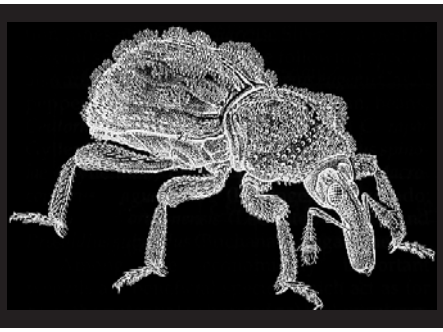

CURCULIO

An International Newsletter for Curculionoidea Research

Volume 53 September 2006

CONTENTS

Featured Researcher

Bjarte Jordal

Department of Biology
University of Bergen, Norway

Bjarte Jordal at the University of Bergen

Academic Background

Bachelor of Science in Biology, University of Bergen, Norway - 1993

Master of Science in Systematic Zoology, University of Bergen - 1995: "Taxonomy and ecology of beetles breeding in *Cecropia* (Cecropiaceae) leafstalks with special emphasis on *Scolytodes* (Coleoptera: Scolytidae)"

Didactics in Natural Sciences, University of Bergen - 1996

Doctor of Philosophy in Evolutionary Biology, University of Bergen & Harvard University - 2001: "The origin and radiation of sib-mating haplodiploid beetles (Coleoptera, Curculionidae, Scolytinae)"

Marie Curie Research Fellow, University of East Anglia, United Kingdom - 2002 to 2004

Postdoctoral Fellow and Curator of Coleoptera, Museum of Natural History, University for Science and Technology, Trondheim, Norway - 2004 to 2006

Postdoctoral Fellow, Department of Biology, University of Bergen - 2006 to present

Research interests

Taxonomy, phylogenetics, phylogeography and ecology of Scolytinae, Platypodinae and Cossoninae of the world.

Unlike many of the readers of Curculio I became interested in weevils quite some time after initiating my college studies in conservation biology. I grew up on a mountain farm in the western parts of Norway, with long winters and very little exposure to insect diversity, except for blood sucking mosquitoes and other annoyances. Therefore my narrowminded view of nature changed considerably when taking classes in taxonomy and invertebrate systematics at the University. After pondering for a while with finding an educational path that would satisfy me, I realized that systematics was perfect and that working on tropical beetle diversity would suit my newborn interest for insects. At the University I met Lawrence Kirkendall who introduced me to his research on tropical bark and ambrosia beetles, and I later received my M.Sc. and Ph.D. partly under his mentorship.

My first project dealt with the taxonomy of the diverse bark beetle genus *Scolytodes*, which includes many species that are associated with dead *Cecropia* stems and giant leafstalks. I described 12 new species of this genus during my M.Sc. study.

(continued page 2)

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Editorial Comments

Welcome to volume 53 of CURCULIO. Judging from the contents of this volume, the 10th under my editorship, the community is well and is producing a lot of interesting and relevant research. Our featured researcher this time is Barte Jordal who is already an accomplished expert in bark beetle systematics and evolution. In his unique section, Horace Burke reviews the life and work of weevil specialist William Anderson (p. 5). Peter Stüben has news from the most recent excursion of the very active Curculio-Institute to Cotignac, southern France (p. 10), and Duane McKenna contributes an update and call for weevil specimens for the high-profile Beetle Tree of Life project (BToL) led by Brian Farrell (p. 11). Maxwell Barclay reports on the untimely departure of Russian weevil specialist Vadim Gratshev (p. 12)

This year's informal weevil meeting at the annual ESA meetings in Indianapolis was a successful event (p. 8). As he has for many years, Charles O'Brien coordinated the meeting which was attended by 15 participants including six talented graduate students. Plans are underway to organize an official weevil-centered symposium at next year's meeting in San Diego, California (December 9-12). That symposium would showcase some of the younger workers and also partly compensate for the likely absence of a dedicated Phytophaga session at the upcoming International Congress of Entomology in Durban, South Africa (see http://www.ice2008.org.za/). In either case, we look forward to seeing more from this promising group in years to come.

Many thanks to everyone who contributed to the new CURCULIO volume! It is encouraging to see a truly international community come closer through this medium.

NMF

Bjarte Jordal (continued)

The availability of a taxonomic monograph on North and Central American bark and ambrosia beetles was of great help for my studies both then and later, and its author Stephen Wood kindly helped me with identifications. The future seemed promising, but the lack of funding the next two years almost squeezed me out of academia. However, after one year in school of education and another year working as a teacher, I finally received a Ph.D. grant in 1998 to work on the phylogenetics of haplodiploid, inbreeding scolytines. The project included 18 months research in Brian Farrell's laboratory at Harvard Univeristy where I learned protocols and analyses in molecular systematics. Together with Ben Normark and Andrea Sequeira we published a series of papers on the higher level phylogenetics of Scolytinae and Platypodinae.

After my dissertation I received a Marie Curie Fellowship from the European Union to study the evolution of host plant use in Crypturgini bark beetles in the Macaronesian archipelagoes. This work was completed in Godfrey Hewitt's laboratory at the University of East Anglia. The main purpose for taking up this fellowship was to extend my research to also study population genetic processes associated with speciation. My research therefore aims at studying not only phylogenetics and taxonomy of wood boring weevils, but also at trying to understand some of the processes that lead to speciation and diversification.

For the past 2-3 years I was finally able to resume my taxonomic work. Several smaller papers on the taxonomy of European species complexes will be published soon (i.e., *Crypturgus*, *Dryocoetes*, and *Polygraphus*). I am also currently describing new species of *Aphanarthrum* and *Coleobothrus* from South Africa. A chapter on Scolytinae-Platypodinae-Cossoninae is currently in review for the *Handbook of Zoology* series on the Coleoptera (edited by Rolf Beutel & Richard Leschen). In a longer-term perspective my work will include revisions of Crypturgini and Hylastini, as well as the elaboration of a monograph for the Palearctic species of Scolytinae and Platypodinae, and another for the African and Malagasy fauna. Along this line of research, I will contribute to the development of an encyclopedic on-line database, including morphological diagnoses, illustrations, DNA barcodes, and distribution data.

