

Limnephilus pati* O'Connor, 1980 new to Belgium*(Trichoptera: Limnephilidae)**

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Abstract

On 20.VII.2020, *Limnephilus pati* O'Connor, 1980 was observed for the first time in Belgium. Two males and one female were captured with light-traps in peat bogs along the river Semois in the nature reserve Marais de Heinsch in Arlon.

Keywords: Belgian fauna, caddisfly, Marais de Heinsch

Samenvatting

Op 20.VII.2020 werd *Limnephilus pati* O'Connor, 1980 voor het eerst waargenomen in België. Twee mannetjes en een vrouwtje werden met lichtvallen gevangen in laagveen langs de Semois in het natuurreservaat Marais de Heinsch in Arlon.

Résumé

Le 20.VII.2020, *Limnephilus pati* O'Connor, 1980 a été observé pour la première fois en Belgique. Deux mâles et une femelle ont été capturés avec des pièges lumineux dans des tourbières le long la Semois dans la réserve naturelle Marais de Heinsch à Arlon.

Introduction

Limnephilidae are the most diverse family of Trichoptera in Belgium and *Limnephilus* Leach, 1815 is the largest genus. Most species are quite big and can be recognised by their wing pattern. Their larvae mainly live in stagnant water and are therefore rarely sampled during water quality monitoring, which is mostly restricted to running waters. Adults are usually only observed when they come to light. Despite their size, the number of observations only started to grow due to the increasing popularity of moths, combined with the success of citizen science initiatives like www.waarnemingen.be/www.observations.be. Recently, *Limnephilus binotatus* Curtis, 1834 could already be added to the Belgian fauna (LOCK *et al.*, 2010) and the presence of *Limnephilus subcentralis* Brauer, 1857 could be confirmed (LOCK & WULLAERT, 2016). With the discovery of *Limnephilus pati*, the number of *Limnephilus* species in Belgium has risen to 26.

Material and methods

On 20.VII.2020, moths were sampled with Skinner light-traps with 125W mercury vapor lamps in the nature reserve Marais de Heinsch in Arlon (province Luxembourg, GPS 49.694N, 5.730E, 350 m a.s.l.). Marais de Heinsch covers about 138 hectare and is situated along the river Semois. It mainly consists of marshes and contains peat bogs and is managed by Natagora. During sampling, not only moths, but also a few caddisflies were observed, which were identified using MALICKY (1983). The collected specimens of *Limnephilus pati* O'Connor, 1980 have been deposited into the collection of the Royal Belgian Institute of Natural Sciences (I.G. 34546).

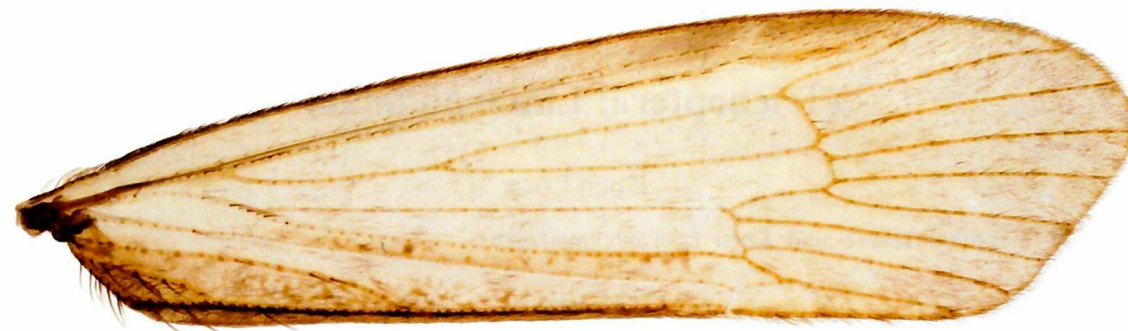


Fig. 1. Right forewing of *Limnephilus pati* O'Connor, 1980. © Koen Lock.

