

CURCULIO

An International Newsletter for Curculionoidea Research

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Academic Background

B.Sc. - Institute of Bioscience, University of São Paulo (IBUSP)

M.Sc. - IBUSP: "Systematic revision and cladistic analysis of the genus *Rhigus* Schoenherr, 1823 (Coleoptera, Curculionidae)"

Ph.D. - IBUSP: "Systematic revision and cladistic analysis of the genus *Arniticus* Pascoe, 1881 (Curculionidae, Molytinae, Hylobiini, Hylobiina)" (incomplete)

Lecturer of Entomology and Zoology I and II at the Methodist University of São Bernardo do Campo, Brazil (1996-1998)

Curatorial Assistant of the Curculionoidea Collection at the Museum of Zoology, University of São Paulo

Research Interests

My story with the weevils is not one of love at first sight, in fact it has been one of circumstances. I was studying cicadas for my undergraduate degree, and my intention was to continue to work on Cicadidae systematics for my master's thesis. Unfortunately, there was not enough material at the Museum of Zoology in São Paulo, and my supervisor, Dr. Sergio Antonio Vanin, asked me if I would like to work with weevils. He showed me some possible genera to study, and *Rhigus* was among them. I immediately accepted the task. At first, I was missing the two pairs of membranous wings and the sound

Featured Researcher

Fabio Gaiger

Institute of Bioscience
University of São Paulo, Brazil



(Fabio Gaiger at the Zoological Museum in Dresden)

apparatus of cicadas, but soon I started to like the rostrum and the elytra. By the time I finished my master's thesis, I was already fascinated by the weevils and knew that this was the group I was going to study not only for my Ph.D. thesis, but also for the rest of my academic life. The amazing diversity of the genus *Arniticus* and Hylobiini and the remarkable problems the revision posed just confirmed my feeling. As a result, my research interests are now essentially focused on the systematics, evolution and biogeography of Curculionidae from the Neotropical Region. In addition to developing my Ph.D. thesis on Hylobiini, I am currently working along with Dr. Vanin on a description of a new genus of Entimini, and a cladistic analysis of the genera in this tribe.

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CURCULIO - An International Newsletter for Curculionoidea Research (founded in 1975) - is published each year in March and September, and can be downloaded in Adobe PDF format at www.coleopsoc.org/nwslttrs.shtml

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Editorial Comments

"For sometime we have discussed the possibility of starting a newsletter for the purpose of encouraging communication among students of Curculionoidea. As you well know, those of us interested in scientific study of the group are widely scattered over the world and usually have little opportunity to discuss with each other our activities and interests concerning these insects. It seems to us that an informative newsletter would serve to at least partially break down the barriers of distance and aid in keeping us all better informed as to what is being done on the group throughout the world."

Over 25 years ago Horace Burke and Wayne Clark wrote this notice before sending it out to as many weevil researchers as they were able to locate - 65 to be precise. As a result, the first CURCULIO newsletter was published in June of 1976. Fortunately for all of us, the founding editors of CURCULIO have done excellent work throughout the years, as evidenced by its steadily increasing mailing list during times where taxonomic research has been deemphasized at many institutions. CURCULIO was based at the Entomology Department of Texas A&M University for 17 years and 33 volumes until Robert Anderson replaced Horace Burke as the editor. At the Informal Weevil Meeting of the Entomological Society of America in December 2001, Bob indicated that he would be glad to transfer the editorship to another person. Perhaps somewhat undemocratically, I was just as glad to accept the task. I am grateful for the opportunity and hope to be up to the challenge.

Other than adopting CURCULIO to the internet and to all its advantages for the efficient communication of image and text, I have two main goals as an editor. The first goal is to promote the publication of short scientific notes on curculionoid research that are informative to the extent that they can be cited by others. CHRYSOMELA has made considerable progress to this end (i.e. by introducing "The Forum") - without abandoning its newsletter status. What comes to mind are, e.g., faunistic reports, updates on collections, reviews of techniques for collecting and behavioral, morphological, and molecular studies, or comments on relevant analytical tools (concepts, methods, and software). Therefore, I would be excited to receive any kind of contribution from you that might be inappropriate for publication in a full-blown scientific journal yet is just as useful to our systematic community.

The second goal is to expand the scope of CURCULIO by

reflecting the worldwide diversity of weevil researchers as accurately and fairly as possible. I believe all of us are likely to benefit from an increasingly international range of active participants, considering that few if any of our study taxa respond to the same biogeographic mechanisms as we do. In addition to encouraging you to contact me on your own accounts, I intend to feature in each volume one or two weevil researchers with a variety of backgrounds to introduce themselves and their work to the readership of CURCULIO. Some level of extroversion is necessary to do this, but language by itself should not be an obstacle. As in the past, the success of CURCULIO will be almost entirely dependent upon your contributions to its content.

On a more technical note, I have updated the directory of researchers which now has nearly 200 entries. Please take the time to check whether your address is present in the list, and accurate with respect to content and spelling. Again, let me know if you are aware of any other researchers who should be included here. I have been unable to eliminate all of the backlog of publications from 1998 to the present. Some of you have emailed me almost 40 references! In order to limit the size of the present volume and publish it as soon as possible, I have decided to postpone the most recent publications until the next volume. Furthermore, I have edited your contributions considerably, sometimes at your request, sometimes to render the different styles somewhat more homogeneous. I apologize if by so doing I have misrepresented your original writings. Please contact me to indicate where this has occurred and how my editorial work can be improved in the future. I will be grateful for your suggestions.



Many of you have expressed content to see CURCULIO back on track, and responded with encouragement and information. My sincere thanks to everyone who contributed. Communication has become easier for most of us through the advent of the internet. Hopefully we will be able to utilize this opportunity to maximize the impact of our research throughout the world. I hope you like the new layout of CURCULIO (the habitus drawing of *Theognete* sp. was prepared by Ralph Idema and suggested by Bob Anderson), and look forward to your critical contributions for the next volume which will be available at www.coleopsoc.org/nwslttrs.shtml in six months!

NMF

Fabio Gaiger (continued)

Revision of *Rhigus*

The results of my masters thesis were partially published as a paper in the Revista Brasileira de Entomologia (see also

below). A brief summary of this work and its possible future developments are provided here. The South American genus *Rhigus* Schoenherr, 1823 is revised. The monophyly of *Rhigus* is supported by the following two autapomorphies (con-

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Fabio Gaiger (continued)



Rhigus phaleratus, habitus

sidering only the exclusive autapomorphies): presence of a mucro at the apex of the anterior tibia, and presence of setae bordering the margins of the median lobe. Thirteen species are recognized, two of which are described as new and eleven are re-described, and illustrated, including the median lobe and the sclerites of the internal sac: *R. agricola* Boheman 1840, *R. dejeanii* Gyllenhal 1833, *R. faldermanni* Boheman 1840, *R. fuliginosus* sp. nov., *R. horridus* Dalman 1833, *R. lateritius* Gyllenhal 1833, *R. nigrosparus* (Perty) 1832, *R. phaleratus* Perty 1832, *R. schueppelii* Germar 1824, *R. speciosus* (Linnaeus) 1758, *R. tribuloides* (Pallas) 1781, *R. variegatus* sp. nov., and *R. vespertilio* Pascoe 1881. A new synonym is established: *Rhigus faldermanni irroratus* Boheman 1840 = *Rhigus faldermanni faldermanni* Boheman 1840 - based on the fact that one subspecies was described for the male and the other for the female of *Rhigus faldermanni*. A cladistic analysis, based on 36 morphological characters, was performed for *Rhigus* resulting in two most parsimonious cladograms. A semistrict tree of these two cladograms assures total resolution of the phylogenetic relationships of the species of *Rhigus*. In parenthetical notation: (*R. faldermanni*, (*R. nigrosparus*, ((*R. agricola*, *R. phaleratus*), (*R. speciosus*, ((*R. dejeanii*, (*R. tribuloides*, *R. fuliginosus*)), ((*R. horridus*, *R. vespertilio*), (*R. lateritius*, (*R. schueppelii*, *R. variegatus*)))))). Many monophyletic groups are defined by the presence of tubercles and/or saliences on the elytral intervals, indicating the importance of these structures for the comprehension of the phylogenetic relations between the species of this genus. Keys based on the characters used for the analysis are provided: one for the genera of the tribe Entimini (except *Trachyus*), and the other for the species of the genus *Rhigus*. The group is restricted to South America. *Rhigus speciosus* occurs in the Amazon Forest and eleven in the Atlantic Forest. *Rhigus dejeanii* and *R. phaleratus* also occur in the open-vegetated Diagonal. There are no references on the distribution of *R. agricola*, except that it occurs in Brazil at an unspecified locality. The main ramification of this work is, as mentioned above, a cladistic analysis of the genera of Entimini, which was performed in a tentative way in my masters thesis, and which I am preparing along with Dr. Vanin. New characters are being disclosed and a detailed study of the female genitalia of the genera is being carried out. Also, a new genus of Entimini is being described.

Revision of *Arniticus*

My Ph.D. project is a systematic revision and cladistic analysis of the species of *Arniticus*, and a preliminary analysis of the Neotropical genera of the subtribe Hylobiina. The genus

Arniticus Pascoe 1881 has 22 described species occurring from southern South America to Mexico. There are 33 genera of the tribe Hylobiini in the New World, 23 of them belonging to the subtribe Hylobiina (with 20 from the Neotropics), while the other 10 are assigned to the subtribe Epistrophina which is exclusively Neotropical. The ingroup is comprised by all *Arniticus* species plus the following species of neotropical Hylobiina: *Heilipodus bellicosus*, *H. erythrorhynchus*, *Centor balteatus*, *Hilipinus friesii*, *H. zieglerei*, *Rhineilipus prodigialis*, *R. urosus*, *Heilipus crocopelmus*, *Placeilipus westringii*, *Parabyzes angulosus*, *Byzes retusus*, *Neseilipus carinifrons*, *Marshallius bonellii*, *M. picturatus*, *Calvertius tuberosus*, *Tartarius signatipennis*, *Nothofagius fimbriatus*, and *Ozoctenus vauriae*. The outgroup is comprised of species of Hylobiina from North America and Europe (*Hylobius pales*, *H. abietis*, and *Pachylobius picivorus*), some species of Epistrophina (*Epistrophus complanatus*, *E. ambitiosus*, and *Pseudanthonus brasiliensis*), and species of tribes thought to be closely related to the Hylobiini: *Ameris ynca*, *Nettarhinus anthribiformis*, *Pacholenus pelliceus*, *Oncorhinus scabricollis*, *Conotrachelus triangulifer*, and *Cleogonus conicollis*. There are no results yet on the phylogeny of the species, especially because most of the studies on the outgroups are being carried out at the moment, and many recently discovered characters are not yet coded in the matrix. So far, all species with available males have been separated, and the ones already described have been identified for a total of 72 species. There are four new combinations for species of *Hilipinus* species, and of the 50 new species to be described. Three are from the type series of two previously described species, *A. setiger* and *A. cingulatus*. The male and female genitalia and associated segments of all of these species have been illustrated.



Rhigus tribuloides, habitus

Publications

- Gaiger, F. 1998. Cladistic analysis of the genus *Rhigus* Schoenherr, 1823 (Curculionidae, Entiminae, Entimini) and a preliminary analysis of the genera of the tribe. 17th Meeting of the Willi Hennig Society, São Paulo - SP, 21-25/09/1998.
- Gaiger, F., 2000. Classification based solely on morphology? Yes, we still do it - the genus *Arniticus* (Curculionidae, Hylobiini). 4th Annual Meeting of Arthromint, Ilha Grande, RJ, 15-18/06/2000.
- Gaiger, F. 2001. Systematic revision and cladistic analysis of the genus *Rhigus* Schoenherr, 1823 (Coleoptera, Curculionidae). *Revista Brasileira de Entomologia* 45(1): 43-85.

Research Activities and Requests for Specimens

Miguel Alonso-Zarazaga (Spain: zarazaga@mncn.csic.es). Working on descriptions of new West Mediterranean and Macronesian weevils, a database of the World species of Curculionoidea (with Christopher Lyal), additions and corrections to the World catalogue of families and genera (with Christopher Lyal), and general systematics and descriptions of new taxa of Apionidae worldwide.

