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Some observations on the Chironomidae (Diptera) of ponds

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Introduction

During the study of communities of benthic invertebrates in three large ponds in Waelenhoek (Niel, Belgium) and the pond of the Fort VI (Wilrijk, Belgium) several interesting chironomid species were found (INT PANIS *et al.*, 1992; 1993). Some observations on the food of *Anatopynia plumipes* (FRIES, 1823) and the habitat of *Cladopelma* gr. *laccophila* are discussed in this paper.

Observations and discussion

Anatopynia plumipes (FRIES, 1823)

At present *A. plumipes* is the only species of *Anatopynia* JOHANNSEN, 1905 known from the Palaearctic. It was found throughout much of Europe, but it seems to be absent from southern Europe and the British isles (ILLIES, 1978). The very large larvae differ from other Tanypodinae by having a five-segmented antenna and multiple rows of teeth on the pecten hypopharyngis (FITTKAU & ROBACK, 1983). They can be found on organic and anaerobic sediments in eutrophic and hypertrophic standing waters, muddy zones along the shores of standing waters (MOLLER PILLOT & BUSKENS, 1990) and swamps (ILLIES, 1978).

Two larvae of *A. plumipes* were caught in a polluted pond at Waelenhoek (Niel, 26.X.1989). The oxygen concentrations are usually very low (often below 60%). However, during summer days algal blooms occur and the oxygen concentration can rise to over 200%. This species was not found in two other ponds, with a better water quality, in the same area. The insect fauna of this pond is very poor. *Chironomus* gr. *plumosus*, *Glyptotendipes* cf. *barbipes* (STAEGER, 1839) and *Psectrotanypus varius* (FABRICIUS, 1787) are the only other chironomid species that were found.

Specimen no. 1 has a length of 14 mm, the width of the glossa is about 100 μm . No food items were found in the gut.

Specimen no. 2 has a length of 13 mm, the width of the glossa is about 75 μm . Five food items were recovered from the gut of this specimen, three Ostracoda and two *Chironomus* larvae.

This shows that *A. plumipes* is a predator. In the literature we could not find any information on the food of this species. The content of the chironomid head capsules and their body was digested, but otherwise these prey animals and the three Ostracoda were still intact. This indicates that prey animals are swallowed in one piece. The head capsules of the *Chironomus* larvae were measured after mounting them on slides, therefore their size was probably overestimated.

Chironomus no. 1 : head capsule length, 500 μm ; width, 450 μm .

Chironomus no. 2 : head capsule length, 410 μm ; width, 390 μm .

Ostracoda : mean dimensions, 650 \times 490 μm .

Cladopelma gr. *laccophila*

Cladopelma gr. *laccophila* was first reported from Belgium by INT PANIS *et al.* (1993). In recent studies (INT PANIS, unpubl. data; PAUWELS, 1994) more specimens were caught in Waelenhoek (Niel8; 14 larvae) and at a new location in Wilrijk (Fort VI, UIA-campus; 2 larvae).

Cladopelma gr. *laccophila* occurs in the littoral zone of Niel8 in low densities. Larvae were found at depths of 1.0 (X.1993; 1 larva), 1.1 and 1.3 m (VII.1992; 2 larvae). More larvae were found at depths of 2.1 m (X.1993; 2 larvae) and 2.5 m (VII.1992; 9 larvae). The large pond of the Fort VI on the campus of the Universitaire Instelling Antwerpen is the second place where larvae of *Cladopelma* gr. *laccophila* were found. One specimen was found at a depth of 1.7 m and another one was found at a depth of 2.5 m (X.1993).

There is almost no information on the ecology of this species. Larvae that were identified as *Cladopelma* gr. *laccophila* are typical of the transitional littoriprofundal zone in Lake Vico (Italy) (SEMINARA *et al.*, 1990). PAUWELS (1994) has suggested that *Cladopelma* gr. *laccophila* in the Niel8 and Fort VI ponds are typical of zones with an unstable oxygen concentration. In Niel8 densities are highest in the depth range where an oxycline is observed in summer (INT PANIS *et al.*, 1994). In the Fort VI, both larvae were found at relatively deep sites where oxygen concentrations may drop during summer stagnation.

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