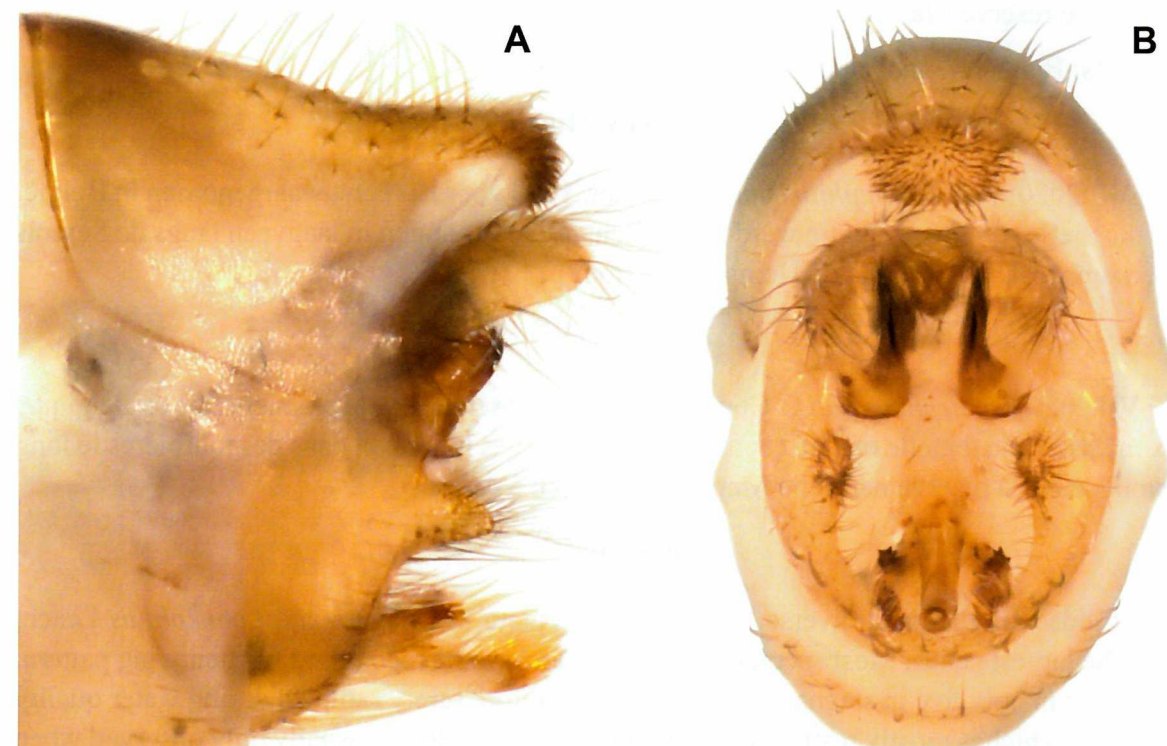


Fig. 2. Lateral (A) and caudal (B) view of male genitalia of *Limnephilus pati* O'Connor, 1980. © Koen Lock.

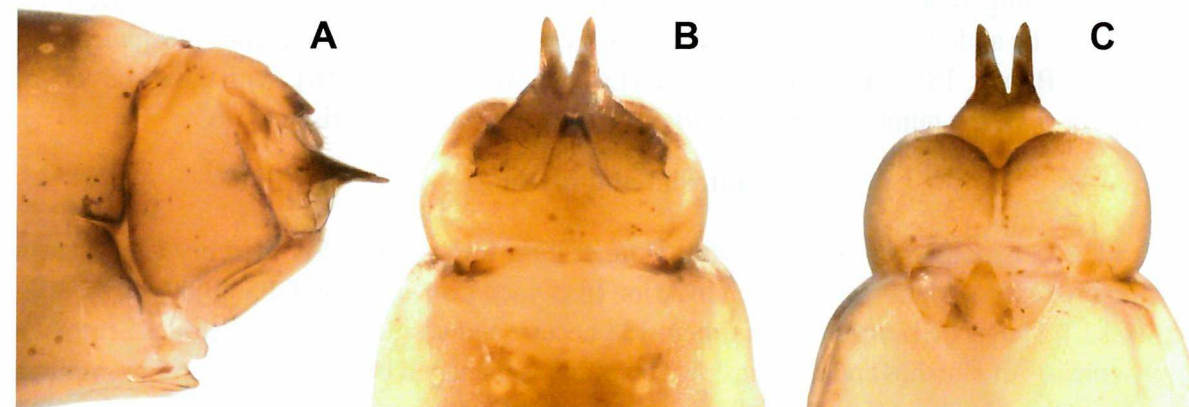


Fig. 3. Lateral (A), dorsal (B) and ventral (C) view of female genitalia of *Limnephilus pati* O'Connor, 1980. © Koen Lock.

