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Fauna and biogeography of Chrysomelidae sensu lato (Insecta: Coleoptera) of Latvia.

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ON

FIELD ENTOMOLOGY AND FAUNISTICS

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The Conference emphasizes the importance of faunistic research and provides selected or extended abstracts, short communications or full papers from 26 presentations by professors, scientific researchers, graduate, master or doctoral students from nine countries: Italy, Czech Republic, Poland, Lithuania, Latvia, Russia, Canada, USA, Ecuador.

Key words: aphidology, biodiversity, Bucculatricidae, Carabidae, Coleoptera, Cossidae, Crysomellidae, Curculionoidea, guava, *Hylobius*, Gracillariidae, fauna, faunistics, field methods, entomology, Kurtuvėnai Regional Park, leaf-mines, leaf-mining insects, Lepidoptera, Lepidoptera phylogeny, Lithuanian Entomological Society, micro-mounts, Nepticulidae, Tischeriidae, Tortricidae.

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URGENT NEED FOR INCREASED FAUNISTIC RESEARCH

Recent decades have been characterized by faunistics and systematics regaining their significance and now these disciplines are becoming an important area of biological research. One of the most fundamental challenges for mankind of the 21st century is to document the extent and distribution of global biodiversity as well as understand the ecological processes that generate and maintain it. Such information will be essential for informing and guiding efforts to safeguard the natural ecosystems that provide the Earth's life support systems. Without the baseline data of faunistic and taxonomic diversity providing means for the identification of the species in a region, no one can move forward in properly planning their conservation or their control in case of invasive species.

Fast development of modern research techniques, which flourished at the end of 20th century, slightly diminished interest in faunistic research. On the other hand, the negative impact on ecosystems, including threats from human activity that causes habitat destruction and modification in the face of the global biodiversity crisis and climate change, led to an urgent need for significant intensification of biodiversity studies.

The Conference emphasizes the importance of faunistic research that includes studies into the nature of insect fauna: from sampling, species identification and regional biodiversity inventory, evaluation of species abundance, documentation of described species (morphology incl. variability, bionomics incl. life cycles and habitats) and description of new taxa to taxonomic, phylogenetic, trophic, chorological and other analyses of regional and global faunas.

The research postulated in the Conference involves a large-scale investigation of various groups of insects, which, in spite of their tremendous economic importance, constitute one of the world's least known faunas and for which there has been a disturbing decline of qualified specialists.

Professor Jonas Rimantas Stonis,
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The Conference brought together international academics from the Baltic countries and Poland (speakers from other countries were also welcomed), including professors and graduate, master or postgraduate (doctoral/PhD) students, which presented methodological novelties and faunistic research in their respective fields.

The first aim of the Conference was to provide opportunities for academics from various countries representing a range of disciplines in entomology to share their research by means of the conference podium.

The Conference's second aim was to provide opportunities for academics to receive informal in-depth feedback through discussions and enable them to establish contact with professionals from other countries and institutions.

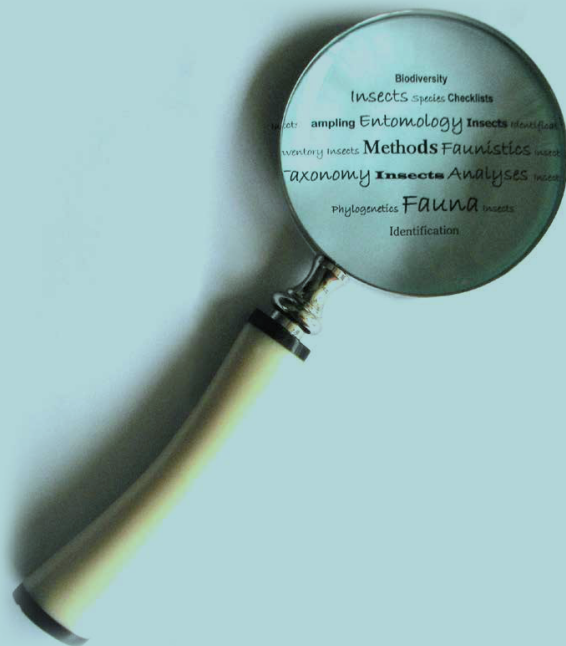
Number of given presentations:

Italy – 2, Czech Republic – 1, Poland – 6, Lithuania – 15, Latvia – 6, Russia – 1, Canada – 2, USA – 4; Ecuador – 1.

