**NEW RECORDS OF LEAFHOPPERS AND PLANTHOPPERS FROM AUSTRIA (HEMIPTERA: AUCHENORRHYNCHA)**Werner E. HOLZINGER¹ & Gernot KUNZ²

¹Ökoteam – Institute of Faunistics and Animal Ecology, Bergmannsgasse 22, A-8010 Graz. Email: office@oekoteam.at; internet: www.oekoteam.at

²Schirning 250, A-8112-Gratwein, Austria. Email: gernot.kunz@web.de

Abstract – New and interesting records of Auchenorrhyncha from Austria are presented. Five species are new to Austria: *Delphacodes audrasi* Ribaut, 1954, *Florodelphax paryphasma* (Flor, 1861), *Alebra neglecta* Wagner, 1940, *Psammotettix sabulicola* (Curtis, 1837) and *Streptanus confinis* (Reuter, 1880). Furthermore, 32 new records for Lower Austria, 9 for Carinthia, 3 for Styria, one for Salzburg and additional records of five interesting species are given. A synonymy published by Wagner (1961) is validated: *Mocuellus* Ribaut, 1946 is a synonym of *Henschia* Lethierry, 1892; *Henschia collina* (Boheman, 1850) comb. nov. is the correct name of *Deltocephalus collinus* Boheman, 1850 = *Mocuellus collinus* (Boheman, 1850).

KEY WORDS: Hemiptera, Auchenorrhyncha, Fulgoromorpha, Cicadomorpha, *Mocuellus*, *Henschia*, fauna, Austria

Izvleček – NOVI PODATKI O ŠKRŽATKIH AVSTRIJE (HEMIPTERA: AUCHENORRHYNCHA)

Predstavljeni so novi in zanimivi podatki o podredu Auchenorrhyncha v Avstriji. Pet vrst je za Avstrijo novih: *Delphacodes audrasi* Ribaut, 1954, *Florodelphax paryphasma* (Flor, 1861), *Alebra neglecta* Wagner, 1940, *Psammotettix sabulicola* (Curtis, 1837) in *Streptanus confinis* (Reuter, 1880). Poleg teh objavlja 32 prvih podatkov za Spodnjo Avstrijo, 9 za Koroško, 3 za Štajersko, eno za Solnograško in dodatne podatke o petih zanimivih vrstah. Potrjena je sinonimija, ki jo je objavil Wagner (1961): *Mocuellus* Ribaut, 1946, je sinonim rodu *Henschia* Lethierry, 1892; *Henschia collina* (Boheman, 1850) comb. nov. je pravilno ime vrste *Deltocephalus collinus* Boheman, 1850 = *Mocuellus collinus* (Boheman, 1850).

KLJUČNE BESEDE: Hemiptera, Auchenorrhyncha, Fulgoromorpha, Cicadomorpha, *Mocuellus*, *Henschia*, favna, Avstrija

Introduction

The last Austrian checklist was published 10 years ago (Holzinger 1996). Since then, many new records for Austria and Austrian provinces were given in various papers (Fröhlich 1996, Holzinger 1999a, 1999b, 2000, 2002, 2004, 2005a, 2005b, 2006, Holzinger et al. 1997, 2001, 2003, Holzinger & Fröhlich 2006, Holzinger & Löcker 2004, Holzinger & Nickel 2006, Löcker & Schürer 2001, Nickel 1999, Nickel & Holzinger 2006, Riedle-Bauer et al. 2006, Schedl 1998, 2000, 2004a, 2004b, Steiner et al. 2004, Trilar & Holzinger 2004, Zeisner 2005, Zolda & Holzinger 2002). Nevertheless, our recent field studies yielded many additional new and interesting Auchenorrhyncha records mainly from Lower Austria, Styria and Carinthia. They are presented below. An updated checklist of the Austrian Auchenorrhyncha fauna is in preparation.

List of species

Taxonomy and nomenclature follow Holzinger et al. (2003) and Nickel & Remane (2002). Within subfamilies, species are ordered alphabetically. Abbreviations: GK = (leg.,) det. & in coll. G. Kunz, WH = (leg.,) det. & in coll. W. Holzinger.

Fam. Cixiidae Spinola, 1839

Cixius beieri Wagner, 1939

First record from Styria: Gesäuse National Park, Sulzkaralm, pasture with scattered shrubs [47°33'23''N, 14°40'13''E, 1560m], 1 ♀, 18.8.2004, (T. Friess leg., WH).