Results

On 20.VII.2020, two males and one female of *Limnephilus pati* O'Connor, 1980 were captured with light-traps in the nature reserve Marais de Heinsch in Arlon. The species has yellowish brown forewings mottled with dark brown spots, especially along the rear margin. *L. pati* closely resembles some other species of the genus *Limnephilus*, in particular *Limnephilus hirsutus* (Pictet, 1834), but there are differences in wing venation. The discoidal cell is not more than 1.25 times the length of its stalk in *Limnephilus extricatus* McLachlan, 1865, around 1.6 times in *Limnephilus tauricus* Schmid, 1964, around 1.75 times in *L. pati* (Fig. 1) and at least twice its length in *L. hirsutus*. However, it is more reliable to identify these species based on their genitalia. In males of *L. pati*, the middle genital appendages possess a black upward curved tip (Fig. 2). In females, the strongly narrowed ninth segment is deeply incised (Fig. 3).

Other caddisfly species encountered at the same site that night were: *Hydropsyche siltalai* Doehler, 1963 (Hydropsychidae), *Hydroptila sparsa* Curtis, 1834 (Hydroptilidae), *Athripsodes albifrons* (Linnaeus, 1758), *Athripsodes aterrimus* (Stephens, 1836), *Ceraclea fulva* (Rambur, 1842), *Leptocerus tineiformis* Curtis, 1834, *Mystacides azurea* (Linnaeus, 1761), *Mystacides longicornis* (Linnaeus, 1758), *Oecetis lacustris* (Pictet, 1834) (Leptoceridae), *Grammotaulius submaculatus* (Rambur, 1842), *Limnephilus lunatus* Curtis, 1834, *Stenophylax permistus* McLachlan, 1895 (Limnephilidae) and *Cyrrus trimaculatus* (Curtis, 1834) (Polycentropodidae).

Discussion

Limnephilus pati O'Connor, 1980 was described based on six pinned specimens that were collected from Coxtown in Ireland (1894) and from the Isle of Man (1903-1905), but were initially wrongly identified as *Limnephilus hirsutus* (O'CONNOR, 1980). In June 1994, *L. pati* was rediscovered in Ireland in the Cabragh Wetlands (O'CONNOR & BOND, 1995). Since then, *L. pati* has already been reported from five Irish counties (Donegal, Mayo, Tipperary, Westmeath and Kildare) and alkaline lakes and fens with spring streams feeding them seem to be important (O'CONNOR, 2015; O'CONNOR *et al.*, 2019). The latest record originated from Pollardstown Fen in Kildare, where a male was captured with an emergence trap at a limnocene tufa spring (O'CONNOR *et al.*, 2019). Also in collections from the British Isles, pinned specimens were found, which were sampled from Chippenham and Redgrave Fens in East Anglia in the 19th century (SUTTON *et al.*, 2021). In 2020, the species resurfaced in South Uist, one of the Outer Hebrides (SUTTON *et al.*, 2021). This island has the largest machair system in the British Isles and the caddisfly may be associated with the resultant calcareous conditions there, which are caused by the calcium leached from the shells in this sand dune system (SUTTON *et al.*, 2021). Such a machair system may also be the habitat of *L. pati* on the Isle of Man.

L. pati has also been reported from Germany: first from Mindelsee in Baden-Württemberg under the name *Limnephilus eideli* (TOBIAS, 1981), later from Brandenburg (KLIMA & WEIDLICH, 1993) and again from Baden-Württemberg, this time in Wurzacher Ried, a pre-alpine raised bog (THAM *et al.*, 1996). In 1995, there was one record from Selbjerg Vejle in Denmark (WIBERG-LARSEN, 2006) and later the species was also observed in the northern coastal region east of Hirtshals and from central Jutland (NEU *et al.*, 2018). The species was also found in an 11 ha mineral-rich groundwater fed fen near Luboń in northwest Poland in 2011 (TEMPELMAN *et al.*, 2013). In 2014, it was captured in a vast peatland area in the Dugeon river valley near Hautaud in the Doubs department in France (COPPA *et al.*, 2017).

