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Occurrence of gut acanthocephalans in Frigate tuna (*Auxis thazard*) and Mackerel tuna (*Euthynnus affinis*)

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Understanding the occurrence of parasites is important in the marine food fish trade. Acanthocephalans can perforate and damage fish tissues making them unsuitable for trade. This study focused on the identification of gut acanthocephalans in Frigate tuna (*Auxis thazard*) and Mackerel tuna (*Euthynnus affinis*) with a comparative analysis of the parasite occurrence between two fish species. Fifty specimens from each fish species were purchased from a retail store in Kandy, Sri Lanka, from June to September 2022. The fish were dissected and inspected for gut helminths. Recovered gut helminths were washed and microscopic morphometry of the head and other organs of the parasites was carried out for identification. The occurrence of parasites in the two fish species was statistically analyzed using Chi-square test. The microscopic examinations revealed two different acanthocephalan genera, namely *Rhadinorhynchus* and *Neorhadinorhynchus*. Juveniles of genus *Rhadinorhynchus* (Frigate tuna: 205 ± 0.84, Mackerel tuna: 485 ± 1.47) and genus *Neorhadinorhynchus (*Frigate tuna*:* 61 ± 0.91, Mackerel tuna: 28 ± 2.2) were recovered from the gut of the fish. The prevalence of *Rhadinorhynchus* was 82% and 74% in mackerel tuna and frigate tuna, respectively, whereas that of *Neorhadinorhynchus* was 4% and 20%, respectively. While the prevalence of *Neorhadinorhynchus* was lower in mackerel tuna compared to frigate tuna ($p<0.05$), the co-occurrence of both parasitic genera in mackerel tuna was also low ($p<0.05$). The parasite abundance for *Rhadinorhynchus* was 9.7 and 4.1 in mackerel and frigate tuna, respectively, and it was 0.56 and 1.22 for *Neorhadinorhynchus*. The present study marks the first attempt to explore acanthocephalans in Sri Lankan marine food fish.

Keywords: Acanthocephalans, Frigate tuna, Mackerel tuna, *Neorhadinorhynchus, Rhadinorhynchus*

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