

Some new species of planthoppers and leafhoppers for the Czech Republic and Slovakia

(Hemiptera, Auchenorrhyncha)

Jiří Preisler¹ and Pavel Lauterer²

Abstract: Some new species of planthoppers and leafhoppers for the Czech Republic and Slovakia. – *Florodelphax paryphasma* (Flor, 1861), new for the fauna of the Czech Republic (Bohemia); *Macropsis najas* Nast, 1981, new for the Czech Republic (Moravia) and Slovakia; *Euryrella brunnea* (Melichar, 1896), *Metropis mayri* Fieber, 1866, *Mocuellus quadricornis* Dlabola, 1949 and *Diplocolenus frauenfeldi* (Fieber, 1869), all new for Bohemia.

Key words: Auchenorrhyncha, Czech Republic, Slovakia, new faunistic data.

Introduction

In the former Czechoslovakia, extensive investigations of the Auchenorrhyncha fauna of Bohemia were carried out especially in the second half of the 20th century by J. Dlabola (Prague). Thanks to him, Bohemia as well as the whole former Czechoslovakia are certainly among the best-explored countries in Europe, even if information of the occurrence of some species has still to be supplied. Dlabola's faunistic studies in Czechoslovakia were almost concluded with the publication of a check-list, which contained separate specifications for Bohemia, Moravia and Slovakia (Dlabola 1977) and a historical survey of Auchenorrhyncha research in this country (Dlabola 1984). Finally, a few short supplements were included in two of his later papers (Dlabola 1987, 1997). Other Czech and Slovak specialists focused their attention especially on the territories of Moravia and Slovakia. Few papers dealing with the fauna of Bohemia were compiled by Lauterer (1981, 1992) and Lauterer & Novotný (1991). Furthermore, V. Novotný treated communities and life strategies of Auchenorrhyncha especially in southern Bohemia in a number of ecological papers (e.g. Novotný 1991, 1994a, 1994b, 1995).

Since 2000 faunistic research of Auchenorrhyncha in Bohemia has been continued by J. Preisler. His field work yielded material from xerothermic basalt habitats of the České Středohoří and hygrophilous habitats of northern and central Bohemia. In this paper we report those species which had not been previously recorded in the literature. The findings of *Mocuellus quadricornis* and *Metropis mayri* document their north-westernmost occurrence, and the finding of *Florodelphax paryphasma* fills a gap in the known distribution of the species. A relatively common occurrence of *Macropsis najas* in central Europe has been assumed, and here we list a number of Czech and Slovak localities.

The material from Bohemia was collected and determined by J. Preisler and deposited in his private collection in Liberec. The determination was checked and confirmed by P. Lauterer, who himself collected and determined the material from Moravia and Slovakia, deposited in the Moravian Museum Brno. All localities are supplemented with the code number of map fields according to the grid mapping system of central Europe (Ehrendorfer & Hamann 1965).

¹ Jiří Preisler, Vlnářská 692, CZ-460 00 Liberec 6, Czech Republic, j.hola@volny.cz

² Dr. Pavel Lauterer, Moravian Museum, Department of Entomology, Hviezdoslavova 29a, CZ-627 00 Brno, Czech Republic, ento.laut@volny.cz

Results

Eurysella brunnea (Melichar, 1896)

Material examined: Bohemia bor.: Protected Landscape Area České Středohoří: Louny, National Nature Reservation Raná Hill, grid 5548, 480 m a.s.l., 23.vi.2001, 1 ♂, 1 ♀, J. Preisler leg.

A relatively rare and xerothermophilous species which is known from Ireland, England, Sweden, eastern France, the southern half of Germany, Austria, the Czech Republic (Moravia), Slovakia, Hungary and Greece. It is also reported from Tunisia. After Nickel (2003) and Holzinger *et al.* (2003) it occurs in the grass layer of open, usually thermophilous, deciduous or coniferous forests and along their margins, as well as under solitary shrubs and trees, on *Brachypodium pinnatum* and probably *Poa nemoralis*. This is a new species record for the territory of Bohemia.

