

The planthoppers *Kelisia sima* Ribaut, 1934 and *Mirabella albifrons* (Fieber, 1866) new to Belgium (Hemiptera: Delphacidae)

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Abstract

Two planthoppers were observed for the first time in Belgium. On 16.IX.2017 and 19.VIII.2018, *Kelisia sima* Ribaut, 1934 was found on *Carex demissa* in the nature reserve 'Vallei van de Ziepbeek' in Lanaken (Province of Limburg). On 14.IV.2018, *Mirabella albifrons* (Fieber, 1866) was found on *Calamagrostis epigejos* in the harbour of Ghent (Province of East Flanders).

Keywords: Auchenorrhyncha, *Calamagrostis epigejos*, *Carex demissa*, Fulgoromorpha

Samenvatting

Twee spoorcicaden werden voor het eerst in België waargenomen. Op 16.IX.2017 en 19.VIII.2018 werd *Kelisia sima* Ribaut, 1934 waargenomen op *Carex demissa* in het natuurreserveaat 'Vallei van de Ziepbeek' in Lanaken (Provincie Limburg). Op 14.IV.2018 werd *Mirabella albifrons* (Fieber, 1866) waargenomen op *Calamagrostis epigejos* in de haven van Gent (Provincie Oost-Vlaanderen).

Résumé

Deux Delphacidae ont été trouvés pour la première fois en Belgique. Le 16.IX.2017 et le 19.VIII.2018, *Kelisia sima* Ribaut, 1934 a été observé sur *Carex demissa* dans la réserve naturelle 'Vallei van de Ziepbeek' à Lanaken (Province de Limbourg). Le 14.IV.2018, *Mirabella albifrons* (Fieber, 1866) a été observé sur *Calamagrostis epigejos* au port de Gand (Province de Flandre Orientale).

Introduction

Planthoppers or Delphacidae are a family of Auchenorrhyncha, that can easily be recognised by the strongly enlarged, mobile spine apically on the hind tibiae. All species are herbivorous, with most species feeding on Poaceae, Cyperaceae and Juncaceae. BAUGNÉE (2003) presented a checklist mentioning 70 species for Belgium. Later, BAUGNÉE & DEN BIEMAN (2008) added *Chloriona vasconica* Ribaut, 1934, *Conomelus lorifer dehneli* Nast, 1966, *Kelisia guttulifera* (Kirschbaum, 1868), *Kelisia irregulata* Haupt, 1935 and *Ribautodelphax imitans* (Ribaut, 1953). DE BLAUWE (2011) found the exotic *Prokelisia marginata* (Van Duzee, 1897) originating from America. Here, *Kelisia sima* Ribaut, 1934 and *Mirabella albifrons* (Fieber, 1866) are added to the Belgian fauna.

Material and methods

Planthoppers were sampled by sweeping the vegetation. Species were identified using BIEDERMANN & NIEDRINGHAUS (2009) in combination with KUNZ *et al.* (2011) and HOLZINGER *et al.* (2003). However, the genus *Mirabella* will not key out in the key of BIEDERMANN & NIEDRINGHAUS (2009), because the lateral keels of the pronotum do not reach the hind margin, leading to the wrong choice at the second key point (correct in HOLZINGER *et al.* (2003)). Specimens of *K. sima* and *M. albifrons* were deposited to the entomological collection of the Royal Belgian Institute of Natural Sciences (I.G.: 33956).



Fig. 1. *Kelisia sima* Ribaut, 1934 (photo: Koen Lock).



Fig. 2. Male genitalia *Kelisia sima* Ribaut, 1934 (photo: Koen Lock).



Fig. 3. Male *Mirabella albifrons* (Fieber, 1866) (photo: Koen Lock).



Fig. 4. Female *Mirabella albifrons* (Fieber, 1866) (photo: Koen Lock).

Results

On 16.IX.2017 and 19.VIII.2018, *K. sima* was found on common yellow sedge (*Carex demissa* Vahl ex Hartman) along the upstream part of the stream Ziepbeek in the nature reserve ‘Vallei van de Ziepbeek’ in Lanaken (Province of Limburg, UTM: FS8545). *Kelisia* Fieber, 1866 is a large genus with very similar species, 10 of which are now known from Belgium. *K. sima* has a distinct sublateral band on the scutellum, but not on the pronotum, the forewings have only one darkened apical cell, the fore and middle tibiae lack a dark longitudinal streak, the large spot on the gena widely exceeds the median keel and the upper part of the frons is mostly darkened (Fig. 1). However, for reliable identification, male genitalia should be studied. The anal tube is high in lateral view, the spine-like appendages nearly reach the end of the anal tube, the shaft of the aedeagus is long (1.6-1.9 mm) and the apex possesses a straight, thin appendage (Fig. 2).

On 14.IV.2018, *M. albifrons* was found on wood small-reed or bushgrass (*Calamagrostis epigejos* Roth) close to the Ghent-Terneuzen Canal in the harbour of Ghent (Province of East Flanders, UTM: ES5566). Males can readily be recognised by the white head and median part of the pronotum, which strongly contrast with the shiny black abdomen, forewings, scutellum and sides of the pronotum (Fig. 3). Females are uniformly brownish yellow, the pronotum and the scutellum lack a pale midline, the transition between frons and vertex is black between the lateral and median keels, but the remaining parts are yellowish with a white median keel (Fig. 4). The species is usually brachypterous, rarely macropterous.

Discussion

Kelisia sima was already known from France, Italy, Germany, Austria and Sweden (HOLZINGER *et al.*, 2003). Its presence in Belgium could thus be expected. Adults can be found from July to October in

wet sites, such as spring mires and fens, on sedges of the *Carex flava* L. group (HOLZINGER *et al.*, 2003), which corresponds with the observations in the nature reserve ‘Vallei van de Ziepbeek’.

Mirabella albifrons occurs in Central-, Eastern- and Southeastern-Europe and Kazakhstan (HOLZINGER *et al.*, 2003). The species was already reported from the Netherlands (DEN BIEMAN *et al.*, 2011), most German federal states (BIEDERMANN & NIEDRINGHAUS, 2009; KUNZ *et al.*, 2011) and France (REMANE & DELLA GIUSTINA, 1991). *M. albifrons* was thus expected to occur in Belgium. Adults can be found from April to September in forest clearings, ruderal sites, sand and gravel pits, mining areas and embankments, usually on *C. epigejos* and rarely on *Calamagrostis canescens* Roth (HOLZINGER *et al.*, 2003).

Since planthoppers are not that well studied in Belgium, several additional species can still be expected. In the Netherlands, seven species occur that have not yet been observed in Belgium and five in the Grand Duchy of Luxemburg (DEN BIEMAN *et al.*, 2011).

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