Chapter 9
Impact of the Swim-Bladder Parasite on the Health and Performance of European Eels

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9.1 Parasitic Infections in Eels

A growing number of diseases including infections by parasites are thought to play an important role in the drastic reduction of eel in European rivers and lakes. Until now, the occurrence of about forty parasite species has been reported for the European eel. Bykhovskaya-Pavlovskaya et al. (1962) listed 30 species in this fish. Since then, several new species were recorded and among them highly pathogenic ones. Several of these species arrived by Pacific eels (*Anguilla japonica, A. australis*) that were introduced into Europe for experimental purposes. Parasitic infections leading to severe symptoms and eventually death of the fish are caused primarily by the highly pathogenic species. The common occurrence of some helminths like *Proteocephalus macrocephalus, Bothriocephalus claviceps, Acanthocephalus anguillae, Paraquimperia tenerrima* has been known for a long time (Murai 1971; Moravec 1994). There were also data on the pathogenic effect of some well-known myxosporeans as *Myxidium giardi, Hoferellus gilsoni* (Copland 1983; Lom et al. 1986), but these parasites rarely caused any diseases. The first real pathogenic disease of parasitic origin in Europe was reported by Molnár (1983) who discovered *Pseudodactylogyrus anguillae* and *P. bini* in cultured eels. These monogeneans caused heavy losses in intensively cultured eel stocks (Buchmann et al. 1987; Buchmann 1993) but no losses were recorded in natural waters. From time to time reports appeared about severe infections caused by unknown or less known parasites affecting eels in natural water, but none of these parasites caused measurable losses in eel populations. Besides monogeneans, Moravec and Køie (1987) described *Daniconema anguillae*, a skrjabillanid nematode from the abdominal cavity of the European eel. Molnár and Moravec (1994) found a heavy infection by its larval stages in the fins of eels of Lake Balaton. *Myxobolus portucalensis* as

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