

# Data to the Knowledge of the Lachnid Fauna (Homoptera: Lachnidae) of Hungary

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Authors give report on the results of collection carried out between 1999 and 2002 on various trees and shrubs in Budapest and its surroundings, in Diósjenő and in Piliscsév. Out of the 29 woody plant species studied lachnid species were found on 19. A total of 17 lachnid species were identified belonging to 6 genera (*Schizolachnus*, *Tuberolachnus*, *Eulachnus*, *Stomaphis*, *Lachnus* and *Cinara*). *Stomaphis mordvilkoii* Hille Ris Lambers, 1933 is new for the Hungarian fauna. Of the 10 ant species attended lachnids *Lasius niger* (Linneus, 1758) was the most frequent.

Keywords: new lachnid species in Hungary, *Homoptera*, *Lachnidae*.

Lachnids are present all over the world, they can be found mainly in the northern temperate zone. The number of lachnid species so far described exceeds 300, including about 80 species in Europe.

*Lachnidae* is among the less researched insect families in Hungary. Since the publishing of Vol. 128 of the Fauna Hungariae (Szelegiewicz, 1977) special literature dealing with lachnid species in Hungary has been sporadic.

Specific examination of the Hungarian *Lachnidae* fauna began at the end of the 19th century (Horváth, 1897) and the most intensive period of research took place from the 1960s to the 1980s (Pintera and Szalay-Marzsó, 1962; Pintera, 1966; Szelegiewicz, 1968, 1977; Halmágyi, 1969, 1972, 1974; Andrásfalvy, 1971, 1978). More recently Haltrich et al. (1992); Ripka et al. (1993, 1998) and Ripka (2001) provided new data on the Hungarian *Lachnidae* fauna.

## Materials and Methods

Lachnid species were collected from their host plants between September 1999 and October 2002 in Budapest and its surroundings (Kamaraerdő, Mátyásföld, Budaörs, Cinkota and the Buda Arboretum of Corvinus University of Budapest), in Diósjenő and in Piliscsév.

In the course of our faunistical investigations we have examined lachnid species occurring on 29 different species of trees and shrubs. The plants under examination were as follows: *Abies nordmanniana*, *Acer campestre*, *Acer palmatum*, *Acer pseudoplatanus*, *Alnus glutinosa*, *Betula pendula*, *Castanea sativa*, *Cedrus atlantica*, *Cupressus arizonica*, *Fagus sylvatica*, *Juglans regia*, *Juniperus communis*, *Juniperus virginiana*, *Larix decidua*, *Picea abies*, *Picea pungens*, *Pinus nigra*, *Pinus mugo*, *Pinus sylvestris*, *Populus alba*, *Populus × canadensis*, *Quercus robur*, *Quercus petraea*, *Quercus pubescens*, *Salix alba*, *Salix caprea*, *Thuja occidentalis*, *Thuja orientalis* and *Chamaecyparis lawsoniana*.

*Abies nordmanniana*, *Alnus glutinosa*, *Betula pendula*, *Populus alba* and *Populus × canadensis* were only studied at Diósjenő, *Salix caprea* at Piliscsév, *Acer palmatum*, *Castanea sativa*, *Cedrus atlantica*, *Cupressus arizonica* and *Quercus pubescens* in Budapest and its surroundings (Kamaraerdő, Mátyásföld, Budaörs and the Buda Arboretum of Corvinus University of Budapest), while the remaining species were studied both in Budapest and in its surroundings, and at Diósjenő.

Besides lachnid species ant species attending the colonies were also collected. Until being processed, lachnid and ant specimens were stored in plastic Eppendorf tubes filled with 96% ethanol alcohol.

Following the method of Blackman and Eastop (1984) microscope-slide preparations were made for the proper identification of lachnid species. Euparal solution was used as a mounting medium. Lachnid specimens were studied by using phase contrast microscope. In determining the species, we relied on the works of Börner (1952), Szelegiewicz (1977), Blackman and Eastop (1994) and Heie (1995).

## Results and Discussion

In our faunistical survey of the 29 tree and shrub species, lachnid species were found on 19 plant species.

Of the 65 samples collected a total of 17 lachnid species were identified, including 1 species each belonging to genera *Tuberolachnus*, *Schizolachnus*, *Eulachnus* and *Stomaphis*, 2 species to genus *Lachnus* and 11 species to genus *Cinara*. The collected lachnid and ant species are shown in *Tables 1* and *2*.

*Stomaphis mordvilko* collected from cracks in the bark of *Juglans regia* in Cinkota was new for the Hungarian fauna.

