

METALEPTEA

THE NEWSLETTER OF THE



ORTHOPTERISTS' SOCIETY

President's Message

Six months have already gone since I took over as your new president and during this time we have been working, with the OS Board, proceeding on our way towards accomplishing the objectives that were set during the Board Meeting in Antalya, Turkey. Already there have been some achievements and decisions taken that I would like to share with you.

Membership database: Modification and update directly via the web site. A concerted effort is being made to update the Society membership database. Currently, members are able to modify their addresses only by e-mail to the Executive Director who makes the change and then he transfers the information so that it is also updated in an online database of the web site. In the future, each member should be issued a unique password (or member ID) that would allow him/her to edit just his/her personal record via the web site. Integrating these two sources of information will improve our ability to keep track of members when they move, as well as provide a database of scientific expertise for Society members and the community as a whole. As a first step to achieve this modification, the Executive Director, Charles Bomar, is revising the membership list that will soon be updated and distributed to the Regional Representatives who will then be in charge of getting in contact with each regional member in order to update their contact information.

Journal of Orthoptera Research.

Thanks to the efforts and hard work of its editor, Glenn Morris, the second issue of JOR for 2009, JOR

18(2), is on the web as of December 30 (see BioOne). With due attention to improving timeliness of appearance, Glenn is planning to have the next issue (JOR 19 (1)) out by June, 2010.

JOR Special Issues. The Board has approved the publication of a special issue in honour of the centenary of the birth of Prof. Michael J. D. White (1910-1983). Michael White was one of the most influential cytogeneticists of the twentieth century and laid the foundations of modern animal evolutionary cytogenetics, mainly through his impressive work on Australian morabine grasshoppers. The central focus of the proposed special issue will be the population and evolutionary cytogenetics of grasshoppers. The Associate Editors of this Special Issue will be Claudio Bidau and Dardo A. Martí.

JOR's visibility. Finally, with Glenn Morris and the OS Executive Board we are currently exploring various alternatives for improving online visibility and web access of JOR. In this regard, we have already contacted an International Publisher and are evaluating the pros and cons of such an association.

Metaleptea. Thanks to the efforts and hard work of its editor, Hojun Song and its co-editor Sam Heads,



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Metaleptea has been redesigned and its format resized for its easier distribution. Moreover, it is the Editor's aim to increase the number of issues per year. But, in order to achieve this last objective we need the help of our membership regarding the information and articles to be sent to Metaleptea. To have a professional looking informative newsletter, we need the contribution of the membership in submitting interesting articles to it. Research Grantees of the Society are once more reminded that as a condition for the grant, they have to provide at least an article on

their ongoing or recently completed research for Metaleptea.

OS Website. Thanks to the continuous dedication to the OS Website, its manager, Piotr Naskrecki, one feature has been added that is a continually updated list of newly published Orthoptera-related papers. The website has now a section "New Orthoptera publications". In order to see this list growing we ask the society members to send the website managers updates as soon as their papers are published, mostly papers that are not published in JOR.

In closing I would once again ask that each and every one of you make a concerted effort to increase our membership. Encourage your students and colleagues to join. Although our overall financial situation is in good shape at the moment, it is only through a balanced budget that the Society will be able to remain sustainable into the future. Membership is at the cornerstone of keeping the Society fluid and vibrant and achieving this is a goal.

Maria Marta Cigliano
President

The Orthoptera Species File: an update

The Orthoptera Species File (OSF) is the leading online resource for taxonomic and nomenclatural data on Orthoptera. Originally developed from Dan

Otte's print catalogues (Otte, 1994a, b, c, 1995a, b, 1997a, b, 2000), the OSF online database (<http://orthoptera.speciesfile.org>) now contains detailed entries for almost 24,600 valid species and 41,400 total names. Once the 458 new species described in the recently published *Caribbean Crickets* (Otte & Perez-Gelabert, 2009) are added, the count will go beyond 25,000 valid species; a milestone for the project. Each entry includes authority and publication date as well as a list of citations, synonyms, distribution and specimen data. The OSF is dynamic and is continually maintained and updated by a small team based at the Illinois Natural History Survey, part of the Institute of Natural Resource Sustainability, University of Illinois at Urbana-Champaign, USA. However, in March the primary responsibility for the data in OSF will pass to Maria Marta Cigliano in Argentina. Responsibility for the software development will remain in Illinois. Here, we provide a brief update on recent developments and list some of the many ways in which users can contribute.

New features

Over the past year, recent developments and new features in Species

File Software (SFS) have been implemented within the Orthoptera Species File. SFS is a collection of programs that provide access to and manipulation of the taxonomic data stored within the various individual Species File databases. Detailed information about SFS can be found at the SFS website (<http://software.speciesfile.org>). Here, we provide a brief outline of some of the new software features available within OSF.

Citation content – It is now possible to identify the kind of content found in each citation. Types of change in taxon concepts can be stated, nomenclatural acts can be identified, and the kind of biological information (description, keys, ecology, behavior, life cycle, etc.) can be listed. This information will be added gradually as new citations are added and old citations reviewed.

References – The OSF includes an extensive list of citations for all the taxa listed. Users can access this list of references directly from the taxon display pages. We are gradually associating hyperlinks with those references that are available online. At present, many references have links to websites such as the Biodiversity Heritage Library (www.biodiversityheritagelibrary.org), Google Books (books.google.com) and the Internet Archive (www.archive.org) as well as to journals that are accessible online. This gives users direct access to PDFs of publications that may not be readily available elsewhere. We are continually adding new links to literature available online, and anyone with knowledge of any additional resources is encouraged to contact us.

Maps – Distribution maps have been available within OSF for some

OSF ONLINE

Orthoptera Species File (Version 2.00.5)

Home Search Taxa Glossary Key

Orthoptera Species File Online

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With the cooperation of
The Orthopterists' Society

Monistria maculicornis Sjostedt, 1921

The Orthoptera Species File is a taxonomic database of the world's Orthoptera (grasshoppers, locusts, katydids and crickets), both living and fossil. It has full synonymic and taxonomic information for more than 24,500 valid species, 41,370 scientific names, 160,500 citations to 12,300 references, 65,600 images, 188 sound recordings, 74,000 specimen records, and keys to 2,800 taxa.

To see information contained in the database, use the links across the top of the page. Click on Search to find a specific taxon or other kinds of information. Clicking on Taxa will make the order Orthoptera your current taxon unless you have previously moved to a different taxon in this session.

time, but a recently implemented feature provides a higher resolution alternative to the previously available shaded world maps. Where specimen locality records have been georeferenced with latitude and longitude data, users can open an additional distribution map comprising multiple point localities. As this feature is developed further and more georeferenced records are incorporated into the database, these maps will provide a useful resource for those users interested in detailed distribution data.

