

Short Communication

On the occurrence of a double parasitism (copepod and isopod) on the anchovy fish in India

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Abstract: A double parasitism (isopod and copepod) on anchovy fish, *Stolephorus commersonii* Lacepede, 1803 was recorded from Parangipettai (India) coastal waters during June, 2004. This is the first report from this region and the infestation is discussed in relation to environmental parameters in this short communication.

Key words: Double parasitism, Copepod and isopod, Anchovy fish.

Introduction

Hitherto, isopod and copepod have been reported parasitizing separately several fishes of Parangipettai coastal waters (Veerappan *et al.*, 1999; Veerappan and Ravichandran, 2000). Parasitic isopods, common on food fishes, are usually large, producing serious deleterious effects on the host fishes (Overstreet, 1978; Kabata, 1985). Veerappan *et al.* (1999) and Veerappan and Ravichandran (2000) reported several parasitic isopods from Parangipettai like Cymothoids from different food fishes viz: *Chirocentrus dorab*, *Sardinella longiceps*, *S. sidensis*, *S. brachysoma*, *Dussumieria acuta*, *Thryssa dussumieri*, *T. mystax* and *Scomberomorus guttatus*. Further,

Rajkumar *et al.* (2004) observed an infection by *Cymothoa indica* on the spot tail needlefish *Strongylura strongylura*. Similarly, cyclopoid parasitic copepods were found on Parangipettai food fishes. Smith (1975) observed a similar pathological condition in *Abramis brama* caused by *Tracheliastes maculata*.

On anchovy fish, Schaperclaus (1986) reported a case of infection by lernaeid copepods. Bennet and Chellam (1979) observed *Pteroderma tasselum* parasitizing the fish *Stolephorus commersonii* from Tuticorin, Southeast coast of India. Brusca (1978) collected *Nerocila californica* on fin and the body surface of the anchovy *Cetengraulis mysticetus* in

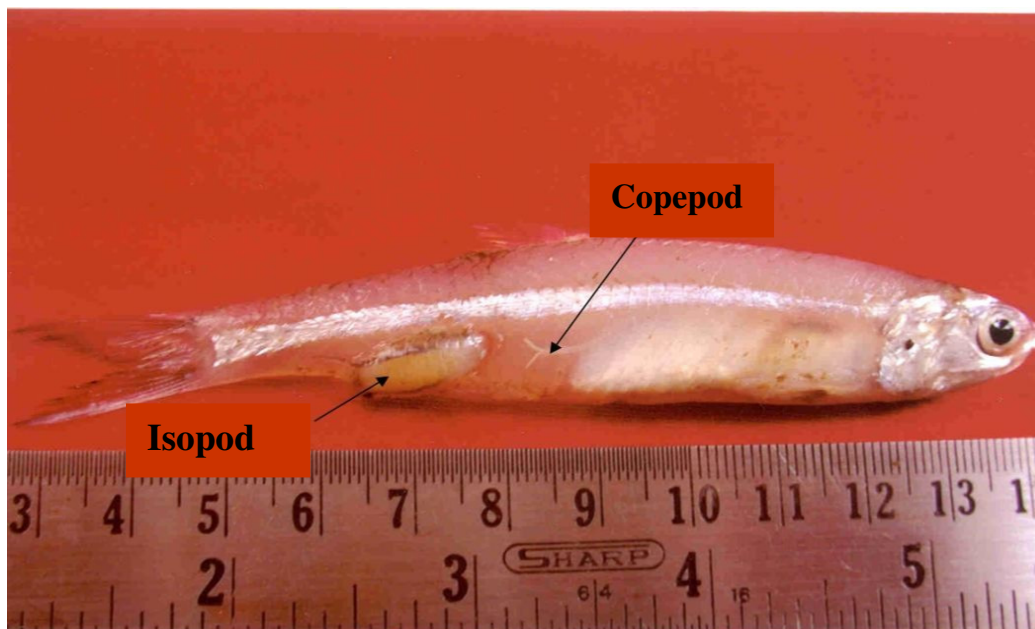


Fig. 1: Showing the host-fish, *Stolephorus commersonii* infested with isopod and copepod parasites.

northern Gulf of California with an infection rate ranging from 85 to 90% (when compared to the anchovy of the delta Rio Colorado and other host fishes). Jayadev Babu and Sanjeevaraj (1985) reported several copepod infections by *Parataeniacanthus platycephali* and *Lernanthropus shishidoi* on *Gerres oyena* and by *Ergasilus latus* and *Nipergasilus bora* on *Mugil cunnesius*.

Results and Discussion

A double infection of anchovy fish *Stolephorus commersonii* Lacépède, 1803 simultaneously by an isopod and a copepod was observed in the Parangipettai coastal waters (India), during June 2004. Based on our morphological observations, the lernaeid parasitic copepod was tentatively identified as *Lernaenicus sprattae* and the cymothoid isopod as *Nerocila phaiopleura* Bleeker, 1856. Copepod was found attached on the middle of the body surface, directly embedded into the body of the fish, and isopod near the tail region, attached to the host mainly by the pereopods. These copepods and isopods were feeding on the blood of the host-fish and are real parasites. Previously, double and triple parasitisms have been reported on flying fish (Wilson, 1917; Daniel and Premkumar, 1967; Daniel and Rama Rao, 1967). Several cases of double parasitism are known world wide. They are particularly correlated with the size of the fish host. A double parasitism is difficult on very young fishes, too frail; when the fish is too big, especially many cymothoids are not able to settle. Moreover, in the present case, *Stolephorus* seems an occasional host for *Nerocila phaiopleura*. Indeed, *S. indicus* was only cited as host (one case) for this cymothoid species by Bruce (1987) in Australia with several other species also cited by Trilles (1994). Further, the double parasitism on *Stolephorus* could also be related with the availability of numerous parasitic larvae particularly cymothoid larvae, which in turn depend upon the season and environmental temperature. Putz and Bowen (1964) stated that temperature plays an important role and the ideal temperature range for parasite development was: 23-30°C. In South India, to our knowledge, this is the first report on the occurrence of such a double infection of the anchovy fish. Therefore, we think it worthwhile to photograph and record this interesting new case (Fig. 1).

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