Donald Anderson (USA: danderso@sel.barc.usda.gov). Interested in systematics and biology of *Smycronix* and related genera, and the taxonomy of immature stages of Curculionoidea.

Marie-Charlotte Anstett (France: anstett@cefe.cnrs-mop.fr). Working on plant insect interactions and coevolution, with a special interest on nursery pollination, i.e. pollination mutualisms where the reward for the insect is an egg laying site. Studying the biology of *Derelomus chamaeropsis* and interested in the biology of other Derelomini.

Barbara Barratt (New Zealand: barbara.barratt@agresearch.co.nz). Studying non-target effects of introduced biological control agents, in particular *Microctonus aethiopoidea* (Hymenoptera: Braconidae: Euphorinae) which was introduced to control *Sitona discoideus* (Coleoptera: Curculionidae: Entiminae), an alfalfa pest. Research shows that a number of indigenous NZ weevils are parasitised by this braconid. Investigating the natural host range of *M. aethiopoidea* in Europe and North Africa to determine whether this could be used to indicate likely breadth of host range in new areas of introduction for biocontrol. Therefore interested in broad-nosed weevil groups from Europe, Morocco (natural range) as well as from Australia, USA and Canada, also Japan where the introduction of *M. aethiopoidea* is being considered. Unable to pay for specimens but will cover shipping costs.

Luca Bartolozzi (Italy: luca@mail.unifi.it). Interested in taxonomy and systematics of Brentidae, and finishing the Checklist of the Brentidae of the World, in collaboration with Alessandra Sforzi, and with contributions by Schalk Louw, Rolf Oberprieler, and Miguel Alonso-Zarazaga.

Roger Beaver (Thailand: robeaver@loxinfo.co.th). Interested in taxonomy and ecology of bark and ambrosia beetles (Scolytinae and Platypodinae), especially of Oriental, Australasian (including Pacific islands) and Afrotropical regions. **Willing to identify collections from these areas, in return for a negotiable proportion of the specimens. Exchanges also possible.**

Roberto Caldara (Italy: r.caldara@tin.it). Working on a revision of the tribe Mecinini at the world level, including (in order of treatment) *Rhinumiarus*, Afrotropical *Gymnetron*, Pale-

arctic *Gymnetron*, Palearctic *Mecinus*, Palearctic *Rhinusa*, Afrotropical and Palearctic *Cleopomiarus*, and Palearctic *Miarus*. Has a paper in press with Boris Korotyaev on the genus *Nanomicrophyes* (Cionini) and descriptions of two Asiatic *Gymnetron*. Continues to study Bagoini (in collaboration with Charles O'Brien), Tychiini, and Erihrinidae.

Sharon Collman (USA: collmans@wsu.edu). Formerly an ex-tension agent with Washington State University. Currently a graduate student at the University of Washington. Working on adult root weevils in nurseries, landscapes, and wild areas.

Carla Di Marco (Italy: carla.dimarco@tin.it). Interested in taxonomic, faunistic, and ecological studies of *Otiorhynchus* (Coleoptera: Curculionidae). Has submitted her Ph.D. thesis on *Otiorhynchus* and the closely related genera *Dodecastichus*, *Limatogaster*, and *Cirorrhynchus* from the Abruzzo-Molise Apennines in Italy. Has in press (with Giuseppe Osella) a paper on *Otiorhynchus radjae*, a new species from Dalmatia, with the description of a new subgenus *Baldorhynchus*. Other current projects involve the study of the impact of grazing on weevil communities in the Gran Sasso and Laga Mountains National Park in Abruzzo, Italy.

Brian Farrell (USA: bfarrell@oeb.harvard.edu). Interested - with research associate Dr. Andrea Sequeira - in the bark beetles and ambrosia beetles (Scolytinae and Platypodinae), and in a more recent project on Dryophthoridae molecular systematics in collaboration with Dr. Hubert Charles (INRA-Lyon, France) who is working on the phylogeny of their associated endosymbiotic bacteria. Will be spending the next year in the Dominican Republic and would be interested in promoting any weevil activities in that country or elsewhere in the Caribbean. The MCZ Entomology staff is designing a website for digital images of Caribbean insects, including PDF files of older (no longer copyrighted) literature for Caribbean arthropods, and welcome requests for relevant weevil papers. Digital images of the weevil types at the MCZ are also being taken, as well as the types of all Caribbean species for addition to MCZ Insect Type website. **Interested in obtaining representatives of any identified weevil species from the Caribbean for digital photography, and willing to provide CDs of the images, free of charge.**

Nico Franz (USA: nmf2@cornell.edu). Interested in the systematics, host plant associations, and behavior of derelomine flower weevils (Curculioninae: Derelomini), particularly those associated with Cyclanthaceae in the Neotropics. Has recently published a revision of *Perelleschus* Wibmer & O'Brien, a description of *Ganglionus*, new genus (both with Charles O'Brien), and a description of *Staminodeus*, new genus. Has a paper in press (in the Journal of Natural History) on the mating behavior of *Staminodeus vectoris*. Continuing his Ph.D.

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Research Activities (continued)

research on the phylogeny of derelomine genera. **Requesting specimens of predominantly Old World derelomines for cladistic analysis (in exchange for identification), especially *Adisius*, *Derelomorphus*, *Derelomus*, *Lomederus*, *Meredolus*, *Nodocnemus*, *Prosoestus*, *Psilcaulus*, *Pygoceletes*, and *Stethelasma*.**

Malcolm Furniss (USA: mfurniss@uidaho.edu). Studying all aspects of Scolytidae of western North America, including biology, host tree relationships, associated organisms, and taxonomy. **Interested in exchanges of specimens.** List of specimens available for exchange from the W. F. Barr Entomological Museum will be sent on request.

Fabio Gaiger (Brazil: fgaiger@ib.usp.br). See Featured Researcher section. **Interested in specimens of *Arniticus* from northern South America (Ecuador, Colombia, and Venezuela) and Central America.**

Esther Gerber (Switzerland: e.gerber@cabi-bioscience.ch). Started a project investigating the potential for biological control of the alien invasive garlic mustard (*Alliaria petiolata*) in North America at the CABI Bioscience Switzerland Centre in April 1998. Six insect species have been selected as potential biological control agents due to their restricted host range: *Phyllotreta ochripes* (Chrysomelidae), and the five weevil species *Ceutorhynchus alliariae*, *C. roberti*, *C. constrictus*, *C. scrobicollis*, and *C. theonae*. Research includes studies on the distribution, biology, phenology and host specificity of the herbivores and comparative studies on the population biology of garlic mustard in Europe and in North America. Experiments on the impact and interaction of *C. alliariae*, *C. roberti*, and *C. scrobicollis* have been completed, additional experiments with *C. alliariae* and *C. scrobicollis* were started in 2001.

Carlo Giusto (Italy: giustocar@iol.it). Interested in world Apionidae, including revisionary studies of the *Synapion ebeninum* group with descriptions of two new species, descriptions of three new species from Italy (*osellaeus* n. sp., *exapion* n. sp., and *squamapion* n. sp.), and the realization of the "World Catalogue of Apionidae". **Requests Apionidae (especially extra-palaearctic species) in exchange for palaearctic Curculionidae.**

Levent Gültekin (Turkey: lgul@atauni.edu.tr). Has been studying the taxonomy of Ceutorhynchinae in Northeast Anatolia, Turkey, for six years, and the biology of some Cleoninae species.

Pilar Gurrea Sanz (Spain: pilar.gurrea@uam.es). Interested in the biology, ecology, and biodiversity of weevils in Spain. Has recently published a book with M. J. Sanz on the endemic Curculionoidea of the Iberian Peninsula, the Balearic and

Canary islands, in addition to papers on the biology of species of *Exapion* and *Lepidapion*. Has started a new project on biodiversity assessment tools.

Robert Hamilton (USA: rhamilt@orion.it.luc.edu). Interested in the taxonomy, biology, and distribution of weevils in the families Attelabidae and Rhynchitidae, with a focus on New World species. **Requests distributional data for *Xestolabus corvinus* Gyllenhal and specimens (larvae and adults) of *Xestolabus constrictipennis* Chittenden (in collaboration with his graduate student).**

Henry Hespeneheide (USA: henryh@biology.ucla.edu). Primarily interested in the weevil subfamily Conoderinae (formerly Zygoninae) and the genus *Tachygonus*. **Currently reviewing the U.S. species of *Cylindrocopturus* and interested in seeing material, especially reared material.** Please write before sending specimens. Completing a review of *Lechriops* in the U.S., especially western U.S. material under the name of *L. californicus* which is actually a complex of at least four species in the U.S. and others in Mexico to Honduras. Studying the Conoderinae and the genus *Tachygonus* collected as part of the Arthropods of La Selva (ALAS) project at La Selva Biological Station in Costa Rica, especially genera and species associated with the plant genus *Cecropia* (with Louis LaPierre). Planning to revise the genus *Pseudolechriops* (with Louis LaPierre). Familiar with most species of Conoderinae/*Tachygonus* in southern Central America (Honduras to Panama). **Willing to identify conoderine/*Tachygonus* material from that region - again, please write first.**

Robert Jones (Mexico: rjones@sunserver.uaq.mx). Interested in selected groups of Entiminae of Northern Mexico. Continuing research on the ecology and host plant associations of Anthonomine weevils, including work with Horace Burke on members of the genus *Narberdia* and their host plants *Bernardia* which were recently revised by Ana Angelica Cervantes (UNAM, Mexico). Has begun a weevil collection at the Universidad Autónoma de Querétaro and invites anyone interested in the region (or Mexico) to visit.

Stanislaw Knutelski (Poland: knut@zuk.iz.uj.edu.pl). Interested in the faunogenesis of weevils in the mountainous areas of Europe, the evolution of *Otiorynchus scaber* species (in collaboration with A. Saura and P. Stenberg), and the morphology, life history, ecology, and evolutionary ecology of montane species of weevils. Currently finishing a monography of the weevils of the Tatra Mountains, with distributions and differences between parthenogenetic races of *O. scaber*.

Hiroaki Kojima (Japan: kojima@museum.kyushu-u.ac.jp). Continuing to work on the systematics of curculionine flower weevils, and interested in the systematics and evolution of Dryophthoridae, systematics of the Old World Conoderinae, and taxonomy and biology of Oriental weevils in general.

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Research Activities (continued)

Papers on the apterous molytine weevil genus *Pinacopus* from Malaysia, new Oriental and Australian Conoderinae, and a taxonomic note of *Morimotozo* will be published soon. Also in preparation are papers on the taxonomy of Acalyptinae/ Derelominae, a new *Thamnobius* from the Oriental region, a new *Lignyodes* from Japan, weevils with similar coloration to a certain scymninae Coccinellidae, the systematics of *Adorytomus*, the Tychiini of Japan, and the Insects of Japan: Curculionidae, Entiminae I. Planning to initiate a weevil information network in Japan which will be open as a website and database, and regularly updated.

Analia Lanteri (Argentina: alanteri@museo.fcnym.unlp.edu.ar). Working on a taxonomic revision of *Lamprocyphus* (*Briarius* in Alonso-Zarazaga & Lyal 1999) and *Teratopactus* (Entiminae, Naupactini); and Naupactini harmful for citrus in Brazil (with Jerson Guedes, ESALQ, Piracicaba, São Paulo, Brazil). Writing a paper on the phylogeography of South American populations of the boll weevil *Anthonomus grandis* (using mtDNA, with molecular biologists Viviana Confalonieri and Amalia Scataglino, Argentina). **Interested in receiving boll weevil specimens in 100% ethanol from Mexico and Arizona, and dry weevil specimens of *Teratopactus*, especially of Brazilian endemic species.** Writing a book on weevils from Argentina and their host plants with Adriana Marvaldi (to be published in March 2002), with host plant information for more than 300 species, including data from personal observations, taxonomic revisions, and biological papers. The book has diagnoses of the subfamilies present in Argentina, information on the most diverse genera, ranges of distribution (worldwide and within the country), indices of plants, and some color plates of the main taxa.