Private Species Files – Special 'private' Species Files can now be generated for those individuals who are engaged in revisions of particular taxa. This feature has been developed as a useful tool for the author and to speed the process of keeping the OSF up-to-date with current publications. A private Species File generated for a specific taxon within Orthoptera (for example a genus, or family-group taxon) allows the author of the revision to enter new data and make any necessary taxonomic changes within the private database. Once the revision is completed and published, the private Species File can be merged back into the OSF with changes implemented immediately. As the first example of this new approach, Jivarini Species File was generated for the private use of Maria Marta Cigliano and Christiane Amédégnato. The merge of Jivarini Species File back into OSF will be coordinated with publication of their revision of the tribe, with all of the new data promptly incorporated. We are particularly interested in developing this feature further and anyone interested in a private Species File should contact the senior author (David Eades).

User input

Given the scope and sheer size of the OSF database, it is difficult for our small group to find and enter all new data as soon as possible after publication. We do our best to keep 'on top' of the literature, but this is in itself a mammoth task. To complicate matters further, we regularly encounter errors in the database and even find missing taxa that have somehow slipped through the net. Problems like

these are to be expected given the dynamic nature of the database, but there are several ways in which users can contribute and help us to keep the OSF up-to-date and accurate.

Reprints and PDFs – The best way that users can help to keep the OSF current is to send us PDFs or reprints of their papers as they are published. This is especially important if the paper is to be published in a small regional journal which may not be listed in the major online literature databases (e.g. Zoological Record). If authors could send us copies of their new papers, we can get their data entered into OSF as soon as possible following publication.

Photographs – As users will be aware, we have been incorporating photographs and illustrations into the OSF for some time now and we are keen to expand this feature further. We are particularly interested in photographs of type specimens and live individuals. Authors of new species are encouraged to submit photographs and other illustrations of type specimens when they send us their paper for entry into the database. Guidelines for submitting photographs are available on request from Holger Braun. Needless to say, all photographs submitted to the OSF will be credited appropriately.

Report errors and omissions – Finally, users are strongly encouraged to report any errors and omissions in the database. We do our best to correct errors, but the huge task of keeping up with the contemporary literature leaves little time for reviewing older data. If you do find errors or missing data when using OSF, please do let us know about it so we can rectify the situation.

In closing, the OSF would never have gotten this far without the support and input of its users and we are very grateful to everyone who has helped make the database what it is today. Please continue to help us make the OSF as complete, accurate and reliable a resource as possible.

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- Otte, D. 1994c. Orthoptera Species File Number 3, Grasshoppers (Acridomorpha) B. Pamphagoidea. Publications on Orthopteran Diversity, 241 pp.
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- Otte, D. 1995b. Orthoptera Species File Number 5, Grasshoppers (Acridomorpha) D. Acridoidea 2. Publications on Orthopteran Diversity, 630 pp.
- Otte, D. 1997a. Orthoptera Species File Number 6, Tetrigoidea and Tridactyloidea. Publications on Orthopteran Diversity, 261 pp.
- Otte, D. 1997b. Orthoptera Species File Number 7, Tettigoniidae. Publications on Orthopteran Diversity, 373 pp.
- Otte, D. 2000. Orthoptera Species File Number 8, Gryllacrididae, Stenopelmatidae, Cooloolidae, Schizodactylidae, Anastostomatidae and Rhaphidophoridae. Publications on Orthopteran Diversity, 97 pp.
- Otte, D. & Perez-Gelabert, D. 2009. Caribbean Crickets. Publications on Orthopteran Diversity, 792 pp.

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Chorthippus biguttulus (Linnaeus, 1758) (Acrididae: Gomphocerinae). Buurserzand, The Netherlands. (Photo credit: Wim Bakker, taken from www.orthour.org)

Regional Reports - What is happening around the world?

Western Europe

Members based in the Western European region are fortunate in that the region hosts such an active body of amateur and professional Orthopterists. As a consequence, upon being asked to compile a report on Orthopterological activities in Western Europe, I was faced with a problem: how best to summarise such a large amount of activity in a brief report. I have decided to focus on two main areas in this document: firstly, to provide web-links to societies dedicated to the study of the Orthoptera in different countries within the region and/or other relevant web resources such as species lists; and second, to list recent (post 2000) books on the European Orthoptera. I apologise for any obvious omissions in advance. Please send any such information to K.Vahed@Derby.ac.uk. In future reports, my intention is to cover other areas such as an overview of recent research involving Western European Orthoptera.

In terms of national Orthopterist societies, France and Germany appear to be leading the field. Both have large and active societies that



have links to a wide range of useful material on their websites, including information on forthcoming meetings and numerous publications. The U.K. is also notable, in that an excellent scientific meeting of Orthopterists is held annually (traditionally in November) at the Natural History Museum in London. Many other countries within the region have web-sites with information on the local Orthoptera, but for some countries such as Italy, Spain and Portugal, I could find relatively little web-based information relating to Orthoptera.

A significant advance in the study

of the European Orthoptera is the new web-site on "Orthoptera of Europe", which was launched in June 2009 (www.Ortheur.org). The first aim of the project, which is organised by the European Invertebrate Survey of the Netherlands, is to make available photographs and sound recordings of as many species as possible. In the future, the website will be extended to include information on species identification, distribution and links to the literature (it currently contains useful links to key identification guides on the European Orthoptera).

Societies and species lists (web based) on Western European Orthoptera, by country

- Austria:** Species lists: <http://www.auring.at/faunaflora/orthoptera.html>
Information on the Orthoptera of East Austria (in German).
- Finland:** Species lists: <http://www.funet.fi/pub/sci/bio/life/insecta/orthoptera/index.html>
List of orthoptera of Finland (in Finnish and English).
- France:** Societies: ASCETE: <http://www.ascete.org/>
Extensive website with much useful info and many links including species lists (in French). Publishes "Matériaux Orthoptérique et Entomocénologiques." This journal focuses on taxonomy, ecology, and "communities" of Orthoptera.
- MIRAMELLA (Association for the study and protection of Orthoptera of the Rhône-Alps): <http://miramella.free.fr/>
Publishes "Saga", an annual bulletin (in French).
- SALTABEL (Study group of the Orthoptera of Benelux): <http://www.saltabel.org/Default.htm>
- FORUM FRANCE: <http://www.tela-insecta.net/phpBB2/viewforum.php?f=15>
Web forum on the French fauna, including a section on Orthoptera.
- Germany:** Societies: DGFO (German Society for Orthopterology): <http://www.dgfo-articulata.eu/en/home.php>
Extensive website with much useful info and many links (in German and English). Publishes the journal "Articulata" twice per year.