Fam. Delphacidae Leach, 1865

Subfam. Kelisiinae Wagner, 1963

Kelisia confusa Linnavuori, 1957

First record from Lower Austria: W Neunkirchen, Stixenstein, riverside vegetation of Sierning river [47°44'43,6''N, 15°58'52,9''E, 484m], 1 ♂, 2.9.2005 (GK).

Kelisia guttulifera (Kirschbaum, 1868)

First record from Lower Austria: Schwarzengründe S Puchberg am Schneeberg, wet meadow [47°46'12,7''N, 15°54'52,6''E, 651m], 1 ♂, 2.9.2005 (GK).

Kelisia halpina Remane & Jung, 1995

First record from Styria: Gesäuse National Park, Haselkar [47°32'24''N, 14°42'17''E, 1552m], 1 ♂, macropterous, 13.9.2004 (WH).

***Kelisia monoceros* Ribaut, 1934**

First record from Lower Austria: Göstling/Ybbs, Leckermoosmoor [47°46'N, 14°57'E, 860m], 2 ♂, 30.10.1999, leg. Ressler.

***Kelisia praecox* Haupt, 1935**

First records from Lower Austria: NSG Brünauteich SE Thaurer [48°52'38''N, 15°03'57''E, 552m], 4♂ 4♀, 4.10.2004 (GK); Ernstbrunner Wald, Zeilerwiese [48°33'47''N, 16°19'09''E, 294m], 1♂, 5.10.2004 (GK).

Carinthia: SW Villach: Wernberg [46°37'22''N, 13°56'49''E, 590m], 1♂ 2♀, 15.9.2003 (WH). Interesting record from the north-western borderline of the Austrian area of that species.

***Kelisia ribauti* Wagner, 1939 (“boreomontane” morphotype)**

First record from Carinthia: Gitsch valley, NW Hermagor, SE Jadersdorf [46°39'09''N, 13°19'56''E, 681m], wet meadow, 3 ♂, 28.6.2004 (WH).

***Anakelisia fasciata* (Kirschbaum, 1868)**

First record from Lower Austria: Baumgarten/March, NSG Marchegg, Holzwiese, meadow [48°18'07''N, 16°53'07''E, 139m], 1♂ 1♀, 29.06.2005 (GK).

Subfam. Delphacinae Wagner, 1963

***Delphacodes audrasi* Ribaut, 1954**

First record from Austria: E Rabensburg, NSG Rabensburger Thaya-Auen, wet meadow [48°38'45''N, 16°54'27''E, 152m], 1 ♂ (brachypterous), 5.10.2004 (GK).

***Delphacodes venosus* (Germar, 1830)**

First record from Lower Austria: Arbesbach, Schönfeldbach-Ursprung [48°28'16''N, 14°55'43''E, 89m], 1♂ 1♀, 4.10.2004 (GK) ; NSG Brünauteich SE Thaurer [48°52'38''N, 15°03'57''E, 552m], 3♀, 4.10.2004 (GK).

***Delphax crassicornis* (Panzer, 1796)**

First record from Lower Austria: Pischelsdorf, Fischawiesen, wet meadow with *Phragmites australis* [48°01'36''N, 16°31'32''E, 175m], 1 ♂, 30.6.2005 (GK).

***Dicranotropis divergens* Kirschbaum, 1868**

Obviously no published records from Lower Austria yet. The species is quite common in meadows and pastures of higher altitudes (e.g. Heidenreichstein, Moorbad Harbach, Lunz/See, Gaming/Rothwald; Ressler & GK)

***Eurysella brunnea* (Melichar, 1896)**

First record from Carinthia: E Völkermarkt, slope and riverside vegetation of the river Drau S Lippitzbach [46°38'06''N, 14°46'22''E, 378m], 1 ♀, 17.6.2002 (WH).

***Florodelphax paryphasma* (Flor, 1861)**

First record from Austria: Lower Austria, S Grobenzersdorf, Mühlleitner Furt, on *Carex disticha* [48°09'N 16°33'E, 150m], 1 ♂, leg., det. & in coll. G. Strauß.

***Jassidaeus lugubris* (Signoret, 1865)**

First records from Lower Austria: Steinbacher Heide NW Steinberg [48°33'14'N, 16°21'33''E, 427m], 1 ♀, 18.5.2004 (GK & WH) ; NSG Gurhofgraben E Aggsbach-Dorf, NE Melk [48°17'37''N, 15°26'50''E, 339m], 4 ♂ 2 ♀, 3.10.2004 (GK) ; Großreichenbach NW Schweigggers [48°41'06''N, 15°01'23''E, 620m], 2 nymphs, 17.5.2004 (GK & WH).