Metropis mayri Fieber, 1866

Material examined: Bohemia bor.: Protected Landscape Area České Středohoří: Louny, Nature Reservation Oblík Hill, grid 5548, 480 m a.s.l., 3.v.2001, 1 ♂, Škoda leg., *ibid.*, Louny, National Nature Reservation Raná Hill, grid 5548, 480 m a.s.l., 23.vi.2001, 1 ♂, J. Preisler leg.

A typically xerothermophilous species which has been reported from France, Belgium, Switzerland, Austria, the Czech Republic (Moravia), Slovakia, Hungary, Italy, the former Yugoslavia, Bulgaria, Greece, Moldavia and Ukraine. It occurs in sunny grassland, especially on limestone, basalt and other preferentially basic substrates. Like other *Metropis* species, it lives on taxa of the *Festuca ovina* group (Nickel *et al.* 2003). In southern Moravia its distribution covers above all the Pavlovské vrchy Hills and xerothermic habitats of former pastures in the periphery of the Českomoravská vrchovina Highland (Praebohemium), with the northernmost limit in the Stránská Skála near Brno. The findings in northern Bohemia extend its known distribution considerably towards the north-west. A new species for the territory of Bohemia.

Florodelphax paryphasma (Flor, 1861)

Material examined: Bohemia centr.: Lysá nad Labem, National Nature Reservation Hrabanovská čemava, grid 5755, 185 m a.s.l., calcareous fen, 23.v.2001, 2 ♂♂; *ibid.*, 22.v.2002, 4 ♂♂, 2 ♀♀, J. Preisler leg.

A hygrophilous species reported from Sweden, Finland, northern Russia, Estonia, Latvia, Lithuania, Great Britain, the Netherlands, central and northern Germany, mountain regions of France and Spain, former Yugoslavia and Kazakhstan. According to Nickel (2003) and Holzinger *et al.* (2003), *F. paryphasma* lives on *Carex disticha* in moderately eutrophic and temporarily waterlogged or flooded sites such as wet meadows, fens, spring mires, floodplain depressions or shores of ponds and lakes. The habitat in the first known locality in the Czech Republic fully conforms to this description.

Macropsis najas Nast, 1981

Material examined: Moravia bor. occ.: Hornomoravský úval Basin: Mohelnice, towards Třeština, at the Morava River, *Salix alba*, grid 6267, 255 m a.s.l., 24.viii.1957, 2 ♀♀. Moravia centr.: Hornomoravský úval Basin: Bělkovice, brooklet surroundings with *Salix alba* × *S. fragilis*, grid 6369, 258 m a.s.l., 20.viii.1961, 1 ♀; Olomouc, part Lazce towards Černovír, sand-gravel pit, *Salix alba*, grid 6369, 212 m a.s.l., 30.vi.1958, 3 ♂♂, 7 ♀♀. Moravia bor. or.: Moravská Brána Basin, Těplice nad Bečvou, towards Ústí, at the Bečva River, *Salix alba* × *S. fragilis*, grid 6472, 257 m a.s.l., 16.vi.1961, 1 ♀. Moravia mer.: Pavlovské vrchy Hills, swamp at the road between Klentnice and Perná, *Salix alba*, grid 7165, 320 m a.s.l., 9.viii.1962, 7 ♀. Mora-

