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Redactie: Dr. J.-P. Borie (Compiègne, France), Dr. L. De Bruyn (Antwerpen), T. C. Garrevoet (Antwerpen), B. Goater (Chandlers Ford, England), Dr. K. Maes (Tervuren), Dr. K. Martens (Brussel), H. van Oorschot (Amsterdam), W. O. De Prins (Leefdaal).

Redactie-adres: W. O. De Prins, Dorpstraat 401B, B-3061 Leefdaal (Belgium).

e-mail: willy.deprins@gmail.com

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First record of *Limnephilus binotatus* in Belgium (Trichoptera: Limnephilidae)

K. Lock, G. De Prins & P. L. M. Goethals

Abstract. Caddisflies or Trichoptera are known as indicators of a good water quality. In Belgium, however, caddisflies hardly received any attention recently. Because most species are attracted to light, the help was invoked of moth collectors to increase the knowledge about the Belgian caddisflies. One of the first results of this co-operation was the capture of *Limnephilus binotatus* Curtis, 1834, which had not yet been reported for Belgium. The species was found in the nature reserve Bospolder – Ekers Moeras, along with 12 other caddisfly species, all of which are characteristic for standing waters. This record indicates there is still a lot to be discovered about the Belgian caddisflies and we hope to convince more moth catchers to collect some caddisflies during sampling with light traps.

Samenvatting. Eerste vermelding van *Limnephilus binotatus* in België (Trichoptera: Limnephilidae)

Kokerjuffers of Trichoptera zijn gekend als indicatoren voor zuiver water. In België werden ze recent echter amper bestudeerd. Omdat de meeste soorten door licht worden aangetrokken, werd de hulp ingeroepen van nachtvlinderliefhebbers om zo de kennis van de Belgische kokerjuffers te vergroten. Eén van de eerste resultaten van deze samenwerking was de vangst van *Limnephilus binotatus* Curtis, 1834, die nog niet eerder in België was aangetroffen. De soort werd verzameld in het natuureservaat Bospolder – Ekers Moeras, samen met 12 andere soorten die karakteristiek zijn voor stilstaande wateren. Deze vondst toont aan dat er nog heel wat te ontdekken valt over de Belgische kokerjuffers en we hopen meer nachtvlinderliefhebbers te kunnen overtuigen om ook kokerjuffers te verzamelen tijdens vangsten met lichtvallen.

Résumé. Première mention de *Limnephilus binotatus* en Belgique (Trichoptera: Limnephilidae)

Trichoptères ou Trichoptera sont connus comme des indicateurs de l'eau pure, mais en Belgique ils n'ont presque pas reçu d'attention les dernières années. Parce-que la plupart des espèces sont attirer par la lumière, l'aide des capteurs des papillon nocturnes était invoquer pour agrandir la connaissance des trichoptères belges. Une des premières résultats était la capture de *Limnephilus binotatus* Curtis, 1843, qui n'était pas encore trouvé en Belgique. L'espèce a été trouvé dans la réserve naturelle Bospolder – Ekers Moeras, accompagné de 12 autres espèces qui sont

caractéristique pour les eaux stagnants. Cette observation indique qu'il y a encore beaucoup à découvrir sur les trichoptères belges et nous espérons de poursuivre encore plus des capteurs de papillons nocturnes pour collecter quelques trichoptères pendant les captures avec des pièges lumineux.

Keywords: Belgian fauna – Caddisfly – Moth catching – Faunistics – First record.

Lock, K. & Goethals, P. L. M.: Laboratory of Environmental Toxicology and Aquatic Ecology, J. Plateaustraet 22, B-9000 Gent. Koen.Lock@UGent.be.

De Prins, G.: Markiezenhof 32, B-2170 Merksem. guido.deprins@telenet.be.

