

# The occurrence of *Chironomus balatonicus* (Diptera: Chironomidae) in The Netherlands

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*Abstract:* *Chironomus balatonicus* is occurring in The Netherlands. The reason it was not reported earlier is due to its absence in the current identification keys of larvae for The Netherlands. Using these keys, *C. balatonicus* is erroneously identified as *Chironomus muratensis*. Larvae of *C. balatonicus* can easily be distinguished morphologically from *C. muratensis*; however the differentiation from *Chironomus plumosus* is still a problem. *Chironomus balatonicus* was found on several locations in the Rhine-Meuse Delta.

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## Introduction

Until now, the occurrence of *Chironomus balatonicus* Dévai, Wülker & Scholl, 1983, in The Netherlands has not been reported. However, cytotaxonomical identification of larvae of *Chironomus* species from the Haringvliet (a part of the Rhine-Meuse Delta) revealed the presence of the species *C. balatonicus* in The Netherlands. These cytotaxonomically identified *C. balatonicus* had previously been identified as *Chironomus muratensis* Ryser, Scholl & Wülker, 1983, using Webb & Scholl (1985). For the identification of *Chironomus* larvae in The Netherlands, and probably also in the rest of western Europe, the identification keys of Lenz (1954) or Webb & Scholl (1985) are being used almost exclusively. These keys do not include *C. balatonicus*. A literature survey and a study of the morphological characters of larvae of *C. balatonicus* was conducted.

## Results and discussion

A conspicuous morphological difference between *C. balatonicus* and *C. muratensis* is the

hollow basal rim of the maxilla of *C. balatonicus* and the crumbled but straight one of *C. muratensis* (Kiknadze et al., 1991). Another difference is the number of ventromental plate striae which range from 78-93 in *C. balatonicus* and from 106-137 in *C. muratensis* (Webb et al., 1985; Kiknadze et al., 1991). Finally, less than 20% of the large claws of the anterior parapods are toothed at the top in *C. balatonicus* and about 60% in *C. muratensis*.

Whereas the cited characters permit to separate *C. balatonicus* larvae from those of *C. muratensis*, the former species can hardly be distinguished from *Chironomus plumosus* (L.). The basal rim of the maxilla of *C. plumosus* is hollow also and the number of ventromental plate striae is 79-107 (Kiknadze et al., 1991) and thus show an overlap with the number of *C. balatonicus*. Moreover Kiknadze et al. (1991) showed that the length of the ventral tubules can not be used to distinguish *C. balatonicus* and *C. plumosus*. Other possible differences like the distance between the antennal pedestals (Shobanov, 1989) and the width of the outer hooks of the ventromental plates (Kiknadze et al., 1991) have not been checked in the Dutch specimens.

*Chironomus balatonicus* and *C. muratensis* can live in the same biotopes, as they were found together in a sewage treatment plant (Moldovan, 1987) and in the Brabantsche Biesbosch (a part of the Rhine-Meuse Delta).

As *C. balatonicus* is not treated in currently used keys, it may have been present where *C. muratensis* has been reported (e.g. Smit et al., 1994). Newly identified material revealed the presence of *C. balatonicus* on several locations in the Rhine-Meuse Delta, such as Haringvliet, Biesbosch and Volkerak-Zoommeer. Only larvae from the Haringvliet have been controlled cytotaxonomically.

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### References

- DÉVAI, G.Y., W. WÜLKER & A. SCHOLL, 1983. Revision der Gattung *Chironomus* Meig. (Diptera) IX. *C. balatonicus* aus dem Flachsee Balaton (Ungarn). – *Acta zool. hung.* 29: 357-374.
- KIKNADZE, I.I., A.I. SHILOVA, I.E. KERKIS, N.A. SHOBA NOV, N.I. ZELENTSOV, L.P. GREBENYUK, A.G. ISTOMINA & V.A. PRASOLOV, 1991. *Kariotipy i morfologiya lichinok triby Chironomini. Atlas*: 1-115. Nauka, Sibirskeje otdelenie, Novosibirsk.
- LENZ, F., 1954. Die Metamorphose der Tendipedinae. In: *Die Fliegen der Palaearktischen Region* (E. Lindner, ed.) 176: 139-168.
- MOLDOVAN, J., 1987. Description of a multispecies *Chironomus* community (Diptera: Chironomidae) at an experimental sewage-treatment plant. – *Entomologica scand. Suppl.* 29: 381-386.
- RYSER, H.M., A. SCHOLL & W. WÜLKER, 1983. Revision der Gattung *Chironomus* Meigen (Diptera). VII. *C. muratensis* und *C. nudiventris*, Geschwisterarten aus der plumosus-gruppe. – *Rev. Suisse Zool.* 90: 299-316.
- SHOBA NOV, N.A., 1989. The morphological differentiation of *Chironomus* species of plumosus group (Dipt., Chir.). Larvae. – *Acta biol. Debr. oecol. Hung.* 2: 335-344.
- SMIT, H., J.A. VAN DER VELDEN & A. KLINK, 1994. Macrozoobenthic assemblages in littoral sediments in the enclosed Rhine-Meuse Delta. – *Neth. J. aquat. Ecol.* 28: 199-212.
- WEBB, C.J. & A. SCHOLL, 1985. Identification of larvae of European species of *Chironomus* Meigen (Diptera: Chironomidae) by morphological characters. – *Syst. Entomol.* 10: 353-372.
- WEBB, C.J., A. SCHOLL & H.M. RYSER, 1985. Comparative morphology of the larval ventromental plates of European species of *Chironomus* Meigen (Diptera: Chironomidae). – *Syst. Entomol.* 10: 373-385.

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## Rectificatie

In het artikel van Vierbergen (*Ent. Ber., Amst.* 55 (12): 185-192) zijn de figuren 6 en 7 (pag. 188) verwisseld. De linker figuur behoort dus bij het rechter onderschrift en omgekeerd. Onze excuses voor de gemaakte vergissing.