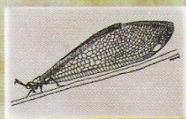


D. Devetak, S. Lipovšek & A.E. Arnett

PROCEEDINGS OF THE TENTH INTERNATIONAL
SYMPOSIUM ON NEUROPTEROLOGY



Proceedings of the Tenth International Symposium on Neuropterology

Piran, Slovenia, 22–25 June 2008

Edited by

Dušan Devetak, Saška Lipovšek & Amy E. Arnett

Maribor, 2010

Tenth International Symposium on Neuropterology, Piran, Slovenia, 22-25 June 2008

Organizers

Department of Biology, Faculty of Natural Sciences and Mathematics, University of Maribor
Slovenian Entomological Society »Štefan Micheli«, Ljubljana
Marine Biology Station, National Institute of Biology, Piran

Program board

Dušan Devetak (Maribor, Slovenia)
Lovrenc Lipej (Piran, Slovenia)
John D. Oswald (College Station, Texas, USA)
Michael Ohl (Berlin, Germany)
Franc Janžekovič (Maribor, Slovenia)
Saška Lipovšek Delakorda (Maribor, Slovenia)
Tomi Trilar (Ljubljana, Slovenia)

Organizing Committee

Dušan Devetak (Maribor, Slovenia)
Lovrenc Lipej (Piran, Slovenia)
Franc Janžekovič (Maribor, Slovenia)
Saška Lipovšek Delakorda (Maribor, Slovenia)
Tomi Trilar (Ljubljana, Slovenia)
Jani Forte (Piran)
Tina Klenovšek (Maribor)
Tina Jerič (Maribor)
Uroš Zabukovšek (Maribor)

Patronage

Minister Mojca Kucler Dolinar, Ministry of Higher Education, Science and Technology of Slovenia ; Slovenian Research Agency (ARRS) ; Natural History Museum of Slovenia, Ljubljana ; Science and Research Centre of Koper ; Slovenian Entomological Society »Štefan Micheli«, Ljubljana ; University of Maribor

Sponsors

Faculty of Agriculture, Maribor ; Klima Petek d.o.o., Maribor ; M Plus d.o.o., Maribor ; Tehnooptika Smolnikar d.o.o., Ljubljana

Proceedings of the Tenth International Symposium on Neuropterology, Piran, Slovenia, 22-25 June 2008

Edited by Dušan Devetak, Saška Lipovšek & Amy E. Arnett

Faculty of Natural Sciences and Mathematics, University of Maribor, 2010

Cover design: Oto Rimele

Printed by Tiskarna Pleško d.o.o.

Copyright © 2010 Faculty of Natural Sciences and Mathematics

All rights reserved. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means – graphic, electronic, or mechanical – without the written permission of the publisher. Circulation 140 copies.

Cataloguing-in-Publication Data:

CIP - Kataložni zapis o publikaciji
Univerzitetna knjižnica Maribor

595.74(082)

INTERNATIONAL Symposium on Neuropterology (10 ; 2008 ; Piran)

Proceedings of the Tenth International Symposium on Neuropterology / Tenth International Symposium on Neuropterology, Piran, Slovenia, 22-25 June 2008 ; edited by Dušan Devetak, Saška Lipovšek & Amy E. Arnett. - Maribor : Faculty of Natural Sciences and Mathematics, 2010

