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THE INTERNATIONAL THYSANOPTEROLOGICAL COLLOQUIUM DEDICATED TO THE 80TH BIRTHDAY OF DOC. ING. DR. JAROSLAV PELIKÁN, DRSC., A NESTOR OF THE EUROPEAN THYSANOPTEROLOGY (BRNO, THE CZECH REPUBLIC 26 - 27TH IV 2006)

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ABSTRACT. On the 22nd of April 2006 Doc. Ing. Dr. Jaroslav Pelikán, DrSc. celebrates his 80th birthday. For his fruitful professional career he has published many scientific papers on thrips including descriptions of new species and genera. Following is a small contribution representing a honour to him, his professional career and position in the Slovak thysanopterology.

KEY WORDS: Pelikán, thrips, Thysanoptera, Slovakia.

Ladies and gentlemen, dear colleagues, in cooperation with reputable zoological institutions in the Czech Republic and Slovakia we have decided to organise the international thysanopterological colloquium dedicated to the 80th birthday of Prof. Pelikán, a nestor of the European thysanopterology.

Apart from the informal meeting we would like to organize a scientific colloquium to present your latest success in science from strictly specific to more general problems. The main attention should be put on:

- Taxonomy and systematics
- Ecology and bioindication
- Evolution and phylogeny
- Pest control
- Zoogeography

and others.

The thysanopterological colloquium will take place at the Institute of Vertebrate Biology, the Czech Academy of Sciences, Brno, the Czech Republic on the 26 - 27th of April, 2006

We hope, the meeting will create scientific as well as kind atmosphere to change new experiences and knowledge on thrips.

With the best wishes,
the symposium team.

Prof. RNDr. Jan Zima, DrSc., Institute of Vertebrate Biology, CAS, Brno, Czech Republic
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TIMETABLE:

Wednesday: April 26

14:00 - 16:00 Registration

16:00 - 16:15 Welcome (J. Zima, P. Fedor)

16:15 - 17:00 Fifty years of Thysanopterology - Changes and Challenges. (L. Mound)

17:00 - 18:00 Guided poster session:

Laurence Mound: Circadian Sex

Liliana Vasiliu-Oromulu: Can we still consider certain thrips dobroudjan endemics?

Gerald Moritz: Thrips - Biology, Development and Behaviour

Cheryle O´Donnell, Michael Parrella, Diana Wille, Gerald Moritz: Visual and molecular identification of thrips

Thursday: April 27

9:00 - 10:30 Scientific presentations

Peter Fedor & Wojciech Sierka: Jaroslav Pelikán and his contribution to the Czechoslovak thysanopterology

Gábor Jenser: Thrips tabaci LINDEMAN 1889, a cryptic Thysanoptera species

Halina Kucharczyk: Thrips atratus Haliday, 1836, Thrips montanus Priesner 1920 - one or two species? - morphological notes

10:30 - 11:00 Coffee break

11:00 - 12:30 Scientific presentations

Wojciech Sierka & Peter Fedor: The state of knowledge on thrips (Insecta, Thysanoptera) in the Carpathian region (part I: Poland & Slovakia)

Rita Marullo & Andrea Meduri: Distribution, classification and systematic relationships amongst the Italian Thysanoptera.

Bert Vierbergen: Increased significance of Scirtothrips in the international trade of plants and plant products

THE DEVELOPMENT OF A NEW DIAGNOSTIC KEY FOR THE IDENTIFICATION FOR PEST THRIPS OF POTENTIAL THREAT OF IMPORTATION ON PLANT MATERIAL IN U.S.