***Muellerianella brevipennis* (Boheman, 1847)**

First records from Carinthia: SW Villach: Wernberg, within *Alnus* forest, on *Deschampsia cespitosa* [46°37'22''N, 13°56'49''E, 590m], 7 ♂ 7 ♀, 15.9.2003 (WH); and E Völkermarkt, slope and riverside vegetation of the river Drau S Lippitzbach [46°38'06''N, 14°46'22''E, 378m], several specimens, 17.6.2002 (WH).

***Muellerianella extrusa* (Scott, 1871)**

First record from Lower Austria: E Gars/Kamp, S Amelsdorf, NSG Schleinitzbachniederung, wet meadows [48°34'54''N, 15°46'32''E, 411m], 1 ♂, 5.10.2004 (GK).

Fam. Flatidae Spinola, 1839***Metcalfa pruinosa* (Say, 1830)**

The first record of this alien species from Austria was a single specimen reported from Graz in 1996 (Holzinger et al. 1996). *Metcalfa pruinosa* has a small, but obviously stable population nearby a market garden in Graz-St.Peter. In this population, the damage on its host plants (mainly *Parthenocissus inserta*) is negligible, the species is neither a pest to fructiferous nor to ornamental plants at the moment. Since few years, a second Austrian population is known from Vienna-Leopoldau (Kahrer & Moosbeckhofer 2003).

Fam. Cicadellidae Latreille, 1825**Subfam. Agalliinae Kirkaldy, 1901*****Anaceratagallia laevis* Ribaut, 1935**

First record from Lower Austria: Baumgarten/March, NSG Marchegg, Holzwiase, meadow [48°18'07''N, 16°53'07''E, 139m], 2 ♂ 1 ♀, 29.06.2005 (GK).

Subfam. Aphrodinae Haupt, 1927

Aphrodes diminuta Ribaut, 1952 and ***Aphrodes bicincta*** (Schrank, 1776)

Due to recent taxonomical and nomenclatural changes (Tishechkin 1998, Nickel 2003), published data on species of the *Aphrodes bicinctus*-group should be revised. *A. diminuta* and *A. bicincta* are both widespread in Austria, we have several confirmed records from e.g. Carinthia, Styria and Lower Austria.

Subfam. Macropsinae Evans, 1935

Macropsis infuscata (J. Sahlberg, 1871)

First record from Carinthia: E Völkermarkt, near Ruden, roadside and gravel pit vegetation S Obermitterdorf [46°39'07''N, 14°45'42''E, 484m], 2♂, 15.6.2004 (WH).

Oncopsis carpini (J. Sahlberg, 1871)

First record from Carinthia: E Völkermarkt, slope and riverside vegetation of the river Drau S Lippitzbach [46°38'06''N, 14°46'22''E, 378m], 2♀, 17.6.2002 (WH).

Subfam. Typhlocybinae Kirschbaum, 1868

Alebra neglecta Wagner, 1940

First record from Austria: Graz-Liebenau, roadside vegetation [47° 02' 33''N, 15° 27' 50''E, 345m], 3♂, 2.6.2002 (WH).

Arboridia velata (Ribaut, 1952)

First record from Lower Austria: Leiser Berge, Ernstbrunner Wald, Zeilerwiese, on *Quercus robur* [48°33'45'' & 16°19'09''E, 291m], 1♂ 1♀, 5.10.2004, (GK).

Chlorita tamaninii Wagner, 1959

First records from Lower Austria: Emmersdorf N Melk [48°14'43''N, 15°20'29''E, 211m], 6♂ 1♀, 17.5.2004 (GK&WH), Hohenau an der March [48°37'42''N, 16°54'17''E, 156m], 1♂, 28.6.2005 (GK).

Edwardsiana crataegi (Douglas, 1876) (f. *frogatti*)

First records from Lower Austria: E Gars/Kamp, S Amelsdorf, NSG Schleinitzbachniederung, wet meadows [48°34'54''N, 15°46'32''E, 411m], 1♂ 2♀, 5.10.2004 (GK); Drösinger Wald/Röhringsee [48°32'20''N, 16°55'43''E, 145m], 1♂, 28.6.2005 (GK); Hainburger Au, Herrgottshaufen [48°09'41''N, 16°55'36''E, 141m], 1♂, 29.6.2005 (GK).

Edwardsiana geometrica (Schrank, 1801)

Obviously no published records from Lower Austria yet. The species is quite common in *Alnus* forests, e. g. along the Danube river south of Vienna.

