

Mini Review

PARASITIC WORMS EVOLUTION PROCESSES AND NEMATODES MUSCULAR FIBRES SIMILARITY

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INTRODUCTION

Acanthocephalans, also known as spiny headed worms. Acanthocephalans utilize their retractable and invaginable proboscis to connect to the digestive system of their host. The proboscides, bearing hooks and spines, vary significantly among species in size and shape. The spiny headed worms are the acanthocephala, and the adults all live inside the little intestines. They have a retractable proboscis equipped with spines that's inserted into the mucosa as a holdfast.

The vertebrate has ordinarily become contaminated by ingesting an infective larva, called a cystacanth, contained inside a contaminated invertebrate intermediate have, Acanthocephalans are profoundly adjusted to a parasitic mode of life, and have lost numerous organs and structures through developmental forms [1]. The foremost notable feature of the acanthocephala is the presence of an anterior, protrudible proboscis that's generally covered with spiny. The proboscis bears rings of recurved hooks organized in even lines, and it is by implies of these snares that the animal joins itself to the tissues of its host. The hooks may be of two or three shapes, usually longer, more thin hooks are organized along the length of the proboscis, with a few lines of more tough, shorter nasal hooks throughout the base of the proboscis [2]. But for the absence of the longitudinal filaments the skin of the proboscis resembles that of the body, but the fluid-containing tubules of the proboscis are closed from those of the body. The canals of the proboscis open into a circular vessel which runs circular its base.

The body surface of the acanthocephala is peculiar. Externally, the skin features a thin tegument covering the epidermis, which comprises of a syncytium with no cell dividers. The syncytium is navigated by an arrangement of branching tubules containing liquid and is controlled by a number of wandering, amoeboid nuclei [3]. Inside the syncytium is an irregular layer of circular muscle strands, and inside this again a few or maybe scattered longitudinal strands; there's no endothelium. In their micro structure the strong strands resemble those of nematodes. The central ganglion of the nervous system lies behind the proboscis sheath or septum. It innervates the proboscis and projects two forceful trunks posteriorly which supply the body [4]. The deepest body divider contains longitudinal and circular muscles. When these muscles contract, hydrostatic pressure in liquid stores called lemnisci are thought to cause the proboscis to evert.

The lemnisci are persistent with a arrange of tubes running all through the body wall.

Acanthocephalans are adjusted to a symbiotrophic way of life in that they need circulatory, respiratory, and digestive systems. Nutrients are retained directly over the body wall from the host's intestine. Respiration is encouraged by basic diffusion. Excretion is usually by dissemination or is rarely encouraged by ciliated flame cells called protonephridia, like those in flatworms, associated to excretory tubules [5]. Like all pseudocoelomates, the body depth needs a peritoneum. Postcyclic transmission may too occur, which refers to the exchange of adult worms when one vertebrate host eats another. In a few instances the presence of acanthocephalans may lead to modification in behavior shown by the intermediate host making it more vulnerable to being preyed upon thereby encouraging transmission [6]. The annelids are segmented worms that incorporate the recognizable earthworm and ragworms; the platyhelminths are unsegmented worms that incorporate the predatory planarians and parasitic flat worms, including tapeworms and flukes; and the acanthocephalans or thorny-headed worms contain a little and only parasitic taxon.

Numerous of the parasitic worms have complex lifecycles that incorporate two or more has, a definitive host that's generally a vertebrate, and one or more secondary hosts that are ordinarily invertebrates, particularly arthropods but moreover other worms. Thorny headed worms start their life cycle inside invertebrates that reside in marine or freshwater systems. The parasite is released when the primary middle host is ingested. This may be by a suitable last host, in which case the cystacanth creates a mature adult, or by a paratenic host, in which the parasite once more forms a cyst.

REFERENCES

1. Garey, J.R., Near, T.J., Nonnemacher, M.R., and Nadler, S.A., 1996. Molecular evidence for Acanthocephala as a subtaxon of Rotifera. *J. Mol. Evol.*, 43: 287-292.
2. Monks, S., 2001. Phylogeny of the Acanthocephala based on morphological characters. *Syst. Parasitol.*, 48: 81-115.
3. Weber, M., Wey-Fabrizius, A. R., Podsiadlowski, L., Witek, A., Schill, R. O., Sugár, L., and Hankeln, T., 2013. Phylogenetic analyses of endoparasitic Acanthocephala based on mitochondrial genomes suggest secondary loss of sensory organs. *Mol. Phylogenet. Evol.*, 66: 182-189.

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4. Waindok, P., Lehnert, K., Siebert, U., Pawliczka, I., and Strube, C., 2018. Prevalence and molecular characterisation of Acanthocephala in pinnipedia of the North and Baltic Seas. *Int. J. Parasitol. Parasites. Wildl.*, 7: 34-43.
5. Johnston, T.H., 1914. Second report on the Cestoda and Acanthocephala collected in Queensland. *Ann. Trop. Med. Parasitol.*, 8: 105-112.
6. Dezfuli, B.S., Lui, A., Giovanazzo, G., and Giari, L., 2008. Effect of Acanthocephala infection on the reproductive potential of crustacean intermediate hosts. *J. Invertebr. Pathol.*, 98: 116-119.