Louis LaPierre (USA: zygops@earthlink.net). Interested in the ecology, biology, and behavior of Conoderinae, Cryptorhynchinae, and leaf-mining Curculionidae (Tachygoninae and Prionomerinae). Working on the taxonomy of cryptorhynchines and conoderines associated with *Cecropia* (Cecropiaceae) in Central America (in collaboration with Henry Hespeneheide).

John Lawrence (Australia: jrlawrence@spiderweb.com.au). Interested in Coleoptera in general and trying to keep up with the latest ideas in the evolution of all beetle groups. Weevil families are included in two CD-ROM products: (1) Lawrence, J.F., A.M. Hastings, M.J. Dallwitz, T.A. Paine & E.J. Zurcher. 1999. "Beetle Larvae of the World: Descriptions, Illustrations, and Information Retrieval for Families and Subfamilies", CD-ROM, Version 1.1 for MS-Windows, Melbourne: CSIRO Publishing. (2) Lawrence, J.F., A.M. Hastings, M.J. Dallwitz, T.A. Paine & E.J. Zurcher. 1999. "Beetles of the World: a Key and Information System for Families and Subfamilies", CD-ROM, Version 1.0 for MS-Windows, Melbourne: CSIRO Publishing. Information on Curculionoidea has been included

in recent workshops given in Brazil, Costa Rica and Canberra.

Andrei Legalov (Russia: legalov@ngs.ru). Studying Rhynchitidae and Attelabidae of the world, and finishing a monograph (due in March 2002) on their supraspecific classification, including more than 100 new categories (tribes, subtribes, genera, subgenera) and many new placements and new synonyms. Has revised many genera from these groups, and prepared descriptions of many new species from Asia. Also studying their phylogeny, host associations, and distributions. Has a new set of congeneric relations for Rhynchitidae and Attelabidae (to be published in April 2002) with affinities to Nemonychidae and Belidae (there are 11 parts to this project). **Interested in exchanging and identifying Rhynchitidae or Attelabidae of the world.** Further interests include Apioninae (Brentidae), the classification of Curculionoidea and the curculionoid fauna of Northern and Central Asia.

Guy Lempérière (France: guy.lempriere@ujf-grenoble.fr). Interested in weevils affecting reforestation, particularly *Hylobius* and associated *Hylastes* bark beetles.

Richard Leschen (New Zealand: leschenr@landcare.cri.nz). Interested in Cucujiformia systematics, including collaborative studies on Curculionoidea with a special focus on mycophagous lineages. **Curator of Coleoptera at the New Zealand Arthropod Collection, and happy to facilitate loans for studies of the New Zealand fauna.** The collection has a world wide selection of taxa and many Chilean forms thanks to the efforts of its former curator Willy Kuschel.

Steven Lingafelter (USA: slingafe@sel.barc.usda.gov). Currently the contact person for most of the weevils of the Smithsonian Institution collection, and finishing obligations for grant funded research on Cerambycidae and Chrysomelidae.

Schalk Louw (South Africa: louws@sci.uovs.ac.za). Interested in biosystematics of Gondwanan weevils and world Urodontinae (Anthribidae), weevils in agriculture, and the ecology of gall-inducing weevils.

Christopher Lyal (United Kingdom: chel@nhm.ac.uk). Interests include: (1) weevil bioinformatics, i.e. the dissemination of taxonomic information on weevils, particularly to developing countries. The system will include taxonomic and biological information on species of significance to quarantine and biocontrol, collection holdings and a register of experts with their specialities and contact details. The project is in its early stages, but staff in a number of institutes worldwide have already indicated their enthusiasm (more information will be provided upon contact). (2) Weevil systematics, i.e. the improvement of the family-level classification, investigation of major morphological and host-related evolutionary events in the group's history, and functional morphology. Presently studying the functional morphology of key struc-

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Informal Weevil Meeting - ESA 1999 Atlanta

By **Anne Howden** (Canada: hhowden@mus-nature.ca)

On December 14 during the 1999 Entomological Society Meeting in Atlanta, everyone interested in weevils was invited to an informal get-together in the Williams Room of the Atlanta Conference Center adjoining the convention hotel. It was nice to see familiar faces as well as some new ones. As usual, the time went swiftly as 23 people spoke of their activities.

Robert Anderson (Canadian Museum of Nature) was present, but his numerous activities were not recorded. **Donald Bright** (Agriculture and Agri-Food Canada, Ottawa) is finishing the 2nd Supplement to the Catalog of Scolytidae and Platypodidae which covers the literature until the end of 1999. The Scolytidae of the West Indies is to be completed in 2001. The broadnosed weevils of Canada and Alaska, with Juan Torrez, is almost finished, lacking only figures. The review of the South-East Asian scolytid fauna is now concentrated on the xyleborines. **Charles Brodel** (...), specializing on Coleoptera) was present. **Horace Burke** (Texas A&M University) is studying the squamose groups of *Anthonomus* with Wayne Clarke, and writing a centennial history of the Entomology Department at TAMU. **Janet Ciegler** (Atlanta) studies the local fauna and has prepared keys to the carabids and aquatic weevils. **Shawn Clark** (West Virginia Department of Agriculture) is present. **Anthony Cognato** (Natural History Museum, London) now has his Ph.D. and is working on the phylogeny of *Ips*. **Brian Farrell** (Harvard University) studies DNA, especially of scolytids and dryophthorids, and has a Curculionoidea wish list (including basal taxa, see Robert Anderson, Adriana Marvaldi). **Robert Hamilton** (Loyola University), in spite of heavy teaching duties, is working on eusceline weevils, including George Vogt material. **Henry Hespenheide** (UCLA) hopes to present his data on the Conoderinae of La Selva (ALAS) at the International Congress in Iguassu. Henry reports that Luis LaPierre is now working on *Ptous*. **Anne Howden** (Canadian Museum of Nature) is

continuing the revision of *Pandeleiteius*, concentrating on South American taxa at the moment. **Peter Kovarik** (Florida A&M University) recently participated in a forest quality survey at Río Brava, Belize. In addition to his work on immatures, especially *Diaprepes* and *Pachnaeus*, he studies the mesic sites of the Florida gulf coast. **Adriana Marvaldi** (Mendoza, Argentina) is spending this year working in Brian Farrell's lab at Harvard University, specializing in DNA sequencing of weevils and their larvae. **Alec McClay** (Alberta) studies biological control of weevils. **Andrew Novinger** (Loyola University) studies with Robert Hamilton and works on the taxonomy of eugnamptines. **Charles O'Brien** (Florida A&M University) is directing the Center for Biological Control, and is heading the Weevil Symposium at the ICE in Brazil. He has now a list of the weevils species in his collection on disk and estimates having 1.5 million specimens! In connection with citrus pest work at the Center for Biological Control, he asks particularly for the loan of *Diaprepes comma* Boheman from Venezuela. With his graduate student, Charles is making a check list of Chinese weevils and estimates over 12,000 species. Guillermo Wibmer sends his greetings. **Terry Seeno** (California Department of Food and Agriculture, Sacramento) is responsible for weevil identifications for quarantine purposes. **Paul Skelley** (Florida State Plant Board), is mostly a scarab person, but adept at finding *Hormops* in squirrel nests. **Mike Thomas** (Florida State Collection of Arthropods) reports that 101 exotic insect species entered Florida during the last year, and that the late Ross Arnett's Beetle Book has 128 chapters, many of them assigned, and some on the internet site. There are no new taxa in this volume. The date intended for publication of Volume 1 is May 1, 2000. **Robert Turnbow** (Fort Rucker, Alabama) is working on *Cercopeus*, *Acalles*, *Agrapus*, etc. **Barry Valentine** (OSU) displayed his new work "A review of Nearctic and some related Anthribidae" in *Insecta Mundi* 12: 251-296. This is the first of a series and will include Africa. **Xiaochun Zhang** (Florida A&M University, University of Florida) studies with Charles O'Brien and is revising the Oriental Apoderini.

Third International Curculionoidea Symposium XXI ICE in Iguassu Falls, Brazil, August 21, 2000

By **Nico Franz** (USA: nmf2@cornell.edu)

The 21st International Congress of Entomology - "Entomologists Preserving Biodiversity" - was organized by the Sociedade Entomológica do Brasil in Foz do Iguaçu (Estado do Paraná), Brazil, August 20-26, 2000. As part of the "Systematics and Phylogeny" session, the Third International Curculionoidea Symposium (after Montreal 1988 and Venice 1996) was held on Monday, August 21, from 01:30-04:30 pm. Charles O'Brien

(USA) and Germano Rosado-Neto (Brazil) coordinated and moderated the symposium under the theme **Curculionoidea: a Case of Megadiversity**. The following 15-minute papers were presented after introductory remarks by Charles O'Brien.

1. Biodiversity and biogeography of Neotropical leaf litter weevils - Robert S. Anderson (Canada).
2. The role of inbreeding on the phylobiology of tropical bark beetles (Curculionidae: Scolytinae) - Bjarte H. Jordal

(continued page 8)

XXI ICE Brazil (continued)

- (originally scheduled for Lawrence R. Kirkendall) (Norway).
3. Systematics, cladistic analysis, and geographic distribution of the tribe Sternechini - Curculionidae (Coleoptera) - Germano H. Rosado-Neto (Brazil).
 4. Neglected antipodeans on weevil classification and phylogeny (Coleoptera: Curculionoidea) - Rolf Oberprieler (Australia).
 5. A phylogeny of the weevil major groups: morphological and molecular evidence - Christopher H.C. Lyal, Maxwell V.L. Barclay, Alfred P. Vogler & Sharon L. Shute (United Kingdom).
 6. Evolution of "derelomine flower weevils" (Coleoptera: Curculionidae) an association with palms and cyclanths - Nico M. Franz & Charles W. O'Brien (USA).
 7. Higher phylogeny of the Curculionidae: evidence from a molecular and morphological study - Adriana E. Marvaldi, Andrea S. Sequeira & Brian D. Farrell (Argentina & USA).
 8. Immature and curculionid phylogeny: the rest of the story! Peter W. Kovarik (USA).
 9. Weevils as vectors of plant pathogens: a case study on amaranth in South Africa - Schalk v.d.M. Louw, S.J. Honiball, W.J. Swart & W. Cheng (South Africa).
 10. Phylogeny and evolution of Dryophthoridae (Coleoptera: Curculionoidea) - Hiroaki Kojima & Christopher H.C. Lyal (Japan & United Kingdom).

The initial discussion was continued during an informal meeting at an associated Congress hotel. As a result, it was agreed that resolving the more basal relationships within Curculionoidea should be one of the main goals for the near future. From my own perspective, perhaps the most intriguing paper was presented by Rolf Oberprieler. Rolf began his presentation with a world map slide on which he identified the institutions where previous curculionid classifications had been proposed. All of them were located in the Northern Hemisphere. Then he displayed the geographic distributions of some of the most basal curculionid taxa - located in the Southern Hemisphere. Such a bias must be unsurprising to those who work in "southern disjunct countries", yet it can be utilized to argue that - at least phylogenetically - the most diverse areas for weevils are southern rather than tropical. Another interesting aspect was illustrated by the two molecular papers (Lyal *et al.* & Marvaldi *et al.*) on the higher phylogeny of weevils. Due in part to ambiguous alignment, ribosomal 18S RNA may be insufficient to resolve curculionid phylogeny as completely as necessary for certain classificatory problems, e.g. within Curculioninae *sensu* Kuschel (1995). Among the innumerable posters related to basic and applied weevil research, I was able to retrieve the following titles from the abstracts volumes (I apologize for missing many other authors):

1. Origin and dispersal of the cotton boll weevil (Coleoptera: Curculionidae) in South America: a mtDNA phylogeographic study - V.A. Confalonieri, M.A. Scatagliini & Analía A. Lanteri (Argentina).
2. Historical biogeography of the South American Rhytirrhini (Coleoptera; Curculionidae) - M. Donato, P. Posadas & D.R. Miranda-Esquivel (Argentina).
3. Investigation of the validity of species status of *Tomicus destruens* (Coleoptera, Scolytidae) using ribosomal DNA - J. Galián & D. Gallego (Spain).
4. On the genera of the Oriental and Australian Conoderinae (Zygopinae auctt.) (Coleoptera: Curculionidae) - Hiroaki Kojima & Christopher H.C. Lyal (Japan & United Kingdom).
5. Confirming a new status for *Odontopus brevisrostris* (Coleoptera: Curculionidae) versus *Annona muricata* (Annonaceae) - L.M. de M. Lima, E.E.P. de Lemos & Germano H. Rosado-Neto (Brazil).
6. Weevil diversity in Africa: extrapolations from host surveys and systematic study (Coleoptera: Curculionoidea) - Rolf G. Oberprieler (Australia).
7. The phylogenesis of conifer/angiosperm host shift and diversification in Gondwanan bark beetles - Andrea S. Sequeira, Benjamin B. Normark & Brian D. Farrell (Argentina & USA).
8. Checklist of the Brentidae (Insecta, Coleoptera, Curculionoidea) of the world - Alessandra Sforzi & Luca Bartolozzi (Italy).