Empoasca apicalis (Flor, 1861)

First record from Lower Austria: W Neunkirchen, Stixenstein, riverside vegetation of Sierning river [47°44'43,6''N, 15°58'52,9''E, 484m], 1 ♂, 02.09.2005 (GK).

Empoasca decipiens Paoli, 1930

A common species, nevertheless it has obviously never been published from Carinthia. Here a recent record: Berg im Drautal, forest margin [46°44'39''N, 13°7'11''E, 594m], 1 ♂, 13.6.2005 (WH).

Eupteryx curtisii Flor, 1861

First record from Lower Austria: E Rabensburg, NSG Rabensburger Thaya-Auen, wet meadow [48°38'45''N, 16°54'27''E, 152m], 1 ♂, 2004 (GK).

Eupteryx florida Ribaut, 1936

First record from Lower Austria: Enzianwiese near Brandstatt, SW St.Georgen am Reith [47°49'42''N, 14°51'50''E, 481m], 2 ♀, 3.10.2004 (GK).

Eupteryx immaculatifrons (Kirschbaum, 1868)

First confirmed record from Carinthia: E Völkermarkt, slope and riverside vegetation of the river Drau S Lippitzbach [46°38'06''N, 14°46'22''E, 378m], 2 ♂, 17.6.2002 (WH).

Eurhadina pulchella (Fallén, 1806)

Widespread, but obviously no published records from Lower Austria. Our specimens are from Purgstall, Feichsenbach, Hainburger Au/Herrgottshaufen, Ernstbrunner Wald, Zeilerwiese, Drösing, Leckermoosmoor (Ressl & GK).

Fagocyba carri (Edwards, 1914)

First record from Lower Austria: Moorbad Harbach, Schwarzau, Schwarzauer Hof [48°40'10''N, 14°44'20''E, 789m], 1 ♂, 4.10.2004 (GK).

Kybos virgator (Ribaut, 1933)

First records from Carinthia: E Völkermarkt, near Ruden, roadside and gravel pit vegetation S Obermitterdorf [46°39'07''N, 14°45'42''E, 484m], 3 ♂, 15.6.2004 (WH); Dellach im Drautal, forest margin [46°44'04''N, 13°5'36''E, 599m], 2 ♂, 13.6.2005 (WH).

Kybos strigilifer (Ossiannilsson, 1941)

First records from Carinthia: Greifenburg, W Gnoppitzbach, forest margin [46°44'21''N, 13°9'59''E, 588m], 2 ♂, 13.6.2005 (WH); Dellach im Drautal, forest margin [46°44'04''N, 13°5'36''E, 599m], 1 ♂, 13.6.2005 (WH).

Ribautiana tenerrima (Herrich-Schäffer, 1834)

Widespread, but no published records from Lower Austria. Our records: NSG Schleinitzbachniederung, Sieding, Marchegg Holzweise, Purgstall, Stixenstein.

Zygina griseombra Remane, 1994

First records from Lower Austria: Sieding, quarry at the Gösing hill, [47°44'08,8''N, 15°58'46,0'', 475m], 1 ind., 02.09.2005 (GK); Purgstall NW Scheibbs, Garten Ressler, 1 ♂, 26.4.1996 (Ressler leg.).

First records from Carinthia: Dellach/Drautal, forest margin [46°44'04''N, 13°5'36''E, 599m], 3 ind. 21.5.2005 (WH); Greifenburg, W Gnoppitzbach, forest margin [46°44'21''N, 13°9'59''E, 588m], 4 ind., 13.6.2005 (WH).

Zygina hypermaculata Remane & Holzinger, 1995

First record from Salzburg: Schönbergalm S Obertraun [47°32'10''N, 13°42'55''E, 1320m], several specimens, 29.7.2001 (WH).

Styria: Gesäuse National Park, Haselkar-Lugauer [47°32'50''N, 14°42'47''E, 1800m]. 1 ♂ 2 ♀, 13.9.04 (WH). Easternmost record of this endemic species.

Subfam. Deltocephalinae Fieber, 1869

Arthaldeus striifrons (Kirschbaum, 1868)

First confirmed records from Carinthia: E Völkermarkt, near Ruden, roadside and gravel pit vegetation S Obermitterdorf [46°39'07''N, 14°45'42''E, 484m], several specimens, 15.6.2004 (WH); E Völkermarkt, slope and riverside vegetation of the river Drau S Lippitzbach [46°38'06''N, 14°46'22''E, 378m], 1 ♀, 17.6.2002 (WH)

Balclutha calamagrostis Ossiannilsson, 1961

First record from Lower Austria: NSG Brünauteich SE Thaur [48°52'38''N, 15°03'57''E, 552m], 1 ♂, 18.5.2004 (GK).