Introduction

During the last decades, Trichoptera hardly received any attention in Belgium. Since a distribution atlas (Stroot 1984) and a checklist listing 200 species occurring in Belgium (Stroot 1987) were published, only *Molannodes tinctus* (Zetterstedt, 1840) (Stroot & Neven 1989), and *Hydroptila lotensis* Mosely, 1930 (Copa 2001) were added to the Belgian fauna. In contrast to caddisflies, moths are recently becoming very popular. As most species of caddisflies are attracted to light in the same way moths are, it was decided to ask for the co-operation of moth catchers in order to increase the knowledge about the distribution of Trichoptera in Belgium. One of the first results of this co-operation was the capture of *Limnephilus binotatus* Curtis, 1834, a species new to the Belgian fauna. One male of this species was caught on 05 May 2008 and two other males on 27 May 2008 in the nature reserve Bospolder – Ekers Moeras in Ekeren (province of Antwerp, UTM ES9781) as a by-catch during moth observations using a mercury-vapour lamp of 125 W. The reserve is famous for its reed marshes, brook forests and creeks, which are important habitats for Trichoptera. The record of *L. binotatus* indicates there is still a lot to be discovered about the Belgian caddisfly species.

Description

L. binotatus is a fairly large caddisfly with forewings of about 15 mm length and larvae of up to 20 mm. The forewings are pale with a very dark patch near the end of the subcosta and broad light bands are running across the forewing, notably near either end of the discoidal cell (Fig. 1). However, adult caddisflies can best be identified on the basis of their genitalia. For the Belgian fauna, adults can be identified using Malicky (2004), while larvae can be identified using the keys from Lechthaler & Stockinger (2005) or Higler (2005).

Habitat, distribution and co-occurring species

Adults of *L. binotatus* can be found from April till September. However, the main flight period lasts from May till July (Higler 2008). The species can be found in marshes, fens, lake borders and temporary waters rich in emergent vegetation. *L. binotatus* occurs almost all over Europe but seems to lack around the Mediterranean. As the species had already been found in all the surrounding countries (Higler 2008), its presence in Belgium was expected.



Figure 1. Habitus of *Limnephilus binotatus* Curtis, 1834. Belgium, Antwerp, Ekers Moeras, 05 May 2008, leg. G. R. De Prins (photo Koen Lock).

During five sampling occasions (26/4, 5/5, 27/5, 23/7 and 25/7/2008), 13 species of Trichoptera were collected in the nature reserve Bospolder – Ekers Moeras. Besides *L. binotatus*, other Limnephilidae species encountered at this site were *Glyphotaelius pellucidus* (Retzius, 1783), *Grammotaulius nitidus* (Müller, 1764), *Limnephilus affinis* Curtis, 1834, *L. auricula* Curtis, 1834, and *L. marmoratus* Curtis, 1834. In addition, *Leptocerus tineiformis* Curtis, 1834, *Mystacides longicornis* (Linnaeus, 1758), and *Oecetis ochracea* (Curtis, 1825) (Leptoceridae), *Agrypnia varia* (Fabricius, 1793), *Phryganea grandis* Linnaeus, 1758, and *Trichostegia minor* (Curtis, 1834) (Phryganeidae), and *Tinodes waeneri* (Linnaeus, 1758) (Psychomyiidae) were observed. Most of these species are relatively common in standing waters. As Trichoptera are considered as indicators of a good water quality (Gabriels *et al.* 2009), the presence of 13 species belonging to four different families indicate that the nature reserve Bospolder – Ekers Moeras contains valuable wetland habitats.

Discussion

Based on the distribution of Trichoptera in the surrounding countries, about 25 additional species are still to be expected in Belgium (Stroot 1987). In addition, the lack of recent observations does not allow the assessment of the present status of the species. Therefore, more data should be collected about the distribution of Trichoptera, which are known as very good indicators of the water quality (Gabriels *et al.* 2009). One way to achieve this is by collecting

caddisflies during moth observations. All collected material is very welcome and can be sent to the first author.

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