wide at greatest width; ratio of greatest width to length 1: 52. Cuticle with narrow annules. Lips 12 long by 12 wide. Esophagus 556 long by 31 wide or 13 % of body length. Ventriculus nearly spherical, 36 to 41 in diameter; ventricular appendage 469 long by 19 wide. Intestinal cecum 144 long by 24 wide; ratio of cecal to ventricular appendage lengths 1: 3.2; ratio of cecal to esophageal lengths 1: 3.8. Nervering located at anterior 35 % of esophagus, 9 in breadth. Excretory pore opening at nerve ring. Tail conical, 120 long including spined mucronate process, without folds in cuticle.

TYPE HOST : *Pelates quadrilineatus* (Bloch) (Theraponidae).

OTHER HOSTS : *Solea vulgaris aegyptiaca* Chabanaud (Soleidae); *Boops boops* (Linnaeus), *Lithognathus mormyrus* (Linnaeus), *Oblada melanura* (Linnaeus), *Diplodus vulgaris* (E. Geoffroy Saint-Hilaire), *D. sargus* (Linnaeus), and *Sparus auratus* Linnaeus (Sparidae).

SITE OF INFECTION : Stomach and intestine.

LOCALITIES : Off Jaffa (type locality), Tel-Baruch and Haifa, Israel.

HOLOTYPE: male, USNM Helm. Coll. No. 70916; ALLOTYPE: female, No. 70917; PARATYPES: USNH Helm. Coll. No. 70918 (pair); Muséum National d'Histoire Naturelle, Paris, No. ♂: 912 CA, ♀: 913 CA (1) (pair); British Museum (Natural History) Reg. No. 1978, 393 and 394 (pair).

ETYMOLOGY : The Greek « rhacodes » refers to the wrinkled appearance of the cuticle on the female tail.

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(1) See CHABAUD about « local N 355 ».

Discussion

Thynnascaris rhacodes differs from all members of the genus because the female tail has a wrinkled appearing cuticle. By possessing lips with elongated pulp bordered by lateral flanges that are constricted into basal and anterior portions, it most closely resembles *T. reliquens* Norris and Overstreet, 1975, *T. melichthiysi* (Olsen, 1952) Norris and Overstreet, 1975 and *T. ogcocephali* (Olsen, 1952) Norris and Overstreet, 1975 (see paper by Norris and Overstreet, 1975).

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