Taxonomy is well suited for dissemination through on-line databases. One of the most important goals will be to build simple and appealing databases and thereby modernize the taxonomic infrastructure. Many such databases are under construction or nearly completed, (e.g. for fishes, ants, spiders, grasses, etc. I wish that the largest possible number of workers in the taxonomic community will contribute to such a massive enterprise for all organisms. We have seen how GenBank has become a tremendous success, so why not an encyclopedia of all life? A peer-reviewed Tree of Life encyclopedia that links the taxonomic community with DNA barcoding data, provided e.g. through the Consortium for the Bare Code of Life (CBoL; see http://barcoding.si.edu/index.htm), and with distributional data, e.g. via the Global Biodiversity Information Facilty (GBIF; see http://www.gbif.org/), is perhaps the key to assure stable funding for taxonomy and taxonomic databases during the following decades.

My main interest in addition to taxonomy are lower- and higher-level phylogenetics of Scolytinae and Platypodinae. The phylogenetic position and classification of these groups has been and still is very controversial. Although there is an emerg-

(continued page 3)

Bjarte Jordal (continued)

ing consensus for a close relation between Platypodinae and Scolytinae (where the former is nested within the latter, and that these groups are more closely related to Cossoninae than to any other weevil group, the data produced so far are not very decisive. To resolve at least some of the uncertainties, I am now assembling species from all tribes of Scolytinae and Platypodinae, and from many Cossoninae, with a sufficient range of weevil outgroups (including Dryophthorinae, Cryptorhynchinae, "Entimini", and several other groups). This information will generate a phylogenetic analysis of approximately 180 morphological characters and 3,500 nucleotide characters from five genes for about 250 taxa. Once a more robust phylogeny has been established, hypotheses on the origin of host-plant use, reproductive features, and biogeography can be thoroughly tested. This work is done in collaboration with Anthony Cognato at Michigan State University, Andrea Sequeira at Wellesley College, and Brian Farrell at Harvard University.

Weevils in dead *Euphorbia* plants, from left to right: *Pselactus obesulus* (Wollaston) (Sao Vicente, Cape Verde, ex. *Euphorbia tuckeyana*); *Mesites euphorbiae* (Madeira, ex. *Euphorbia piscatorium*); *Liparthrum loweanum* Wollaston (Santo Antao, Cape Verde, ex. *Euphorbia tuckeyana*); *Aphanarthrum orientalis* Schedl (Uganda, ex. *Euphorbia teke*); and *Coleobothrus germeauxi* Menier (Uganda, ex. *Euphorbia teke*); photos by Bjarte Jordal

It might take another year or two to complete this project due to other obligations. About half of my time now is allocated to a study of the phylogeography, population genetics, and species diagnoses of widespread inbreeding scolytines. Due to a mating system of regular sibling mating and rare instances of outbreeding, morphological differences between species are relatively small, which has resulted in a generally confused taxonomy. To illustrate this example, several species complexes in *Hypothenemus* and *Xyleborus* have more than 10-20 synonymies listed under the currently valid name, with as many as 70 synonyms for *Hypothenemus eruditus!*

Field work in all parts of the world during the last eight years has resulted in a large number of collected species, including many cossonines and some other weevil groups associated with dead wood. Most of my cossonine material has not yet been identified, partly due to the lack of expertise on this group, especially after Kuschel and Morimoto have retired. If there is anyone that would try identifying them, please let me know (mainly Cossonini, Rhyncolini, Onycholipini, Pentarthrini, Dryotribini, and some nest-parasitic Conoderinae and some Cryptorhynchinae). The situation on the scolytine-platypodine side is much better and several younger taxonomists are learning from the more experienced. Roger Beaver regularly assists me in identifying Asian and African specimen material, and additional material has been identified by Lawrence Kirkendall, Milos Knizek, and Stephen Wood. Active collaboration and exchange of identified material with Anthony Cognato and his many students further contributes to an increased output of taxonomic results. Bark beetle taxonomy and systematics is certainly a very inspiring research field at the moment and will hopefully continue that way for many years to come.

Request for Specimens

I am interested in receiving recently collected weevils in ethanol for molecular analyses of ***Dryophthorus, Magdalis, Phloeophagus, Listronotus, Ceutorhynchus, Zacladus, Cryptorhynchus, Asynonychus, Penestes, Tanyspyrus, Hylobius, Sitona,*** and ***Curculio.*** I am also interested in receiving ethanol-preserved material of Mexican and southern to northwestern United States ***Hylastes-Hylurgops-Scierus*** and ***Carphoborus,*** as well as specimens worldwide of ***Xyleborus volvulus, X. ferrugineus, X. affinis, Xylosandrus morigerus, X. crassiusculus, Hypothenemus eruditus, Euplatypus paralle-***

(continued page 4)

Bjarte Jordal (end)

lus, Crossotarsus externedentatus, Premnobius cavipennis, Hypocryphalus mangiferae, Coccotrypes advena, C. cyperi, and ***C. rhizophorae.***

Recent Publications on Weevils (since 2004)

Jordal, B. H., and G. M. Hewitt. 2004. The origin and radiation of Macaronesian beetles breeding in *Euphorbia:* the relative importance of multiple data partitions and population sampling. Systematic Biology 53: 711-734.

Jordal, B. H., L. R. Kirkendall, and K. Harkestad. 2004. Phylogeny of a Macaronesian radiation: host-plant use and possible cryptic speciation in *Liparthrum* bark beetles. Molecular Phylogenetics and Evolution 31: 554-571.

Jordal, B. H. 2006a. Community structure and reproductive biology in bark beetles (Coleoptera: Scolytinae) associated with Macaronesian *Euphorbia* spurges. European Journal of Entomology 103: 71-80.

Jordal, B. H. 2006b. Reconstructing the phylogeny of Scolytinae and close allies: major obstacles and prospects for a solution. USDA Forest Service General Technical Report, RMRS-GTR-000. (in press)

Jordal, B. H., B. C. Emerson, and G. M. Hewitt. 2006. Apparent "sympatric" speciation in ecologically similar herbivorous beetles facilitated by multiple colonisations of an island. Molecular Ecology 15: 2935-2947.

Kirkendall, L. R., and B. H. Jordal. 2006. The bark and ambrosia beetles (Curculionidae, Scolytinae) of Cocos Island, Costa Rica and the role of mating systems in island zoogeography. Biological Journal of the Linnean Society 89: 729-743.