- Germany:** Species lists: Orthoptera of Bavaria: http://www.tagschmetterlinge.de/html/heuschrecken/heuschrecken_uebersicht.htm
List of species with photographs of most German species (in German).
- Atlas of the Orthoptera of Saarland:
<http://www.delattinia.de/Heuschreckenatlas/Index.htm>
Distribution maps and Red List from 1996 of the Orthoptera of Saarland (in German).
- Orthoptera: <http://www.tierundnatur.de/heuschrecken.htm>
Illustrated pages on German Orthoptera (in German).
- Other: DORSA (Digitized Orthoptera Specimens Access): <http://www.dorsa.de/>
A "Virtual Museum" of German Orthoptera Collections.
- Greece:** Species lists: Orthoptera of Thassos: <http://thasos.users.btopenworld.com/orthoptera.htm>
- Italy:** Species lists: http://www3.unict.it/dipartimenti/biologia_animale/webnatur/insetti/ortotter/ortotter.htm
List of Orthoptera of Sicily (in Italian).
- Norway:** Species lists: <http://folk.ntnu.no/dagfinnr/ortho/orthfram.htm>
List of Orthoptera of Norway, with links to literature on N. European Orthoptera (in English).
- Spain & Portugal:** Species lists: <http://iberfauna.mncn.csic.es/>
The CSIC have organised a project to catalogue the biodiversity of Iberia, including the Orthoptera (in Spanish).
- Other: Insectarium Virtual:
<http://www.insectos.org/galeria/Carpetas-de-Trabajo-Orthoptera-cat645.29.html>
Numerous photos of Orthoptera from Iberia, with some identifications (both correct and incorrect!)
- Turkey:** Species lists: <http://www.members.tripod.com/Cesa88/orthtr.htm>
List of Orthoptera of Turkey.
- U.K.:** Societies: <http://www.royensoc.co.uk/meetings.shtml>
A special interest group of the Royal Entomological Society meets annually, normally in November, for a scientific conference on Orthoptera.
- Species lists: Orthoptera recording scheme: <http://www.orthoptera.org.uk/>
Links and photographs (in English)
- Former Yugoslavia:** Species lists: <http://www.agr.hr/hed/hrv/ento/inventar/liste/orthoptera.htm>

Recent (post-2000) Guides to the Orthoptera of Western Europe

Baur, B. & H.; Roesti, C. & D. (2006) Die Heuschrecken der Schweiz. Bern, Haupt.

Text German, also available in French. Field guide and reference work to all species of Orthoptera (grasshoppers, crickets) found in Switzerland (includes 90% of German species and 75% of Austrian species). Illustrated keys. 350 line drawings, 300 colour photos, distribution maps. 352pp.

Bellmann, H. (2006) Der Kosmos Heuschreckenführer: Die Arten Mitteleuropas sicher bestimmen. Franckh-Kosmos Verlags-GmbH & Co KG, Stuttgart.

Text German. Illustrated field guide to the Central European Orthoptera. 225 species are described: all Central European species (160) and many from southern Europe. Previously published by the Natur-Buch Verlag (1993) colour photos. 350pp.

Evans, M.; Edmondson, R. (2007) A Photographic Guide to Britain's Grasshoppers and Crickets. WGUK, Norfolk, Biddles Ltd.

Photoguide to the Orthoptera of Britain and Ireland. Includes illustrated key. 584 colour photos, line drawings. 183pp.

Kleukers, R. (2004) Veldgids Sprinkhanen en Krekels. KNNV, Netherlands.

Text Dutch. Field guide to Grasshoppers and Crickets of the Netherlands. Colour illustrations. 192pp.

Kleukers, R.; Nieukerken, E. van; Ode et al (2004) De Sprinkhanen en Krekels van Nederland. 2nd Edition. KNNV, Netherlands.

Text Dutch with English summaries. Grasshoppers and Crickets of the Netherlands. Describes distribution of all 45 species. Identification key. Includes a CD with sounds of all species. Colour photos, line drawings, maps. 416pp.

Llucia Pomares, D. (2002) Revision de los Ortopteros (Insecta: Orthoptera) de Cataluna (Espana).

Text Spanish. Revision of the Orthoptera of Catalonia (Spain). Keys, descriptions, drawings and maps for the species found in this region of North-east Spain. 428 figs, 175 maps. iv, 226pp.

Nielsen, O.F. (2000) De Danske Graeshopper. Apollo Books, Stenstrup.

Text Danish. Systematic treatment of all 32 species with identification keys. With CD-ROM with songs of all species 137 colour photos, 70 line drawings, distribution maps, song diagrams. 192pp.

Pinchen, B.J. (2006) Pocket Guide to the Grasshoppers, Crickets and allied Insects of Britain and Ireland. Forficula Books.

Easy to use identification guide to the 37 native species of grasshoppers, groundhoppers, crickets, bush crickets, earwigs and cockroaches. 77 colour and 21 b/w illustrations. 108pp.

Schlumprecht, H.; Waeber, G. (2003) Heuschrecken in Bayern. Verlag Eugen Ulmer GmbH & co., Stuttgart.

Text German. Comprehensive treatment of the 75 Orthoptera species found in Bavaria (Germany). Distribution, biology, habitats and status. 170 colour photos, 312 figures, 91 maps. 480pp.

Sziji, J. (2004) Die Springschrecken Europas: Saltatoria Europea. Westarp.

Text German. Allows identification of all European species to genus level. Identification key, descriptions and watercolour illustrations by the author. 41 colour plates, 2 b/w figures. 176pp.

Acknowledgements

I am grateful to Bernard Defaut, Klaus-Gerhard Heller and David L. Pomares for supplying useful information. The lists of recent books on Orthoptera were largely taken from Pemberley Books (www.pemberleybooks.co.uk).



Karim Vahed
Regional Representative
(Western Europe)

East Europe, North and Central Asia (the FSU [excluding Estonia, Latvia, Lithuania] and Mongolia)

Reconstruction of the regional structure of the Orthopterists' Society in 2005-2006 resulted in creation of several regions. One of these areas (East Europe – North and Central Asia) includes the ex-USSR countries and Mongolia. This huge region is important in terms of both fundamental and applied orthopterology.

The level of taxonomic diversity is relatively high for the temperate belt. There are many endemics, especially in mountainous and desert regions. Some of them are included in the Red List of the IUCN and in the local Red Books. Many parts of this area should be studied thoroughly. As a result some new genera and many species may be described in the near future. Another important problem is the development of serious outbreaks of locusts and grasshoppers during last two decades in the southern part of this region. For instance, in 2000 more than 10 million ha were treated in Russia, Kazakhstan and some other countries.

Unfortunately, the number of orthopterists is limited and isn't enough for solution of all problems of fundamental and applied orthopterology. Almost all researchers are in Russia (mainly in Novosibirsk, Saint-Petersburg and Moscow). However, some orthopterists are in other part of Russia (Smolensk, Kazan, Borisoglebsk, Gorno-Altaysk, Kemerovo, Vladivostok etc.), in Kazakhstan (Almaty), Uzbekistan (Tashkent), Georgia (Tbilisi). Among them are several young researchers preparing their PhD dissertations or just finished them.

There are two main problems limiting relationships of local orthopterists with the Orthopterists' Society. The first is the language barrier. This is especially important for preparation of articles for international journal (including JOR), for preparation of international grant applications and for attending congresses and conferences. Another problem is financial limitations. The level of financial support of research activ-

ity is relatively low in all FSU countries. However, during the last few decades we have been able to get some additional financial support from different sources, international and national. For example, in Russia, orthopterological studies are supported by different agencies (the Russian Foundation for Basic Researches etc.).