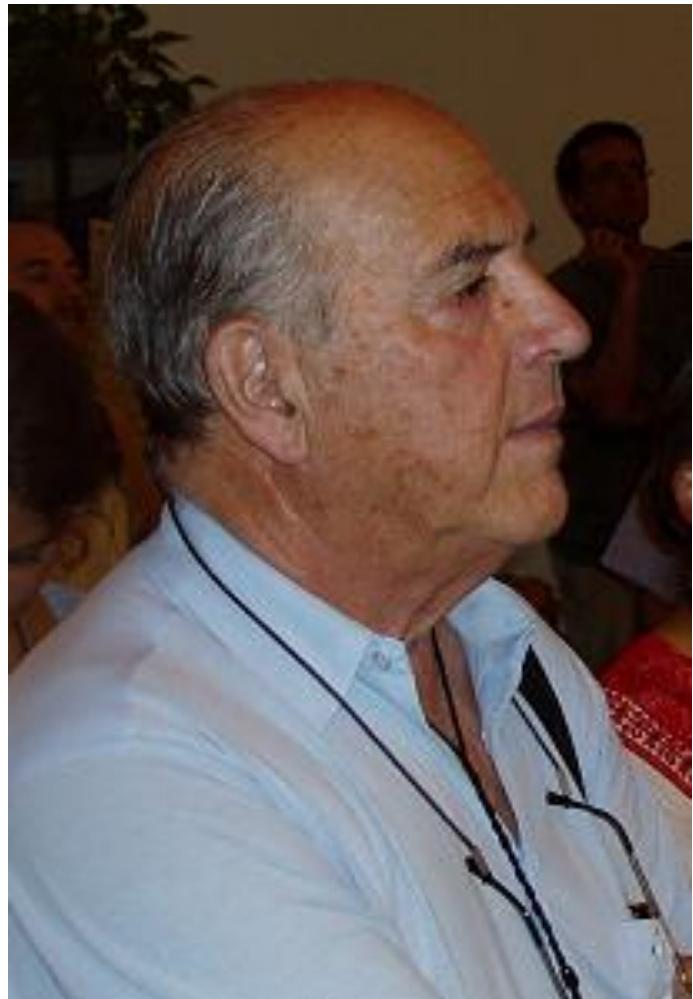
ISBN 978-961-6657-16-7

1. Devetak, Dušan 2. Lipovšek, Saška 3. Arnett, Amy E.
COBISS.SI-ID 65646593

Contents

Preface / Vorwort / Avant-Propos / Predgovor	9
Acknowledgements	10
Participants	11
10th International Symposium on Neuropterology, Piran, Slovenia, 22-25 June 2008: Programme	13
	17
Aspöck, H.: In memoriam Herbert Hözel (1925-2008)	
Aspöck, H.: Neuropterida research at the threshold of the 21st century reflected through the International Symposia on Neuropterology 1980-2008	25
Aspöck, H. & Aspöck, U.: Milestones of neuropterology in the German-speaking countries before 1950	43
Aspöck, U. & Aspöck, H.: Landmarks towards a phylogeny-based classification of the Neuropterida (Insecta: Endopterygota)	67
Aspöck, U., Randolph, S. & Aspöck, H.: The Berothidae of Madagascar (Neuropterida: Neuroptera) and Madagascar's biological exploration by the Viennese adventuress Ida Pfeiffer (1797–1858)	75
	83
Badano, D. & Letardi, A.: A review of the Neuropterida of Liguria (North-West Italy)	
Belušič, G., Pirih, P., Zupančič, G., Stušek, P. & Drašlar, K.: The visual ecology of the owlfly (<i>Limbelloides macaronius</i>)	89
Blaik, T. & Dobosz, R.: Lacewings (Neuroptera) of the Polish Baltic coast with remarks on <i>Wesmaelius (Kimmisia) balticus</i> (Tjeder, 1931) – a new species of Hemerobiidae to the fauna of Poland	97
Bozsik, A.: Pesticide testing on adults of the <i>Chrysoperla carnea</i> -complex (Neuroptera: Chrysopidae) and the sibling species problem in the toxicology of common green lacewings	113
Bozsik, A.: Toxicity of pyrethroids to the adults of three green lacewing species (Neuroptera: Chrysopidae)	121
Canard, M., Thierry, D., Whittington, A.E. & Bozsik, A.: The actual annual occurrence of the green lacewings of northwestern Europe (Neuroptera: Chrysopidae)	127
Cesaroni, C., Nicoli Aldini, R. & Pantaleoni, R.A.: The larvae of <i>Gymnocnemia variegata</i> (Schneider, 1845) and <i>Megistopus flavidicornis</i> (Rossi, 1790) (Neuroptera Myrmeleontidae): a comparative description	135
Devetak, P.: Effect of substrate density on pit building decision making and pit size in the antlion <i>Euroleon nostras</i> (Geoffroy in Fourcroy) (Neuroptera: Myrmeleontidae)	145
Dobosz, R.: Neuroptera of New Caledonia – present knowledge	149
Duelli, P., Hözel, H. & Mansell, M.W.: Habitat and larvae of the enigmatic genus <i>Kimochrysa</i> Tjeder (Neuroptera: Chrysopidae) in South Africa	153
Guillette, L.M. & Hollis, K.L.: Learning in insects, with special emphasis on pit-digging larval antlions (Neuroptera: Myrmeleontidae)	159