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Website: http://www.bio.uib.no/code/startside/forsker.php?pid=1481&lang=E

Research Activities and Requests for Specimens

Steven Davis (USA: steved@ku.edu). **In need of baridine specimens (dry or in alcohol) in the tribe Madopterini** for his dissertation research on the phylogenetics of Madopterini at the University of Kansas. Please contact him via e-mail if you have any specimens to lend.

Nico Franz (USA - Puerto Rico: franz@uprm.edu). **Looking to recruit motivated graduate students** to study weevil systematics and evolution in his new lab at the University of Puerto Rico at Mayagüez. The Biology Department provides unique opportunities to conduct research in a tropical environment. Some ability to speak Spanish is helpful although not required. For additional information please refer to the lab website at http://academic.uprm.edu/~franz/. Other activities are included in this volume's report of the informal weevil meeting at ESA Indianapolis (p. 9).

Laibale Friedman (Israel: laibale@post.tau.ac.il). Recently published an article on the occurrence of *Derelomus piriformis* (Hoffmann) in Israel. Has also submitted a manuscript on the Apionidae of Israel, and another one on the Rhynchitidae and Attelabidae of Israel (together with Andrei Legalov) has been accepted, and will be published in 2007. Is now working intensively on the *Brachycerus* fauna of Israel, and planning taxonomic research on East African Nanophyidae. Is generally studying the weevil fauna of Israel and adjacent areas, and will readily examine any weevil material from this area. Maintains a high interest in the world fauna of Nanophyidae and Brachyceridae, particularly *Brachycerus.* **Remains available for exchange and loan of related specimen material.**

Robert Hamilton (USA: rhamilt@orion.it.luc.edu). Has a manuscript in review for *Zootaxa* that covers the *Euscelus* speciesof the West Indies (Attelabidae). Hunting down types has taken a considerable amount of time, yet the "law" of priority must prevail. Also working on the *Temnocerus* species (Rhynchitidae) of Central America. This group consists of small bluish-black weevils that oviposit in and cut terminal leaf growth of many host plants. Aedeagal characters are usually necessary to separate the species, and their small size makes dissections difficult. Many new species are present in his study material.

Trevor Hawkeswood (Australia: drtjhawkeswood@hotmail.com). Presently not working very actively with weevils unless a new interesting topic appears. For more information please refer to his website at www.calodema.com.

Robert Jones (Mexico: rjones@uaq.mx). Continuing to work at the Universidad Autónoma de Querétaro in Querétaro, Mexico. Starting a project with Charles O'Brien to investigate where the genus *Amphidees* Schoenherr (Entiminae) should be placed in relation to other New World Tropiphorini, and planning to describe new species within the group.

(continued page 5)

Research Activities (end)

Antonio Machado (Canary Islands: a.machado@telefonica.net). **In need of specimens of *Omiamima* or *Aomus* killed and preserved in absolute ethanol,** to be used as outgroups in a phylogenetic study of the Macaronesian genus *Laparocerus* (Curculionidae: Entiminae). If you have such material please establish contact via e-mail.**Antoine Mantilleri** (France: amantill@mnhn.fr). Continuing his studies of the Brentidae, especially the tribes Stereodermini, Hoplopisthiini, and Microtrachelizini. **Looking for specimens of all these tribes** from all over the world for study and identification.

Nicolas Maughan (France : nicolas.maughan@up.univ-mrs.fr). Currently a Ph.D. student in ecology and interested in Curculionidae, especially Cossoninae, and revising the genus ***Mesites*.** Would be grateful for the **loan of specimens of this genus** for study, particularly from the Macaronesian region.

Hélène Perrin (France: hperrin@mnhn.fr). Continuing to study the Curculionini of the Afrotropical region. Also working (with A. Duhamel) on the genus *Chloropholus* from Madagascar, and **wishes to see and identify available material.**

Helio Pierotti (Italy: hpierotti@notariato.it). Working on a taxonomic rearrangement of the Palearctic Peritelini, as well as a revision of the genus *Simo* Dejean, 1821 (Curculionidae: Entiminae), with descriptions of a new genus and ten new species. **Requesting specimens of Peritelini from Europe and North America for study.**

Peter Stüben (Germany: p.stueben@t-online.de). Continuing to work on the revision of Crpytorhynchinae: Torneumatini of the western Paleartic region. Kindly asking all Curculio readers to check whether they have (un-) determined **specimens from Europe, Canary Islands, Madeira, and northern Africa** for the purpose of including them in this study.

Barry Valentine (USA: bv@nwcs.com). Studies of various Anthribidae continue, with emphases on the West Indies, Indo-Pacific, and sub-Saharan Africa. Description of the many new genera is a high priority; a revised tribal classification is also in progress. **Anthribids for identification from anywhere are always welcome, as are exchanges.** In the latter case, world anthribids, other weevil families, and other Coleoptera families are available.

Semyon Volovnik (Ukraine: volovnik@mv.org.ua). Continuing his work on the Cleoninae - geography, ecology, evolution, and economic importance. **Would be grateful for literature** and any another information on this subject; and is prepared to send his papers on Cleoninae in exchange.

Nikolai Yunakov (Russia: omias@mail.ru). Completing a revision of the weevil genus *Brachysomus*. Preparing a manuscript on the morphology and classification of the *Polydrusus* genus complex (Curculionidae, Entiminae). Studying the morphological-ecological adaptations and main evolutionary trends in the broad-nosed weevils (Entiminae).

Notable Weevil Specialists of the Past

By Horace R. Burke (USA: hrburke@tamu.edu)

The parade of weevil specialists of the past continues with a review of the contributions of William (Bill) Henry Anderson to the knowledge of curculionoids. Anderson is another of several United States Department of Agriculture (USDA) entomologists who has added considerably to scientific literature on the group. He is also the first specialist on larval taxonomy to be featured in this series. Unfortunately, no formal obituary or memorial has been published for Anderson, even though he was a prominent entomologist and his scientific contributions were significant.

William Henry Anderson (1908-1997)

I am greatly appreciative to Stephen Lingafelter for providing the accompanying photograph of Anderson and also copies of his correspondence from the USDA files in the National Museum of Natural History in Washington, DC. This account would be much diminished without these materials. Thanks are also due John Kingsolver and Raymond Gagne who shared their recollections of Anderson with me.