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About 5500 species of thrips are currently recognized worldwide and approximately. 100 to 150 species are classified as economically important. There are now about 11 species of thrips known to transmit Tospoviruses and damage a wide range of plants. Our goal in this project is to develop and provide a taxonomic key for rapid identification using both morphological and molecular technology to identify thrips in U.S. and those thrips that have the potential to be introduced into the U.S. on imported plant material. The focus is to prevent the establishment of exotic thrips'

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species that pose a threat to US agriculture. We have completed the first objective of our project by assembling a list containing nearly 100 thrips species that include thrips that are currently found in the US, thrips that have been intercepted at ports of entry on plant material and thrips that have the potential to be imported on plant material into the US from other countries. In accordance with our second objective we have begun collecting the thrips' species on our list, extracting DNA while maintaining a complete exoskeleton of the thrips, and initiated the, ITS-RFLP (internal transcribed-restriction fragment length polymorphism) analyses for each species. The visual key will be created on CD/DVD-ROM with the identification and information software package LucID 3.3 and will run on LucID-player 3.0 under Windows, Unix, Sun, Linux and Mac platforms. This CD/DVD-ROM will interface a molecular information database on the world-wide-web that allows the identification of all ontogenetic stages including eggs. In this way updates can be made quickly for the molecular data especially in particular cases of new species introductions, newly developed primers and enzymes.

We are currently gathering data on plant hosts, geographical range, country of export, photographs, and short video segments for each species in addition to the molecular and morphological data. Automontage-photographs (Syncroscopy) of diagnostically important thrips characteristics are currently being taken of each specimen that we have collected for this project.

We thank USDA-CSREES and Bayer CropScience, Monheim, for financial support.

JAROSLAV PELIKÁN AND HIS CONTRIBUTION TO THE CZECHOSLOVAK THYSANOPTEROLOGY

Fedor Peter J.* & Sierka Wojciech**

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Since the end of the World War II Prof. Jaroslav Pelikán has been a reputable scientist, entomologist, theriologist and ecologist. For his fruitful professional life at the Institute of Vertebrate Biology, SAS in Brno, the Czech Republic, he has published more than 100 scientific vertebratological papers, however his amazing contribution particularly appears on the level of thysanopterology (approximately a hundred of papers). Following the oldest modern thysanopterological school on thrips being established by Jindřich Uzel by his well known monograph on Thysanoptera in 1895, Jaroslav Pelikán has become the expert in former Czechoslovakia for more than 50 years. Together with many others such as Richard zur Strassen, Laurence Mound, Gert Schliephake, Gabor Jenser, Irena Zawirska he has undisputedly formed a part of the great thysanopterologist generation. Generally there are a few of approaches Jaroslav Pelikán may be seen and described through. Obviously from the taxonomical point of view he has described more than 80 new taxa of thrips (Pezothrips moravicus, Oxythrips tatricus, etc.) and in national intentions he published several checklists, including his more complex contribution within the Fauna of Czechoslovakia (Pelikán, 1957).

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His complex ecological background, knowledge and experiences reflected in plenty of scientific works dealing with thrips. Jaroslav Pelikán introduced thrips from many points of view, for instance their ecological preferences (Pelikán, 1947), zoogeography (Pelikán, 1983), vertical distribution (Pelikán, 1996) or invasive pests in horticulture (Pelikán, 1991, 1997).

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THRIPS TABACI LINDEMAN 1889, A CRYPTIC THYSANOPTERA SPECIES

Gábor Jenser

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Thrips tabaci is a well known world-wide distributed species whose individuals are taxonomically uniform. The investigations of the reasons of its different virus vector capability refer to significant dissimilar which are manifested in the host range and in the way of reproduction of the species? populations, occurring both in remote continents and in the same area.

The differences between the tobacco-associated and onion-associated populations and their virus vector capability are clearly proved. This differentiations provides explanations for the dissimilar virus vector capability of T. tabaci populations existing on different host plant and occurring in different continents.

To compare the identical and controversial data and opinions requires further investigations.