Number of participants who provided presentations:

Italy – 2, Czech Republic – 2, Poland – 8, Lithuania – 18, Latvia – 8, Russia – 1, Canada – 4, USA – 3; Ecuador – 1.

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FAUNA AND BIOGEOGRAPHY OF CHRYSOMELIDAE *sensu lato* (INSECTA: COLEOPTERA) OF LATVIA

Andris Bukejs

Formerly Daugavpils University, Daugavpils, Latvia

Leaf-beetles, represented by 30,000–50,000 species, are one of the largest families of the order Coleoptera worldwide (Bieńkowski, 2004; Jolivet, 1988; Mohr, 1966). The family is also abundant and rich in species in the fauna of Latvia and in the other Baltic States. They are phytophagous: adults mostly occur on leaves and flowers, larvae mostly feed on leaves and roots, occasionally larvae are saprophagous or carpophagous. Some species of leaf-beetles are considered to be serious pests in agriculture and forestry.

The research history of Latvian Chrysomelidae is more than 220 years old (Bukejs, 2008). The first information on leaf-beetles of Latvian fauna was published in the second half of the 18th century in the monograph describing nature of Livland (Fischer, 1778) where three species are mentioned. More than 170 works were published in Latvia subsequently.

The Latvian fauna of leaf-beetles includes 326 species (Bukejs, 2013) belonging to 3 families (Megalopodidae, Orsodacnidae and Chrysomelidae) and 13 subfamilies (Zeugophorinae, Orsodacninae, Bruchinae, Donaciinae, Criocerinae, Cassidinae, Chrysomelinae, Galerucinae, Alticinae, Lamprosomatinae, Cryptocephalinae (incl. Clytrini and Cryptocephalini), Eumolpinae, Synetinae). In Latvian fauna, Megalopodidae and Orsodacnidae contain a small number of species – 5 and 1 respectively, but Chrysomelidae is one of the largest in number of species families of Coleoptera and contains 320 species. The subfamilies Alticinae (125 species), Chrysomelinae (57 species), Cryptocephalinae (incl. Clytrini and Cryptocephalini; 42 species) and Donaciinae (27 species) are predominate.

The Latvian fauna of leaf-beetles is represented by 17 chorotypes (Bukejs, 2012): Cosmopolitan – 4 species (1.23%), Holarctic-Oriental – 1 species (0.31%), Palaearctic-Oriental – 2 species (0.61%), Holarctic – 15 species (4.60%), Palaearctic – 45 species (13.80%), West-Palaearctic – 11 species (3.37%), Asiatic-European – 65 species (19.94%), Siberian-European – 74 species (22.70%), Centralasiatic-Euro-Mediterranean – 23 species (7.06%), Centralasiatic-European – 17 species (5.21%), Turanian-Euro-Mediterranean – 3 species (0.92%), Turanian-European – 13 species (3.99%), European-Mediterranean – 9 species (2.76%), European – 28 species (8.59%), Central-European – 14 species (4.29%), North-European – 1 species (0.31%), and East-European – 1 species (0.31%).



Figure 1. Leaf-beetles: A – *Cassida nebulosa* Linnaeus; B – *Donacia semicuprea* Panzer; C – *Cryptocephalus sericeus* (Linnaeus).

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Figure 2. Leaf-beetles: A – *Goniocтена viminalis* (Linnaeus); B – *Galerucella nymphaeae* (Linnaeus); C – *Chrysomela populi* Linnaeus; D – *Leptinotarsa decemlineata* (Say).