We discussed the situation on the special informal meetings during the last Congress of the Russian Entomological Society in Krasnodar (2007) and our Congress in Antalya (2009). Participants of these meetings tried to develop some ideas concerning cooperation between different groups of researchers and between orthopterists from the FSU and international orthopterological community.

One possible way to establish and develop relationships between Russian-speaking orthopterists and the international community may be a kind of the special internet-portal. The first version of such a web-site (<http://acrida.nsu.ru>) is already organized and developed. On the first stage (2003-2005) this activity was supported by the special grant of the Russian Foundation for Basic Research. Now it is supported from different, but limited resources. However, we are trying to stabilize the situation and to develop an English version of this site. This resource includes different information concerning orthopterists of the FSU, their publications (including some old ones), digital pictures of many species, mainly from the FSU countries and keys for grasshoppers of Central Asia. It also includes information about activities of the Orthopterists' Society and the Association for Applied Acridology International.

Michael G. Sergeev

Regional Representative
(East Europe and Central Asia)

Australia, New Zealand and Pacific Islands

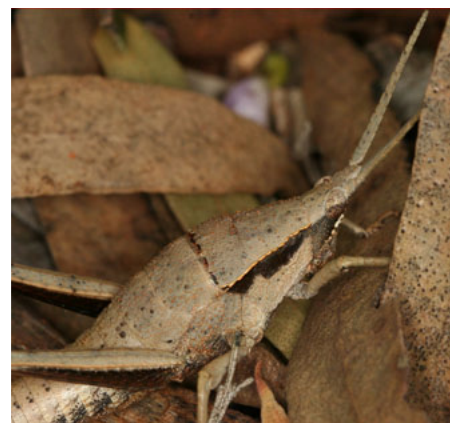
In the Australian region there are a number of people and groups with interests in Orthoptera. In the Pacific Islands, interest mainly stems from people who, from time

to time, encounter Orthoptera as pests. In recent years this has included Tettigoniids in oil Palms in Papua New Guinea and migratory locusts in Indonesia: contact has been made with those involved in recent migratory locust outbreaks in the latter country.

In New Zealand, there are a number of workers who have interests in Orthoptera with a special group working on the most unusual New Zealand Orthoptera, the wetas. In Australia, the CSIRO has had a long history of studies on the biology, control and taxonomy of locusts and grasshoppers but other organisations have taken up the work in recent years. Work on locust biology and various aspects of locust control has been conducted by the Australian Plague Locust Commission for a number of years and in recent times Stephen Simpson's group at the University of Sydney has been conducting research on a number of aspects of locust biology and have made substantial contributions to the understanding of locust phase change. Contacts between Orthopterists have been made regularly at meetings and via contributions to newsletters of other scientific societies such as the Australian Entomological Society as part of furthering the profile of the Orthopterists' Society in this region.

David Hunter

Regional Representative
(Australia, New Zealand and Pacific Islands)



Genus novum 46 sp. (Caellifera: Acrididae: Catantopinae). Australia: Western Australia. Bullfinch. (Photo credit: Hojun Song)

The Orthopterists' Society Grant Reports

Bat-avoidance behaviors in genus *Neoconocephalus*

M

any nocturnal insects possess evasive responses to ultrasound, used to avoid predation by bats while in flight (Miller and Surlykke, 2001).

These behaviors vary from simple, non-directional acoustic startle responses (ASRs) to more complex behaviors consisting of both directional and non-directional ASRs, such as those found in many orthopterans (Miller, 1975). Among katydids (Tettigoniidae) bat-avoidance behaviors seem to vary (Barus et al., in prep; Libersat and Hoy, 1991; Schulze and Schul, 2001), indicating that behaviors are not conserved within the family, but may be influenced by varying ecological pressures and/or evolutionary histories.

I study bat-avoidance in the katydid genus *Neoconocephalus*, focusing on differences in behavioral repertoires between species, as well as the variation in spectral and temporal sensitivities for these behaviors across the genus. This genus is widespread throughout North America and the Caribbean and considerable variation exists in biotic and abiotic factors such as body size and preferred habitat. These differences may affect the relative predation pressure exerted by bats, thus influencing production of bat avoidance behaviors and sensitivity of those behaviors.

The first step in examining bat-avoidance behaviors is to categor-

ize the nature and frequency of behaviors performed. I tested insects in tethered flight using a stimulus which mimicked the echolocation train of a hunting bat, including cries produced during the search (before detection of an insect), approach (after detection) and terminal (attack) phases. Phases differed in absolute pulse amplitude, pulse duration and pulse repetition rate.

Using this stimulus, I was able to observe at least three behavioral responses in genus *Neoconocephalus*, including negative phonotaxis during the search phase, passive dives during the approach phase, and leg kicks during the terminal phase (Fig. 1). I have compared the behavioral responses of three *Neoconocephalus* species found in Missouri, *Neoconocephalus robustus*, *N. retusus* and *N. ensiger*, and I am in the process of adding at least two more species, *N. bivocatus* and *N. exciliscanorus*. I used motion tracking

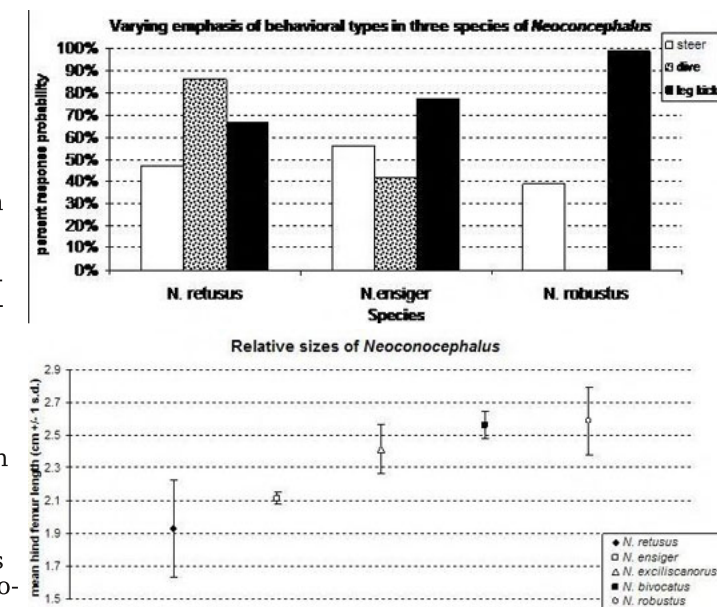


Figure 2. (top) Behavioral emphasis in three species of *Neoconocephalus*.