Cicadula flori (J. Sahlberg, 1871)

First record from Lower Austria: NSG Rabensburger Thaya-Auen, Mühlgrabenwiesen [48°39'11''N, E16°55'03''E, 153m, 151m], 1 ♂, 28.06.2005 (GK).

Cicadula placida (Horváth, 1897)

First records from Lower Austria of this widespread species: Purgstall, Pischelsdorf/Fischawiesen SE Neumitterndorf, Hohenau an der March, Marchegg, Hainburger Au/Herrgottshaufen, Gaming/Rothwald, Rabensburger Auen (GK).

Euscelis lineolatus Brullé, 1832 sensu Ribaut, 1952

First record from Lower Austria: Steinbacher Heide, Steinberg, dry meadow [48°33'12''N, 16°21'36''E, 420m], 1 ♂, 18.5.2004 (GK).

Hardya signifer (Then, 1897)

First record from Lower Austria: NSG Gurhofgraben: *Pinus sylvestris*-forest on serpentine [48°17'36''N, 15°26'50''E, 339m], 2 ♂, 3.10.2004 (GK).

Henschia collina (Boheman, 1850), comb. nov.

Mocuellus collinus (Boheman, 1850), the type species of *Mocuellus* Ribaut, 1946, and *Henschia acuta* (Löw, 1885), the type species of *Henschia* Lethierry, 1892, are congeneric. This was already published by Wagner (1961), but the nomenclatorial consequences have not been defined: *Mocuellus* Ribaut, 1946 (**syn. nov.**) is a synonym of *Henschia* Lethierry, 1892. Thus, *Henschia collina* (Boheman, 1850) **comb. nov.** is the valid name of *Deltocephalus collinus* Boheman, 1850 = *Mocuellus collinus* (Boheman, 1850).

Japananus hyalinus (Osborn, 1900)

First records from Lower Austria: Lasee W Groissenbrunn [48°12'58''N, 16°51'15''E, 146m], 1 ind., 3.8.2004 (GK), and Purgstall near Scheibbs, (leg. Ressler, 1996-1999, various dates)

Macrosteles ossiannilssoni Lindberg, 1954

First record from Lower Austria, nevertheless a widespread species. Our records come from Schwarzau/Moorbad Harbach, Rabensburger Auen, Setzberg (Spitz a.d. Donau) and Emmersdorf N Melk.

Metalimnus formosus (Boheman, 1845)

First record from Lower Austria: Marchegg, Holzweise, wet meadow [48°18'07''N, 16°53'06''E, 139m], 1 ♂ 3♀, 29.6.2005 (GK).

Metalimnus steini (Fieber, 1869) sensu Anufriev & Emeljanov 1988

First record from Lower Austria: E Rabensburg, NSG Rabensburger Thaya-Auen, wet meadow [48°38'45''N, 16°54'27''E, 152m], 1 ♂ 1♀, 5.10.2004 (GK).

Psammotettix nardeti Remane, 1965

First records from Styria: Gesäuse National Park [ca. 47°32'N, 14°42'E], Lugauer [1.800m], Zinödlalm [2.000m] and Zechneralm [1.900m], many specimens, 10.8.2004, 13.9.2004, 19.8.2005, 31.8.2005 (WH&GK).

Psammotettix sabulicola (Curtis, 1837)

First record from Austria: Steinbacher Heide, Steinberg, dry meadow [48°33'12''N, 16°21'36''E, 420m], 2 ♂ 2♀, 18.5.2004 (GK&WH).

Psammotettix slovacus Dlabola, 1948

The first record from Austria was published by Remane & Fröhlich (1994). We confirm this old record from 1965 from Lower Austria: Oberweiden, Sandberg [48°17'14''N, 16°49'50''E, 159m], several specimens, 3.8.2004 (GK).

Recilia coronifera (Marshall, 1866)

First records from Lower Austria: Setzberg/ Spitz a.d. Donau [48°21'55''N, 15°23'51''E, 250-385m], 30.6., 10.7., 21.7., 31.7., 20.8. & 30.8.1995, several specimens (W. Waitzbauer), Hainburger Au, Herrgottshaufen [48°09'41''N, 16°55'36''E, 141m], 2 ♀, 29.6.2005 (GK).