The first occurrence of *Cinara cedri* in Hungary was reported by Ripka (2001) from Budapest. In the course of this survey we have collected specimens of this species in other parts of the country as well.

According to special literature the hosts of *Lachnus roboris* are *Quercus* species. We found *Lachnus roboris* on *Q. petraea* and *Q. robur*, what is more specimens were also collected from a new host plant: *Acer palmatum*.

The occurrence of *Cinara schimitscheki* under the bark of older branches of *Pinus nigra* was mentioned by Pintera (1966). We also found this species under the bark of the trunk of a young *Pinus nigra*.

Table 1

Lachnid species collected from their host plants and the place and date of sampling  
 (\* = new species for the Hungarian fauna)

Lachnid species	Plant species	Sampling	
		place	date
<i>Cinara brauni</i> Börner, 1940	<i>Pinus nigra</i>	Budapest, Kamaraerdő	24. 05. 2001
	<i>Pinus nigra</i>	Budapest, Gellérthegy	30.09. 2002
	<i>Pinus nigra</i>	Budaörs	06. 06. 2001
	<i>Pinus nigra</i>	Budaörs	10. 06. 2001
	<i>Pinus nigra</i>	Budapest	24. 06. 2002
	<i>Pinus nigra</i>	Budapest	02. 07. 2002
<i>Cinara cedri</i> Mimeur, 1936	<i>Cedrus atlantica</i>	Szigliget	04. 04. 2001
	<i>Cedrus atlantica</i>	Budapest	22. 05. 2002
	<i>Cedrus atlantica</i>	Budapest	24. 06. 2002
<i>Cinara cuneomaculata</i> (del Guercio, 1909)	<i>Larix decidua</i>	Diósjenő	16. 06. 2001
	<i>Larix decidua</i>	Diósjenő	26. 05. 2002
	<i>Larix decidua</i>	Diósjenő	21. 09. 2002
<i>Cinara cupressi</i> (Buckton, 1881)	<i>Juniperus communis</i>	Budapest	05. 06. 2001
	<i>Juniperus communis</i>	Budapest	15. 04. 2002
	<i>Juniperus virginiana</i>	Budapest	05. 06. 2001
	<i>Juniperus virginiana</i>	Budaörs	15. 06. 2001
	<i>Juniperus virginiana</i>	Budapest	22. 05. 2002
	<i>Juniperus virginiana</i>	Budapest	25. 05. 2002
<i>Cinara piceicola</i> (Cholodkovsky, 1896)	<i>Picea abies</i>	Diósjenő	15. 06. 2002
	<i>Picea abies</i>	Diósjenő	29. 09. 2002
<i>Cinara pilicornis</i> (Hartig, 1841)	<i>Picea abies</i>	Szigliget	04. 06. 2001
	<i>Picea abies</i>	Budapest, Mátyásföld	11. 06. 2001
	<i>Picea abies</i>	Diósjenő	15. 06. 2001
	<i>Picea abies</i>	Diósjenő	17. 06. 2001
	<i>Picea pungens</i>	Diósjenő	10. 06. 2001
	<i>Picea pungens</i>	Diósjenő	17. 05. 2001
	<i>Picea pungens</i>	Budapest, Mátyásföld	11. 06. 2001
	<i>Picea pungens</i>	Diósjenő	25. 05. 2002
	<i>Picea pungens</i>	Diósjenő	26. 05. 2002
<i>Cinara pinea</i> (Mordvilko, 1895)	<i>Pinus mugo</i>	Diósjenő	26. 05. 2002
	<i>Pinus sylvestris</i>	Budapest, Kamaraerdő	23. 05. 2001
	<i>Pinus sylvestris</i>	Budaörs	06. 06. 2001
	<i>Pinus sylvestris</i>	Diósjenő	10. 06. 2001
	<i>Pinus sylvestris</i>	Diósjenő	16. 06. 2001
	<i>Pinus sylvestris</i>	Diósjenő	17. 06. 2001
<i>Cinara pini</i> (Linneus, 1758)	<i>Pinus sylvestris</i>	Diósjenő	25. 05. 2002
	<i>Pinus sylvestris</i>	Diósjenő	26. 05. 2002
<i>Cinara pruinosa</i> (Hartig, 1841)	<i>Picea abies</i>	Diósjenő	10. 06. 2001
	<i>Picea abies</i>	Diósjenő	25. 05. 2002
	<i>Picea abies</i>	Diósjenő	26. 05. 2002
	<i>Picea abies</i>	Diósjenő	15. 06. 2002
	<i>Picea abies</i>	Diósjenő	25. 06. 2002
	<i>Picea abies</i>	Diósjenő	08. 07. 2002
	<i>Picea abies</i>	Diósjenő	22. 05. 2002
<i>Cinara schimitscheki</i> Börner, 1940	<i>Pinus nigra</i>	Diósjenő	22. 05. 2002
	<i>Pinus nigra</i>	Budapest, Gellérthegy	30. 09. 2002

Table 1 (cont.)