via mer.: Dyjskosvratecký úval Basin: Dolní Dunajovice, the left bank of the Dyje River, grid 7165, 170 m a.s.l., 18.vi.1973, 1 ♀; Mušov, floodplain forest with dead arms of the river, *Salix alba*, grid 7165, 175 m a.s.l., 4.viii.1961, 1 ♀; Dolní Věstonice, the Dyje riverside, *Salix alba*, grid 7165, 174 m a.s.l., 10.vii.1962, 2 ♂♂, 3 ♀♀; Šakvice, pond SE of the village, grid 7166, 169 m a.s.l., 15.vi.1973, 4 ♂♂, 1 ♀, 1 5th-instar larva; Pavlov, plane at the Dyje River, meadows around the elevation point 167 m, grid 7166, 167 m a.s.l., 14.viii.1973, 2 ♀♀; Nové Mlýny, swamps on the banks of the Dyje River with *Salix alba*, grid 7166, 167 m a.s.l., 15.vi.1973, 3 ♂♂, 4 ♀♀; Rakvice, salt marsh with *Salix alba*, at brooklet, grid 7166, 164 m a.s.l., 2.vii.1962, 1 ♂; Trkmanský Dvůr near Rakvice, *Salix alba*, grid 7166, 165 m a.s.l., 2.vii.1962, 4 ♂♂, 3 ♀♀. Moravia mer.: Dolnomoravský úval Basin: Sedlec, salt marsh and *Salix alba* at the Nesyt Pond, grid 7266, 185 m a.s.l., 15.viii.1962, 3 ♀♀. All leg. P. Lauterer.

Slovakia mer. occ.: Záhorská nížina Basin: Moravský Svätý Ján, Dlhé lúky, grid 7467-7468, 151 m a.s.l., 19.vi.1968, 5 ♂♂, 4 ♀♀. Slovakia mer. occ.: Malé Karpaty Hills: Trenčianské Bohuslavice, Turecko Hill, grid 7273, 230-300 m a.s.l., 28.vi.1968, 2 ♀♀. Slovakia mer. centr.: Podunajská nížina Basin: Kamenica nad Hronom towards Štúrovo, banks of the Hron River, grid 8178, 120 m a.s.l., 21.vii.1958, 5 ♀♀. All leg. P. Lauterer.

A relatively recently described species of a difficult genus. Therefore even after its description it was overlooked for several years. However, it seems to be frequent in large parts of central Europe. *M. najas* was recorded from Poland, Germany, eastern France, Austria and northern Italy (Nickel 2003), a larger distribution in western and eastern Europe may be expected. Our findings are the first ones published from the Czech Republic and Slovakia. The species is monophagous on *Salix alba* and its hybrids (notably *S. x. rubens*); it is univoltine and overwinters in the egg stage.

Diplocolenus frauenfeldi (Fieber, 1869)

Material examined: Bohemia bor.: Protected Landscape Area České Středohoří Hills: Louny, National Nature Reservation Raná Hill, grid 5548, 480 m a.s.l., 24.v.2001, 1 ♂, J. Preisler leg.

A central Asian species distributed in Kirghizia, Uzbekistan, Kazakhstan and Mongolia, but also eastwards to the Kuril Islands and westwards through Turkey, Ukraine and the Mediterranean region to Spain and France, and through the Balkan peninsula to Austria, Slovakia and the Czech Republic. Nast (1987) reports it also from Germany, but according to Nickel (pers. comm.) this citation is based on an erroneous record. A new species for the territory of Bohemia. In southern Moravia *D. frauenfeldi* is relatively widely distributed in dry grassland habitats which were formerly used as pastures. It is probably oligophagous on various xerothermophilous species of Poaceae, but the range of host-plants has not been ascertained yet.

Mocuellus quadricornis Dlabola, 1949

Material examined: Bohemia bor.: Protected Landscape Area České Středohoří Hills: Louny, National Nature Reservation Raná Hill, grid 5548, 480 m a.s.l., 7.vi.2000, 3 ♂♂; ibid., 18.viii.2000, 2 ♂♂, all J. Preisler leg.

A Ponto-Pannonian species, which is abundant in dry grassland in the Czech Republic (southern Moravia), and which is also known from Austria, Poland, Hungary, Romania, Moldavia, Ukraine and Turkey. A new species for the territory of Bohemia. It cannot be excluded, that it has been overlooked also in nearby xerothermic localities of the Elbe Basin in eastern Germany, being similar to the related and rather common *M. collinus*. Host plant requirements are not properly known; the species may be oligophagous on some xerothermophilous Poaceae (*Festuca*, *Poa*, *Elymus*, perhaps also *Stipa*). Like *M. collinus*, *M. quadricornis* has been found on sandy substrates, but also on limestone and basalt, exclusively in dry to extremely dry habitats, in moderately dry places being replaced by *M. collinus*.

