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Data on the Coleoptera, Heteroptera and Homoptera fauna of the common oak (*Quercus robur*)

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Kolics B, Kondorosy E.: *Data on the Coleoptera, Heteroptera and Homoptera fauna of the common oak (Quercus robur).*

Abstract: Results of investigations in Somogy county on the insect fauna on common oak in 2005-2006 are presented. Three fields of collection were visited in 2 weeks periods. 13 new herbivorous species were found, potentially feeding on common oak. Amongst these rare species were found, especially in the family of *Tenebrionidae*.

Keywords: Coleoptera, Heteroptera, Homoptera, Quercus

Introduction

The common oak used to be the most widespread oak In Hungary, in recent times its area has been decreasing. It amounts 9.2% (148.000 acres) of the forests in the country (FM ERSZ 1994). Most of the Hungarian data on the insect fauna of oak species is concerned with insects on oak with forestric importance (Szontagh 1962, 1973, 1985), group of species causing serious damage on oak. Few work has been done in Hungary (Csóka 1994) concerning the herbivorous fauna and interaction of the species. The general opinion is, that oak, especially *Q. robur* compensates loss with secondary growth. However, some author provided data on insect's flower predation (Scutareanu-Roques 1993) or fecundity decreasing activity of *Curculio* species (Maksimovic 1982, Worell-Nixon 1991). Several work has been done proving herbivors' impact on growth and physiology (Kulman 1971, Hilton et al 1987). Therefore, it is important to investigate the whole insect fauna of the oak, and to uncover their interaction with their host plants.

Methods and material

Collecting of the oak fauna was carried out between 2005 and 2006, with different methods. The main methods used were collecting with an insect net (IN) in every second week, mainly on sunny days, in the afternoon (the net has 80 cm diameter, a 290 cm

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long handle, and is 150 cm deep,. Spraying (SP) of groups of trees was used as a complementary method of collecting in order to ensure a wider range of harvested insects, in which pesticides DECIS 2,5 EC (deltametrine), CIPERKILL 25 EC (cypermetrine), Bi 58 EC (dimetoate) were applied in a the dose advised for fruit trees. Insects were taken up with a polyethylene foil put under the trees for several hours. Besides the above mentioned methods, pitfall traps (PT) and light traps (LT) were used, however, with less success.

Checking of the fauna of common oak has taken place in Somogy county at the following three collecting places: Görgeteg 1.5 acres, Berzence 2 acres, Lábod 2.5 acres. Each localities was visited in about every second week.

Results

Species collected on common oak in greater numbers and in both years are presented. The majority of the collected species belong to Coleoptera, while the least we managed to get representatives of the order Homoptera. The most effective was to use an insect net. Altogether 96 species were collected, of which 57 were reported in comprehensive Hungarian studies (GYŐRFI 1963, CSÓKA 1994, CSÓKA 1998, HIRKA et CSÓKA 2002) as well. Thus, the other 39 species (Table 1) were taken into consideration as below.

Coleoptera

In the family of *Curculionidae, Curculio pyrrhoceras* (Marsham, 1805) could be a potential pest of acorn. *Phyllobius* species can have an importance, as their host plants are different tree species. *Phyllobius urticae* (De Geer, 1775) have not been reported from oak yet. *Coccinellidae* species living on common oak are concerned with their hosts feeding on oak.

Amongst *Chrysomelidae, Lachnaia sexpunctata* (Scopoli, 1763) occurs on leaves of arboreals, potentially an oak as well.

In *Tenebrionidae, Isomira* species could feed on oak also. They can be found on leaves, *Isomira semiflava* (Küster, 1852) is a Western European species which was reported only from Slowakia (KASZAB 1957). *Platydema violaceum* (Fabricius, 1790) lives under bark. *Gonodera luperus* (Herbst, 1783) is described as potentially living on oak as well (KASZAB 1957).

From *Cerambycidae, Rhagium sycophanta* (Schrank, 1781) has been found as a species potentially harm wood. *Xylodrepa quadripunctata* (Linnaeus, 1761) is a predator of *Lymantria dispar*, abundant during its gradations.

Heteroptera

Mermitelocerus schmidti (Fieber, 1836) feeds on arboreals, thus can oak also be its host. Palomena prasina (Linnaeus, 1758) is polyphagous, feeds often also on trees. Aneurus avenius (Dufour, 1833) feeds on fungi under bark of oak.