Lachnid species	Plant species	Sampling	
		place	date
	<i>Thuja orientalis</i>	Budapest	05. 06. 2001
	<i>Thuja orientalis</i>	Diósjenő	16. 06. 2001
	<i>Thuja orientalis</i>	Budapest	22. 05. 2002
	<i>Thuja orientalis</i>	Diósjenő	30. 09. 2002
	<i>Cupressus arizonica</i>	Budapest	21. 05. 2002
<i>Eulachnus rileyi</i> (Williams, 1910)	<i>Pinus mugo</i>	Diósjenő	16. 06. 2001
<i>Lachnus longipes</i> (Dufour, 1833)	<i>Castanea sativa</i>	Budapest	05. 06. 2001
<i>Lachnus roboris</i> (Linneus, 1758)	<i>Acer palmatum</i>	Budapest	30. 09. 2000
	<i>Quercus robur</i> 'Fastigiata'	Budapest	09. 05. 2001
	<i>Quercus robur</i> 'Fastigiata'	Budapest	24. 09. 2001
	<i>Quercus robur</i>	Budapest	10. 06. 2001
	<i>Quercus robur</i>	Budapest	21. 10. 2001
	<i>Quercus robur</i>	Budapest, Gellérthegy	30. 09. 2002
	<i>Quercus petraea</i>	Budapest	09. 05. 2001
<i>Schizolachnus pineti</i> (Fabricius, 1781)	<i>Pinus nigra</i>	Budapest, Gellérthegy	02. 10. 2002
	<i>Pinus mugo</i>	Diósjenő	25. 05. 2002
	<i>Pinus sylvestris</i>	Diósjenő	29. 09. 2002
* <i>Stomaphis mordvilkoii</i> Hille Ris Lambers, 1933	<i>Juglans regia</i>	Budapest, Cinkota	20. 10. 1999
<i>Tuberolachnus salignus</i> (Gmelin, 1790)	<i>Salix alba</i>	Diósjenő	16. 06. 2001
	<i>Salix caprea</i>	Piliscsév	20. 09. 2001

*Cinara piceicola*, *Cinara pruinosa* and *Lachnus roboris* were collected in the largest number of specimen and they were the most frequent lachnid species. In many cases *Cinara pruinosa* occurred in large colonies on young *Picea abies* hostplants, which were covered almost entirely with honeydew.

Together with lachnid species the following ant species were found: *Camponotus truncatus*, *Formica pratensis*, *Formica rufibarbis*, *Lasius brunneus*, *Lasius emarginatus*, *Lasius flavus*, *Lasius fuliginosus*, *Lasius neglectus*, *Lasius niger* and *Prenolepis nitens*. *Lasius niger* was the most frequent species, occurring in association with 13 lachnid species. *Lachnus roboris* and *Cinara pruinosa* were attended by the largest number of ant species (4 ant species, respectively).