Streptanus confinis (Reuter, 1880)

First records from Austria: Styria: Gesäuse National Park, Sulzkaralm, cattle pasture [47°33'23''N, 14°40'13''E, 1560m], 5 ♂ 2♀ 13.9.2004, collected with suction sampler (WH), Haselkar, cattle pasture [47°32'54''N, 14°42'17''E, 1490m], 39 ♂ 2 ♀, 8.7.-7.9.2004, in pitfall traps (C. Komposch leg., WH), and Hüpflinger Alm, cattle pasture [47°33'00''N, 14°41'40''E, 1420m], 1 ♂, 10.8.-7.9.2004 in pitfall traps (C. Komposch leg., WH).

Acknowledgements

We are grateful to Mag. Gudrun Strauß, AGES (Vienna), for her permission to include her new record of *Florodelphax paryphasma* into this paper, and to Dr. Thomas Friess, Dr. Christian Komposch (both Graz), Prof. Franz Ressler (Scheibbs) and Prof. Wolfgang Waitzbauer (Vienna) for the loan resp. donation of their material. Furthermore, we are pleased to thank the Nationalpark Gesäuse GmbH (Mag. Daniel Kreiner) and the government of Lower Austria (department for nature conservation) for their financial support of our field research.

Zusammenfassung

Neue und bemerkenswerte Zikaden-Nachweise aus Österreich werden dargestellt. Fünf Arten werden erstmals für Österreich gemeldet: *Delphacodes audrasi* Ribaut, 1954, *Florodelphax paryphasma* (Flor, 1861), *Alebra neglecta* Wagner, 1940, *Psammotettix sabulicola* (Curtis, 1837) und *Streptanus confinis* (Reuter, 1880). Zusätzlich werden 32 Erstnachweise für Niederösterreich, neun für Kärnten, drei für die Steiermark und einer für Salzburg angeführt und interessante Nachweise für fünf weitere Arten erbracht. Eine bereits von Wagner (1961) publizierte Synonymie wird bestätigt: *Mocuellus* Ribaut, 1946 ist ein Synonym von *Henschia* Lethierry, 1892; *Henschia collina* (Boheman, 1850) comb. nov. ist der gültige Name für *Deltocephalus collinus* Boheman, 1850 = *Mocuellus collinus* (Boheman, 1850).

References

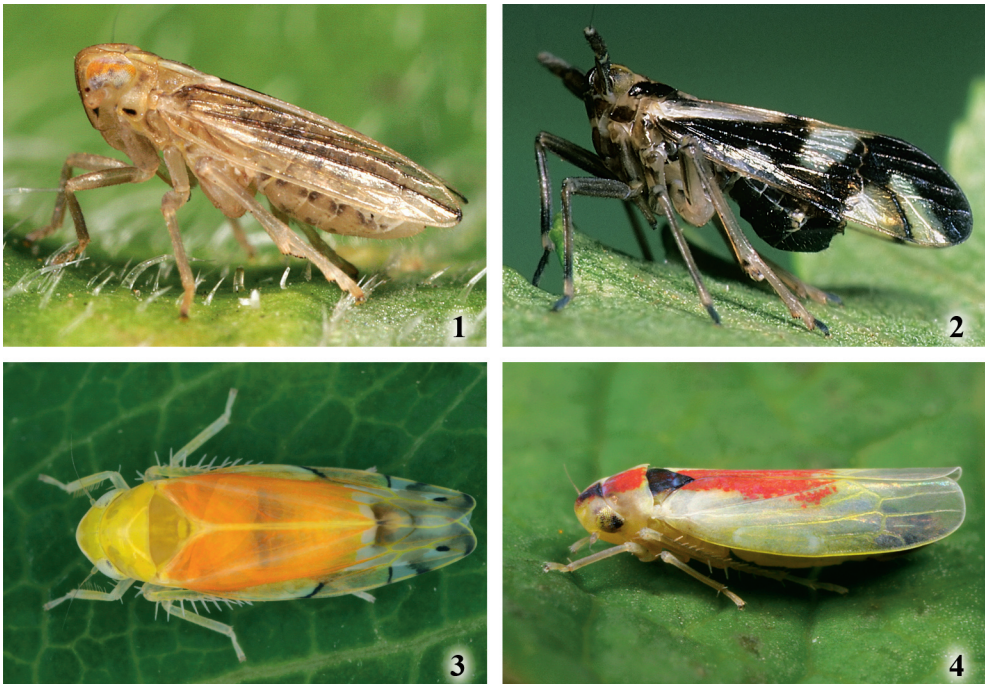
Fröhlich W., 1996: Zikaden-Nachweise aus dem Gebiet des Neusiedler Sees (Österreich, Burgenland) und aus angrenzenden Gebieten (Insecta: Asuchenorrhyncha). *Linzer Biologische Beiträge*, **28/1**: 335-347.