References

- Dlabola, J. (1977): Homoptera Auchenorrhyncha. – In: Dlabola, J. (ed.), Enumeratio insectorum Bohemoslovakiae I. – Acta faunistica entomologica Musei nationalis Pragae 15 (suppl. 4): 83-96.
- Dlabola, J. (1984): Auchenorrhyncha v ČSSR a situace v sousedních zemích. – Práce Slovenské entomologické společnosti při SAV, Bratislava, 4: 17-23 (in Czech).
- Dlabola, J. (1987): Neue taxonomische Erkenntnisse der Gattungen *Ommatidiotus* und *Conosimus* (Homoptera, Issidae). – Acta entomologica Musei Nationalis Pragae 42: 73-82.
- Dlabola, J. (1997): *Mysterodus* verwandte Taxone und sieben neue Zikadenarten (Homoptera, Auchenorrhyncha). – Acta entomologica Musei Nationalis Pragae 44 (1995): 301-319.
- Ehrendorfer, F., Ilamann, U. (1965): Vorschläge zu einer floristischen Kartierung von Mitteleuropa. – Berichte der Deutschen Botanischen Gesellschaft 78: 35-50.
- Holzinger, W. E., Kammerlander, I., Nickel, H. (2003): The Auchenorrhyncha of Central Europe. Die Zikaden Mitteleuropas. Vol. I. Fulgoromorpha, Cicadomorpha excl. Cicadellidae. – Brill, Leiden – Boston, 673 pp.
- Lauterer, P. (1981): Leafhoppers and psyllids in the food of young martins (*Delichon urbica*) in the Krkonoše Mountains (Homoptera: Auchenorrhyncha et Psylloidea). – Acta Musei Reginae-hradecensis, ser. A, Scientiae naturales 16: 183-195.
- Lauterer, P. (1992): Faunistic records from Czechoslovakia. Homoptera: Cicadellidae: *Wagneriala franzi* (Wagner). – Acta Entomologica Bohemoslovaca 89: 203.
- Lauterer, P., Novotný, V. (1991): New findings of leafhoppers (Homoptera, Auchenorrhyncha) in Czechoslovakia. – Acta Musei Moraviae, Scientiae naturales 76: 265-268.
- Nast, J. (1987): The Auchenorrhyncha (Homoptera) of Europe. – Annales Zoologici, Warszawa, 40: 535-661.
- Nickel, H. (2003): The leafhoppers and planthoppers of Germany (Hemiptera, Auchenorrhyncha): Patterns and strategies in a highly diverse group of phytophagous insects. – Pensoft Publishers, Sofia – Moscow and Goecke & Evers, Keltern, 460 pp.
- Nickel, H., Holzinger, W.E., Lauterer, P., Remane, R., Witsack, W. (2003): Die Spornzikadengattung *Metropis* Fieber, 1866 in Mitteleuropa (Hemiptera, Fulgoromorpha: Delphacidae). – Beiträge zur Zikadenkunde 6: 47-52.
- Novotný, V. (1991): Responses of Auchenorrhyncha communities to selected characteristics of littoral and meadow vegetation. – Ekológia (ČSFR) 10(3): 271-282.
- Novotný, V. (1994a): Association of polyphagy in leafhoppers (Auchenorrhyncha, Hemiptera) with unpredictable environments. – Oikos 70: 223-232.
- Novotný, V. (1994b): Relation between temporal persistence of host plants and wing length in leafhoppers (Auchenorrhyncha, Hemiptera). – Ecol. Entomol. 19: 168-176.
- Novotný, V. (1995): Relationships between life histories of leafhoppers (Auchenorrhyncha - Hemiptera) and their host plants (Juncaceae, Cyperaceae, Poaceae). – Oikos 73: 33-42.