Table 2

Simultaneous occurrence of lachnid and ant species

Ant species	Lachnid species	Plant species	Sampling	
			place	date
<i>Camponotus truncatus</i> (Spinola, 1808)	<i>Lachnus roboris</i>	<i>Quercus robur</i> 'Fastigiata'	Budapest	21. 10. 2001
<i>Formica pratensis</i> Retzius, 1783	<i>Cinara pruinosa</i>	<i>Picea abies</i>	Diósjenő	26. 05. 2002
	<i>Cinara pruinosa</i>	<i>Picea abies</i>	Diósjenő	29. 09. 2002
	<i>Cinara pilicornis</i>	<i>Picea abies</i>	Diósjenő	17. 06. 2001
<i>Formica rufibarbis</i> Fabricius, 1793	<i>Cinara schimitscheki</i>	<i>Pinus nigra</i>	Diósjenő	22. 05. 2002
	<i>Cinara brauni</i>	<i>Pinus nigra</i>	Budaörs	06. 06. 2001
	<i>Schizolachnus pineti</i>	<i>Pinus mugo</i>	Diósjenő	25. 05. 2002
	<i>Lachnus roboris</i>	<i>Quercus robur</i> 'Fastigiata'	Budapest	09. 05. 2001
<i>Lasius brunneus</i> (Latreille, 1798)	<i>Lachnus roboris</i>	<i>Quercus robur</i> 'Fastigiata'	Budapest	24. 09. 2001
<i>Lasius emarginatus</i> (Oliver, 1791)	<i>Cinara brauni</i>	<i>Pinus nigra</i>	Budaörs	06. 06. 2001
	<i>Cinara brauni</i>	<i>Pinus nigra</i>	Budaörs	10. 06. 2001
	<i>Cinara brauni</i>	<i>Pinus nigra</i>	Budapest	02. 07. 2002
	<i>Cinara pruinosa</i>	<i>Picea abies</i>	Diósjenő	15. 06. 2002
	<i>Schizolachnus pineti</i>	<i>Pinus mugo</i>	Diósjenő	25. 05. 2002
<i>Lasius flavus</i> (Fabricius, 1781)	<i>Cinara cedri</i>	<i>Cedrus atlantica</i>	Budapest	24. 06. 2002
<i>Lasius fuliginosus</i> (Latreille, 1798)	<i>Cinara pini</i>	<i>Pinus sylvestris</i>	Diósjenő	25. 05. 2002
	<i>Cinara pruinosa</i>	<i>Picea abies</i>	Diósjenő	25. 05. 2002
	<i>Tuberolachnus salignus</i>	<i>Salix alba</i>	Diósjenő	16. 06. 2001
<i>Lasius neglectus</i> van Loon, Boomsma et Andrásfalvy, 1990	<i>Cinara tujafilina</i>	<i>Thuja orientalis</i>	Budapest	22. 05. 2002
<i>Lasius niger</i> (Linneus, 1758)	<i>Stomaphis mordvilkoii</i>	<i>Juglans regia</i>	Budapest	20. 10. 1999
	<i>Lachnus longipes</i>	<i>Castanea sativa</i>	Budapest	05. 06. 2001
	<i>Lachnus roboris</i>	<i>Quercus robur</i>	Budapest	30. 09. 2002
	<i>Cinara cedri</i>	<i>Cedrus atlantica</i>	Budapest	22. 05. 2002
	<i>Cinara pinea</i>	<i>Pinus sylvestris</i>	Budaörs	06. 06. 2001
	<i>Cinara schimitscheki</i>	<i>Pinus nigra</i>	Diósjenő	22. 05. 2002
	<i>Cinara brauni</i>	<i>Pinus nigra</i>	Budapest	24. 06. 2002
	<i>Cinara cupressi</i>	<i>Juniperus virginiana</i>	Budaörs	15. 06. 2001
	<i>Cinara cupressi</i>	<i>Juniperus virginiana</i>	Budapest	22. 05. 2002
	<i>Cinara tujafilina</i>	<i>Juniperus virginiana</i>	Budapest	22. 05. 2002
	<i>Cinara tujafilina</i>	<i>Thuja occidentalis</i>	Diósjenő	16. 06. 2001
	<i>Cinara tujafilina</i>	<i>Thuja orientalis</i>	Budapest	05. 06. 2001
	<i>Cinara tujafilina</i>	<i>Thuja orientalis</i>	Diósjenő	16. 06. 2001
	<i>Cinara tujafilina</i>	<i>Thuja orientalis</i>	Diósjenő	30. 09. 2002
	<i>Cinara cuneomaculata</i>	<i>Larix decidua</i>	Diósjenő	16. 06. 2001
	<i>Cinara cuneomaculata</i>	<i>Larix decidua</i>	Diósjenő	26. 05. 2002
	<i>Cinara cuneomaculata</i>	<i>Larix decidua</i>	Diósjenő	21. 09. 2002
	<i>Cinara pruinosa</i>	<i>Picea abies</i>	Diósjenő	08. 07. 2002
	<i>Cinara pruinosa</i>	<i>Picea pungens</i>	Diósjenő	26. 05. 2002
	<i>Cinara pruinosa</i>	<i>Picea pungens</i>	Diósjenő	21. 09. 2002
<i>Cinara piceicola</i>	<i>Picea abies</i>	Diósjenő	15. 06. 2002	
<i>Cinara piceicola</i>	<i>Picea abies</i>	Diósjenő	29. 09. 2002	
<i>Schizolachnus pineti</i>	<i>Pinus mugo</i>	Diósjenő	16. 06. 2001	
<i>Eulachnus rileyi</i>	<i>Pinus mugo</i>	Diósjenő	16. 06. 2002	
<i>Prenelepis nitens</i> (Mayr, 1852)	<i>Lachnus roboris</i>	<i>Quercus petraea</i>	Budapest	09. 05. 2001
	<i>Cinara cupressi</i>	<i>Juniperus communis</i>	Budapest	15. 04. 2002

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