Klokočovnik, V., Devetak, D. & Gomboc, S.: Neuropterida (Megaloptera, Raphidioptera, Neuroptera) of Kozjanski Regional Park, Slovenia	171
Letardi, A.: Sharing entomological knowledge: eight years after the release of the Italian Neuropterological web site	175
Letardi, A., Nicoli Aldini, R. & Pantaleoni, R.A.: The Neuropterida of Triveneto (Northern Italy): an updated faunal checklist with some zoogeographical remarks	181
Mansell, M.W.: Towards a catalogue of Afro tropical Lacewings and Alderflies (Neuroptera, Megaloptera)	191
Mendes, R. & Ventura, M.A.: Fitness of <i>Chrysoperla agilis</i> (Neuroptera: Chrysopidae) fed on different natural preys	201
Mochizuki, A., Haruyama, N., Naka, H. & Nomura, M.: Larval head capsule markings of <i>Chrysoperla nippensis</i> (Neuroptera: Chrysopidae) vary according to rearing temperature	209
Pantaleoni, R.A.: Nomenclatural roots of Neuropterida: Linnaeus' era	215
Paulian, M., Canard, M. & Thierry, D.: Green lacewings assemblages in two fluvial lower valleys in eastern and western Europe (Neuroptera: Chrysopidae)	231
Popov, A. & Letardi, A.: Comparative zoogeographical analysis of Neuropterida of the Apennine and Balkan peninsulas	239
Prost, A.: Patterns of distribution of the Palparini (Neuroptera: Myrmeleontidae: Palparinae) in the northern half of Africa. Faunal transitions and regional overlaps	257
Prost, A.: The African genus <i>Megistoleon</i> Navás (Neuroptera: Myrmeleontidae: Myrmeleontinae)	267
Reynoso-Velasco, D. & Contreras-Ramos, A.: Overview of the taxonomic and biological knowledge of Mexican Mantispidae (Insecta: Neuroptera)	269
Szentkirályi, F., Markó, V., Kazinczy, L. & Kovács, É.: When the antlions fall into a pit: pitfall trappings in sandy grasslands	277
Vshivkova, T.S. & Makarkin, V.N.: Ultrastructural morphology of leg cuticle derivatives useful for phylogenetic study of Neuropterida (Insecta: Megaloptera, Neuroptera): preliminary report	287
Weigelmeier, S. & Gruppe, A.: Occurrence of Raphidioptera larvae in dead wood of <i>Quercus petraea</i> (Matt.) Liebl.	301
Author index	307



The Proceedings are respectfully dedicated
to the memory of Prof. Herbert Hölzel (1925-2008)

Preface

The Tenth International Symposium on Neuropterology was held on 22–25 June 2008 in Piran, in the Coastal Region of Slovenia. Fifty-five participants representing 20 countries and five continents took part in the meeting. Symposium topics devoted to neuropterid insects study (Neuropterida: Megaloptera, Raphidioptera, Neuroptera) reflect the state-of-the-art in Neuropterology in 2008. Thirty-seven lectures were presented and twenty-two posters were displayed in the symposium room. There were sessions on taxonomy, phylogeny and systematic, biogeography, morphology, ethology, biology, ecology, cell biology and applied entomology. The contributions in the Proceedings are presented in alphabetical order, according to the names of the (principle) authors.

The meeting was followed by three post-symposium excursions to interesting collecting places located in the Regional Karst Park, Škocjan Caves system, River Soča Valley, and Triglav National Park in the heart of the Julian Alps. The number of participants was higher than recorded for previous Symposia. Piran was an enchanting site and the convivial events (party at the Marine Biology Station, social dinner and excursions) received high praise from participants.

On the fourth day of the Symposium the General Assembly Meeting of the International Association of Neuropterology was organized and participants decided upon the venue for the next symposium from a list of three proposals. The group elected to accept the Portuguese offer to host the XI International Symposium on Neuropterology in 2011 in Azores. We wish Dr. Maria Ventura good luck in arranging all the necessary facilities for undertaking such a task.

Vorwort

Das Xth International Symposium on Neuropterology fand vom 22.-25. Juni 2008 in Piran, Slowenien statt. Fünfundfünzig Teilnehmer aus zwanzig Ländern und fünf Erdteilen trafen sich zu dieser Tagung in der kleinen Stadt an der Küste Sloveniens. Die Themen des Symposiums bezogen sich auf Untersuchungen an Neuropteren im weiteren Sinne (Neuropterida: Megaloptera, Raphidioptera, Neuroptera) und spiegelten den Kenntnisstand der Neuropterologie zum Tagungstermin wieder. Siebenunddreißig Vorträge und zweiundzwanzig Poster wurden in den Symposiumsräumen vorgestellt. Sektionen zu folgenden Themen wurden abgehalten: Taxonomie, Phylogenie und Systematik, Biogeographie, Morphologie, Verhalten, Biologie, Ökologie, Zellbiologie und Angewandte Entomologie. Die Beiträge sind in diesem Tagungsband in alphabetischer Reihenfolge der jeweiligen Erstautoren angeordnet.

Nach Abschluss der Tagung fanden drei Post-Symposium Exkursionen statt, die in interessante Sammlungsgebiete führten: den Regional Karst Park, das Škocjan Höhlensystem, das Soča Tal und in den Triglav National Park im Zentrum der Julischen Alpen. Die Zahl der Teilnehmer war größer als bei den vorhergehenden Symposien. Piran präsentierte sich als bezaubernder Tagungsort und das Begleitprogramm (Empfang in der Meeresbiologischen Station, Gesellschaftsabend und Exkursionen) fanden höchstes Lob bei allen Teilnehmern.

Am vierten Tag des Symposiums fand die Mitgliederversammlung der 'International Association of Neuropterology' statt. Als Veranstaltungsort für das nächste Symposium lagen drei Vorschläge vor, von denen sich die Teilnehmer für die Azoren, Portugal als Tagungsort im Jahr 2011 entschieden. Wir wünschen Dr. Maria Ventura viel Erfolg bei der Organisation und Durchführung des XIth International Symposium on Neuropterology.