Sergio Vanin (left) and Charles O'Brien (right)
at the Museum of Zoology in São Paulo

All previous papers will be published individually. Many thanks to the Brazilian entomologists and the organizers of the Curculionoidea Symposium for making the Congress an academically and socially worthwhile experience! Before arriving at the scenic Iguassu Falls, I was fortunate to visit the Museu de Zoologia in São Paulo and the Universidade Federal do Paraná in Curitiba, and hope to see many of the excellent Argentinian and Brazilian insect systematists at the next 2004 ICE in Brisbane, Australia. A group photo from the Meeting in Brazil is displayed on page 32.

The Curculio-Institute

By Nico Franz (USA: nmf2@cornell.edu)

Certainly the establishment of the **Curculio-Institute** (CURCI) is one of the more significant novelties since the publication of the last 1998 volume of CURCULIO. CURCI was founded in March 1999 by Peter Stüben, Friedhelm Bahr, Christoph Bayer, Lutz Behne, and Herbert Winkelmann in Mönchengladbach, Germany, to promote taxonomic, biological, and ecological studies of European (palearctic) Curculionoidea. The following information on the activities and publications of CURCI has been extracted from the detailed and extensively illustrated website www.curci.de

CURCI facilitates research and protection of weevils and their host plants, supporting all efforts of conservation of weevil habitats in European countries. Currently more than 50 active members cooperate with (non-) governmental organizations throughout the world. The most important activity of CURCI, however, is the publication of the annual research report **SNUDEBILLER** (Danish for "weevil"): **Studies on taxonomy, biology and ecology of Curculionoidea**, which appeared in its first edition as an electronic CD-ROM journal in 2000. The members collaborate in taxon- and/or area-specific study groups, and are able to deposit specimens in the CURCI type collection. Additional projects include the development of "Analytical Catalogs", "Digital-Weevil-Determination", as well as the organization of (inter-) national field trips and meetings which are documented in photo and text in the "Weevil News".

Members of CURCI receive the annual CD-ROM edition of SNUDEBILLER, invitations to field trips and meetings, and the opportunity to represent their activities on individual homepages. They are required to contribute to ongoing projects. The membership can be obtained by downloading an order form from the Membership section and sending it to CURCI (e.g. via email: curculio@t-online.de). Currently the annual fee amounts to • 40.00. Alternatively, subscription to SNUDEBILLER without full membership status is possible for • 35.00.

An excursion to the **Entomologists** section of the CURCI website will immediately demonstrate that more than half of the members have already taken up on the offer to introduce themselves and their research on simple yet very informative

homepages. It is helpful to not only have regularly updated lists of publications, but also photos of the corresponding researchers (and maybe a few general comments), because they tend to render the person familiar and thereby facilitate contacts.



The founders of CURCI (from left to right): Peter Stüben, Peter Sprick, Friedhelm Bahr, Christoph Bayer, Herbert Winkelmann, and Lutz Behne

homepages. It is helpful to not only have regularly updated lists of publications, but also photos of the corresponding researchers (and maybe a few general comments), because they tend to render the person familiar and thereby facilitate contacts.

The **Activities** section introduces the CURCI study groups. The study group *Acalles* (contact Peter Stüben: p.stueben@t-online.de) has been active for five years, and its eight members focus on the taxonomy, biology, and ecology of Western palearctic Cryptorhynchinae. This collaboration has produced, e.g., a revision of *Acalles*, and continues to organize projects on the Macronesian Islands. The study group Hyperini (contact Herbert Winkelmann: winkelmann.coleopt.curcul@t-online.de) concentrates on palearctic Hyperini and intends to revise this taxon for the first time since Petri (1901). Current activities include the creation of a type catalog and check list, whereas an analytical catalog (see also below) is the long-term goal. The recently initiated study group *Bagous* (contact Peter Sprick: psprickcol@t-online.de) aims at collecting faunistic data on the distribution of the Central European species of *Bagous*, their host plant interactions, habitats, and dispersal capabilities. The study group "Caterpillar" (contact Christoph Bayer: d.sanders@snafu.de) originated in 1999 and is concerned with immature stages of weevils, their host relationships, and oviposition behavior. Recent field trips by study groups have been completed to Hungaria and Slovakia, Madeira, Italy, and Morocco, and a trip to Spain is scheduled for April 2002. The "Macronesian Project" tackles the Cryptorhynchinae of the Canary Islands, the Madeira Islands and Selvagens, the Western coastal region of Morocco, the Acores, and the Cape Verde Islands.

The concept of "Analytical Catalogs" has been introduced in SNUDEBILLER 2 (2001) with the example of Western palearctic Cryptorhynchinae. Such catalogues constitute digital interim reports and will be updated during subsequent years to accommodate the latest developments in taxonomic, biological, ecological, and faunistic research. They contain the following obligatory components: species name, author, year of description; "reprint" of the original description, including all figures; extensive type information; type location; syno-

(continued page 10)

CURCI (continued)

nymy; notes on subspecies, etc.; bibliography; habitus depiction; aedeagus depiction; distribution maps and faunistic data; biological information (e.g. type locality habitat); and critical discussion. Additional optional components include: keys to species; type information on synonymized species; depictions of type labels; and all available illustrations (insofar as permitted by copyright). More catalogs will be published in SNUDEBILLER and contribute to an increasingly complete encyclopedia of Western palearctic Curculionoidea.

The project of "Digital-Weevil-Determination" (DWD) is designed to streamline the identification process of weevils by providing interactively selectable depictions of characters (i.e. digitalized images) on the screen which can be compared to those under the microscope. Diagnostic efficiency is facilitated by the ability to "hop" between species descriptions, to use general and country-specific keys, and to modify keys in the future. For reasons of practicality it has been agreed to treat the "North" and "South" of the Western palearctic region separately until a synthesis becomes feasible. The first DWD installment on Transalpine Cryptorhynchinae (by Friedhelm Bahr & Peter Stüben) will be published in SNUDEBILLER 3 in November 2002.

So far type specimens pertaining to more than 40 species (the majority of which are Cryptorhynchinae) have been deposited in the **Type Collection** of CURCI. They are listed on the website with complete label information and corresponding reference, and linked to digital habitus and aedeagus images.

The **Publications** section features the first two editions of SNUDEBILLER. SNUDEBILLER 1 (2000), edited by Peter Stüben, deals with the Cryptorhynchinae of the Canary Islands, including 910 color photos, 266 SEM photos, 118 distribution maps, and 413 text pages. The majority of contributions are written in German, whereas the keys are also in Spanish. Abstracts in English are provided in each case. SNUDEBILLER 2 (2001) contains papers on Bagoinae, Ceutorhynchinae, Cryptorhynchinae, and Hyperinae, with 1332 color photos, 40 SEM photos, 174 distribution maps, and 300 text pages. One article is written in English (for details see the contents of both editions at www.curci.de/snudebl2.htm). SNUDEBILLER is compatible

with Windows 95 and subsequent versions. Predominantly favorable reviews of SNUDEBILLER 1 have been published in French (P. Ponel. 2000. *Nouvelle Revue d'Entomologie* 17: 353-354), Spanish (A. Machado & P. Oromí. 2000. *Elytron* 14: 212-213), and Swedish (G. Gillerfors. 2001. *Entomologisk Tidskrift* 122: 149-151).

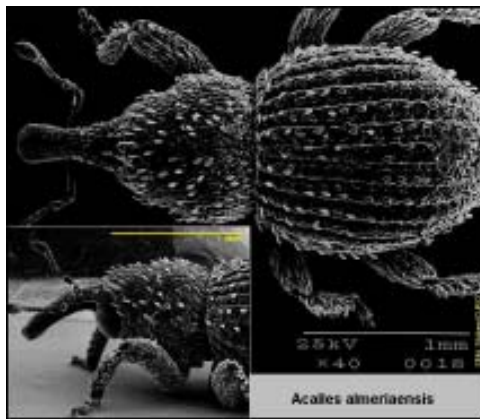
Manuscripts for SNUDEBILLER have to be prepared according to the digital format of the Journal, and may be submitted in English, French, German, Italian, or Spanish. Publishing new taxon names has to comply with the most recent version of the ICZN (2000). The general layout is designed to maximize the advantages of using an electronic medium, particularly through extensive graphic documentation. There are abundant links to images and references within each article. CURCI

offers to produce digital images of specimens (habitus, aedeagus, etc.). All original manuscripts are forwarded to reviewers, and the final decision of acceptance is made by the SNUDEBILLER editorial staff (i.e. Peter Stüben, Christoph Bayer, and Herbert Winkelmann).

Seven editions of "Weevil News" (available at www.curci.de/inhalt) have been published to date, including brief biological, ecological, and faunistic contributions as well as reports on field trips, conferences, and book reviews. The current edition reports on the first international meeting of CURCI - "Chances and Necessity of a close Europe-wide Cooperation of the Specialists of West Palearctic Weevils (Curculionoidea)" - organized by Enzo Colonnelli and Fabio Talamelli in San Giovanni in Marignano, Italy, October 12-15, 2001. The meeting was attended by nearly 20 members, and included paper presentations and discussions, field trips, and a visit of the museum and the collection in Milano (see photos of the participants at www.curci.de/italien/italmeet.html). The second meeting is scheduled for October 2002 to take place in Sicily, Italy.

The present report is merely an attempt to introduce the readership of CURCULIO to the scope of the research activities of CURCI. Please contact me (nmf2@cornell.edu) if you are interested in writing a more content-specific review on any of its pub-

lications.



Acalles almeriaensis, habitus (photos by P. Stüben)



Dichromacalles diocletianus, life cycle (photos by F. Bahr)

Research Activities (continued)

tures, particularly sclerolepidia and the thorax, as well as DNA sequencing studies of selected groups, the significance of rostral morphology and function to curculionoid diversity, and the phylogeny of Oxycorynidae. (3) Weevil host relationships: seed-predation, particularly on tropical forest trees, and the systematics and coevolution of weevils on Dipterocarpaceae, focusing on *Alciodes*, *Niphades*, and nanophyine genera. Planning studies with *Trichobaris* on *Datura*. (4) Weevil nomenclature, focusing on a species-level catalogue, in collaboration with Miguel Alonso-Zarazaga.

Luigi Magnano (Italy: luigimagnano@libero.it). Interested in Curculionidae in general and the subfamily Polydrusinae in particular, including studies on parthenogenesis. Working on a catalogue of the tribe Otiiorhynchini *sensu* Alonso-Zarazaga & Lyal 1999, and studying the Otiiorhynchini (especially the genus *Otiiorhynchus*) of the Southern and Oriental pale-arctic region. **Requests specimens from these regions for determination.**

Adriana Marvaldi (Argentina: marvaldi@lab.cricyt.edu.ar). Interested in systematics and biology of Curculionoidea, especially the higher phylogeny as evidenced from morphology and molecular data, and the evolution of biological traits. Continues her interests in immature stages of weevils, particularly from Argentina, and currently studying some Oxycoryninae from Mendoza.