THRIPS ATRATUS HALIDAY, 1836, THRIPS MONTANUS PRIESNER 1920 - ONE OR TWO SPECIES? - MORPHOLOGICAL NOTES

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Thrips atratus was described by Haliday in 1836. After its first description different names were used for this species by thysanopterologists. It was classified as Taeniothrips atratus for a long time. Taeniothrips montanus was decsribed in Austria by Priesner in 1920. After revision of Thrips and Taeniothrips genera, both of the species were classified to Thrips genus and in 1996 zur Strassen treated Thrips montanus as synonymous to Thrips atratus.

During research on the Thysanoptera fauna of Poland some morphological differences between specimens of Thrips atratus collected in flowers of different plants (especially Caryophyllaceae) and in flowers of Rhinanthus sp. were observed.

A lot of morphological features of adults and larvae were compared. All of them were observed using an optic microscope in the light field and with phase contrast. They were studied using cluster analysis and principial component analysis for selecting the significant features separately for females, males and larvae.

The best visible differences between adult females were: the colour of the third antennal segment, the number of distal setae of the forewings, the shape of the

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microtrichial comb on the posterior margin of tergite VIII. Comparying the males, besides the difference in colour of the third antennal segment, the longer stylus of antennae and better developed microtrichia on the 10th sternite were noticed in Thrips montanus specimens.

In larvae the main differences pertain to: the number and fusion of chitinised spots on the pronotum, the level of developing microtrichia on plaques tergite and sternite VIII and the differences in tergite chitinisation of 9th and 10th abdominal segments.

DISTRIBUTION, CLASSIFICATION AND SYSTEMATIC RELATIONSHIPS AMONGST THE ITALIAN THYSANOPTERA

Rita Marullo & Andrea Meduri

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The Italian Thrips fauna includes, at present, about 250 species of different origin: more than 170 species come from central and northern Europe, more than 60 are Mediterranean or North African, and 11 are introduced from more distant countries. The recognition of four large Italian territorial areas (North, Continental South, Sardinia and Sicily) is important when trying to understand the adaptations of species to different habitats and biology. Such knowledge is of basic importance to explain the introduction and spread of exotic species, particularly pest species. Moreover, geographic distribution might provide new ideas when classifying species into taxon groups and looking for systematic relationships among them. The aim of the present contribution is to provide an approach to the territorial distribution of Thysanoptera in Italy, and relationships between the species based on their classification.

An analysis is being conducted of the relationships between the Italian thrips fauna and the distributions of the species in relation to their feeding preferences and host plants ranges. The term feeding preference is used to distinguish between predatory, saprophagous and phytophagous species. Phytophagous species represent more than 70% of the Italian Thysanoptera, and it is necessary to distinguish their host associations into those with native plants and those with plants not native to Italy. Predators are restricted to the genera Scolothrips and Karnyothrips, whereas about 33 species are saprophagous and all of these belong in the family Phlaeothripidae. Moreover, all of them are found exclusively in southern habitats. Systematic relationships are realized at suprageneric level, considering the genera of different families and their distribution into species native to northern and southern areas.

FIFTY YEARS OF THYSANOPTEROLOGY - CHANGES AND CHALLENGES

Laurence Mound

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It is just over half a century since Jaroslav Pelikan published his first paper on thrips. This talk will consider some of the changes in our scientific discipline during these fifty years - changes in the people involved, changes in the technical practices

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employed, and perhaps most importantly changes in the general philosophy concerning taxonomy and systematics. Changes in the technical practices involved are heavily dependent on the developments in computer technology, including remarkable developments in microscopy and image capture, in information dissemination, and in molecular analysis . Changes in taxonomic philosophy include an increasing emphasis on the biology of individual thrips species, as well as on the evolutionary relationships between taxa rather than on particular phenetic differences.

CAN WE STILL CONSIDER CERTAIN THRIPS DOBROUDJAN ENDEMICS?

Liliana Vasiliu-Oromulu

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Dobroudja County is an important endemogen thrips center in Romania due to its special geographical position between the steppe continental and the Mediterranean climate. The species Ereikethrips calcaratus Knechtel 1960, Haplothrips scythicus Knechtel 1961 and Haplothrips titschacki Pelikán 1965 used to be considered Dobroudjan endemics ever since they were discovered in the early 1960s.

