

NOTE

Infection of the isopod *Tachaea spongillicola* on freshwater prawns *Macrobrachium* spp. in southern IndiaPitchaimuthu Mariappan^{1,*}, Chellam Balasundaram¹, Jean-Paul Trilles²¹Department of Animal Science, Bharathidasan University, Tiruchirapalli 620 024, India²Laboratoire d'Ecophysiologie des Invertébrés, Université Montpellier II, Sciences et Techniques du Languedoc, CP 092, Place Eugène Bataillon, 34095 Montpellier Cedex 5, France

ABSTRACT: This paper reports the infection of freshwater prawns belonging to the genus *Macrobrachium* by the isopod parasite *Tachaea spongillicola* in a freshwater river system of southeastern India.

KEY WORDS: Isopod · *Tachaea spongillicola* · Freshwater prawn · *Macrobrachium*

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Isopods are dorsoventrally flattened peracarid crustaceans that are free-living scavengers, commensal partners or parasites. Of approximately 10 000 described species in 10 suborders, ca. 5000 are terrestrial, 4500 are marine and 500 are freshwater with a wide distribution over highly varied habitats (Kensley & Brusca 2001). Ectoparasitic isopods can pose serious problems by infecting fishes and crustaceans in the wild and in aquaculture (Koesharyani et al. 1999, Papapanagiotou et al. 1999, Kent 2000, Papapanagiotou & Trilles 2001, Thatcher & Blumenfeldt 2001). Indian ocean isopods, including parasites, have recently been reviewed by Kensley (2001).

During field studies on the diversity, biology and behaviour of freshwater prawns, conducted between June 1997 and January 2000, we found isopod infections on *Macrobrachium nobilii*, *M. lamarrei* and *M. malcolmsonii* from 3 sites along the course of the Cauvery River near Tiruchirapalli, South India (Fig. 1). Jedarpalayam, the farthest collection site, is at a distance of ca. 400 km from the Bay of Bengal.

The isopod was identified as *Tachaea spongillicola* Stebbing, 1907 based on the description provided by Stebbing in 1907. *T. spongillicola* was first collected from a freshwater tank from the freshwater sponge *Spongilla carteri*. Hence, the name of the species is derived from that of the sponge. The distribution of the 6 species of the genus *Tachaea* is more restricted than that of other species in related genera of the family

Coralallanidae (Delaney 1989). With the exception of *T. crassipes*, other species are recorded from freshwater habitats as ectoparasites of fishes and prawns. However, *T. spongillicola* has been collected only as a commensal of the freshwater sponges *S. carteri* and *S. lacustris* (Stebbing 1907). Thus, this is the first report of *T. spongillicola* being collected as an ectoparasite of freshwater prawns.

Although earlier studies describe bopyrid isopods as common parasites of *Macrobrachium* spp. (Ibrahim 1962, Markham 1985, Oliveira 2000), the occurrence of the cymothoid isopod *Telotha henselli* (von Martens) on *M. brasiliense* (Heller) is considered as exceptional (Lemos de Castro 1985). Infection of corallanid isopods of the genus *Tachaea* on freshwater prawns that

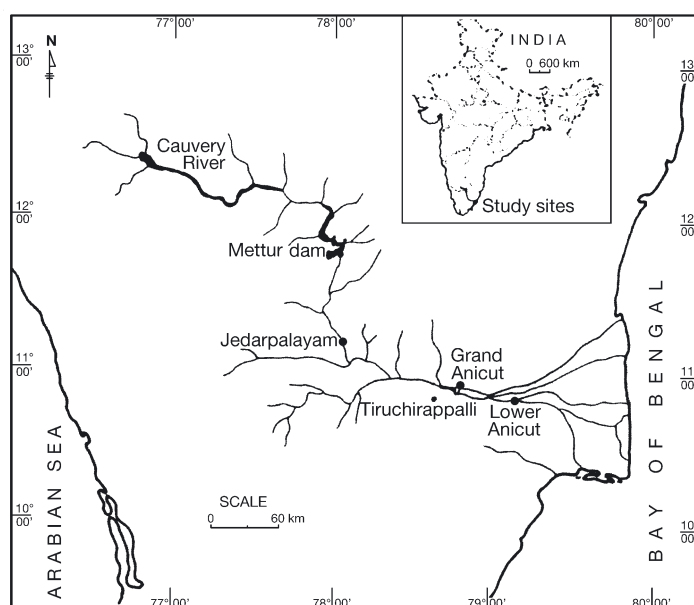


Fig. 1. Map showing study sites (•) on the Cauvery River

*Email: mnobilii@rediffmail.com



Fig. 2. *Tachaea spongillicola*. Dorsal and ventral view

belong to the genera *Palaemonetes*, *Leander*, *Paratya*, *Macrobrachium* and *Caridina* (Riek 1953, 1967, Delaney 1989) has been reported. Though the percentage of occurrence of *T. spongillicola* on the specimens collected for this study was low (ranging from 1.06 in *M. malcolmsonii* to 1.61 in *M. nobilii*, Table 1), it is worthy of mention that the infection was found on species like *M. nobilii* (Balasundaram & Pandian 1982) and *M. malcolmsonii* (Kelwalramani 1973) that migrate between fresh and marine water. Whether *T. spongilli-*

Table 1. *Tachaea spongillicola* infection on *Macrobrachium* spp. Prevalence (% , numbers in parentheses) on 3 species of freshwater prawns at 3 collection sites. NR: not recorded

Host species	Prevalence of <i>Tachaea spongillicola</i>		
	Jedarpalayam	Grand Anicut	Lower Anicut
<i>M. nobilii</i>	1.61 (5/310)	1.47 (7/475)	1.54 (3/194)
<i>M. lamarrei</i>	1.07 (2/186)	1.52 (3/197)	NR
<i>M. malcolmsonii</i>	NR	NR	1.06 (8/751)



Fig. 3. *Macrobrachium nobilii*. Berried prawn with parasite clinging to the right carapace near the chela

cola remains with them throughout their migrations (i.e. whether it is also present in marine water) merits further investigation.

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