Figure 3. (bottom) Comparison of body size (hind femur measurements) of five temperate species of *Neoconocephalus*.

phase were emphasized with fewer early response behaviors. The variation in behavior prevalence suggests that predation pressure may vary among these species, possibly as a result of ecological differences such as body size or preferred habitat. Initial data suggests that both *N. bivocatus* and *N. exciliscanorus* are similar in responsiveness to *N. robustus*. These three species are similar in size, but dissimilar to the smaller *N. ensiger* and *N. retusus* (Fig. 3).

Funding from the grant provided by the Orthopterists' Society was used for several purposes. First, funding was used to purchase a bat detector, allowing me to monitor for the presence of bats while collecting insects in the field. It was also used to purchase motion tracking software (Maxtraq Lite v2.0.8.0). Finally, funding was used to cover travel costs associated with collection of study species from several populations, including populations in Missouri and New Jersey.

Katie Brueggen

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USA

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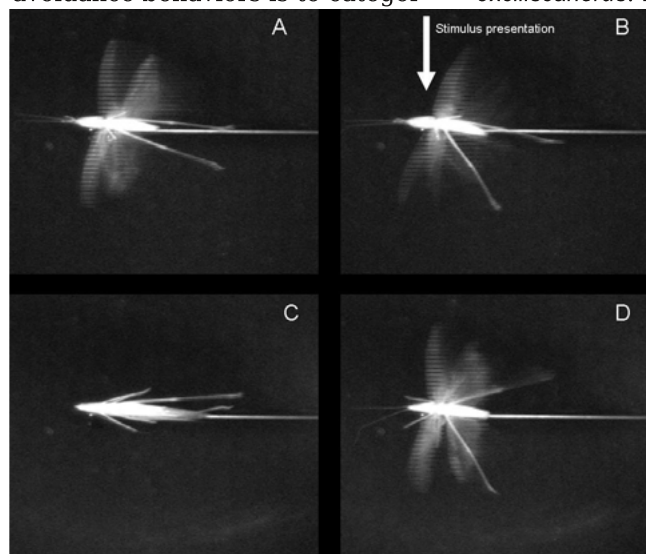


Figure 1. Bat avoidance behaviors observed in genus *Neoconocephalus*, stimuli presented from left side (top of photo) A) Typical flight posture, no stimulus B) Negative phonotaxis (contralateral leg steering) C) Passive dive D) leg kick.

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Australia's alpine region and the conservation status of the chameleon grasshopper (*Kosciuscola tristis*)

The Australian alpine region covers just 0.04% of the Australian continent. The altitude of the highest peak, Mt Kosciuszko, is a mere 2228 metres, and this peak is not obvious amongst the many that make up the long, but highly disjointed Australian alpine plateau (Fig. 1). Although managed as a whole park, the Australian Alpine national park is really a series of eleven smaller parks throughout Australian Capital Territory (ACT), New South Wales (NSW), and Victoria on mainland Australia and Tasmania. These include the famous Snowy River and Kosciuszko National Parks. Due to its low maximum altitude, the alpine region of Australia is likely to be dramatically changed as the earth warms.

Australian Alps National Park is large and virtually unspoilt. It spans 1.6 million Ha from south of ACT through NSW and Victoria and into Tasmania. Traditionally Aboriginal Australians visited the mountains to feast on the bogong moth, a good source of protein, and the many limestone cave formations were important for medicinal and spiritual purposes. With European settlement came cattle, and the alpine herb fields and cold sinks were prized grazing land in the summer months. The early graziers built huts throughout the park that

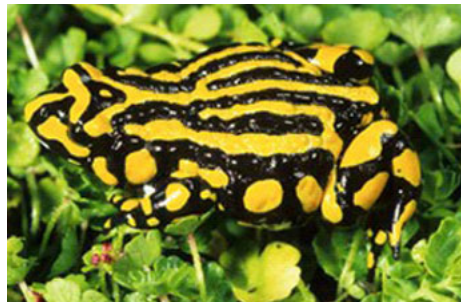


Figure 2. (top left) The critically endangered corroboree frog (www.coroborreefrog.com)



Figure 3. (top right) The critically endangered mountain pygmy possum (<http://www.environment.gov.au/biodiversity/threatened/publications/images/tsd05mountain-pygmy-possum.jpg>)

Figure 4. (bottom) The mountain katydid in defence posture (<http://www.flickr.com/photos/28442702@N00/2345726772>)



are heritage listed. Some huts are used by trekkers for shelter, particularly during unexpected inclement weather like a summer blizzard. Since 1966 Kosciuszko has been a National Park and today the region is best known for skiing in the winter and hiking in the summer.

Like the rest of Australia, a large proportion of the species found in the Australian alpine region are endemic; including 21 plants (Costin et al. 2000). The flagship species for the region have become the critically endangered corroboree frog (*Pseudophryne corroboree*), a brightly coloured alpine specialist (Fig. 2) and the critically endangered mountain pygmy possum (*Burramys parvus*), the only true alpine marsupial, discovered as a fossil 70 years before the first record of a live specimen in 1966 (Fig. 3). Other iconic Australian species such as wombats, emus, kangaroos, wallabies, black cockatoos, gang gang cockatoos, lyre birds, Australian ravens, copper head snakes, mountain log skinks and alpine funnel web spiders are readily observed in the region.

The Orthoptera fauna of the 'high country' is plentiful both in terms of diversity and abundance. The area supports species from the Gryllacridae, Tettigoniidae, Gryllidae, Gryllotalpidae, Pyrgomorphidae, Tetrigidae and Acrididae (Green &

Osborne 1994). Many species are endemic alpine specialists while others migrate to lower altitudes over winter. The wingless grasshopper (*Phaulacridium vittatum*) is said to consist of both migratory and resident populations. Winged individuals are said to fly in from lower altitude before the resident wingless variety emerges (Green & Osborne 1994). The variable alpine grasshopper (*Russalia albertisi*) and the mountain spotted grasshoppers (*Monistria*) remain active over winter. This is likely due to the sorbitol in their haemolymph that apparently prevents freezing (Green & Osborne 1994). The *Monistria* grasshoppers exhibit strong colouration, usually black with yellow spots. This colouration has not received much scientific attention, but it may signal aposematism which may be a result of their diet of the strongly aromatic alpine mint bush (*Prostanthera cuneata*). The mountain katydid *Acriseza reticulata* (often erroneously referred to as the mountain grasshopper) is well known throughout the Australian alpine and subalpine region



Figure 1. Map of the Australian Alps National Park (<http://www.aias.org.au/resources/alps.html>)



Figure 5. The chameleon grasshopper in the turquoise colour phase (Photo credit: K Umbers)

probably due to their striking blue and red abdominal colouration (Fig. 4). This colouration is thought to be aposematic though no research has confirmed this. Despite the richness of Orthopteran fauna in the alps they, like so many other Australian Orthoptera, are largely unknown.