Little information is available to me on the early life of William H. Anderson. After retirement from the USDA in 1967, he frequently corresponded with Donald (Don) M. Anderson (no relation) in an informal manner, but nothing was revealed about his early education, development of interest in insects, or other biographical aspects of interest. Don Anderson succeeded Bill in the USDA position in Washington with responsibility for identification and study of immature Coleoptera. The two kept in fairly close contact during the latter's retirement through

(continued page 6)

William Anderson (continued)

"chatty" letters and discussion of matters relating to weevil larvae. Don's death on December 27, 2005, closes the chapter on the two Anderson careers as USDA scientists working on the taxonomy of weevil larvae.

William H. Anderson was born in Chesterfield, Massachusetts on November 21, 1908 (Cattell 1944). He was awarded the B.S. degree by the University of Maryland in 1931. This degree was followed by the M.Sc. in 1932 and the Ph.D. in Entomology in 1936, also from the University of Maryland. During the summers of 1930 to 1932 Anderson worked as Field Assistant with the Bureau of Entomology and Plant Quarantine, USDA, studying insect pests of blueberries. For a short time during 1936-1937 he continued employment with this organization on a fulltime basis. In 1937 he was promoted to Assistant Entomologist and in 1939 advanced to the rank of Entomologist with responsibility for insect identification and research in the Insect Identification and Parasite Introduction Laboratories. In 1960 Anderson was appointed as Acting Chief of the Insect Identification and Parasite Introduction Research Branch, USDA. The following year he became Chief of this organization and until his retirement in 1967 was involved in administrative activities. This work essentially prevented him from conducting further research on the taxonomy of weevil larvae.

William H. Anderson

Following retirement in 1967, Anderson grew ornamental plants at Snow Hill, Maryland for sale to nurseries. He claimed that this was a hobby and that he had no wish to expand the business. Bill remained active in the Entomological Society of Washington and served as its president in 1953. As a continuing and substantial commitment to entomology, Anderson served as editor of the Annals of the Entomological Society of America from 1968 through 1972. He also held the title of Research Collaborator in the USDA and kept in contact with work on weevil larvae through Don Anderson. The two coauthored a paper on the identification of white-fringed beetle larvae in 1973, his last published paper (Anderson & Anderson 1973). Bill Anderson died at Snow Hill, Maryland on November 13, 1997, eight days short of his 89th birthday.

Anderson's first published paper reported on a comparative study of the labium of coleopterous larvae (Anderson 1936), based on his Ph.D. dissertation research at the University of Maryland. Surprisingly, weevil larvae were not included in the study although he later referred to this research as being helpful in the interpretation of characters of curculionoid larvae. He occasionally studied larvae of other beetle groups, for example, pyrochroids (Spilman & Anderson 1961), and bostrichids (Anderson 1939). The great majority of his research was on immature Coleoptera, but he and Don Anderson collaborated on a paper on the adult types of the Hans Eggers Collection of scolytines (Anderson & Anderson 1971). A brief paper was also published on an instance of scolytine synonymy (Anderson 1948).

In a brief review of the history of the taxonomic study of the immature stages of Curculionoidea, Burke & Anderson (1976) commented on Bill Anderson's contributions to this subject, as follows: "During the period 1940 to 1955 relatively good progress was made on studies of the immature stages of American curculionoids, especially on many taxa occurring in America north of Mexico. A great deal of this progress can be attributed to the work of W. H. Anderson. He was the first coleopterist in America whose interest was directed primarily to the study of curculionoid larvae, although he did publish on some other groups of Coleoptera. With the exception of a few papers, his published works dealt mainly with larval characters on the generic and higher levels. Especially significant were Anderson's studies on Anthribidae (1947b) and the curculionoid subfamilies Cossoninae (1952) and Rhychophorinae (1948a). He (1938, 1948b) also published keys for the determination of larvae of some of the economic species. Another contribution Anderson (1947a) made to larval study was that of developing a terminology of larval characters for systematic purposes. This terminology has been widely employed and has served the useful purpose of standardizing larval descriptions throughout the world. With incorporated changes (May 1967, Thomas 1957) necessitated by reinterpretation of anatomical characters and expansion to include other curculionoid groups, Anderson's basic terminology continues to serve as a unifying standard in descriptions of curculionoid larvae."

As further analysis of Bill Anderson's contribution to the taxonomy of weevil larvae, it should be mentioned that he left a considerable amount of unpublished material on this subject in USDA files when he retired. Don Anderson, with proper attribution, used some of this material, including illustrations, in his own papers on weevil larvae. He often praised the quality of Bill's unpublished notes on diverse taxa of weevil larvae as well as the fine slides that he prepared for study (D. M. Anderson, personal communication). Given the present interest

(continued page 7)

William Anderson (end)

in the use of larval characters in the classification of the Curculionoidea, it is of interest to note that Bill Anderson gave a talk on this subject at the 1960 Wein International Congress of Entomology (Anderson 1960). Unfortunately, the text of this talk was not published and only a brief abstract is available. Don Anderson (personal communication, 1988) was unable to find the manuscript or set of notes on which this talk was based in Anderson's files. We can only hope that the unpublished material expressing Anderson's views on this subject will eventually be found. It would be interesting to compare his ideas on weevil classification based in part on larval characters with classifications in use today, 46 years later.

A considerable part of what might have been the most productive years of Bill Anderson's work on weevil larvae was spent in administrative tasks as Chief of the Insect Identification and Parasite Introduction Research Branch, USDA. His publication record is not extensive, but work that he published is of high quality and, furthermore, his descriptions of assorted genera and higher taxa of curculionoids still stand as the most authoritative to date. His name ranks among those of F. I. van Emden, J. C. M. Gardner, A.G. Böving, and a few others as a pioneer in attempts to integrate larval characters in the classification scheme of Curculionoidea.

Publications by W. H. Anderson on Curculionoidea Larvae

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Anderson, W. H. 1941b. The larva and pupa of *Cylindrocopturus furnissi* Buchanan (Coleoptera: Curculionidae). Proceedings of the Entomological Society of Washington 43: 152-155.

Anderson, W. H. 1943. The larva of *Holostipna nitens* (LeC.) and its relationships (Coleoptera: Anthribidae). Proceedings of the Entomological Society of Washington 45: 171-175.