José Ricardo Mermudes (Brazil: mermudes@bio.ufpr.br). Currently a Ph.D. student at the Universidade Federal do Paraná. Interested in the the evolution, phylogeny and biogeography of New World fungus weevils (Anthribidae), including a revision and cladistics analysis of the Neotropical genus *Ptychoderes* Schoenherr, 1823 (Anthribidae, Anthribinae, Ptychoderini). **Requests Neotropical Anthribidae in exchange for identification.**

Branislava Mihajlova (Republic of Macedonia: ki_mi_81@yahoo.com). Studying species of Curculionidae in Macedonia.

Juan Morrone (Mexico: jjm@hp.fcencias.unam.mx). Revising the Mexican and Central American genera of Molytini (i.e. Hylobiini), and the Mexican Dryophthoridae with his student Perla Cuevas.

Rolf Oberprieler (Australia: rolf.oberprieler@csiro.au). Research interests in weevils span three areas. (1) Higher classification and evolutionary history of weevils. Consolidating the weevil phylogeny at the family level by adding more characters (especially larval ones) and taxa (critical Gondwanans) to the famous Kuschel matrix. Initial results were presented at the weevil symposium at the ICE 2000 in Iguassu and will be published in a chapter in the forthcoming book "Gondwana

Alive". Has recently published a phylogeny of the Brentidae based on larval characters. Marek Wanat's analysis of imaginal characters of Brentidae is another important step forward, but a more comprehensive analysis of all brentid groups and all characters is needed. Apparently, Brentidae (or the "brentid complex") includes not only typical brentines and apionines, but also the African Microcerinae and the enigmatic *Ithycerus*. Working on the relationships of the subfamilies of Curculionidae, including the definition of Brachycerinae (*sensu stricto*) and Eriirrhinae and their relationships to each other, and that of the mysterious "Cyclominae". Currently groups like "Rhytirrhinae" and "Aterpinae" are undefinable and constitute artificial conglomerates of a number of different lineages (including molytine ones). A chapter on weevil diversity and evolutionary history is in press in "Gondwana Alive" (edited by John Anderson of the Gondwana Alive Society in South Africa - to be published in August 2002), combining recent insights into the phylogeny and fossil history of weevils and attempts to reconstruct the major evolutionary events that have driven their tremendous diversification (beyond responses to the radiation of flowering plants). (2) Taxonomy of the Australian weevil fauna. Continuing the tremendous efforts of Zimmermann's "Australian Weevils". Zimmie is making progress on Volume IV of this series, although there are problems with Entiminae (adelognaths), the manuscript size, and descriptions of new genera. No publication date is in sight as yet. The first groups of Volume VII are being studied, especially the Aterpini and their relatives. (3) Ecological-evolutionary patterns of particular weevil taxa. Continued interests are in cycad weevils, revisions of African taxa such as Amorphocerini and Antliarhinini, and in facilitating pollination studies involving the Australian *Tranes* group and the Australo-Asian *Tychiodes* group. Revisions of these groups are planned. It is hoped that systematic-ecological studies such as these will increasingly attract collaboration from Australian universities and other research bodies, such as the Cooperative Research Centre for Rainforest Ecology. Has finished (with Elwood Zimmerman) a study of seed-feeding *Melanterius* weevils that are being used as biocontrol agents for invasive Australian acacias in South Africa, and whose patterns of host associations are largely reflected in the phylogeny of the host plants.

Giuseppe Osella (Italy: osella@univaq.it). Interested in the systematics, ecology, and zoogeography of Curculionoidea. Has finished a revision of *Aparopion* (Curculionidae: Molytinae), and papers on *Acallorneuma* (Curculionidae: Cryptorhynchinae) and the description of a new subgenus *Pseudaparopion* (Molytinae) are in press. Completing a systematic revision of *Minyops* (Molytinae), and an annotated checklist of Curculionoidea (with ecological information) of the Gran Sasso and Laga Mountains National Park (Abruzzo, Italy) and the Nebrodi Mountains (Sicily).

Frank Pelsue (USA: eucyllus@msn.com). Working on the

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Research Activities (continued)

Curculionini of Asia, particularly China and Southeast Asia, and interested in all Curculionini and Rhynchophora. **Requests any Curculionini from Asia, Africa, and Madagascar, in exchange for identification of any Curculionini from China, Southeast Asia, and USA.**

Snezana Pesic (Yugoslavia: snpesic@knez.uis.kg.ac.yu). Continuing the faunistical, ecological, and zoogeographical research of Curculionoidea (Rhynchitidae, Attelabidae, Apionidae, Nanophyidae, Brachyceridae, Eirrhinidae, Raymondionymidae, Curculionidae) in Yugoslavia.

Helio Pierotti (Italy: hpierotti@notariato.it). Interested in the systematics and distribution of palearctic Peritelini, and finishing a revision of Spanish Peritelini in collaboration with Miguel Alonso-Zarazaga. **Exchange of palearctic and North American specimens of Peritelini is welcome.**

Sylvain Piry (France: piry@ensam.inra.fr). Interested as an amateur in collection, determination, and biological studies of weevils of the world, with a focus on the Western European and French fauna, and collaborating with molecular and biological studies as a professional.

Alexander Riedel (Germany: alexander_riedel@wed.de). Interested in weevils of Southeast Asia, especially of the Papuan region. Has recently completed his Ph.D. thesis on Papuan *Euops* (Attelabidae). Either continuing to work on the systematics of this genus, or starting some completely different project, e.g. on the ecology of Asian soil weevils.

Alessandra Sforzi (Italy: alessandra@unifi.it). See Luca Bartolozzi.

Sarah Solomon (USA: sas97@cornell.edu). Broadly interested in weevil systematics and biogeography, and currently working on the systematics and species relationships of the Hawaiian cossonine genus *Nesotocus*. Planning to examine other cossonines for potential outgroups.

Jerzy Szypula (Poland: jszypula@biol.uni.wroc.pl). Interested in Old World Ceutorhynchinae and palearctic Curculionoidea.

Lucian Teodor (Romania: lteodor@hasdeu.ubbcluj.ro). Studying the taxonomy, faunistics, ecology, and biology of species of Curculionidae, Apionidae, Attelabidae, Cimberidae, and Nemonychidae in (predominantly little investigated areas of) Romania. Interested in material of Otorhynchinae, particularly *Otorhynchus*, and Brachyderinae, particularly *Polydrusus*, *Eusomus*, and *Sitona*.

Roberta Valente (Brazil: roberta@museu-goeldi.br). Inter-

ested in the phylogenetic systematics, diversity, and evolution of Curculionidae and their host plants, and particularly in the weevils associated with palms. Published a work about immature forms of *Conotrachelus imbecillus* (Molytinae) in 1994, including the description of larval stages and pupae, life cycle information, and the association with *Inga heterophylla* (Mimosaceae). Finished her masters thesis in 1997 on the phylogenetic systematics and evolution of *Microstrates Lacordaire 1866* (abstract upon request). Developed a project from 1998 to 2000 about the diversity of weevils associated with palms in the National Forest of Caxiuanã in the State of Pará, Brazil, resulting in a book published in 2000 (details upon request). *Celetes Schoenherr 1836* was the most frequent and diverse genus on palm flowers, with 25 new species. Other work currently in press includes "Os Gorgulhos" with Sergio Vanin (Universidade de São Paulo, Brazil) on the Curculionidae on inflorescences of *Attalea maripa* (Aubl.) Mart. at the Estação Científica Ferreira Penna (ECFPn), Caxiuanã, in the State of Pará. Also ready for submission are "The Cholini Curculionidae: Coleoptera of the Museu Goeldi Collection" (in collaboration with Fabio Kleverson de Lima Diamantino and Cristina de Barros Nunes) and "*Mauritinus seferi* Bondar, 1960 (Coleoptera; Curculionidae): bionomy, description of immature stages and redescription of adults" (with Márcio Luís Leitão Barbosa). Now working on her Ph.D. thesis on the phylogenetic systematics and evolution of *Celetes* (Eirrhininae: Derelominae) in association with palm hosts. **Requesting to specimen loans of *Celetes* and willing to exchange specimens for identification of weevils associate with palms.**

Sergio Vanin (Brazil: savanin@ib.usp.br). Interested in systematics and biology of Curculionidae from the Neotropical region, including work on palm weevils (Derelomini and Baridinae), in collaboration with Roberta Valente (Universidade Federal do Pará and Museu Paraense Emílio Goeldi), and the preparation of a paper describing a new genus of Entimini, in collaboration with Fábio Gaiger Silveira (Instituto de Biociências, Universidade de São Paulo).

Antonio Velázquez de Castro (Spain: velazquezdecastro@wanadoo.es). Working on the taxonomy, morphology and phylogeny of Sitonini (Entiminae), including a rearrangement of the species of *Sitona* into four subgenera. **Requests species of Sitonini, mainly from genera other than *Sitona*.**

Marek Wanat (Poland: wanatm@biol.uni.wroc.pl). Interested in Apionidae of the world, palearctic and primitive Curculionoidea.

Donald Weber (USA: beetleon@aol.com). Interested in the behavior and ecology of weevils of economic importance, particularly in perennial crops, including behavioral and ecological investigations of *Anthonomus pomorum* in European apples, *Anthonomus musculus* sampling, ecology,

(continued page 13)

Research Activities (end)

and control in Massachusetts cranberries, and sampling and alternative controls of black vine weevil in cranberries.

Herbert Winkelmann (Germany: winkelmann.coleopt.curcul@t-online.de). Interested in palearctic weevils (e.g. city-ecological problems, red lists, ecological assessments, with emphasis on Hyperini. **Willing to exchange material from other regions (America, Asia, Africa, etc.). Further interests - also for exchange of specimens and literature - in North American *Hypera*.** Field work is concentrated on South Europe and Asia Minor. Has unidentified tropical material for researchers of particular groups (e.g. Nanophyinae from

Thailand).

Anna Zuppa (Italy: annazuppa@interfree.it). Interested in the systematics and biodiversity of Mediterranean leaf litter inhabiting weevils, and generally in the systematics and biology of Attelabidae. Has submitted a revision (with Giuseppe Osella) of the genus *Aparopion* (Curculionidae: Molytinae), and has a revision (with Giuseppe Osella) of the genus *Acallorneuma* (Curculionidae: Cryptorhynchinae) and the description (with Giuseppe Osella and Roman Borovec) of a new genus *Pseudaparopion* (Molytinae) from the Caspic area in press. Other current projects involve an inventory of the leaf litter fauna of Italian National Parks.

Costa Rica Weeviling

By **Robert Hamilton** (USA: rhamilt@orion.it.luc.edu)

Late in 1998, I was asked by Loyola Administrators if I would be interested in accessing the biological diversity of a tract of coastal rain forest in NE Costa Rica. A Loyola student inherited the land and wanted to have it evaluated as a possible field station for Loyola students interested in tropical biology. They contacted me because of my previous work in Costa Rica in association with the ALAS project at the La Selva Biological Station. When I found out that Loyola would cover all expenses, it was an easy decision - yes, I'd be glad to go. After renewing my passport, I wrote to Angel Solis at INBio for the collection and export permits.

The tract of land in question is a virgin coastal rain forest along the Río Colorado near the town of Barra Del Colorado (Barra). Barra is a small town of about 200 people near the mouth of the river. There is electricity, a few telephones and one general store but no cars, roads, restaurants or other modern conveniences. Supplies are flown in each week from San José. Several fishing lodges in the area employ local people. I was told that these lodges used to bring in a good number of fisherman but are now in decline as a result of over fishing. My graduate student and I arrived in San José on January 5, and left the following morning on a small plane (Sansa Airlines) for Barra. The temperature in Barra was not at all uncomfortable. There was a lot of standing water and apparently just a week before we arrived the rains were intense, and much of the town was flooded. We collected insects (especially weevils) using beating sheets over the next four days at several locations in and around Barra, including a secondary growth area along the airstrip, an area along the edges of a coconut plantation, and the densely vegetated private property belonging the Loyola student. The private property was located along the river about a quarter mile upstream from Barra. We took small motor boats up to the property and en-

tered through dense vegetation using machetes to clear a collection trail. Inland entry to the property was blocked due to unusual high water. In addition to hand collecting with beating sheets, a few pitfall traps were also set. A few beetles (e.g., dung rolling scarabs) and a good number of ants were eventually caught in the pitfalls after we rigged up banana leaf roofs to keep out the rain. Pitfall trapping is difficult in the rain forest. On a couple of nights at the coconut plantation and near the airstrip we tapped into the electric lines and ran a light trap. The filtered black light attracted large numbers of scarabs (mainly one or two species) but not much else was flying.

