A NEW RECORD OF TRACHELIASTES MACULATUS KOLLAR, 1835 (COPEPODA, SIPHONOSTOMATOIDA, LERNAEOPODIDAE) ON COMMON BREAM (ABRAMIS BRAMA (L., 1758)) IN THE NETHERLANDS

BY

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Parasitic crustaceans are currently receiving a more focused and intensive research interest due mainly to the potentially devastating effects these pathogenic organisms can have on aquaculture operations (Walker et al., 2004). However, only recently have researchers begun to pay attention to the effects fish lice can have on wild fish populations and fisheries (Johnson et al., 1996; Jacobson & Gaard, 1997; Northcott, 1997). Much of this attention is linked to the potential interactions that can occur between wild and farmed fish stocks (De Meuës et al., 1993), i.e., transfer of parasites from wild fish to farmed fish and/or vice versa. Yet, despite this potential impact, very little attention is paid to parasite populations on wild fish stocks apart from the occasions when they reach proportions that already have a significant, negative impact on fish populations.

Piasecki et al. (2004) stated that copepods belonging to the genus Tracheliastes are the least known of all the freshwater lernaeopodid genera. Furthermore, they state that Tracheliastes maculatus Kollar, 1835 (fig. 1) is the most pathogenic species of the genus.

In this paper we document the first known case of this species, on a population of common bream, Abramis brama (L., 1758) from the river Waal, the main distributary of the river Rhine, in the Netherlands.

T. maculatus is a parasitic copepod belonging to the family Lernaeopodidae. It shows high specificity with respect to its host, being found almost exclusively on

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bream, although it is also reported on other cyprinids including silver bream, *Blicca bjoerkna* (L., 1758) (cf. Grabda & Grabda, 1957), roach, *Rutilus rutilus* (L., 1758) (cf. Romanowsky, 1954), and nase, *Chondrostoma nasus* (L., 1758) (cf. Piasecki, 1989). The records on roach and nase, however, are rather doubtful records and have never been properly documented.

Adult females (fig. 1) become permanently attached to their hosts’ scales by means of a specialized attachment organ known as the bulla. Female parasites can reach lengths exceeding 15 mm (excluding egg sacs). The life cycle consists of eight stages: egg, pre-moult nauplius, infective copepodid, four chalimus stages, and the adults (Piasecki, 1989).

The pathological effects of this parasite species on its host have been described by some authors (Grabda & Grabda, 1957; Piasecki, 1991), however, these authors do not describe the effects in much detail. Grabda & Grabda (1957) concluded from an extensive study that, during mass invasion, *T. maculatus* can cause serious morbid changes in bream, e.g., local hyperaemia and petechiae (small red spots that do not blanch when pressed upon) around attachment sites of parasites, which can lead to inflammation of the skin. They also stated that the parasites can cause mass loss to fish stocks either directly or indirectly by lowering the vitality of the fish. Similar symptoms are also described by Piasecki et al. (2004).