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Anderson, W. H. 1948b. A key to the larvae of some species of *Hypera* Germar, 1817 (=*Phytonomus* Schoenherr, 1823). Proceedings of the Entomological Society of Washington 50: 25-34.

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Spilman, T. J., and W. H. Anderson. 1961. On the immature stages of American Pyrochroidae. Coleopterists Bulletin 15: 38-40.

Thomas, J. B. 1957. The use of larval anatomy in the study of bark beetles (Coleoptera: Scolytidae). Canadian Entomologist 89, Supplement 5: 1-45.

Notable Weevil Specialists - Call for Contributions

This valuable series **open for contributions by other authors covering specialists from all regions of the world.** If you wish to write about a particular weevil specialist, please contact the editor at franz@uprm.edu.

Informal Weevil Meeting - ESA 2006 Indianapolis

By Nico Franz (USA - Puerto Rico: franz@uprm.edu)

This year's informal weevil meeting took place on December 12, 2006, from 2:00 to 4:00 pm during during the Annual Meeting of the Entomological Society Meeting in Indianapolis, Indiana. The meeting was organized and led by Charles O'Brien. Each year it is one of the most anticipated event for attending weevil specialists, and a sizable group of 15 were present this time to talk about their interests, projects, and related topics.

Robert Anderson (Canadian Museum of Nature) received funding from the U.S. National Science Foundation for a 5-year proposal to study the leaf litter arthropods of Mesoamerica, in collaboration with John Longino (Evergreen State College). The project will include field trips to different regions such as Chiapas (Mexico), Guatemala, Honduras, and Nicaragua. Focal taxa for study are the lymantine weevils and ants, although other material will be processed and remain available for loan. Two graduate students will be sponsored through the project, including Jesús Luna Cozar (ECOSUR) who is already working on a revision of the cryptorhynchine genus *Tylodinus* under the supervision of Jorge Leon Cortés (see CURCU-LIO 52: 1-3). Several undergraduates from Canada and the United States will be involved as well as undergraduates from the host countries. The incoming results will be related to previous and ongoing efforts to sample leaf litter arthropods of the Volcán Barva transect in Costa Rica. In addition, Robert is wrapping up a comprehensive revision of *Theognete*, and based on this summer's Mexico field work he identified only one new species from Querétaro. He is also working on revisions of two smaller genera of Dryophthoridae from Costa Rica (i.e., *Alloscolytoproctus* and *Eucalandra*); the description of a new species of *Eubulus* from North America; and on weevil related sections of the Coleoptera Handbook Vol. 2 (in collaboration with Rolf Oberprieler, CSIRO). A manuscript reproting on a *Rhynchaenus* species new to North America (in collaboration with Charles O'Brien) is being published in the Journal of the Kansas Entomological Society. A January 2007 trip to New Zealand to visit and curate the Landcare Research insect collection is planned. Robert also gave us news on Anne and Henry Howden; Henry suffered a stroke earlier in 2006, and they have since sold their house and relocated to a place where his recovery is made easier. The Howdens' insect and literature collections have been transferred completely to the Canadian Museum of Nature. Anne is continuing her work as time permits on South American *Pandeleteius.*

Thomas Atkinson (Dow AgroSciences) resides in Austin, TX, and is working with bark and ambrosia beetles. He is reviving several old projects, including a monograph of southeastern United States scolytines and platypodines, which presently amount to 180 species. He has abudant natural history information on these taxa, and is working out of Texas A&M University. After completing the project he plans to work on Mexican and Central American bark beetles. As many as 1,000 species occur in that region. He also reports that many Chinese taxa are accidentally introduced into the United States.

Pat Bouchard (Canadian National Collection and Agriculture and Agri-Food Canada) previously completed a Ph.D. on tenebrionids, and has now replaced Don Bright at the CNC. Work on the next Insects and Arachnids of Canada handbook is almost completed, and there are plans to collaborate with Robert Anderson on a handbook of the weevils of Canada. Additional projects, often with an agricultural emphasis, include reviosionary work on *Ceutorhynchus* and several entimine taxa.

Don Bright (Colorado State University) recently moved to Fort Collins where he mostly continues his previous research program. He is working on a revision of the bark beetles of the West Indies, and has published a paper in the Koleopterologische Rundschau on the Puerto Rican fauna listing more than 70 species. Previously published on the Jamaican fauna, and treatments of the remaining islands are in planning. Another supplement of the 1993 Catalogue is also in progress, as is a checklist of the Coleoptera of Colorado, where bark beetles are prevalent pests necessitating a taxonomic update of the State's bark beetle fauna.

Samuel Crane (American Museum of Natural History) is a Ph.D. student and new to weevils. He plans to focus his dissertation research on the higher-level phylogeny of the Curculionidae: Entiminae, using a combined molecular and morphological approach. His current strengths are in molecular phylogenetics but he looks forward to learning more about weevil morphology. Many DNA primers for arthropods are available at the AMNH, and he plans to optimize these for weevils in the course of his project. He has a personal website at http://research.amnh.org/users/scrane/

Steven Davis (University of Kansas) is completing a M.Sc. project under the supervision of Michael Engel. He has published several papers on amber weevils stored at the Smithsonian Institution, including descriptions of new fossil taxa of cossonines, conoderines, and dryophthorines. He presented

(continued page 9)

Weevil Meeting IN 2006 (continued)

a related poster at the ESA student competition. His M.Sc. thesis project will concentrate on the genus-level phylogeny of the Madopterini (Baridinae); with emphasis on the Zygobaridina.

Nico Franz (University of Puerto Rico at Mayagüez) has a manuscript in press (Revista de Biología Tropical) on the pollination of *Anthurium* (Araceae) by *Cyclanthura* weevils in Costa Rica. A revision of *Cotithene* (also Derelomini) is underway, and is scheduled for submission in early 2007. Another manuscript on the pollination of *Asplundia uncinata* (Cyclanthaceae) by a derelomine flower weevil is in preparation. New projects include an inventory of the Phytophaga of the nearby Maricao Commonwealth Forest, in collaboration with Charles O'Brien. A poster with preliminary results was presented at the ESA meetings. Has an undergraduate student Christopher Molini, with whom he will collaborate on descriptions of 1-2 new species of *Dryophthorus* from Puerto Rico. Also received funds from his University to study the pollination biology of native *Zamia* populations on the Island; *Rhopalotria* weevils are likely pollinators. Is generally involved in sampling and identifying the Puerto Rican weevil fauna and looks forward to attracting senior collaborators and students to numerous related projects.