In Dobroudja, Ereikethrips calcaratus was identified only on Xeranthemum annuum, in the Agigea Dune Nature Reserve and in the Basarabi city, in 2004-2005. Its terra typica, Valul lui Traian village, has been under significant anthropic influence during the past 15 years. The insect has been found in other regions of Romania such as the isolated sampling cases in the Girugiu District (in Comana Forest, 2005) and the Ilfov District (in Căciulați, 1967).

Haplothrips scythicus was described first in Dobroudja, Babadag, in 1960, but was also found in 2004 in the nearby Fântânița Nature Reserve, which means it actually has a larger distribution.

Haplothrips titschacki has not been found again since 1961 when it was first mentioned in Dobroudja, Mamaia - Sutghiol. The dunes it was sampled from are endangered habitats in their nature, one more reason that leads us to consider this insect is in danger of extinction.

We believe that Ereikethrips calcaratus may be found in the future in other European countries as well, while Haplothrips scythicus and Haplothrips titschacki are genuine Dobroudjan endemics.

This study was possible due to Grant 74/2003-2004 of the Romanian Academy.

THE STATE OF KNOWLEDGE ON THRIPS (INSECTA, THYSANOPTERA) IN THE CARPATHIAN REGION (PART I: POLAND & SLOVAKIA)

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The Carpathians constitute a long mountain range located on the territory of seven European countries: Romania (55%), Slovakia (17%), Ukraine (11%), Poland (10%,

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Hungary (4%), the Czech Republic (3%) and Austria (<1%). The paper presents the current data on the thrip fauna from the N Carpathian region located in Slovakia and Poland. Moreover the contribution provides basic information on historical background of thysanopterology in this area.

The first data on Thysanoptera from N Carpathians date back into 1902 and cover information collected by Schille on the fauna of the Poprad River valley in the Beskid Sądecki Mountains. Generally 156 species have been recorded. The list of thrips has been accompanied by several faunistic information, moreover some taxonomical changes have been included. From the Slovakian Carpathians, more than 50 thrip species were known from the historical sources. However many more species are expected to be recorded in nearest future. Nowadays the recorded diversity is 3 times higher than 20 years ago.

The thrip fauna of the Carpathian Mountains naturally reflects the diversity of ecological conditions, specific for this region. It includes xerothermophilous species as well as mesophilous, hygrophilous and skiophilous ones. Except for cosmopolite species and thrips common in Central Europe, the spectre includes some other interesting and often rare insects. The Carpathians provide suitable conditions for Pannonian and Submediterranean species (e.g. Aptinothrips elegans Priesner, 1924), xerothermophilous and infiltrating from South. On the other hand, mountainous regions usually with low stands of Pinus mugo and Pinus cembra, are rich in psychrophilous thrips, such as Oxythrips tatricus Pelikán, 1955.

INCREASED SIGNIFICANCE OF SCIRTOTHRIPS IN THE INTERNATIONAL TRADE OF PLANTS AND PLANT PRODUCTS

Gijsbertus Vierbergen

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The major Scirtothrips pests (S. aurantii, S. dorsalis and S. inermis) have been successful in invading new areas by anthropogenic spread. During the past decade Scirtothrips aurantii and S. dorsalis have been found in increasing numbers during import inspections on plants and plant products. From 2003 on the Southeast Asian S. dorsalis settled in the Caribbean, Israel, Surinam and Florida. Very likely the increase of infested plant products in international trade has accumulated to a critical level, allowing S. dorsalis to invade new areas. However, at present settlement in greenhouses is not very likely. Probably this is due to the exposed way of life on green parts of plants, which enhances the susceptibility of chemical and biological treatments. The next Scirtothrips pest in line to spread across the world will probably be the African S. aurantii, which invaded Australia already in 2002.

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