Homoptera

Speudotettix subfusculus (Fallén, 1806) feeds on arboreals, amongst oak is a potential host. *Cixius similis* (Kirschbaum, 1868) is polyphagous, may feed on young afforestation.

Table 1. Insects found to be new for the fauna of common oak

Order and species	Collecting method	Potential herbivour on oak
Coleoptera		
Curculionidae:		
Curculio pyrrhoceras (Marsham, 1805)	IN	+++
Phyllobius urticae (De Geer, 1775)	IN	++
Polydrusus impar (Gozis, 1882)	SP	
Coccinellidae:		
Adalia decempunctata (Linnaeus, 1758)	IN	
Adalia bipunctata (Linnaeus, 1758)	IN	
Coccinula quatordecimpustulata (Linnaeus, 1758)	IN	
Exochomus quadripustulatus (Linnaeus, 1758)	IN	
Halyzia sedecimguttata (Linnaeus, 1758)	IN	
Psyllobora vigintiduopunctata (Linnaeus, 1758)	IN	
Scarabaeidae:		
Anomala vitis (Fabricius, 1775)	SP	
Chrysomelidae:		
Labidostomis humeralis (Schneider, 1792)	IN	
Lachnaia sexpunctata (Scopoli, 1763)	IN	+
Lochmaea crataegi (Forster, 1771)	SP	
Hydrothassa marginella (Linnaeus 1758)	IN	
Latridiidae:		
Corticaria bella (Redtenbacher, 1849)	IN	
Tenebrionidae:		
Gonodera luperus (Herbst, 1783)	SP	++
Isomira icteropa (Küster, 1852)	LT	+
Isomira semiflava (Küster, 1852)	LT	+
Nalassus dermestoides (Illiger, 1798)	IN	
Platydema violaceum (Fabricius, 1790)	SP	+
Cerambycidae:		
Rhagium sycophanta (Schrank, 1781)	IN	+++
Silphidae:		
Xylodrepa quadripunctata (Linnaeus, 1761)	SP	
Heteroptera:		
Aneurus avenius (Dufour, 1833)	IN	
Ceraleptus gracilicornis (Herrich-Schäffer, 1835)	IN	
Coreus marginatus (Linnaeus, 1758)	SP	
Deraeocoris lutescens (Schilling, 1836)	IN	+
Gonocerus acuteangulatus (Goeze, 1778)	IN	
Grypocoris (Lophyromiris) sexguttatus (Fabricius, 1776)	IN	
Leptopterna dolabrata (Linnaeus 1758)	IN	
Lygus pratensis (Linnaeus, 1758)	IN	
Mermitelocerus schmidti (Fieber, 1836)	IN	+
Nabis rugosus (Linnaeus, 1758)	IN	
Palomena prasina (Linnaeus, 1758)	SP	+
Rhaphigaster nebulosa (Poda, 1761)	IN	
Auchenoryncha:		
Cercopis sanguinolenta (Scopoli, 1763)	IN	
Cixius similis (Kirschbaum, 1868)	IN	+
Speudotettix subfusculus (Fallén, 1806)	IN	++

Discussion

All together 96 species of order *Coleoptera, Heteroptera* and *Auchenorhyncha* were found on common oak, of which 39 has not been reported in Hungary till now, living on oak. Amongst there 13 species are potentially part of the herbivour fauna of *Quercus* sp. In family *Cerambycidae, Rhagium sycophanta* (Schrank, 1781), and *Curculio pyrrhoceras* (Marsham, 1805) are notable as potentialy harm wood and acorn respectively. Also

worth to note are the species *Phyllobius urticae* (De Geer, 1775) damaging leaves, *Gonodera luperus* (Herbst, 1783), which can be found on leaves, and in *Homoptera Speudotettix subfusculus* (Fallén, 1806), feeding on arboreals. Furthermore, rare *Tenebrionidae, Isomira semiflava* (Küster, 1852) and *Isomira icteropa* (Küster, 1852) were found.

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Adatok a a tölgy (Quercus robur) bogár, poloska és kabóca faunájához

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Somogy megyében, kocsányos tölgyön 2005-2006 között végzett rovargyűjtéseink eredményét prezentáljuk.

A három gyűjtési terület kéthetes időperiódusokban került felvételezésre. Összesen 13 olyan rovarfajt találtunk, melyek a kocsányos tölgyön (*Quercus robur*) potenciálisan kárt okozhatnak. Továbbá ritka fajok is előkerültek - különös tekintettel a *Tenebrionidae* család néhány képviselőjére.