Including the Belgian record, *L. pati* is now known from seven countries. However, the species is only known from a very limited number of locations, which are very distant from each other.

The present record is only the ninth for mainland Europe. *L. pati* is probably more common than currently known and in the past, the species might have been confused with *L. hirsutus* and *L. tauricus*. On the other hand, *L. pati* seems to be restricted to a certain kind of alkaline lakes and fens and there is no doubt that this species is indeed very rare.

All records of *L. pati* so far date from the middle of May till the end of July. The flight period therefore seems quite short. A lot of *Limnephilus* species go into summer-diapause during the warmest and driest part of the summer and re-appear afterwards to mate and deposit their eggs. Such a summer-diapause does not seem to be present in *L. pati*. Most records were the result of light trapping, indicating that this species readily comes to light. Light trapping therefore seems to be the easiest way to find this species. The larvae of *L. pati* have not yet been described and their habitat requirements are thus not exactly known. Since adults were mostly found near alkaline lakes and fens, larvae should be searched in that habitat.

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Premier signalement de *Mecidea lindbergi* Wagner, 1954

(Hemiptera: Heteroptera: Pentatomidae) en Belgique

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Abstract

In October 2022, an adult of *Mecidea lindbergi* Wagner, 1954 was observed in Floriffoux (prov. of Namur). This is the first report of this species for Belgium. This species is currently known from eight European countries. *Mecidea lindbergi* feeds on several species of Poaceae. The identification, ecology and distribution of the species are discussed.

Keywords: new record, Belgium, faunistics

Résumé

En octobre 2022, un adulte de *Mecidea lindbergi* Wagner, 1954 a été observé à Floriffoux (prov. de Namur). Il s'agit de la première mention de cette espèce pour la Belgique. Cette espèce est actuellement connue de huit pays européens. *Mecidea lindbergi* se nourrit aux dépens de plusieurs espèces de Poaceae. L'identification, l'écologie et la distribution de l'espèce sont discutées.

Samenvatting

In oktober 2022 werd in Floriffoux (prov. Namen) een adult van *Mecidea lindbergi* Wagner, 1954 waargenomen. Dit is de eerste melding van deze soort voor België. Deze soort is momenteel bekend uit acht Europese landen. *Mecidea lindbergi* voedt zich met verschillende soorten Poaceae. De identificatie, ecologie en verspreiding van de soort worden besproken.

Introduction

La famille des Pentatomidae (Hemiptera: Heteroptera) est cosmopolite et numériquement la plus importante au sein des Pentatomoidea. À l'échelle mondiale, elle compte environ 4700 espèces réparties en près de 900 genres et 10 sous-familles (RIDER, 2006).

En Belgique, la famille des Pentatomidae comptait jusqu'à présent 45 espèces, 31 genres et 3 sous-familles (CLAEREBOU *et al.*, 2018). *Mecidea lindbergi* est signalée pour la première fois du royaume, portant le nombre d'espèces de Pentatomidae pour le pays à 46 (pour 32 genres).

Le genre *Mecidea* Dallas, 1851 se distingue de tous les autres genres de Pentatomidae européens, entre autres, par un corps remarquablement allongé et linéaire, jaune paille à jaune rougeâtre, à ponctuation sombre pouvant parfois l'assombrir en grande partie. La tête en triangle allongé porte des jugas plus longues que le clypéus, très rapprochées en avant, jusqu'à parfois se toucher mais sans jamais fusionner (SAILER, 1952; DERJANSCHI & PÉRICART, 2005).

Dans le monde, le genre *Mecidea*, qui regroupe 18 espèces, se rencontre dans les zones subtropicales et dans les zones tempérées qui leur sont adjacentes (SAILER, 1952). Dans ces zones, leur distribution coïncide avec des environnements xériques à semi-xériques. Le genre *Mecidea* est représenté par cinq espèces dans la région Paléarctique (RIDER, 2006) dont quatre pour le Paléarctique occidental. Néanmoins, selon DERJANSCHI & PÉRICART (2005), la validité de l'une d'entre elles, *M. rungsi* Vidal, 1949, reste douteuse. À l'échelle de la Belgique, seules trois espèces sont donc à considérer : *M. lindbergi* Wagner, 1954, *M. pallida* Stål, 1854 et *M. pallidissima* Jensen-Haarup, 1922.