With stunning colouration, rivaling that of the coroboree frog, and a face far cuter than any pygmy possum is the Orthopteran alpine specialist, the chameleon grasshopper (*Kosciuscola tristis*) (Fig. 5). The chameleon grasshopper (*Kosciuscola tristis*) occurs above 1600 m altitude and is unusual among Orthoptera in that the males change colour from black to bright turquoise-blue in response to temperature (Key & Day 1954). My PhD project is designed to investigate both the evolutionary significance of this colour change and the conservation status of the species. I have made a number of interesting observations on the mating system of *K. tristis* including extremely aggressive fighting among males but

also the aggregation of males perhaps to display their bright colour. The Orthopterists' Society grant I received was put toward the second part of my project, looking at the conservation status of *K. tristis*.

Kosciuscola tristis (and the other *Kosciuscola* species) are thought to have an Indo-Malaysian origin (Rehn 1957). Presumably then, during the last glacial maximum they dispersed south through to Tasmania and were subsequently ecologically trapped in high altitude habitats. The disjointedness of these habitats, particularly of those above 1600 metres altitude, combined with the low dispersal abilities of *K. tristis*, make it unlikely that populations in the north of their range are interbreeding with those in the south, some 600 kilometers away. This isolation has probably led to population fragmentation via genetic drift. In turn they are likely to have adapted to the local conditions further enhancing divergence between populations. To date, *K. tristis* is thought to be a single species spanning the whole mainland alpine region.

My project assesses the gene flow between populations of *K. tristis* to establish evolutionarily significant units in the form of distinct populations that may warrant classifica-

tion as new species. Quantifying the genetic divergence between populations and the genetic diversity within populations will provide an indication of the species' evolutionary potential, and therefore, vulnerability to events likely to cause at least localised extinctions such as major climatic shift. I intend to use microsatellite makers (developed by C. Pages and colleagues at Locust Ecology & Control CIRAD, France) to determine the genetic status of this species across its range. These data will make part of my PhD thesis to be submitted late next year and will be published in a scientific journal. I expect that the results of this research will be useful for policy makers to inform conservation management in the Australian alps. Payment for cloning in the development of the microsatellite library will be partially covered by the research grant I received from The Orthopterists' Society.

Kate Umbers

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Congratulations to the Recipients of the 2009 Orthopterists' Society Grants!

Bazelet, Corinna, S. (South Africa). Cryptic species and species complexes in the grasshopper genus *Euryphymus* in the Cape Floristic region, a biodiversity hot-spot in South Africa.

Frederick-Hudson, Katy (USA). Consequences of gene flow on communication in *Neoconocephalus*.

Grant, Paul B. C. (South Africa). Bat-eared fox predation and its influence on call structure and behavior

in South African tettigoniids.

Gu, Junjie (China). Revision, phylogenetic affinities and evolutionary history of the primitive ensiferan family Prophalangopsidae, based on fossil and extant species recently discovered in China.

Husemann, Martin (Germany) & Ding Baoqing (China). Phylogeography of Chinese species of *Sphingonotus*: unraveling the origin of the genus.

Ladowski, Alexander (USA). Is there an opportunity for deception in the aggressive call of the male cricket *Acheta domestica*?

Lenhart, Paul (USA). Quantifying the nutritional landscape and its effect on herbivore community structure.

Mitra, Chandreyee (USA). The costs of phenotypic plasticity in wing polymorphism in *Gryllus lineaticeps*.

Sakaguchi, Kelly M. (USA). Natural selection by a parasitic fly, *Ormia*, on the song of some *Gryllus* species.
Spearman, Lauren A. (USA). The radiation of *Loryma* grasshoppers in

a biological "hotspot" in South Africa.

Symes, L. B. (USA). Does anthropogenic noise affect acoustic communication in orthopterans?

Taek, Paulus (Indonesia). Improved bio-ecological knowledge of the Migratory Locust in Timur Province, Indonesia.

In Memoriam

Prof. Dr. Joachim Ulrich Adis (4 March 1950 - 29 August 2007) A tribute from Argentinean and Brazilian orthopterists

M

any orthopterists from Argentina and Brazil are organizing the III Brazilian Symposium on Orthoptera that will take place in Natal

next year as part of the Brazilian Congress of Entomology. The first symposium was in Recife in August 2006 and participants from Brazil, Argentina and Germany were involved in exchanging orthopterological ideas and experiences. Among the participants of the first symposium was a passionate German researcher, Dr. Joachim Adis, who was the precursor in joining a team of many young students and colleagues interested in Orthoptera.

Joachim Ulrich Adis was born on 4 March 1950 in the Stuttgart, southern Germany, where he spent all his childhood. In 1969 he completed his secondary education in Hannover. Between 1973 and 1975 he completed a degree in biology at the University of Göttingen, developing a work that dealt with methods of soil invertebrates, which marked the beginning of his immense dedication to research on these animals. As a biologist, he continued his studies, undertaking a Doctorate at the University of Ulm under the guidance of Professor Funke. During this period (1975-1979) he was awarded a scholarship from the Studienstiftung des Deutschen Volkes, enabling his stay in Brazil to collect material for his doctoral thesis, with the National Institute of Amazonian Research, INPA. This was his first trip to Manaus, Brazil, where he remained for 2 years and where his immense passion for the floodplain forests of the Amazon region began. In 1979 he published together with Dr. Terry Erwin (Smithsonian) studies on arthropods of tree canopies, using the

technique of spraying the canopy with insecticide, a method that raised a broad discussion on the number of existing species, as species diversity were previously calculated only with consideration for the fauna of the understory and largely ignoring the unique biodiversity of the forest canopy.

After returning to Germany in 1980 he joined the Working Group on Tropical Ecology at the Max-Planck Institut für Limnologie in Plön, led by Dr. Wolfgang Junk, where he worked until the end of his life.

During the period 1980 - 1988, he coordinated and led the PROJECT MAX-PLANCK in Manaus Brazil in cooperation with INPA.

In this project, he coordinated the laboratories, research and field work. He taught entomology in the postgraduate courses of INPA and lectured ecology at the Federal University of Amazonas-UFAM, and directed several theses and doctoral dissertations of Brazilian and German students. While coordinating this project, he developed his research work in the ecology of invertebrates in areas flooded by white (várzea), black (igapó) and mixed water, which resulted in discoveries, understandings and interpretations of the ecological dynamics of these unstable biotopes. One of his remarkable characteristics was the immense enthusiasm that he kept for nature, organisms and their survival strategies, which he had the opportunity to discover and study. Even while being very busy with



many tasks, ranging from administrative and scientific activities (his works and studies), he still had time to carefully monitor the large number of students who always were guided by charging them un-animously with his favorite phrase "I want data".

Joachim Adis never left a student or a friend helpless when faced with financial, health or even personal difficulties. In life he was always an aggregator of people, especially when the central axis of unity was the work. He had an immense capacity to engage people with each other, even if they never met.

His scientific success was due primarily to the gift of being organized, he knew to screen, collect, label, store and organize all that he collected with one or more methods of collection, some of them de-

veloped by himself. At that stage he had a great ally in Irmgard Adis, his wife, who accompanied him until his last days.