We saw lots of wildlife on our various trips. Crocodiles and caimans were abundant along the river banks and connecting channels. There were large numbers of adult dragonflies patrolling the channels, and when we passed through the shallow ones, the guides had to get out and pull the boat through. During night passage through these shallow channels our lights revealed the glow of thousands of shrimp and large numbers of crayfish with long slender chelipeds and dark claws. The giant river palms along the waterways were majestic. In various areas around Barra, we saw three different kinds of monkeys - howler, white faced capuchin, and Central American spider. Large *Morpho* and owl butterflies were numerous at the coconut plantation and the river front property. The owl butterflies, as the name suggests, would begin their jerky flight along vegetation edges from dusk to dark.

Two hundred sixteen weevils were collected in the area of Barra. This is probably good for the month of January. The numbers probably would have been higher in May, June or July. Also, the exceptionally heavy rains undoubtedly affected the collection numbers. Cryptorhynchs dominated the collections. Forty-five percent of the total weevil catch at Barra was cryptorhynchs. I have rough-sorted them into at least 32 species. Cryptorhynchs that I have collected at other sites in Costa

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Costa Rica Weeviling (continued)

Rica (Carara and Zurquí) represented only 20 % of the total weevil specimens collected by the same technique over a similar period of time.

Two other sites in Costa Rica were visited during this trip - the Carara Reserve in Puntarenas province (Carara) and Zurquí de Moravia (Zurquí) northeast of San José. After leaving Barra on January 10, we returned to San José and spent some time sorting and identifying weevils at the INBio collection in Santo Domingo, Heredia. We left INBio on the 12th of January in an INBio vehicle with Carlos Viquez and made our way to the west coast of Costa Rica and Carara. Although it rained all afternoon on the 12th, we did manage to collect 58 weevils at a cattle farm just north of the reserve and along the waterfall road north of the reserve at about 300 meters. I was glad to get three specimens of *Xestolabus conicollis* (Sharp). These attelabids were taken from small *Spondias mombin* (Anacardiaceae) trees in a pasture area.

The Zurquí trip was on our last day in Costa Rica. We hired a cab on the 14th take us to the La Fonda restaurant in Zurquí on the Braulio Carrillo Highway just south of the park. We collected in private areas near the restaurant with permission of the owners. The weather was good but the collecting wasn't. We ended up with only 36 weevils but did take some interesting baradines, erirhinines, cryptorhynchines, cleonines, etc.

A comparison of weevils taken by beating sheets at La Selva (inland rainforest, 1997) and at Barra (coastal rainforest, 1999) shows similar diversity (Shannon values = 1.64 and 1.57, respectively) and evenness ($J = 0.886$ and 0.862 , respectively). However, the coefficient of community is low ($CC = 0.173$), with only 12 species out of 138 found in both areas.

All weevils have been mounted and labeled and available for loan to qualified researchers. Contact Robert W. Hamilton at rhamilt@orion.it.luc.edu. This article was submitted in 1999 but due to the suspension of CURCULIO it was never printed.

Vladimir Vasilevich Zherichin

VII-22-1945 to XII-21-2001

By Andrei Legalov (Russia: legalov@ngs.ru)

On the 21st of December 2001, the outstanding entomologist Vladimir Zherichin suddenly past away. Dr. Zherichin was one of the world's preeminent experts on fossil insects, studying transitions in historical insect faunas. Furthermore, he contributed to recent problems with respect to the higher classification of Curculionoidea, as well as the systematics Nanophyinae (Brentidae) and Oxycorynidae. Vladimir Zherichin has made large contributions to entomology and paleontology, publishing over 100 scientific articles in these areas. Of particular value to weevil researchers are his seminal study (with V. Gratshev) on the wing venation of Curculionoidea in 1995, and his work on the curculionid fauna of Far Eastern Russia. In these papers he proposed new criteria for the classification of Curculionoidea, resulting in the following categories: Curculionoidea (based on wing venation), Nemomychidae, Ulyanidae, Urodontidae, Anthribidae, Attelabidae, Belidae, *Ithycerus* (?), Oxycorynidae (including Aglycyderidae), Brentidae (in-



cluding Apionidae), Obrieniidae (this taxon should be excluded from Curculionoidea and most likely transferred to Tenebrionoidea, V. Zherichin and A. Legalov, pers. comm.), Brachyceridae, Bariidae, Desmidophorinae (?), and Curculionidae.

The considerable impact of Dr. Zherichin on the study of extant and extinct Curculionoidea, particularly Asian Nanophyinae, is evident from the subsequent list of his publications. Vladimir Zherichin will be remembered as a sympathetic person who was always ready to assist colleagues. His untimely death presents a very serious loss to the sciences of entomology and paleontology.

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(continued page 15)

Vladimir Zherichin (continued)

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Vladimir Zherichin (end)

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Book Review - Curculionoidea World Catalogue

Miguel Alonso-Zarazaga & Christopher Lyal

By Charles O'Brien (USA: charles.obrien@famu.edu)

Miguel A. Alonso-Zarazaga & Christopher C. H. Lyal. 1999. A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (excepting Scolytidae and Platypodidae). 316 pp., published 27 December 1999. ISBN: 84-605-99994-9, from Entomopraxis S.C., Apartado 36164, 08080 Barcelona (Spain), Tel. & Fax: 34-933 230 877, Email: entomopraxis@entomopraxis.com, website: <http://www.entomopraxis.com/news.htm>. Cost: 78 Euros + 4% VAT + postage.

This outstanding publication will serve as an irreplaceable source of information for any researcher interested in the higher taxa of weevils throughout the world. The authors have produced a complete list of all genus and family group names of weevils, excluding only Scolytinae and Platypodinae recently treated by others. Names of 5444 valid genera and 641 valid subgenera are included, with all of their synonyms. Type species are cited for all genera and the two categories are indexed separately making it easy to find them quickly. Each family group name has a type genus cited, and all homonyms are renamed and new names are included for unavailable names then in use. Distributions are listed by country and/or region for all genera.

Thirty submissions to the International Commission for Zoological Nomenclature made by the authors are cited. All nomenclatural changes proposed in the catalogue are listed separately in 11 categories, e.g. new taxa, new replacement names, new synonymies, resurrected names, etc.

The classification followed is an amalgamation of those of Thompson (1992), to whom the catalogue is dedicated; Kuschel, (1994 [actually 1995]); Zimmerman (1993 & 1994); and Lawrence & Newton (1995). However, the authors state that it is an eclectic system, reflecting their personal opinions, and they also state that many genera and higher taxa have been misplaced. Workers must consider this and be aware that the function of the catalogue is nomenclatural and not systematic. In spite of this caveat, overall the taxonomy as presented is superior to any other currently published.

I recommend following this classification in organizing collections and when publishing on weevils, with each curator and taxonomist using their own judgment regarding certain problematic taxa, such as certain small subfamilies and families (some even monotypic), e.g. Eurhynchidae, Eirrhiniidae, Raymondionymidae, and Cryptolar yngidae. In addition, the movement of some tribes and genera to different subfamilies, without inclusion of data to support the moves,

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Weevil Catalogue (continued)

must be considered carefully until such data has been published.

There are some things that could have been done to make this catalogue more user-friendly. Headers at the top of each page would make it clear in which family, subfamily, and/or tribe the genera belong. In large taxa, often it is necessary to search back through many pages to determine the higher taxon for the genus in question. In the index, it would be helpful if the synonyms were to be cited in italics, and where multiple pages are cited for any taxon, the primary page could be underlined or set in bold print. Also it would have been useful to have an indication or an estimate of the number of species in a genus, but the authors felt it was not possible to do this accurately due to the many moves of species in and out of many genera. At least those known or believed to be monotypic could have been indicated.

The following few errors have been found by me in two years of extensive use of this catalogue: page 71, the two genera *Pistiacola* and *Pistiacoloides* were authored by Wibmer and O'Brien, not O'Brien alone; page 126, *Cryptorhynchus* is misspelled *Cryptorrhynchus* in the designation of the type species of *Eucryptorrhynchus*; page 301, the generic name *Involvulus* is misspelled *Invalvulus* in the index; and page 309, the generic name *Polytus* is missing from the index. This very brief list of errors is an indication of the excellent job done by the authors.

The few less than positive attributes of this catalogue are far outweighed by the overwhelmingly excellent work. In publishing this outstanding catalogue the authors have performed an invaluable service for any researcher in the world working with weevils, and the price of the publication is quite modest, in light of the huge volume of data included.

The Bulletin Board

News About Weevils

Miguel Alonso-Zarazaga (Spain: zarazaga@mncn.csic.es) informs researchers about grants (BIOD-IBERIA) to visit the Museo Nacional de Ciencias Naturales in Madrid and study the collections. He offers to host weevil researches. More information is available at www.mncn.csic.es.

Fabio Gaiger (Brazil: fgaiger@ib.usp.br) informs that the loaning of material to Brazil has become normalized and the law for preventing the exit of genetic material does not include material from foreign institutions (to which loans will be returned after study).

Schalk Louw (South Africa: louws@sci.uovs.ac.za) organized the 3rd International Symposium on Gall-Inducing Arthropods at Stellenbosch (within the fynbos biome of the Western Cape Province of South Africa) in January 2002. The meeting was attended by 60 delegates from 13 countries and included paper and poster presentations on gall-inducing insect/plant relationships, and a half-day field excursion into fynbos vegetation. Two weevil related papers were presented, i.e. "Variable enemy impact of an inquiline weevil on *Eupontania* galls on their willow host-plants" by Bob Fritz and Gina Sylvan of Vassar College, Poughkeepsie, New York, USA; and "Global diversity and host preference patterns of gall-inciting weevils" by Schalk Louw and Horace Burke (see CURCULIO directory). The meeting was followed by an eight-day post-symposium tour by 20 delegates along the east coast of South Africa during which game -, botanical-, and forest reserves and historical sites were visited. A volume containing full-length, refereed papers of the symposium presentations will be pub-

lished in 2002/2003.

José Ricardo Mermudes (Brazil: mermudes@bio.ufpr.br) has a website on Neotropical Anthribidae at www.geocities.com/anthribidae, and suggests creating a CURCULIO discussion board on the internet (similar to Taxacon).

Rolf Oberprieler (Australia: rolf.oberprieler@csiro.au) provides an update on the Weevil Symposium at the ICE 2004 in Brisbane, convened by himself and co-convened by Nico Franz. After noticing at the previous ICE 2000 in Iguassu, Brazil, that any commonalities in weevil and chrysomeloid evolution and phylogeny have yet to be investigated in detail, Rolf believes that it is time to address this issue from a basis of pooled expertise. He has conveyed this idea to Michael Schmitt who has taken over the organization of the chrysomelid symposia from David Furth, and initial indications are that the chrysomelid workers like this plan as well. However, the organizers of the ICE 2000 Brisbane have made it clear that specialized "old boys club" symposia (as have occurred previously) will not be supported, because they tend to suffer from poor concepts, organization and attendance. It appears unlikely to obtain a slot for a pure and restricted weevil symposium this time, whereas the idea of a symposium exploring evolutionary patterns of the Phytophaga as a whole has so far received a rather keen ear. Recent organizational progress includes the establishment of the various sessions and the appointments of their respective convenors. The weevils are most likely to fall in the Systematics and Phylogeny session convened by Adam Slipinski and Nils Peder Kristensen. It

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Bulletin Board (continued)

bears the interesting subtitle "Out of the museums and into the streets: blowing away the dust and mystery". Wouldn't a symposium exploring the evolutionary mysteries of the Phytophaga do exactly that? The Systematics and Phylogeny session has 11 half-day slots for symposia, but some time needs to be allowed for unassociated papers (mainly by students). Competition for these slots may become fierce, and only symposia with "good" (meaningful) issues to explore may be approved by the convenors. The currently entertained concept is a full-day symposium (2 slots) on the Evolutionary History of the Phytophaga, tackling topics such as phylogeny, fossil record, biogeography, host associations, and life styles in a systematic manner for both groups together, with teams of authors presenting various aspects (e.g. molecular phylogeny of weevils), and researching them specifically if need be. The idea is to have one or more experienced authors team up with perhaps younger ones, to facilitate their attendance of such a symposium. Thus, a presentation on molecular phylogeny of weevils might be headed by Adriana Marvaldi and Christopher Lyal, and include one or more other authors. Each such topic (e.g. phylogeny, host associations, etc.) would conclude with a synthesis for the Phytophaga as a whole. The emphasis in all of the papers would be on higher-classification, global and evolutionary patterns rather than on taxonomically or geographically restricted analyses. In the end there would be an authoritative, current and (quasi-) consensus picture of how the Phytophaga may have evolved and diversified, which other scientists could use as a basis for exploring larger issues such as extinction events, radiations of plants such as angiosperms, biogeographic patterns, and so on.