Robert Hamilton (Loyola University Chicago) has a manuscript close to completion on West Indian *Euscelus.* He has finally located key types in Europe and will designate several lectotypes to stabilize the taxonomy. There are 14 species present in the region, three of which are new to science. Another project concerns *Temnocerus* (= *Pselaphorhynchites*), a group of small weevils known for cutting early leaf growth in a wide range of plants. At least 15 new species are on hand from Central America.

Muhammad Haseeb (Florida A&M University) has ongoing weevil projects with Charles O'Brien. They are about to launch one Expert Information System on Weevil Biological Control Agents of Aquatic and Terrestrial Weeds in the United States and Canada. A second system, Invasive Weevil Species in the Caribbean and United States, is under development. A third system, Invasive Palm Pests in the Caribbean and the United States, is in preliminary stages, as they are still in the process of securing the necessary resources. Other projects include weevils that act as palm pests and a revision of the rice water weevil genus *Lissorhoptrus*. A circular on the citrus-attacking *Myllocerus* has been published.

Henry Hespenheide (University of California - Los Angeles) had a ESA presentation on the conoderines from the Volcán Barva project in Costa Rica. New species of *Archocopturus* and *Lissoderes* are being described in collaboration with Louis LaPierre, and a revision of *Pseudolechriops* will be submitted to Zootaxa. Also has plans to work on *Paramnemyne,* for which approximately 13 new species are available, as well as other weevil groups associated with Cecropiaceae. He furthermore has a manuscript on new *Eulechriops* species from the United States, and is preparing a revision of *Laemosaccus* from the United States, where more than 10 new species are evident.

Pamela Horsley (McGill University) is a M.Sc. student and one year into her thesis research on *Trachyphloeomimus* from Mexico and Central America, under the supervision of Robert Anderson. They have 10 new species from Honduras alone.

Jiri Hulcr (Michigan State University) is working with his advisor Anthony Cognato on scolytines and platypodines, and in particular on the Southeast Asian xyloborines. A manuscript revising the characters currently used to circumscribe xyleborine genera is in press. He is also involved in projects characterizing large-scale ecology of Papua New Guinean scolytids, and ecology of ambrosia beetles that parasitize fungal gardens of other species, in collaboration with colleagues in the Czech Republic. Large sampling efforts have revealed that the bark beetle fauna is not as mysterious in the lowlands as previously thought; and many rearing records indicate relatively little host specificity.

Charles O'Brien (Green Valley, Arizona) is continuing revisionary work on *Rhopalotria* and *Parallocorynus* in collaboration with William Tang; 13 new species (+ four described species) are available. Also in progress is a generic revision of the Stenopelmini, the primary New World aquatic weevils, coauthored by Guillermo Wibmer. A 350+ page manuscript is the current state of this large project. Other activities include the description of a new *Cholus* species attacking coconut palms in Martinique; taxonomic work on *Sapotes* and *Amphidees* with Robert Jones; a manuscript on a United States *Sphenophorus* species introduced into Russia, with Boris Korotyaev; descriptions of a new species of *Conotrachelus* attacking hackberry (*Celtis laevigata*) in several U.S. States, with Glenn Salsbury; a new *Acamptus* species from the Virgin Islands; descriptions and natural history information of several new *Notiodes* species from the southern United States, with Horace Burke; and finally the updating of the *Lissorhoptrus* manuscript due to finding new species associated with cow dung.

Elizabeth Reichert (McGill University) is working in weed biocontrol and finishing a M.Sc. project investingating the potential of *Cryptorhynchus melastomae* as an agent for con-

(continued page 10)

Weevil Meeting IN 2006 (end)

trolling *Miconia calvescens* (Melastomataceae; a Costa Rican native) in Hawaii. The tree is a major forest pest on several Islands where it was accidentally introduced. *Cryptorhynchus melastomae* is active at night, attacks seeds, and is restricted to melastomes, making it a prime candidate for controlling *Miconia* (no native Melastomataceae occur in Hawaii). Introduction into Hawaii may be possible after additional tests. She presented a student poster on this topic at the ESA meetings.

Gregory Setliff (University of Minnesota) is now a Ph.D. student. His checklist of the Curculionoidea of Papua New Guinea has been accepted for publication in Zootaxa; it includes treatments of all families, 555 genera, and almost 3,000 species, with notes on the collecting history for the region, important collections, and locations of type material. His Ph.D. project focuses of the Papua New Guineam *Asytesta* crown-weevils and related genera. He gave an ESA student presentation on this topic, documenting his efforts to identify suitable outgroup taxa. Approximately 70 new species are available.

European Curculio Institute - 4th International Conference

Report on Meetings in Cotignac (France), April 2006

By Cristina L. Munteanu (Romania: cristina.munteanu@ibiol.ro) **and Lucian A. Teodor** (Romania: lteodor@clujnapoca.ro)

Introduction

The 4th International Meeting of the Curculio-Institute, organized by Peter Stüben, Peter Sprick, and our French colleagues, took place from April 16-23, 2006. The meeting site was located in the peaceful borough of Cotignac in the middle of the Provence, southern France, under Mediterranean weather conditions. The accommodations "Les Terrasses" were transformed into a headquarter for all participants arriving from the Czech Republic, France, Germany, Italy, Poland, Romania, Switzerland, and the United Kingdom. From this home base small teams departed towards long field trips to beautiful and interesting places. Philippe Ponel had proposed the following sample sites: Massif de la Sainte Baume, Montagne de la Loube, the emporary lakes of Centre-Var, Plaine des Maures, the northern slopes of Massif des Maures, Chartreuse de la Verne, Abbaye du Thoronet, and Entrecasteaux. Other locations were also visited: Gorges du Verdun, Vallée de l'Argens, Bras (Les Terres Blanches), Pontevès, Sillans-la-Cascade, etc. Our primary mission in each case: searching for weevils - as many species as possible and especially the endemics such as *Trachyphloeus angustus* Borovec, 1989, *Pleurodirus murinus* (Gyllenhal, 1834), and *Simo cremieri* (Boheman, 1843). The wonderful sun and our local colleagues and guides assured collecting success as well as a pleasant atmosphere.