Avant-Propos

Le dixième Symposium International de Névroptérologie a eu lieu du 22 au 25 juin 2008 à Piran, sur la façade méditerranéenne de Slovénie. Cinquante-cinq participants prirent part à cette rencontre, représentants de 20 pays et des cinq continents. Les sujets abordés au symposium couvrent divers aspects de l'étude des néoptères (Neuropterida: Megaloptera, Raphidioptera, Neuroptera) et réfléchissent bien l'état de nos connaissances en Névroptérologie en 2008. Trente-sept communications orales furent présentées tandis que vingt-deux posters étaient affichés dans la salle de conférences. Il y eut diverses sessions, consacrées à la taxonomie, la phylogénie et la systématique, la biogéographie, la morphologie, l'éthologie, la biologie, l'écologie, la biologie cellulaire et l'entomologie appliquée. Les participations imprimées aux Comptes-Rendus sont présentées par ordre alphabétique en référence au nom du premier auteur.

La réunion scientifique a été prolongée par trois excursions vers d'intéressants sites de récolte situés dans le Parc Régional Karstique, le système souterrain Škocjan, la vallée de la rivière Soča et le Parc National Triglav, au cœur des Alpes Juliennes. Le nombre des participants fut plus élevé que lors de tous les précédents Symposiums. Piran a été un site enchanteur et les manifestations conviviales telles que la réception à la Station de Biologie Marine, le banquet et les excursions ont toutes été hautement appréciées par les participants.

Le quatrième jour du symposium a été organisée l'assemblée générale de l'Association Internationale de Névroptérologie au cours de laquelle les participants ont eu à choisir parmi trois propositions pour la tenue du prochain symposium. Il a été finalement décidé d'accepter l'offre de la délégation portugaise pour organiser le XI^o Symposium International de Névroptérologie en 2011. Nous souhaitons au Dr Maria Ventura d'avoir toutes les facilités souhaitables pour entreprendre une telle tâche.

Predgovor

Deseti nevropteroški simpozij je potekal od 22. do 25. junija 2008 v Piranu, na obalni regiji Slovenije. Srečanja se je udeležilo petinpetdeset strokovnjakov iz 20 držav in petih celin. Teme, posvečene preučevanju nevroppteridnih žuželk (Neuroptera: Megaloptera, Raphidioptera, Neuroptera), odražajo stanje nevroppterologije v letu 2008. Udeleženci so na srečanju predstavili 37 predavanj in 22 posterjev, ki so se vključevali v naslednje sekcije: taksonomija, filogenija in sistematika, biogeografija, morfologija, etologija, biologija, ekologija, celična biologija in uporabna entomologija. Prispevki v zborniku so urejeni po abecednem vrstnem redu (prvega) avtorja prispevka.

Po srečanju so udeleženci na tridnevnih ekskurzijah obiskali za zbiralce zanimive lokalitete v Regionalnem kraškem parku, Škocjanskih jamah, dolini reke Soče in v Triglavskem narodnem parku v osrčju Julijskih Alp. Število udeležencev srečanja je bilo više od števila na kateremkoli simpoziju doslej. Izbera Pirana kot mesta simpozija ter druženje na Morski biološki postaji, skupna večerja in ekskurzije so pri udeležencih poželi visoko priznanje.

Četrtega dne simpozija je potekal sestanek organizacijskega odbora Mednarodnega združenja nevroppterologov in udeleženci so se odločili za mesto organiziranja naslednjega simpozija. Izbrali so ponudbo Portugalcev, ki bodo leta 2011 organizirali XI. mednarodni nevroppterološki simpozij na Azorih. Dr. Marii Ventura želimo vso srečo pri prevzemu zaupane ji naloge.

Dušan Devetak, Saška Lipovšek & Amy E. Arnett
Maribor (Slovenia) and Unity (Maine, USA), October 2010