As the next step, proper agreement has to be obtained from the chrysomelid group to participate in such a concept, and larger beetle issues need to be clarified with Adam Slipinski. Possibly such a Phytophaga symposium can link up with similar investigations of Cucujoid or Cucujiformia evolution, or of the phylogeny of the Coleoptera as a whole. Depending on the number and quality of symposia submitted for this session, there may only be room for one or two beetle symposia. There is still some time to finalize these symposium proposals, as the session convenors will decide on their programs only after 30 September 2002. Once the plans for

such a joint symposium have firmed up, they will be circulated via CURCULIO and other outlets to provide all interested persons with an opportunity to participate.

In the meantime all comments and suggestions on this idea are welcome. If it proceeds, there would still be some room for papers on weevils that may not fit into such a thematic symposium, either in a separate "unaligned" slot or in a less official evening seminar or workshop. However, the idea is really for potential attendants (younger ones in particular) to join a team that can meaningfully explore one of the crucial current issues in weevil systematics. Remember the motto: "Out of the museums and into the streets: blowing away the dust and mystery". Details on the program and other matters relating to the ICE 2004 Brisbane can be found at www.ccm.com.au/icoe/scientific_themes.html.

Sylvain Piry (France: piry@ensam.inra.fr) suggests establishing a downloadable reference file in each CURCULIO volume - with linked PDF reprints where possible.

Antonio Velázquez de Castro (Spain: velazquezdecastro@wanadoo.es) informs that a review of the terminology of the curculionoid metendosternite is provided in his work on *Sitona* - reprints are available upon request. The following Spanish websites should be noted: (1) <http://entomologia.rediris.es> - a virtual entomologists community, including information on the Sociedad Entomológica Aragonesa, links to its regular journal (<http://entomologia.rediris.es/aracnet>), and several insect database. (2) <http://www.fauna-iberica.mncn.csic.es> - including a list of over 12,000 Spanish species and a bibliography of Spanish entomologist by Martin Albadalejo C. (1994) "Bibliografía Entomológica de Autores Españoles (1758-1990)", Documentos Fauna Ibérica 1, MNCN, CSIC. Suggests that information on websites should be provided in each CURCULIO volume.

Piotr Wegrzynowicz (Poland: piotr@robal.miiz.waw.pl) informs on the following recent publication: Wanat, M. 2001. Genera of Australo-Pacific Rhadinocybinae and Myrmacelinae, with biogeography of the Apionidae (Coleoptera: Curculionoidea) and phylogeny of the Brentidae (*s. lato*). 432 pp., 844 figs., 52 tabs. Mantis, Olsztyn. Hard-cover. Details are available at www.mantis.mgt.pl.

Recent Publications on Curculionoidea

This list has been compiled by our former editor Robert Anderson, covering publications on Curculionoidea from 1998 to 2001. It is published here with only minor additions and modifications. The format for citation follows (by and large) that of *The Coleopterists Bulletin*. For reasons of practicality, the most recent additions that I received from you will be listed in the subsequent CURCULIO volume.

NMF

Abbazzi, P., L. Bartolozzi, and S. Calamandrei. 1999.

Contributo alla Conoscenza Degli Anthribidae Italiani (Insecta, Coleoptera, Curculionoidea). Estratto dagli Annali del Museo Civico di Storia Naturale XCIII: 57-106.

Abbazzi, P., E. Colonnelli, L. Bartolozzi, L. Billi, and A.

Sforzi. 1998. I Curculionidi Del Parco Naturale Della Maremma (Coleoptera, Attelabidae, Apionidae, Brachyceridae,

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Recent Publications (continued)

- Curculionidae, Rynchophoridae). Bollettino dell'Associazione Romana di Entomologia 52: 59-87.
- Aeschlimann, J.-P. 1999.** Specificity, and bionomics of south-western Palearctic biotypes of *Rhinocyllus conicus* Frölich (Col., Curculionidae), a biological control agent of Palearctic thistles (Asteraceae) accidentally introduced to Australia. Bulletin de la Société Entomologique de Suisse 72: 11-22.
- Anderson, R. S. 1998.** New species of *Sicoderus* Vanin from the Virgin Islands (Coleoptera: Curculionidae: Curculioninae: Otidoccephalini). Tijdschrift voor Entomologie 141: 129-135.
- Basset, Y., G. A. Samuelson, and S. E. Miller. 1996.** Similarities and contrasts in the local insect faunas associated with ten forest tree species of New Guinea. Pacific Science 50: 157-183.
- Beaver, R. A. 1998a.** New synonymy, new combinations and taxonomic notes on Scolytidae and Platypodidae (Insecta: Coleoptera). Annalen des Naturhistorischen Museums in Wien 100B: 179-192.
- Beaver, R. A. 1998b.** Three new *Spathidicerus* Chapuis (Col., Platypodidae) with a key to Species. Entomologist's Monthly Magazine 134: 285-292.
- Beaver, R. A. 1999a.** New records of ambrosia beetles from Thailand (Coleoptera: Platypodidae). Serangga 4: 29-34.
- Beaver, R. A. 1999b.** New records of bark and ambrosia beetles from Thailand (Coleoptera: Scolytidae). Serangga 4: 175-183.
- Bellò, C., C. Pesarini, and H. Pierotti. 1997.** Due nuove *Pseudomeira* della isole tirreniche minori. (Coleoptera Curculionidae). 5° contributo alla conoscenza della tribù Peritelini. Atti della Società italiana di scienze naturali e del Museo civico di storia naturale in Milano 137: 69-73.
- Bernal, R., and F. Ervik. 1996.** Floral biology and pollination of the dioecious palm *Phytelephas seemannii* in Colombia: an adaptation to staphylinid beetles. Biotropica 28: 682-696.
- Bordón, C. 1997.** The genus *Naupactus* DeJean (Coleoptera: Curculionidae) in Venezuela. Acta Biológica Venezuelica 17: 11-51.
- Borovec, R. 1994.** Einige Bemerkungen zur Synonymie dreier Arten der Gattung *Trachyphloeus* Germar, 1817 (Coleoptera: Curculionidae). Elytron 8: 177-182.
- Borovec, R., and G. Osella. 1993.** Un nuovo *Trachyphloeus* Germar, 1817 di Sardegna (Coleoptera, Curculionidae, Polydrusinae). Bollettino dell'Associazione Romana di Entomologia 47: 87-92.
- Caldara, R., and C. W. O'Brien. 1998.** Systematics and evolution of weevils of the genus *Bagous*. VI. Taxonomic treatment of the species of the western Palearctic region (Coleoptera: Curculionidae). Memoire della Società Entomologica Italiana 76: 131-347.
- Chaika, S. Y., and K. P. Tomkovich. 1997.** Sensory organs of weevil larvae (Coleoptera, Curculionidae). Entomological Review 77: 486-496.
- Collonnelli, E. 1995.** Key to the genera of Ceutorhynchinae living on *Ephedra*, with description of new genus and two new species (Coleoptera: Curculionidae). Koleopterologische Rundschau 65: 203-220.
- Collonnelli, E. 1998.** Systematic and synonymic notes on Ceutorhynchinae, with lectotype and neotype designations, and descriptions of three new genera (Coleoptera, Curculionidae). Fragmenta Entomologica Roma 30: 105-175.
- Colonnelli, E., and G. Osella. 1998.** Host and refuge plants of weevils (Coleoptera: Curculionoidea) [Pp. 191-216]. In: Taxonomy, ecology and distribution of Curculionoidea (Coleoptera: Polyphaga): proceedings of a symposium (28 August, 1996, Florence, Italy): XX International Congress of Entomology (Colonnelli, E., S. Louw, and G. Osella, editors). Museo Regionale di Scienze Naturali, Torino.
- Côté, S., and D. E. Bright. 1995.** Premières mentions Canadiennes de *Phyllobius intrusus* Kôno (Coleoptera: Curculionidae) et tableaux de détermination des espèces de *Phyllobius* et de *Polydrusus* au Canada. Fabreries: La Revue de L'entomologiste Amateur du Québec 20: 81-112.
- Covarrubias, R., and M. Elgueta. 1991.** Relación especies-área de artrópodos en cimas de montañas. Acta Entomológica Chilena 16: 151-160.
- Craw, R. C. 1999.** Fauna of New Zealand: Molytini (Insecta: Coleoptera: Curculionidae: Molytinae). Lincoln (Canterbury, New Zealand). Manaaki Whenua Press 39: 1-68.
- Dallai, R., B. A. Afzelius, P. Lupetti, and G. Osella. 1998.** Sperm structure of some Curculionoidea and their relationship with Chrysomeloidea [Pp. 27-50]. In: Taxonomy, ecology and distribution of Curculionoidea (Coleoptera: Polyphaga): proceedings of a symposium (28 August, 1996, Florence, Italy): XX International Congress of Entomology (Colonnelli, E., S. Louw, and G. Osella, editors). Museo Regionale di Scienze Naturali, Torino.
- Darling, D. C. 1999.** Life history and immature stages of *Steffanolampus salicetum* (Hymenoptera: Chalcidoidea: Perilampidae). Proceedings of the Entomological Society of Ontario 130: 3-14.
- Darling, D. C., and H. Roberts. 1999.** Life history and larval morphology of *Monacon* (Hymenoptera: Perilampidae), parasitoids of ambrosia beetles (Coleoptera: Platypodidae). Canadian Journal of Zoology 77: 1768-1782.
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- Di Marco, C., and G. Osella. 2001.** Gli *Otiiorhynchus* Germar, 1824 ed i generi ad esso strettamente affini: *Dodecastichus* Stierlin, 1861, *Limatogaster* Apfelbeck, 1898 e *Cirorrhynchus* Apfelbeck, 1899 dell' Appennino Abruzzese-Molisano (Coleoptera, Curculionidae). Memorie del Museo Civico di Storia Naturale de Verona (II serie) - Sezione Scienze della Vita 15: 1-117.
- Dosdall, L. M., and M. A. McFarlane. 1999.** Biology and larval morphology of *Ceutorhynchus neglectus* (Coleoptera: Curculionidae), a minor pest of *Canola* (Brassicaceae) in

