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# Communications

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**The first record of**  
*Paratenuisentis ambiguus*  
**(Acanthocephala,**  
**Tenuisentidae) in Poland**

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**KEYWORDS**

*Paratenuisentis ambiguus*

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## Abstract

*Paratenuisentis ambiguus*, an acanthocephalan originating from North America, is an alien species parasitising the European eel *Anguilla anguilla*. It was first recorded in Lake Łebsko, on the central coast of Poland. The report gives morphometric measurements of male and female *P. ambiguus* from this locality. Because of the spread of the intermediate host *Gammarus tigrinus* and the appearance of new adults in eels along the southern Baltic Coast, *P. ambiguus* is evidently able to complete its life cycle in Baltic coastal waters.

*Paratenuisentis ambiguus* Van Cleave, 1921, is a specialist parasite of the American eel *Anguilla rostrata* (Lesueur, 1817) along the east coast of North America from Labrador to Florida (Samuel & Bullock 1981). This acanthocephalan was introduced into Europe with its sole intermediate host, the euryhaline amphipod *Gammarus tigrinus* Sexton, 1939 (Bullock & Samuel 1975, Kennedy 2006, Taraschewski 2006). A native of the brackish waters off the east coast of North America, *G. tigrinus* appeared in the River Weser, Germany, in 1957, and these acanthocephalans have been recorded in German inland waters since 1987 (Gollasch & Nehring 2006). Taraschewski

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et al. (1987) reported the first appearance of *P. ambiguus* in its definitive host outside the USA. Since this time, too, acanthocephalans have been recorded in the European eel *Anguilla anguilla* (Linnaeus, 1758), notably in the River Weser since 1987, in the Rhine in Germany a few years later (Taraschewski et al. 1987, Sures et al. 1999, Sures & Streit 2001), and in the Russian part of the Vistula Lagoon since 2004 (Rodjuk & Shelenkova 2006).

*P. ambiguus* has been recorded in eels from Lake Łebsko (central Polish coast) since 2002. During parasitological studies from 2001 to 2006, 88 eels were investigated and a total of 169 specimens of *P. ambiguus* were collected. Both males and females of this acanthocephalan were found (Figure 1). Table 1 lists the measurements of *P. ambiguus* from Lake Łebsko.



**Figure 1.** *Paratenisientis ambiguus* (examined under a Nikon Eclipse E400): male and female from the European eel *Anguilla anguilla* from Lake Łebsko (proboscis (a); male, central section with testes (b); male, posterior (c); female, posterior (d))

**Table 1.** Morphometric data of *Paratenuisentis ambiguus* from Lake Łebsko. Measurements in  $\mu\text{m}$ , but length in mm; mean values in parentheses

Measurement	Female	Male
length	4.9–11 (7.8)	4.6–6.9 (5.9)
maximum width	559–820 (639)	494–754 (616)
length of external praesoma	659–839 (746)	507–702 (628)
maximum width of external praesoma	146–209 (168)	130–165 (149)
number of proboscis hooks per row	13–16 (14.4)	13–16 (14.3)
number of rows	16–22 (18.8)	14–18 (15.8)
length of receptacle	573–1076 (827)	471–964 (745)
length of long lemniscus	1231–2333 (1643)	1545–2070 (1820)
length of short lemniscus	1130–1975 (1447)	1315–1788 (1612)
length of vagina	119–216 (165)	
length of uterus	198–358 (277)	
length of uterine bell	195–358 (286)	
length of anterior testis		312–492 (448)
length of posterior testis		387–892 (597)
number of cement gland nuclei		28–41
length of cement reservoir		134–276 (206)

A detailed description with figures and a comparison of European with American specimens were given by Taraschewski et al. (1987). The collected parasites corresponded to the specimens described from the River Weser by Taraschewski et al. (1987) and from North America by Bullock & Samuel (1975).

The first observations of *P. ambiguus* in eels from Lake Łebsko and the Russian part of the Vistula Lagoon were preceded by the occurrence of *G. tigrinus*. This gammarid lives in fresh and brackish waters; in coastal waters, however, its distribution is restricted to shallow lagoons, bays and estuaries. Its rapid spread along the Baltic coast has been recorded in Germany since 1975 (Zander et al. 1994, Zettler 2001, Gollasch & Nehring 2006), in the Szczecin Lagoon and Odra mouth since the 1990s (Gruszka 1995, 1999, Wawrzyniak-Wydrowska & Gruszka 2005), and the Gulf of Gdańsk (Bochenek et al. 2004), Puck Bay (Gruszka 2002, Szaniawska et al. 2003), the Vistula Lagoon (Jażdżewski & Konopacka 2000, Ezhova et al. 2005), the Gulf of Riga, the Finnish coast, the Gulf of Finland and the Curonian Lagoon (Daunys & Zettler 2006) since 2004. Because of the spread of the intermediate host and the appearance of new adults in eels along the southern Baltic Coast, it is clear that *P. ambiguus* can complete its life cycle in Baltic coastal waters.

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