The legacy left by the scientist corresponds to 385 scientific papers, 35 species that bear his name and 31 postgraduate students, now the scientific seeds planted during his lifetime. Throughout his career, Dr. Adis published 22 scientific publications about semi-aquatic Orthoptera from the Amazonian, Pantanal and Paraná floodplains. His interest in South American semi-aquatic Orthoptera included the species of *Stenacris fissicauda fissicauda*, *Cornops aquaticum*, *C. frenatum*, *Tucayaca gracilis* (Acrididae), *Paulinia acuminata* (Pauliniidae) and *Phlugis teres* (Tettigoniidae), and the studies ranged from general biology, life histories, populations in relation to flood pulse, ecology, feeding, oviposition, taxonomy and genetics.

The vast amount of collected material did not intimidate Dr. Adis; on the contrary, he sent them to various experts in order to obtain the identification of specimens and carry out collaborative projects. One of his most important and ambitious scientific projects was considered the HICWA Project (HOST INSECT COEVOLUTION ON WATER HYACINTH) and is one the major legacies that he left to his colleagues and students. Dr. Adis started this project in 2003, when he learned, through the TV and a National Geographic publication that a Neotropical grasshopper *Cornops aquaticum* constituted a "safe" biological control to be released in South Africa. Through the HICWA, Dr. Adis managed to join and work cooperatively with many colleagues and students from 10 countries from three different continents. Dr. Adis visited each country member of the HICWA project, working with an incredible enthusiasm, sharing his experience, even with big difficulties imposed by his weak health. At the end, in the Max Planck Institute, Dr. Adis worked against the clock investigating and publishing many results to demonstrate that the *C. aquaticum* release in South Africa poses serious risks. As his colleagues and students, we think that it has been a great honor to have had the opportunity to work

and learn by his side. He was the perfect combination of so many different qualities: extremely responsible, hard-working, passionate and enthusiastic. He was a gladiator, a real fighter who showed his happiness as well as his anger openly. Dr. Adis was constantly worried about his students and always ready to help, to learn and to guide everyone.

There is a phrase found on his desk, which reflects exactly what Dr. Adis was: "It's not how many ideas you have, it's how many ideas you make happen."

He will be missed not only as a passionate and exceptional researcher, but also as a dear friend and an extraordinary person. We must be sure that Dr. Adis is going to be remembered, like this: the exact combination between a German and a Brazilian.

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Fer Willemse (15 December 1927 - 26 December 2009) Vale

Fer Willemse was born in Eygelshoven, Holland. Even before he graduated, he received a PhD on lung diseases in 1953, inspired by the problems he saw in the mining village where he grew up. In 1955 he married Marie-Thérèse Dresen and together they had three children, Dominique, Lucas and Emanuel.

In 1956 he took over part of the general practitioner's clinic of Eygelshoven, which belonged to his father and brother. For 35 years, Fer and his wife worked together in the clinic with joy. As doctor he

didn't consider diseases as being solely physical, but by listening carefully he also paid attention to the mind and one's surroundings.

Apart from the clinic, Fer also took over his father's broad interest of living nature: the collecting and study of insects. His interest in grasshoppers in particular, blossomed after the passing of his father. In one of his last papers he acknowledged his father as follows: "First and foremost I wish to express my gratitude to my father, the late C.J.M. Willemse (1888-1962). Under his guidance my interest, curiosity and respect for nature was initiated and he has been an example for me in my interest in biodiversity in general and the study of Orthoptera in particular all through my life." (Articulata Beiheft 13, 2008).

His passion for insects led to adventurous trips to Yugoslavia and Greece. The family still treasures many dear memories of these travels. It also led to a world-wide web of friends, many of whom visited Eygelshoven and with whom he corresponded until the very end. His work, particularly with his oldest son and grandchild, resulted in tens of publications and multiple books.

Fer and Marie welcomed entomologists who ventured to Eygelshoven for a visit. DCFR made the journey in 1982 after comments made by



Fer at this desk in summer 1980

the late Harold Grant who said "You must visit when you go to Europe." The house itself is historical. It was occupied by both allied and Axis forces at different times during WW II. The house served as the surgery from which the Willemses served the community with health services. The "study" was replete with wonderful original volumes of Linnaeus, Fabricius and others, largely accumulated by Fer's father. The rich library was the base for a bibliography of the taxonomic literature on Orthoptera in 2004. And then the collection. This was magnificent and I understand it will eventually go to the Museum in Leiden.

The first major works on



Fer recording the sound of grasshoppers in the field (Sierra de Gredos, Spain, 1989)

Orthoptera that Fer published were based on the huge collection started by his father and dealt with revisions of several groups of the Indomalayan and Papuan fauna, among which groups of economic importance as the Sexavaini and some Catantopini. Strangely, neither Fer nor his father ever visited those regions by themselves. But their names will remain connected to the Orthoptera of that area.

One peculiarity that resulted in Fer's limited travel was his abhorrence of air travel. Thus he was unable to visit Malaysia or any of the distant localities that his father's studies embraced. However, he made up for this with his travels in Europe. There he developed a keen interest in the fauna of the southern Balkan Peninsula resulting in

the discovery of numerous new taxa and culminated in a comprehensive faunistics and systematics of the Greek Orthoptera fauna. From the mid-1980ies he included sound recordings in his studies as he felt that the taxonomy of some groups as e.g. in the genus *Chorthippus* could not be solved with morphology alone. He planned his travels to study as many populations acoustically as possible, analysed hundreds of sound recordings and compared the morphology of the specimens recorded. The results of this many years of scientific work on the complicated taxonomy of the Greek *Chorthippus* was published in summer 2009 (Zoologische Mededelingen 83: 319-507).

He was a many-sided man. Besides general practitioner and ento-

mologist, he was a talented furniture maker, gardener, and black-and-white portrait photographer. He saw and valued mostly the good side of the people around him. His wide range in interest inspired many, on the science side as well as the human side of life. He was a warm and modest man who loved life. He played an important role in the personal lives of many and gave that a strong preference to a more public role. He passed away on the 26th of December 2009, in the same room that he was born.

**David Rentz
Luc Willemse
Sigfrid Ingrisich**

New Collecting Technique

Grasshopper tongs: after you have used them, you will wonder why you never did before



Have you ever been frustrated when grabbing at a grasshopper that it was not in your hand afterwards? Have you wondered how to get that bush cricket sitting comfortably in a bush watching you and preparing to jump away deep into the undergrowth? Well, there is a way round these challenges. This is by using grasshopper tongs. Simple to make and easy to apply, they can be made up from any normal supermarket supplies. Just purchase a

pair of barbecue tongs, two tea strainers and a pack of small cable ties. Fix the two tea strainers to the two ends of the tongs, facing each other, with the cable ties and you're ready to go. No more uncomfortable bending down, nor spiking your hand on a thorn bush. Slowly position the tongs around the specimen and close the tongs. With orthop in the cups, insert the end of the tongs into a plastic bag and then withdraw the tongs, leaving the insect behind in the bag quite unharmed, alive and well, and

ready to sing again. It is a strange phenomenon that the tongs work so well. It is because the grasshopper, and especially the bush cricket, freezes as the tong cups close either side of it. It is as if it simply does not know what to do. This method is particularly good for targeting individuals that, say, have been sound recorded and you wish to retain that particular specimen. For really big specimens replace tea strainers with small flour sieves.