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- Western Canada. *Canadian Entomologist* 131: 231-242.
- Eberhard, W. G., and J. M. Garcia-C. 2000.** Ritual jousting by horned *Parisoschoenus expositus* weevils (Coleoptera, Curculionidae, Baridinae). *Psyche* 103: 55-84.
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- Emberson, R. M. 1998.** The beetle (Coleoptera) fauna of the Chatham Islands. *New Zealand Entomologist* 21: 25-64.
- Ervik, F., and J. P. Feil. 1997.** Reproductive biology of the monoecious understory palm *Prestoea schultzeana* in Amazonian Ecuador. *Biotropica* 29: 309-317.
- Farell, B. D. 1998.** "Inordinate fondness" explained: why are there so many beetles? *Science* 281: 555-559.
- Fortino, A. D., and J. J. Morrone. 1997.** Signos gráficos para la representación de análisis panbiogeográficos. *Biogeographica* 73: 49-56.
- Franz, N. M., and C. W. O'Brien. 2001a.** Revision and phylogeny of *Perelleschus* (Coleoptera: Curculionidae), with notes on its association with *Carludovica* (Cyclanthaceae). *Transactions of the American Entomological Society* 127: 255-287.
- Franz, N. M., and C. W. O'Brien. 2001b.** *Ganglionus*, a new genus of Derelomini (Coleoptera: Curculionidae) associated with *Carludovica* (Cyclanthaceae). *Annals of the Entomological Society of America* 74: 835-850.
- Frieser, R. von. 1998a.** Beitrag zur Kenntnis der Anthribiden mit Neubeschreibungen aus der orientalischen Region sowie von Zentral- und Ostafrika (Coleoptera: Anthribidae). *Acta Coleopterologica*, 14: 3-15.
- Frieser, R. von. 1998b.** Habitus- und Zeichnungsabbildungen der mitteleuropäischen Ceutorhynchini (Curculionidae). *Acta Coleopterologica* 14: 17-36.
- Furniss, M. M. 1997a.** American forest entomology comes on stage: bark beetle depredations in the Black Hills Forest Reserve, 1897-1907. *American Entomologist* 43: 40-47.
- Furniss, M. M. 1997b.** *Conophthorus ponderosae* (Coleoptera: Scolytidae) infesting Lodgepole Pine cones in Idaho. *Environmental Entomologist* 26: 855-858.
- Furniss, M. M., and B. W. Wickman. 1998.** Photographic images and history of forest insect investigations on the Pacific slope, 1903-1953. Part 1, California. *American Entomologist* 44: 206-216.
- Giusto, C. 1997.** Revisione del Genere *Oryxolaemus* Alonso-Zarazaga, 1990. *Bollettino del Museo Regionale de Scienze Naturali - Torino* 15: 313-353.
- Guix, J. C., and X. Ruiz. 1997.** Weevil larvae dispersal by guans in Southeastern Brazil. *Biotropica* 29: 522-525.
- Hamilton, R. W. 1997.** A new species of *Euscelus* Schoenherr from Mexico (Coleoptera: Attelabidae). *Coleopterists Bulletin* 51: 364-370.
- Hamilton, R. W. 1998.** Taxonomic revision of the New World Pterocolinae (Coleoptera: Rhynchitidae). *Transactions of the American Entomological Society* 124: 203-269.
- Heard, T. A., J. A. Burcher, and I. W. Forno. 1999.** *Chalco-dermus serripes* (Coleoptera: Curculionidae) for biological control of *Mimosa pigra*: host relations and life cycle. *Biological Control* 15: 1-9.
- Heijerman, T., and K. van den Berg. 1995.** Het genus *Sirocalodes* in Nederland (Coleoptera: Curculionidae). *Entomologische Berichten Amsterdam* 55: 177-181.
- Hoebeker, E. R., A. Byers, M. A. Alonso-Zarazaga, and J. F. Stimmel. 2000.** *Ischnopterapion* (Chlorapion) Virens (Herbst) (Coleoptera: Curculionoidea: Brentidae: Apioninae), a Palearctic clover pest new to North America: recognition features, distribution, and bionomics. *Proceedings of the Entomological Society of Washington* 102: 151-161.
- Hoffman, G. D., D. W. A. Hunt, S. M. Salom, and K. F. Raffa. 1997.** Reproductive readiness and niche differences affect responses of conifer root weevils (Coleoptera: Curculionidae) to simulated host odors. *Environmental Entomology* 26: 91-100.
- Howden, A. T. 1998.** Review of the *Pandeteleius biseriatus* species-group (Coleoptera: Curculionidae), with description of a new species. *Canadian Entomologist* 130: 367-375.
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- Jones, R. W., and H. R. Burke. 1997.** New species and host plants of the *Anthonomus grandis* species group (Coleoptera: Curculionidae). *Proceedings of the Entomological Society of Washington* 99: 705-719.
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- Karasyov, V. P., and T. V. Okrajko. 1998a.** New Palearctic *Smicronyx* and *Tychius* species (Insecta: Coleoptera: Curcu-

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- Kegley, S. J., M. M. Furniss, and J.-C. Grégoire. 1997.** Electrophoretic comparison of *Dendroctonus punctatus* Leconte and *D. micans* (Kugelann) (Coleoptera: Scolytidae). Pan-Pacific Entomologist 73: 40-45.
- Khruleva, O. A., and B. A. Korotyaev. 1999.** Weevils (Coleoptera: Apionidae, Curculionidae) of Wrangel Island. Entomological Review 79: 1119-1137.
- Kissinger, D. G. 1998.** Apionidae from North and Central America. Part 5. Description of genus *Apionion* and 4 new species (Coleoptera). Insecta Mundi 12: 93-102.
- Kissinger, D.G. 1999a.** Apionidae from North and Central America. Part 6. Description of new species of *Apionion* Kissinger, *Coelocephalopion* Wagner and *Trichapion* Wagner (Coleoptera). Insecta Mundi 13: 21-38.
- Kissinger, D.G. 1999b.** Description of a new genus, *Sayapion*, from North and Central America (Coleoptera: Apionidae). Insecta Mundi 13: 72.
- Klimaszewski, J., M. Bernier-Cardou, D. Cyr, R. Alfaro, and K. Lewis. 2000.** Screening of sitka spruce (*Picea sitchensis*) seedlings for resistance to the white pine weevil (*Pissodes strobi*) in a caging experiment. Belgian Journal of Entomology 2: 273-286.
- Klimaszewski, J., and G. Kuschel. 1998.** Annual variation in the beetle fauna associated with the Hard Beech (*Nothofagus truncata*) litter of the Orongorongo Valley, New Zealand. Giornale Italiano di Entomologia 8: 157-166.
- Knutelski, S., P. Boguslaw, and M. Wanat. 1997.** New records of *Simo hirticornis* (Herbst) and *S. variegatus* (Boheman) (Coleoptera: Curculionidae) from Europe. Polish Journal of Entomology 66: 223-230.
- Knutelski, S., and B. Petryszak. 1997.** Nouvelles données sur la répartition en Europe de *Rhopalapion longirostre* Oliver, 1807 (Coleoptera Apionidae). L'Entomologiste 53: 51-53.
- Knutelski, S., and A. Royaud. 1997.** *Liparus dirus* Herbst (Coleoptera: Curculionidae) et *Clonopsis gallica* (Charpentier) (Phasmatodea: Bacillidae) deux espèces intéressantes pour l'entomofaune des Pyrénées-Atlantiques (France). L'Entomologiste 53: 97-98.
- Kojima, H. 1998.** New Oriental weevils of the tribes Rhamphini and Ochyromerini (Coleoptera, Curculionidae). Esakia 37: 121-134.
- Kojima, H., and K. Morimoto. 1998.** New *Imathia* from Japan and Taiwan (Coleoptera: Curculionidae, Curculioninae, Storeini). Entomological Science 1: 249-255.
- Kojima, H., and K. Morimoto. 2000.** Systematics of the genus *Sphinxis* Roelofs (Coleoptera: Curculionidae). Entomological Science 3: 529-556.
- Kojima, H., K. Morimoto, and M. Horikawa. 1998.** Two new species of the genus *Ochyromera* (Coleoptera: Curculionidae) from Japan. Esakia 38: 113-122.
- Korotyaev, B. A. 1996a.** A new species of the weevil genus *Pseudorchestes* Bedel from Namibia (Coleoptera: Curculionidae). Zoosystematica Rossica 5: 130.
- Korotyaev, B. A. 1996b.** New data on the weevil tribe Corimaliini (Coleoptera: Apionidae). Zoosystematica Rossica 5: 149-152.
- Korotyaev, B. A. 1997a.** Material on weevils of the subfamily Ceutorhynchinae (Coleoptera, Curculionidae) of Palearctic. Entomological Review 77: 445-485.
- Korotyaev, B. A. 1997b.** A review of weevils of the genus *Coeliodes* Schoenh. (Coleoptera, Curculionidae) of the fauna of the Far East. Entomological Review 77: 960-975.
- Korotyaev, B. A. 1997c.** New and little known species of weevils from East Asia (Coleoptera: Apionidae, Curculionidae). Zoosystematica Rossica 5: 285-288.
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- Korotyaev, B. A. 1999b.** Subgeneric classification of the weevil genus *Rutidosoma* Stephens (Coleoptera: Curculionidae). Zoosystematica Rossica 8: 143-144.
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- Korotyaev, B. A. 1999d.** A new genus for *Ceutorhynchus echinatus* Fall from North America (Coleoptera: Curculionidae). Zoosystematica Rossica 8: 170.
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- Korotyaev, B. A., and L. Gültekin. 2001.** A new weevil species of the *Ceutorhynchus inaeffectatus* group from North-Eastern Turkey (Coleoptera, Curculionidae). Revue Française d'Entomologie 23: 119-123.
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- Korotyaev, B. A., and J. Y. Meleshko. 1997.** On the systematics of the weevil genus *Polydrusus* (Coleoptera: Curculionidae). Zoosystematica Rossica 6: 275-286.
- Korotyaev, B. A., and C. W. O'Brien. 1999.** A new species of the weevil genus *Ceutorhynchus* from California (Coleoptera: Curculionidae). Zoosystematica Rossica 8: 139-140.
- Krivets, S. A., and B. A. Korotyaev. 1999.** New and little

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- Kuschel, G. 1998b.** The subfamily Anthribinae in New Caledonia and Vanuatu (Coleoptera: Anthribidae). *New Zealand Journal of Zoology* 25: 335-408.
- Kuschel, G., R. A. B. Leschen, and E. C. Zimmerman. 2000.** Platypodidae under scrutiny. *Invertebrate Taxonomy* 14: 771-805.
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- Langor, D. W., Y. Situ, and R. Zhang. 1999.** Two new species of *Pissodes* (Coleoptera: Curculionidae) from China. *Canadian Entomologist* 131: 593-603.
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- Langor, D. W., and D. J. M. Williams. 1998.** Life cycle and mortality of *Pissodes terminalis* (Coleoptera: Curculionidae) in lodgepole pine. *Canadian Entomologist* 130: 387-397.
- Lanteri, A. A., N. B. Díaz, M. S. Loíacono, and A. E. Marvaldi. 1997.** Gorgojos perjudiciales a los cultivos de trigo en la Argentina (Coleoptera: Curculionidae). *Revista de la Sociedad Entomológica de Argentina* 56: 77-79.
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- Lanteri, A. A., and B. B. Normark. 1995.** Parthenogenesis in the tribe Naupactini (Coleoptera: Curculionidae). *Annals of the Entomological Society of America* 88: 722-731.
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- Legalov, A. A. von. 1997d.** A review of the weevils of the genus *Chlorophanus* C. Sahlberg, 1823 (Coleoptera: Curculionidae) in the fauna of Siberia and the Russian Far East. *Russian Entomological Journal* 6: 53-63.
- Legalov, A. A. von. 1997e.** A new genus of the tribe *Oxystomatini* from Russia (Coleoptera: Apionidae). *Zoosystematica Rossica* 5: 284.
- Legalov, A. A. von. 1999a.** Two new species of the genus *Donus* Jekel (Coleoptera, Curculionidae, Hyperinae) from the mountains of S-Siberia. *Bulletin de L'Institut Royal des Sciences Naturelles de Belgique* 69: 283-287.
- Legalov, A. A. von. 1999b.** Neue Rüsselkäferarten (Coleoptera, Curculionidae) von Sibirien und Kasachstans. *Entomologica Basiliensia* 21: 375-384.
- Legalov, A. A. von. 2000a.** Die Arten der Untergattung *Hemiperapion* Wagner der Gattung *Perapion* Wagner (Coleoptera, Brentidae, Apioninae). *Bulletin de L'Institut Royal des Sciences Naturelles de Belgique - Entomologie* 70: 89-96.
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Sitting (left to right): Bob Anderson, Adriana Marvaldi, Analía Lanteri, Charles O'Brien, and Germano Rosado-Neto
Standing (left to right): Alfried Vogler, Schalk Louw, Andrea Sequiera, Nico Franz, Mike Morris, Hiroaki Kojima, Chris Lyal, Rolf Oberprieler, José Mermudes, and Bjarte Jordal (photo courtesy of Andrea Sequiera)