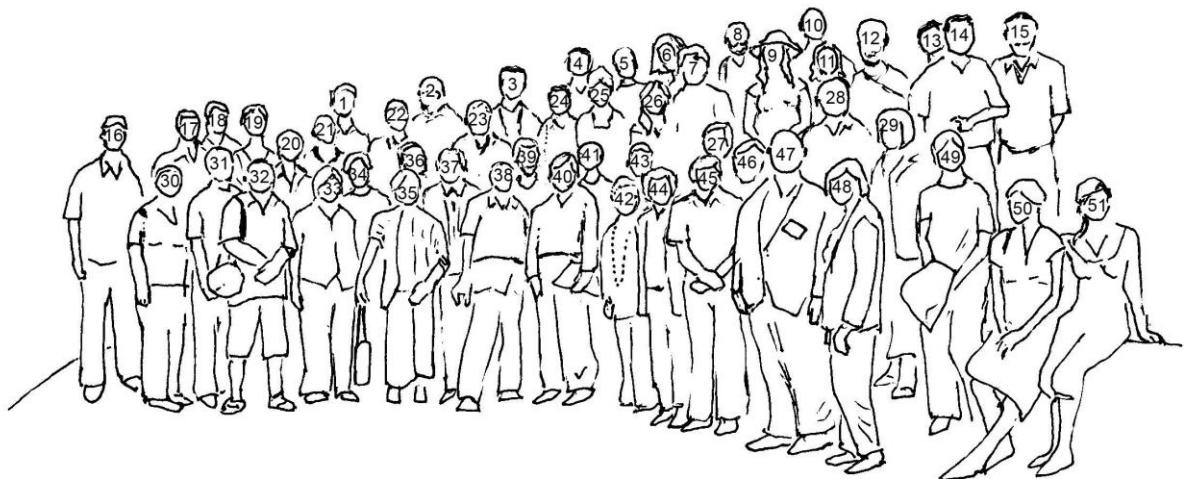
Acknowledgements

Organizers of the Tenth International Symposium on Neuropterology are grateful to John D. Oswald for his help in arranging the meeting sessions. The editors of the Proceedings would like to thank the following people for their help in translations or book preparation: Horst Aspöck, Michel Canard and Axel Gruppe. We owe thanks to Ferenc Szentkirályi for providing the colour pencil illustration of Hungarian artist Ilona Richter. Thanks are also due to various neuropterologists for their valuable help in reviewing manuscripts. The Proceedings were supported by sponsors and the Slovene Research Agency (Grant No. P1-0078 Biodiversity).

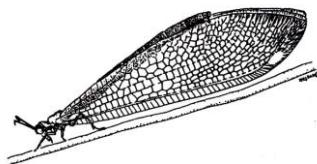
Participants

Geraldo ANDRADE CARVALHO, Lavras, Brasil
Horst ASPÖCK, Wien, Austria
Ulrike ASPÖCK, Wien, Austria
Davide BADANO, Arma di Taggia, Italy
Gregor BELUŠIČ, Ljubljana, Slovenia
Tomasz BLAIK, Opole, Poland
András BOZSIK, Debrecen, Hungary
Georgios BROUFAS, Orestiada, Greece
Michel CANARD, Toulouse, France
César Freire CARVALHO, Lavras, Brasil
Atilano CONTRERAS-RAMOS, México, Mexico
Romano DALLAI, Siena, Italy
Dušan DEVETAK, Maribor, Slovenia
Petra DEVETAK, Maribor, Slovenia
Roland DOBOSZ, Bytom, Poland
Peter DUELLI, Birmensdorf/Zürich, Switzerland
Johannes GEPP, Graz, Austria
Matija GOGALA, Ljubljana, Slovenia
Axel GRUPPE, Freising, Germany
Karen L. HOLLIS, South Hadley, Massachusetts, USA
Barbara JELEN, Maribor, Slovenia
Tina JERIČ, Velike Bloke, Nova vas, Slovenia
Joshua JONES, College Station, Texas, USA
Tina KLENOVŠEK, Maribor, Slovenia
Karl KRAL, Graz, Austria
Niels Peder KRISTENSEN, Copenhagen, Denmark
Agostino LETARDI, Roma, Italy
Saška LIPOVŠEK, Maribor, Slovenia
Mervyn MANSELL, Pretoria, South Africa
Raquel MENDES, Ponta Delgada, Açores, Portugal
Bruno MICHEL, Montpellier, France
Alinaghi MIRMOAYEDI, Kermanshah, Iran
Atsushi MOCHIZUKI, Ibaraki, Japan
Rinaldo NICOLI ALDINI, Piacenza, Italy
Suegene NOH, Storrs, Connecticut, USA
Erika OREŠEK, Ljubljana, Slovenia
John OSWALD, College Station, Texas, USA
Roberto A. PANTALEONI, Sassari, Italy
Maria PAPPAS, Thessaloniki, Greece
Mihaela PAULIAN, Roumania
Otilija PETEK, Miklavž na Dravskem polju, Slovenia
Alexi POPOV, Sofia, Bulgaria
André PROST, Loisie, France
Susanne RANDOLF, Wien, Austria
Hubert RAUSCH, Scheibbs, Austria
Renate RAUSCH, Scheibbs, Austria
Daniel REYNOSO-VELASCO, México, Mexico
Lionel STANGE, Gainesville, Florida, USA
Ferenc SZENTKIRÁLYI, Budapest, Hungary
György SZIRÁKI, Budapest, Hungary
Dominique THIERRY, Angers, France
Tomi TRILAR, Ljubljana, Slovenia
Maria A. VENTURA, Ponta Delgada, Açores, Portugal
Tatyana S. VSHIVKOVA, Vladivostok, Russia
Zaira Valentina ZIZZARI, Siena, Italy