Weevil Lectures

Almost every evening the participants came together to share their experiences with ever surprising weevils and listened to interesting lectures. The themes were varied. Peter Stüben demonstrated that high-quality digital images of small weevil specimens are possible while on a limited budget. He also contributed a presentation on how to facilitate simpler and speedier weevil identifications using pictorial keys and catalogues. The related **new journal project** is named **CHARANÇON: Catalogues and Keys.** The aim is to give specialists an instrument to publish their faunistic and taxonomic work faster and in a flexible manner. Cristina Munteanu presented her work on the correlation of some curculionid species with plant communities the Romanian Brasov county, co-authored with botanist Simona Mihãilescu. Lucian Teodor talked about four new weevil species from Romania. Lutz Behne discussed the necessity of using molecular methods to diagnose cryptic sibling species and has prepared a list of Central European weevils whose status should be tested with such methods. Finally, Jirí Skuhrovec presented his research on the taxonomy and bionomy of weevils in the tribe Hyperini. He has so far analyzed six hyperine genera corresponding largely to the original concept of Petri (1901).

Planning Future Activities

Between field trips, lectures, and other interesting discussions, the Curculio-Institute also found time to hold its Annual Meeting. Christoph Germann will step in as the new editor of CHARANÇON: Catalogues and Keys. Lucian Teodor invited the members to meet again next year in Cluj, Romania, and will lead the organization of the meeting. It was also proposed to regurlarly alternate among southern, western, and eastern European meeting locations.

There is a need to establish ethical rules for taxonomic collaborations, collecting, exchanges, and so on. A committee was created unanimously for this purpose, with the following members: Enzo Colonnelli, Michael Morris, Laurent Schott, Stanislaw Knutelski, Peter Stüben (principal coordinator), and Peter Sprick.

(continued page 11)

Weevil Meeting France (end)

The Curculio-Institute is continuing the DWD project (Digital Weevil Determination). The upcoming issue of SNUDEBILLER will contain a pictorial key to the *Sitona* weevils of the Transalpine region, and subsequent publications will treat *Baris* (2007) and *Dorytomus* (2008).

On April 18 we celebrated the birthday of senior colleague Michael Morris. The scientific endeavours were abandoned for several hours to make room for the celebration which included special weevils and wines as gifts and singing "Happy Birthday" in the native language of every participant.

Conclusions

The French meeting was in many ways a natural continuation of the Poland meeting two years ago (see CURCULIO 49: 18-20). Old relationships were rekindled and new ones created. Learning from each other without concern for academic reputation is the main force shaping the future of the Curculio-Institute. Special thanks to our colleagues and hosts Gabriel and Hélène Alziar, Nicolas Komeza, Laurent Schott, Philippe Ponel, Dominique Menet, and Eric Rouault.

Participants

Gabriel and Hélène Alziar (France); Ursula Baur (Germany); Christoph and Marion Bayer (Germany); Lutz Behne (Germany); Piotr Bialooki (Poland); Boris Büche (Germany); Enzo, Giovanna, and Annamaria Colonnelli (Italy); Pawel Dambek (Poland); Christoph Germann (Switzerland); Stanislaw Knutelski (Poland); Nicolas Komeza (France); Dominique Menet (France); Michael Morris (United Kingdom); Gerd and Uschi Müller (Germany); Cristina Laura Munteanu (Romania); Boguslaw Petryszak (Poland); Philippe Ponel (France); Eric Rouault (France); Laurent Schott (France); Jirislav Skuhrovec (Czech Republic); Peter Sprick (Germany); Peter and Regine Stüben (Germany); Alexandre Stüben (Germany); and Lucian Alexandru Teodor (Romania).

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Several participants of the Curculio-Institute meeting in Cotignac, France; photo by Alexandre Stüben

Weevils: a Remarkably Diverse Branch in the BToL

By Duane D. McKenna[1] (USA: dmckenna@oeb.harvard.edu), **Adriana E. Marvaldi[2], and Brian D. Farrell[3]**

The beetle tree of life project (BToL), funded by the United States National Science Foundation under the "Assembling the Tree of Life" program, seeks to develop a phylogenetic hypothesis for beetle suborders, superfamilies, families, and most subfamilies, based on nuclear and mitochondrial DNA sequences from over 3,000 species, and morphological data from over 400 species. Major goals of the BToL project include training students and other researchers in integrated beetle systematics and evolution, forging new collaborations, and reinforcing existing ties between beetle researchers. Project leaders are Brian Farrell (Harvard University), David Maddison (University of Arizona), Michael Whiting (Brigham Young Uni-

(continued page 12)

BToL Weevils (end)

versity), and Adam Slipinski (Commonwealth Scientific & Industrial Research Organization). Eleven taxonomic working groups are responsible for coordinating the taxon sampling. Please refer to the **BToLproject website** for additional general information: http://insects.oeb.harvard.edu/ATOL/index.htm

As taxonomic working group leaders for the Curculionoidea and Chrysomeloidea, we would like to solicit your help in obtaining **specimens for DNA sequencing**. We especially need recently collected specimens of the following weevil genera: *Toxonotus* (or any other Anthribinae), *Urodontus* (or any other Anthribidae: Urodontinae, e.g., *Bruchela*), *Pachyurinus* (or any other Belidae: Pachyurini), *Merhynchites* (or any other Attelabidae, particularly Rhynchitinae), *Eurhynchus* (or Aporhina, Brentidae), *Cylas* (Brentidae), *Notaris* (Curculionidae: Erirhininae), and *Curculio*. DNA sequences from these taxa will contribute to resolving beetle relationships at the suborder and superfamily/family levels.

In addition to these, we need your help assembling the taxon sample that will be used to reconstruct weevil phylogeny at **lower taxonomic levels** (e.g., subfamilies). We would like to obtain specimens representing as many distinct lineages as possible, especially those considered to be relatively basal and/or less modified. For instance, for the platypodines we would like to sample *Schedlarius* and some "Tesserocerini", in addition to the more common but highly modified *Platypus*. Among the brentids in the new sense (and apart from typical Brentinae, Apioninae, etc.) we would like to sample representatives of Microcerinae (i.e., *Microcerus, Episus*), and *Ithycerus*. We especially need specimens of Brachycerinae (i.e., *Brachycerus, Synthocus*) and Ocladiinae (i.e., *Ocladius, Desmidophorus*).