- Holzinger W.E.**, 1996: Kritisches Verzeichnis der Zikaden Österreichs (Ins.: Homoptera, Auchenorrhyncha). *Carinthia II*, **186/106**: 501-517.
- Holzinger W.E.**, 1999a: Rote Liste der Zikaden Kärntens (Auchenorrhyncha). *Naturschutz in Kärnten*, **15**: 425-450.
- Holzinger W.E.**, 1999b: Taxonomie und Verbreitung ausgewählter Zikadenarten Österreichs (Insecta: Hemiptera: Auchenorrhyncha). *Faunistische Abhandlungen des Staatlichen Museums für Tierkunde Dresden*, **21**: 255-260.
- Holzinger W.E.**, 2000: Zikaden.- In: Naturschutzverein Hörfeld-Moor (ed.), *Hörfeld-Moor – Naturjuwel in der Norischen Region*, S. 222-224.
- Holzinger W.E.**, 2002: Zikaden - Unbekannte Heerscharen unserer Wiesen. In: Wieser C. & Komposch C. (red.), *Paradieslilie und Höllenotter - Bergwiesenlandschaft Mussen*, p. 202-203.
- Holzinger W.E.**, 2004: Naturdach KW Friesach Sukzessionsstudie. Die Zikadenfauna (Hemiptera: Auchenorrhyncha). *Schriftenreihe Forschung im Verbund*, **87**: 66-71.
- Holzinger W.E.**, 2005a: Erstnachweis der Rhododendronzikade (Graphocephala fennahi) aus der Steiermark (Hemiptera: Auchenorrhyncha: Cicadomorpha: Cicadellidae). *Beiträge zur Entomofaunistik*, **6**: 163-164.
- Holzinger W.E.**, 2005b: Zikaden in Griffen? In: Komposch C. & Wieser C. (red.), *Schlossberg Griffen - Festung der Artenvielfalt*, p. 221-222.
- Holzinger W.E.**, 2006: Verbreitung, Biologie und Gefährdung der Seerosenzirpe (Erotettix cyane) in Österreich (Insecta: Hemiptera: Auchenorrhyncha: Cicadellidae). *Carinthia II*, (in Druck)
- Holzinger W.E. & Fröhlich W.**, 2006: Zikaden.- In: Oberleitner I., Wolfram G. & Achatz-Blab A. (red.), *Salzlebensräume in Österreich*. Umweltbundesamt, p. 140-142.
- Holzinger W.E., Günthart H., Lauterer P., Nickel H. & Remane R.**, 1997: Zum Herbstaspekt der Zikadenfauna der Rabenhofteiche und Weinburger Teiche (Steiermark, Österreich; Ins.: Auchenorrhyncha). *Beiträge zur Zikadenkunde*, **1**: 37-42.
- Holzinger W.E., Jantscher E. & Remane R.**, 1996: Erstnachweise von Zikaden aus Österreich, mit Bemerkungen zu weiteren Arten (Ins.: Homoptera, Auchenorrhyncha). *Linzer biologische Beiträge*, **28/2**: 1149-1152.
- Holzinger W.E., Kammerlander I. & Nickel H.**, 2003: The Auchenorrhyncha of Central Europe. Vol. 1: Fulgoromorpha, Cicadomorpha excl. Cicadellidae. *Brill Academic Publishers*, Leiden, 673 pp.
- Holzinger W.E. & Löcker B.**, 2004: Zikaden - oft gehört!. - In: Institut für Naturschutz & Tier- und Naturpark Herberstein (Ed.), *Europaschutzgebiet Feistritzklamm-Herberstein*, p. 98-102.
- Holzinger W.E., Löcker H. & Schürrer B.**, 2001: Zikaden (Auchenorrhyncha). - In: 10 Jahre Flachwasserbiotop Neudenstein. *Schriftenreihe Forschung im Verbund*, **70**: 49.
- Holzinger W.E. & Nickel H.**, 2006: Zikaden (Hemiptera: Auchenorrhyncha) als Erfolgsindikatoren der Naturschutzmaßnahme "Hutweide" im Nationalpark

Neusiedler See – Seewinkel. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*, (in print)