Registered but unavoidably absent
Robert GÜSTEN, Darmstadt, Germany



1: Agostino LETARDI, 2: Roberto A. PANTALEONI, 3: Rinaldo NICOLI ALDINI, 4: Atilano CONTRERAS-RAMOS, 5: Georgios BROUFAS, 6: Maria PAPPAS, 7: John OSWALD, 8: András BOZSIK, 9: Maria A. VENTURA, 10: Ferenc SZENTKIRÁLYI, 11: Raquel MENDES, 12: Hubert RAUSCH, 13: Atsushi MOCHIZUKI, 14: Geraldo ANDRADE CARVALHO, 15: César Freire CARVALHO, 16: Axel GRUPPE, 17: Tomasz BLAIK, 18: Gregor BELUŠIČ, 19: Susanne RANDOLF, 20: Alexi POPOV, 21: Bruno MICHEL, 22: Davide BADANO, 23: Peter DUELLI, 24: Daniel REYNOSO-VELASCO, 25: Karen L. HOLLIS, 26: Suegene NOH, 27: André PROST, 28: Dominique THIERRY, 29: Erika OREŠEK, 30: Mihaela PAULIAN, 31: Karl KRAL, 32: Roland DOBOSZ, 33: Renate RAUSCH, 34: Joshua JONES, 35: Ulrike ASPÖCK, 36: Romano DALLAI, 37: Horst ASPÖCK, 38: Dušan DEVETAK, 39: Niels Peder KRISTENSEN, 40: Alinaghi MIRMOAYEDI, 41: György SZIRÁKI, 42: Tatyana S. VSHIVKOVA, 43: Zaira Valentina ZIZZARI, 44: Johannes GEPP, 45: Mervyn W. MANSELL, 46: Michel CANARD, 47: Lionel STANGE, 48: Mrs. STANGE, 49: Saška LIPOVŠEK, 50: Tina KLENOVŠEK, 51: Tina JERIČ.



10th International Symposium on Neuropterology

Piran, Slovenia

22-25 June 2008

Programme

Sunday, 22 June 2008

12:00 – 18:00 **Registration** at the Hotel Barbara Fiesa, Fiesa 68, Piran
19:00 **Get together party** at the Marine Biology Station, National Institute of Biology,
Fornače 41, Piran; Host: Director of the Station, Prof. Dr. Alenka Malej

Monday, 23 June 2008

9:00 Prof. Dr. Matija Gogala, Vice-president of the Slovene Academy of Sciences and Arts (SAZU):
Opening of the Symposium
Opening words of Prof. Dr. Nataša Vaupotič, Dean of the Faculty of Natural Sciences and Mathematics,
University of Maribor. Opening words of Prof. Dr. Dušan Devetak, Symposium Organizer and Host. Opening
words of Prof. Dr. John D. Oswald, President of the International Association of Neuropterology (IAN)

9:50 Horst ASPÖCK: In memoriam Herbert Hölzel (1925-2008).
10:10 Horst ASPÖCK: Neuroptera research at the threshold of the 21st century reflected through the
International Symposia on Neuropterology, 1980-2008.

11:00 Coffee Break

Session 1: Digital Initiatives in the Neuropterida

Moderator: Atilano CONTRERAS-RAMOS

11:20 John OSWALD: The Lacewing Digital Library Project: progress and future.
11:40 Agostino LETARDI: With a little help from my friends: eight years of the Italian Neuropterological web
site.
12:00 Mervyn MANSELL: Towards a catalogue of Afrotropical lacewings and alderflies (Neoptera,
Megaloptera).

12:20 Lunch Break

Session 2: Taxonomy and Systematics

Moderators: Mervyn MANSELL & Alexi POPOV

14:30 Atilano CONTRERAS-RAMOS & Elsa MELÉNDEZ-ORDÓÑEZ: Diversity of Hemerobiidae (Insecta:
Neuroptera) of Rancho Santa Elena, Hidalgo, Mexico.
14:50 Daniel REYNOSO-VELASCO & Atilano CONTRERAS-RAMOS: Overview of the taxonomic and
biological knowledge of Mexican Mantispidae (Insecta: Neuroptera).
15:10 György SZIRÁKI: Data on Coniopterygidae of Argentina, with discussion of the taxonomic rank of
Stangesemidalis Gonzalez Olazo, 1985.

15:30 Break

15:40 Alinaghi MIRMOAYEDI: An updated checklist of the neuropterans of Iran.
16:00 Ulrike ASPÖCK, Susanne RANDOLF & Horst ASPÖCK: The Berothidae of Madagascar (Neoptera:
Neuroptera).

16:20 Coffee Break

16:40-18:30 Session 3: Posters I

Carlos Augusto Silva de AZEVÊDO, Atilano CONTRERAS-RAMOS, Neusa HAMADA & María Eugenia GRILLET: Synopsis of the Corydalinae of Venezuela, with the finding of an undescribed species of *Corydalus* (Megaloptera: Corydalidae).

Davide BADANO & Agostino LETARDI: A review of the Neuropterida of Liguria (North-West Italy).

