RESEARCH NOTE

Parasites of the Chilean Jack Mackerel *Trachurus symmetricus murphyi* (Pisces : Carangidae)

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The chilean jack mackerel *Trachurus symmetricus murphyi* Nickols, 1920, is an important fisheries resource. However, its parasite fauna is poorly known. During 1986-1987, 78 specimens of *T. s. murphyi* were obtained, with gills nets from Caleta Constitucion (23° 24'S 70° 36'W). Size of the fishes ranged from 25.6 to 47.8 cm (ages 2+ to 5+; R Mendez & G Gonzalez 1979 *Invest Mar 6:* 89-100). The analysis showed that the Chilean jack mackerel is parasitized by at least nine species: *Anisakis* sp. (Nematoda), *Scolex pleuronectis*, *Tentacularia coryphaenae* and *Nybelinia* sp. (Eucestoda), *Corynosoma australis* (Acanthocephala), an unidentified Opecoelidae (Digenea), *Caligus* sp. and *Lernanthropus trachuri* (Copepoda) and *Ceratothoa gaudichaudi* (Isopoda).

All the worms found, except the opecoelids, were larval forms. Table shows the prevalence and intensity of infection for each parasite species and within each age class. The most noticeable characteristic of the parasite fauna of the Chilean jack mackerel is the absence of some parasite groups which have been found in other species of *Trachurus*, such as monogeneans, adult digeneans and adult acanthocephalans. According to AV Gaevskaya and AA Kovaleva (1982 *Gidrobiol Zhur 18:* 60-65) the main characteristic of the digenean fauna of *Trachurus* spp. from the Atlantic Ocean is determined by its food items, which in turn, harboured the larval forms of the parasites transmited trophically. At least 21 species of digenetic trematodes are found in *Trachurus* spp. from the Atlantic and changes in the characteristic of the infectious process can be correlated with change from planctonic to benthic-feeders. Also, the presence of adult acanthocephalans is an indicator of benthic-feeders.

During this survey, no monogenea were found on the specimens studied. Although, J Llewellyn (1962 *J Mar Biol Ass UK 42:* 587-600) and AV Gaevskaja and AA Kovaleva (1980 *Biol Nauki 6:* 52-56) determined that the *Trachurus* spp. from the Atlantic Ocean harboured at least six species of monogeneans with prevalence ranging from 20-100%.

The absence in the Chilean jack mackerel, of digeneans typical of benthic-feeders, such as representatives of Fellodistomidae and Zoogonidae, which are common parasites of the Atlantic species (Gaevskaja & Kovaleva *loc. cit.*), would be considered as an evidence of a lack of a benthic phase in this species. A similar pattern is apparent for the Acanthocephala. Adult acanthocephalans were not found in my sample and at least five species of those parasites have been described from *Trachurus* spp. (S Yamaguti 1963 *Systema Helminthum* Vol V, YJ Golvan & R Houin 1964 *Ann Parasitol 5:* 535-605).

The digenean fauna of the *Trachurus* spp. from the Atlantic Ocean also includes species typical of the pelagic environment, such as hemiurids, dydimozoids and lepocreadiids. These are mainly transmited by chaetognaths, ctenophores, coelenterates, and copepods. The absence of digeneans would be explained by the poor diet of the Chilean jack mackerel. My observations suggest that the main food of *T. s. murphyi* are the anchovy, *Engraulis ringens* and euphausiids. Thus, the poor digenean and acantocephalan fauna of this fish would be a consequence of the diet.

Evidence have been presented by J Llewellyn and S MacDonald (1980 *J Mar Biol Ass UK 60:* 73-79), showing that when uninfested fishes mix with closely related fishes, infected with monogeneans, they become infected too. R Serra (1991 *Invest Pesquera 36:* 67-83) claimed that the Chilean jack mackerel belongs to a species geographycally isolated from its congeners. Thus, the absence of monogeneans in *T. s. murphyi* might be a consequence of a long period of isolation from their congeners.

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TABLE

Prevalence (%) and intensity of infection (I) for each parasite within each age class

ECTOPARASITES

N	Age class	C.g. %	C.g. I	L.t. %	L.t. I	Cal. %	Cal. I
6	2 +	66.7	1.3	0	0	50	1.7
39	3 +	30.7	1.9	5.1	1	20.5	1.5
22	4 +	36.4	1.6	9.1	1	22.3	1.4
11	5 +	36.4	1.7	0	0	9.1	1

ENDOPARASITES

N	Age Class	Ani. %	Ani. I	C.a. %	C.a. I	Ope. %	Ope. I	S.p. %	S.p. I	Nyb. %	Nyb. I	T.c. %	T.c. I
6	2 +	16.6	1	0	0	0	0	33.3	2.5	0	0	16.6	1
39	3 +	23.1	1.7	10.3	2	0	0	25.6	6	15.4	4	2.5	1
22	4 +	31.8	3.6	9.1	2.5	0	0	22.3	1.8	22.7	4.8	9.1	1
11	5 +	63.6	4.4	36.4	14	18.2	2.5	27.3	4.3	54.5	7.7	27.3	1.7

N: number of specimens within each class age; C.g.: *Ceratothoa gaudichaudi;* L.t.: *Lernanthropus trachuri;* Cal.: *Caligus* sp.; Ani.: *Anisakis* sp.; C.a.: *Corynosoma australis*; Ope.: unidentified opecoelids; S.p.: *Scolex pleuronectis;* Nyb.: *Nybelinia* sp.; T.c.: *Tentacularia coryphaenae*