- Kahrer A. & Moosbeckhofer R.**, 2003: Ein neuer Schädling – *Metcalfa pruinosa* – in Österreich eingeschleppt. *Bienenvater*, **124** (10), 16-19
- Löcker H. & Schürrer B.**, 2001: Die Zikadenfauna des Europaschutzgebietes Höll bei St. Anna/Aigen (Steiermark, Österreich) (Hemiptera, Auchenorrhyncha). *Beiträge zur Zikadenkunde*, **4**: 69-74.
- Nickel H.**, 1999: Life strategies of Auchenorrhyncha species on river floodplains in the northern Alps, with description of a new species: *Macropsis remanei* sp. n. (Hemiptera). *Reichenbachia*, **33**: 157-169.
- Nickel H.**, 2003: The leafhoppers and planthoppers of Germany (Hemiptera, Auchenorrhyncha): Patterns and strategies in a highly diverse group of phytophagous insects. Pensoft Publishers, Goecke & Evers, 460 pp.
- Nickel H. & Holzinger W.E.**, 2006: Rapid range expansion of Ligurian leafhopper, *Eupteryx decemnotata* Rey, 1891 (Hemiptera, Cicadellidae), a potential pest on garden and greenhouse herbs, in Europe. *Russian Entomological Journal*, **15**(3): 57-63. (in print)
- Nickel H. & Remane R.**, 2002: Artenliste der Zikaden Deutschlands, mit Angaben zu Nährpflanzen, Nahrungsbreite, Lebenszyklen, Areal und Gefährdung (Hemiptera, Fulgoromorpha et Cicadomorpha). *Beiträge zur Zikadenkunde*, **5**: 27-64.
- Remane R. & Fröhlich W.**, 1994: Beiträge zur Chorologie einiger Zikaden-Arten (Homoptera Auchenorrhyncha) in der Westpaläarktis. *Marburger Entomologische Publikationen*, **2**(8): 131-188.
- Riedle-Bauer M., Tiefenbrunner A. & Tiefenbrunner W.**, 2006: Untersuchungen zur Zikadenfauna (Hemiptera: Auchenorrhyncha) einiger Weingärten Ostösterreichs und ihrer nahen Umgebung. *Linzer Biologische Beiträge*, **38/2** (in print)
- Schedl W.**, 1998: Die Verbreitung und Biologie von *Gargara genistae* (Fabricius 1775) in Österreich (Homoptera: Auchenorrhyncha: Membracidae). *Staphia*, **55**: 607-612.
- Schedl W.**, 2000: Taxonomie, Biologie und Verbreitung der Singzikaden Mitteleuropas (Insecta: Homoptera: Cicadidae et Tibicinidae). *Berichte des naturwissenschaftlich-medizinischen Vereins Innsbruck*, **87**: 257-271.
- Schedl W.**, 2004a: Die Singzikaden des Burgenlandes (Österreich) (Insecta: Homoptera, Cicadoidea). *Linzer biologische Beiträge*, **36/2**: 913-917.
- Schedl W.**, 2004b: Die Verbreitung und Ökologie von Dictyopharidae in Österreich und angrenzenden Ländern. *Denisia*, **13**: 115-120.
- Steiner F.M., Schlick-Steiner B.C., Holzinger W.E., Komposch C., Pazoutova S., Sanetra M. & Christian E.**, 2004. A novel relationship between ants and a leafhopper (Hymenoptera: Formicidae; Hemiptera: Cicadellidae). *European Journal of Entomology*, 101: 689-692.

- Tishechkin D.Y.**, 1998: Acoustic signals and morphological characters of leafhoppers from *Aphrodes bicinctus* group from Central European Russia. *Zoologicheskii Zhurnal*, **77/6**: 669-676.
- Trilar T. & Holzinger W.E.**, 2004: Bioakustische Nachweise von drei Arten des *Cicadetta montana*-Komplexes aus Österreich (Insecta: Hemiptera: Cicadoidea). *Linzer biologische Beiträge*, **36/2**: 1383-1386.
- Wagner W.**, 1961: Berichtigungen zum Kapitel „Homoptera Auchenorrhyncha (Zikaden)“. In: Franz H.: Die Nordostalpen im Spiegel ihrer Landtierwelt **2**: 790.
- Zeisner N.**, 2005: Amerikanische Zikaden im Anflug. *Der Winzer*, **5**: 20-21.
- Zolda P. & Holzinger W.E.**, 2002: Prey use in two sympatric species of the digger wasp genus *Bembecinus* (Hymenoptera: Apoidea: Sphecidae). *Entomologia Generalis*, **26(2)**: 101-106.



Figs 1-4: 1 – *Kelisia confusa* Linnavuori, 1957; 2 – *Delphax crassicornis* (Panzer, 1796); 3 – *Eurhadina pulchella* (Fallén, 1806); 4 – *Zygina hypermaculata* Remane & Holzinger, 1995. Photos: G. Kunz.

Received / Prejeto: 19. 7. 2006