Tomasz BLAIK & Roland DOBOSZ: Neuroptera of Polish Baltic Sea coast with remarks on *Wesmaelius balticus* (Tjeder, 1931).

Dušan DEVETAK, Sabina GOMBOC & Vesna KLOKOČOVNIK: Neuropterida of Kozjanski Regional Park.

Roland DOBOSZ & Tomasz BLAIK: Neuroptera of New Caledonia – present knowledge.

Roland DOBOSZ & Grzegorz GÓRSKI: New data on *Nyрма kervilea* (Neuroptera: Berothidae).

Agostino LETARDI, Rinaldo NICOLI ALDINI & Roberto A. PANTALEONI: Faunistical and zoogeographical considerations on Neuropterida of Triveneto (north-eastern Italy).

Rinaldo NICOLI ALDINI, Carlo CESARONI & Roberto A. PANTALEONI: On the larval morphology of the antlion *Gymnocnemis variegata* (Schneider, 1845) (Neuroptera: Myrmeleontidae).

André PROST: The African genus *Megistoleon* (Myrmeleontidae, Myrmeleontinae).

Ferenc SZENTKIRÁLYI, Viktor MARKÓ, László KAZINCZY & Éva KOVÁCS: When the antlions fall into pit: pitfall trappings in sandy grasslands.

Stefanie WEIGELMEIER & Axel GRUPPE: Occurrence of Raphidioptera-larvae in dead wood.

Tuesday, 24 June 2008

Session 4: Biology and Ecology

Moderators: Michel CANARD & Michael OHL

8:30 Axel GRUPPE & Stephanie SOBEK: Effect of tree species diversity on neuropterid communities in a deciduous forest.

8:50 Bruno MICHEL & Karl KRAL: Habitat, behaviour and vision in *Bubopsis agrionoides*, *Deleproctophylla dusmeti* and *Puer maculatus* (Neuroptera, Ascalaphidae, Ascalaphinae).

9:10 Gregor BELUŠIČ, Primož PIRIH, Gregor ZUPANČIČ, Peter STUŠEK & Kazimir DRAŠLAR: The visual ecology of the owlfly (*Libelloides macaronius*).

9:30 Break

9:45 Ferenc SZENTKIRÁLYI, László KAZINCZY, Ferenc KÁDÁR, Tamás RÉDEI & Sándor BARABÁS: Long-term monitoring of ant-lions in Hungary.

10:25-11:00 Coffee Break

Session 5: History of Neuropterology

Moderator: György SZIRÁKI

11:00 Horst ASPÖCK & Ulrike ASPÖCK: Milestones of Neuropterology in the German-speaking countries before 1950.

11:50 Roberto PANTALEONI: The nomenclatural roots of the Neuropterida: the species of Linnaeus and his coeval authors.

12:10 Symposium Group Photo

12:30 Lunch Break

Session 6: Biology: Chrysopidae

Moderators: Peter DUELLI & Maria Anunciação VENTURA

14:30 Michel CANARD, Dominique THIERRY, Andrew WHITTINGTON & András BOZSIK: The actual annual occurrence of the green lacewings of northwestern Europe (Neuroptera: Chrysopidae).

14:50 Raquel MENDES & Maria Anunciação VENTURA: Fitness of *Chrysoperla agilis* (Neuroptera: Chrysopidae) fed on different natural prey.

15:10 Break

15:20 Erika OREŠEK & Lea MILEVOJ: Diet needs of the species *Chrysoperla carnea* (Stephens) (Neuroptera: Chrysopidae).

15:40 Roberto PANTALEONI: Why not suppress the name *Chrysopa carnea* Stephens, 1836?

16:00 Coffee Break

Session 7: Cell Biology

Moderator: Saška LIPOVŠEK DELAKORDA

16:20 Romano DALLAI, Roberto PANTALEONI, Agostino LETARDI & Zaira Valentina ZIZZARI: The sperm structure of Neuropterida.

16:40 Zaira Valentina ZIZZARI & Romano DALLAI: The sperm ultrastructure of Coniopterygidae (Neuroptera).

17:00 Break

17:10-18:30 Session 8: Posters II

Geraldo ANDRADE CARVALHO, Luiz Carlos DIAS ROCHA & César Freire CARVALHO: Evaluation of selectivity of five pesticides used in Brazil to *Chrysoperla externa* (Hagen, 1861) (Neuroptera: Chrysopidae).

András BOZSIK: Occurrence and species composition of the *Chrysoperla carnea* complex in Hungary.

András BOZSIK: Pesticide tolerance of lacewing species.

András BOZSIK: Pesticide testing and the sibling species problem in the *Chrysoperla carnea*-complex.

András BOZSIK, R. GONZÁLEZ RUÍZ & B. HURTADO LARA: New data on the sibling species of the common green lacewings in southern Spain.