We are also seeking DNA quality specimens representing **other beetle groups** that may be difficult to come by (e.g., Cerambycidae in the genera *Cheloderus, Distenia, Migdolus, Philus, Oxypeltus*, or *Vesperus*, and the subfamily Apatophyseinae). Specimens contributed for DNA sequencing should be preserved in ethanol or dried in silica gel. If you have specimens to contribute, or are otherwise interested in the project but have not yet been "connected", please send us an e-mail.

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Vadim G. Gratshev

V-01-1963 to X-17-2006

By Maxwell Barclay (United Kingdom: m.barclay@nhm.ac.uk)

I am sorry to have to bring very bad news for the CURCULIO community; Vadim Gratshev died on 17th October, 2006, aged only 43, unexpectedly after a short illness. Vadim was a scientist of very broad and deep knowledge, and the author of many important papers on fossil and extant Coleoptera, mostly weevils but also elmids; he is perhaps best known in the west for his seminal paper, with his dear friend and supervisor the late Vladimir V. Zherikhin, on hindwing venation in Curculionoidea, published in 1995 in the Crowson 80th Birthday celebratory volume. Shortly after that, because of the difficult financial situation for scientists in Russia, he spent some years away from full time science, working on aquaria and rearing aquarium plants. A few years ago, he was absolutely delighted to be able to return to the Paleontological Institute and resume his work, his studies, and his numerous contacts and friendships.

Vadim's knowledge was considerable for a man of his age. Like many Russians he was suspicious of modern mechanized techniques that allow users to produce quick results without understanding either the organisms, or evolutionary processes. He did not see any shortcuts to developing a real expertise, and thus, in spite of his achievements, he was still in the ascending phase

(continued page 13)

Vadim Gratshev (end)

of his scientific career; his loss is a great tragedy for science, because if he had lived, and continued on his chosen trajectory, he would no doubt have joined his mentor Vladimir V. Zherikhin in the firmament of the great coleopterists of our times.

In spite of his expertise, Vadim was approachable and open minded, and a good friend. He and I had many long conversations, usually through a patient interpreter, about various problems in curculionoid taxonomy. He was a very gentle, thoughtful individual, with a memorable dry humor. The news is so recent that nobody can really believe that he has gone.

An obituary and photograph of Vadim, and also of Zherikhin, can be found at http://palaeoentomolog.ru/obituary.html, the Paleontological Institute's *In Memoriam* website.

The Bulletin Board

News About Weevils

Robert Anderson (Canada: randerson@mus-nature.ca) has received numerous surplus copies of the following landmark publication: **Biology and Phylogeny of Curculionoidea:** Proceedings of a Symposium Convened at the XVIII International Congress of Entomology, Vancouver, Canada, July 3-9, 1988; Robert S. Anderson and Christopher H. C. Lyal, editors. Memoirs of the Entomological Society of Washington 14: 1-174. Copies are **available for free;** if interested please send an e-mail request.

Horace Burke (USA: hrburke@tamu.edu) reports that **Donald Anderson,** formerly a research entomologist at the United States Department of Agriculture (Smithsonian Institution) and specializing in the systematics of weevil larvae, **passed away** in December 2005.

Jiri Hulcr (USA: (hulcr@msu.edu) announces the publication of an **On-line Key to the World Genera of Xyleborina.** In his 1986 reclassification of the genera of Scolytidae, Stephen L. Wood stated that "[t]he generic classification of the tribe Xyleborini is tentative and flawed…" Considering the tremendous diversity of Xyleborina (Curculionidae, Scolytinae), the paucity of external morphological characters, and the limited number of scolytid taxonomists, it is not a surprise that this statement still holds. The Holistic Insect Systematic Laboratory of Dr. Anthony Cognato began a revision the group in 2004, thanks to funding from the NSF PEET program. One of our first results is an on-line multi-entry identification key to the World genera of Xyleborina, prepared by Jiri Hulcr. The key is available at http://xyleborini.tamu.edu/world_genera_key/ and also via http://scolytid.msu.edu. It consists of 29 queries, 24 taxonomic entities, and 80 annotated illustrations. As a multi-entry key, it offers the convenience to choose preferred characters and avoid the often troublesome branching pathways of a dichotomous key. The key includes several generic names that are not currently in use, i.e. *Anisandrus*, *Pseudowebbia*, *Streptocranus*, and *Microperus.* These will likely be resurrected in an upcoming publication (Hulcr, Beaver, Dole, and Cognato; in preparatiom). The *Xyleborus biuncus*-group will eventually be described as a proper genus. The key was assembled using the Lucid 3 program. Your computer must have an updated Java environment in order to run the key. Please note that the presented key is a first published version, and will likely undergo future revision. It is based on an examination of approximately 350 species, no more than a fifth of the entire group. Both the peculiar morphology and inconsistencies among contemporary generic concepts have made it impossible to key out every single species. The authors would therefore welcome feedback regarding both taxonomic and technical issues.

Pierre Jolivet (France: timarcha@club-internet.fr) announces the publication of his new book: **"Mémoire Entomologique. Paramémoires d'un Timarchophile"** (348 pages), published by Pensoft, Sofia, Bulgaria and available at a cost of • 22.00. See also http://pensoft.net/newreleases/13169.htm

Pham Hong Thai collecting weevils in the Truong Son Forest, Province Thua Thien Hue, Vietnam (contact: phamthai@iebr.vast.ac.vn)

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(continued page 15)

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Informal Weevil Meeting - ESA 2006 Indianapolis

See main article on page 8. Sitting, from left to right: Steven Davis, Samuel Crane, Pamela Horsley, Elizabeth Reichert, and Pat Bouchard. Standing, from left to right: Muhammad Haseeb, Don Bright, Charles O'Brien, Gregory Setliff, Thomas Atkinson, Jiri Hulcr, Robert Hamilton, Henry Hespenheide, Nico Franz, and Robert Anderson; photo courtesy of Muhammad Haseeb.

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