Michael Samways
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Letter to Editor

On Orthopterology in Colombia: a reply to the recent regional report for South America

Alba Bentos-Pereira [Metaleptea 29(2):14-15] dedicated most of her regional report for South America to Colombia. She very well pointed out some important problems and possibilities for this country which may indeed possess the highest biodiversity worldwide, due to its unique geographical loca-

tion, topography and size. As I know some Colombian orthopterists personally and from e-mail correspondence as well, I felt it necessary to write this follow-up article; especially since all those people working on Tettigoniidae were entirely overlooked in Bentos-Pereira's report.

There are several talented young Colombian orthopterists who de-

serve mention here. The most well-known among them is probably Fernando Montealegre-Z., who, between 1999 and 2004, described numerous new species of katydids from Colombia and Ecuador (together with Glenn Morris from Canada). He is of course also the foremost specialist on the microphysics of katydid stridulation. Although moving first to Canada and

now based in the UK, he maintains ongoing collaborations with colleagues in Colombia; most recently on a huge study of canopy katydids on the Island of Gorgona with Fabio Sarria (and Andrew Mason in Canada). Another dedicated orthopterist is Juliana Chamorro, who visited with the Orthoptera Species File Group in July 2006, bringing excellent photographs she took of specimens from the collection of the Universidad del Valle, Cali. Juliana has also been a reliable OSF editor since then. She recently published an interesting paper on the behaviour of the spiny devil katydid, *Panacanthus pallicornis* (2007, together with Fernando and her thesis supervisor Ranulfo González). In another recent paper she described for the first time the males of two of the only three known species of New World Mecopodinae (2009). Then there are orthopterists working at the Universidad del Quindío. Franciso Serna investigated the tettigoniid fauna of that region (thesis 2005), and very recently Rodrigo Romero submitted a useful compilation of the specimens of the large subfamily Pseudophyllinae in major collections of the country, including many new distribution records (thesis 2009). A young and very enthusiastic orthopterist is working across all groups of orthopterans: Oscar Cadena at the Universidad Distral Francisco José de Caldas in Bogotá. He gave a very nice presentation at the XXXVI Congreso de la Sociedad Colombiana de Entomología (July

2009) about an interesting undescribed katydid, one of several new taxa in his collection, housed in a little cabinet in the university's museum where the Grupo de Investigación en Artrópodos Kumangui is based. To this group belongs also a student working with mole crickets, Luis Fernando Rodríguez and there is a student planning to do research on romaleine grasshoppers. Another Colombian grasshopper specialist who should be mentioned here is Andrés Varón (checklist Eumastacidae 2000, new Ommatolampinae and Rhytidochrotinae 2001).

Alba Bentos-Pereira indicated that several promising researchers left the field of orthopterology due to various obstacles. So did Francisco, who is now living on a small salary as a biology teacher as he could not find an opportunity to continue his studies on Tettigoniidae. A serious problem for young entomologists is certainly the rather poor research prospects due to insufficient interest and support on the part of the established faculty, who sometimes cherish their own vanities more than encouraging students to pursue their interests and providing the necessary resources. At least one major challenge could easily be improved. Independent of Alba Bentos-Pereira's suggestion to send literature to a major university library in the country, a virtual and distributed library could be created. All authors studying Neotropical Orthoptera, particularly groups occurring in Colombia and adjacent countries, are encouraged to

send PDF copies of their articles to Juliana and Oscar (e-mail addresses below), who already have accumulated an extensive bibliography, which they share with fellow orthopterists and students in Colombia and Brazil. It would be a positive move if orthopterists of more developed countries, who have more resources at their disposal, responded to taxonomic and other questions of young Latin-American colleagues (which they mostly do). Maybe there are possibilities to invite some of them to learn important techniques, employ sophisticated equipment, or visit collections with material collected in Colombia and adjacent countries, to compare with their specimens, confirm identifications and work on revisions.

Any ideas, suggestions or other feedback are welcome. Since there are plans to store copyrighted articles in an appropriate fashion in the Orthoptera Species File and there are still gaps to fill in the database (distribution records, type data), I would happily receive and redistribute papers as well. If you wish to send PDFs to Juliana and/or Oscar, their e-mails are juli-anachamorro@yahoo.es and ojccorthoptera@gmail.com respectively.

Holger Braun

Orthoptera Species File
Illinois Natural History Survey
(grillo@illinois.edu)

Welcome to Our Society New Members!

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Uppsala, SWEDEN

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Harker Heights, USA

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University of Arizona, Tucson, USA

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Hermiston, USA

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Urmisiella rubropunctata Sjöstedt, 1930. (Caelifera: Acrididae: Catantopinae). Australia: Western Australia. Leonara (Photo credit: Hojun Song)

Editorial

I hope all our members had a good Christmas break and I wish a happy and productive new year to everybody! This *Metaleptea* is the first issue in 2010 and I hope that you enjoyed the reports and articles published within. I want to express thanks to everybody who contributed articles in a timely fashion. In this issue, we remember two great orthopterists who recently passed away: Dr. Joachim Adis and Dr. Fer Willemse. They will be missed tremendously.

From this year, I plan to increase the publication frequency from twice a year to three times a year. This means that the volume of manuscript submission should also increase accordingly. *Metaleptea* regularly publishes the reports from the awardees of the Orthopterists' Society Grants as well as the reports from the regional representatives. In addition to these, I am keenly interested in featuring topics like new collecting techniques, distribution maps, new ideas and controversies, travel logs, personal reflections, stories about famous orthopterists, short stories and poems, or anything you want to share with the members of the Society. I am also keenly interested in publishing photographs of our favorite insects. Surely, many of you must have nice pictures of your beloved organisms and *Metaleptea* is a perfectly good place to brag about your orthopterans.

To be published in *Metaleptea*, please send me articles/photographs at entomos@gmail.com with a subject line starting with [Metaleptea]. MS Word document is preferred and images should be in JPEG or TIFF format with a resolution of at least 144 DPI. Please do not embed images into a word document, but send me as separate files. The next issue of *Metaleptea* will be in May 2010 and please send me the articles promptly. Also, please do not hesitate to send me feedback regarding *Metaleptea*. I look forward to hearing from you soon.

Hojun Song
Editor of *Metaleptea*

Orthoptera Photograph of this Issue



This attractive wingless grasshopper is *Lentula* sp. which belongs to a South African endemic family *Lentulidae*. *Lentulids* completely lack wings and sound-producing organs and they are frequently restricted to specific host plants. This photograph was taken at the Great Fish River Nature Reserve in the Eastern Cape Province, South Africa. (Photo credit: Hojun Song)

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