César Freire CARVALHO, Cleidson Soares FERREIRA & Brígida SOUZA: Biology and functional response of *Ceraeochrysa cubana* (Hagen) (Neuroptera: Chrysopidae) fed *Aphis gossypii* Glover (Hemiptera: Aphididae) on cucumber in greenhouse.

Francisco A. DÍAZ, Francisco J. SOSA & Astrid K. YÁNEZ: Parasitoids associated with chrysopids (Neuroptera: Chrysopidae) in Venezuela.

Sérgio de FREITAS: Morphological characterization of *Chrysoperla externa* (Hagen, 1861) (Neuroptera: Chrysopidae) adults in which larvae were reared under different food regimens.

Atsushi MOCHIZUKI, Naoto HARUYAMA, Hideshi NAKA & Masashi NOMURA: Larval head capsule markings change with the temperature in *Chrysoperla nipponensis*.

Suegene NOH: Are hybrid lacewings attractive?

Maria PAPPAS, Georgios BROUFAS & Dimitrios KOVEOS: Life-history traits of the lacewing *Dichochrysa prasina* (Burmeister) under variable prey availability in the laboratory.

Mihaela PAULIAN, Dominique THIERRY & Michel CANARD: Green lacewing assemblages in two European fluvial lower valleys in Rumania and in western France (Neuroptera: Chrysopidae).

Brígida SOUZA, Jairo Boaventura OLIVEIRA Jr., César Freire CARVALHO & Lucas Castro TORRES: Effect of the bean cultivars (*Phaseolus vulgaris* L.) on the biology of *Bemisa tabaci* (Gennadius) Biotype B and of the predator *Chrysoperla externa* (Hagen).

Maria A. VENTURA, R. MENDES, R. RESENDES & J. SEQUEIRA: Up-to-date on the presence of Chrysopidae on Flores and Corvo islands (Western Azorean Group).

19:00 Social Dinner

Wednesday, 25 June 2008

Session 9: Biology of the Antlion Larvae

Moderators: Karen L. HOLLIS & Lionel STANGE

8:30 Johannes GEPP: Biology of *Dendroleon pantherinus* in Styria (Austria).

8:50 Tina JERIĆ & Dušan DEVETAK: Variability in the predatory behaviour of antlions (Myrmeleontidae) in the presence of different prey.

9:05 Karen L. HOLLIS: Learning in a sedentary insect predator: Antlions (Neuroptera: Myrmeleontidae) anticipate a long wait.

9:25 Break

9:30 Saška LIPOVŠEK DELAKORDA, Ilse LETOFSKY-PAPST, Dušan DEVETAK, & Maria Anna PABST: The structure and the chemical composition of the spherites in the midgut of the antlion larvae *Euroleon nostras* (Geoffroy in Fourcroy, 1785).

9:40 Dušan DEVETAK, Maria Anna PABST, Barbara JELEN & Saška LIPOVŠEK DELAKORDA: Pit-building and non-pit-building predatory strategies of larval antlions (Neuroptera: Myrmeleontidae) in relation to their morphology and behaviour.

10:05 Petra DEVETAK: Effect of substrate density on pit building decision making and pit size in the antlion *Euroleon nostras*.

10:15 Coffee Break

Session 10: Phylogeny and Systematics

Moderator: John OSWALD

10:40 Ulrike ASPÖCK & Horst ASPÖCK: Landmarks towards a phylogeny-based classification of the Neuropterida.

11:00 Niels Peder KRISTENSEN & Rolf BEUTEL: Larval head anatomy and endopterygote high-rank phylogeny: neuropterid perspectives of some recent findings.

11:20 Tatyana S. VSHIVKOVA: Some morphological characters interesting for the phylogenetic study of the Megaloptera and other orders of Holometabola.

11:40 Joshua JONES: Review of the Haplogleniinae (Ascalaphidae).

12:00 Lunch Break

Session 11: Biogeography

Moderators: Agostino LETARDI & Ulrike ASPÖCK

14:00 Jonathan BALL, Catherine SOLE, Mervyn MANSELL & Clarke SCHOLTZ: South African Nemopteridae (Neuroptera) – a unique heritage.

14:20 Alexi POPOV: Comparative zoogeographical analysis of Neuropterida of the Apennine and Balkan peninsulas.

14:40 Break

15:00 Peter DUELLI & Herbert HÖLZEL: Habitat and larval instars of the enigmatic genus *Kimochrysa* in South Africa.

15:20 Andre PROST: Patterns of distribution of the Palparinae (Neuroptera, Myrmeleontidae) in the northern half of Africa. Faunal transitions and regional overlaps.

15:40 Break

16:00 International Association of Neuropterology, General Assembly Meeting

Chairperson: John OSWALD

17:30 Closing of the Symposium

Closing words of Prof. Dr. Dušan Devetak, Symposium Organizer and Host

Closing words of Prof. Dr. John D. Oswald, President of the International Association of Neuropterology (IAN)

Thursday, 26 June 2008

8:00 Departure for the Post-Symposium Excursion (26-29 June)