

CURCULIO

An International Newsletter for Curculionoidea Research

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Featured Researcher

Jesús Luna Cozar

El Colegio de la Frontera Sur,
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Academic Background

Bachelor of Biology, Facultad de Ciencias Naturales, Universidad Autónoma de Querétaro, Querétaro, Mexico - 2001
Master of Science, El Colegio de la Frontera Sur, San Cristóbal de las Casas, Chiapas, Mexico - 2005
Curatorial Assistant, Entomology Collection, El Colegio de la Frontera Sur, San Cristóbal de las Casas, Chiapas, Mexico - 2006 to present

Research Interests

Taxonomy, systematics, Biogeography, and Ecology of Apionidae, Curculionidae, and Bruchidae.

I started working on weevils as a student at the Universidad Autónoma de Querétaro in central Mexico. I enrolled as volunteer in the Department of Entomology under the supervision of Dr. Robert W. Jones, sorting, mounting, and labeling specimens, and focusing mainly on species occurring in the leaf litter. Robert Jones instructed me in the taxonomy of Curculionidae, and later on I had the opportunity to learn from other weevil specialists - Raúl Muñiz, David Kissinger, Charles O'Brien, and Robert Anderson - from whom I received advice, corrections, and confirmations of my identifications. From that time until today, in collaboration with Robert Jones and Robert Anderson, I have been studying the species of weevils from Mexico, mainly in the states of Querétaro, Tamaulipas, and Chia-



(Jesús Luna Cozar at ECOSUR, Chiapas, Mexico)

pas. Currently my research on weevils centers on listing the species and studying the possible factors that affect the distribution and abundance of the leaf litter weevils in cloud forests in the state of Chiapas. I am also looking at the impacts of silvicultural practices on the structure and diversity of the curculionid and apionid communities in the Región de los Altos of the same state.

I am generally interested in the taxonomy, systematics, and

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Editorial Comments

Welcome to volume 52 of CURCULIO. Our featured researcher this time is Jesús Luna Cozar who is tackling the taxonomically difficult fauna of Central American leaf litter weevils. We also have contributions from Horace Burke on the interesting and somewhat tragic career of the weevil specialist Peter Ting (p. 4), research notes on weevils from Colombia (p. 6) and India (p. 7), and a report from last year's meeting of weevil workers at the Entomological Society of America conference in Fort Lauderdale, Florida (p. 9). As always there are listings of ongoing activities and new publications.

On a personal note, after moving from Costa Rica to the United States East Coast (Ithaca), then the West Coast (Santa Barbara), it looks like I might finally settle down in western Puerto

Rico. In January I accepted a faculty position in insect systematics at the University of Puerto Rico, Mayagüez Campus (<http://www.uprm.edu/>). My teaching responsibilities will include insect morphology, insect taxonomy, systematic methods, and insect-plant interactions. I am also the curator responsible for UPRM's insect collection. The Caribbean region has a vast and poorly understood weevil fauna, and will provide incentives for new projects, apart from the derelomine flower weevils that used to be my primary focus. I furthermore hope to recruit insect systematics students from the Americas into our expanding graduate program.

The hurdles of the first semester made it difficult to keep up with other demands, but I expect to have more time and peace of mind to put together this year's second CURCULIO. Many thanks to everyone who contributed to this new volume.

NMF

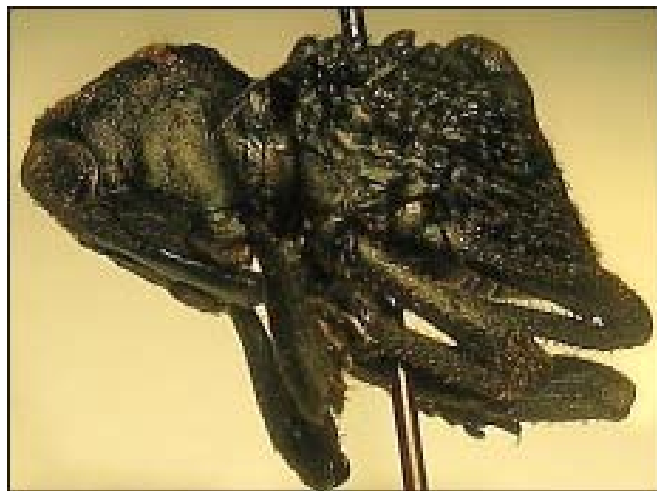
Jesús Luna Cozar (continued)

biogeography of the Apionidae and Curculionidae, principally Cryptorhynchinae (subtribe Tylodina), and in documenting the significance of these groups as bioindicators. I feel that although several authors have treated this topic from different angles, they have not properly recognized the relative value of the biotic and abiotic factors that affect the distribution and abundance of the Curculionidae.

It is my opinion that biotic and abiotic factors determine the distribution of leaf litter weevils, just as has been observed in species of economic importance, as well as in communities associated with grasslands (Eyre *et al.* 1989; Callahan *et al.* 2003). The community structure of weevils has not been adequately studied under such a premise; not only do we lack knowledge of the weevils' taxonomic, biological, and ecological aspects,



Thegylis baridoides Champion; photo by Jesús Luna Cozar



Tylodinus sp.; photo by Jesús Luna Cozar

but also regarding their spatial distribution, particularly their diversity and areas of endemism in the leaf litter communities of cloud forest habitats.

If the patterns of diversity, richness, and abundance of leaf litter weevils were shown to be determined by factors affecting environmental heterogeneity, for example the microtopography of the leaf litter distribution, pH, soil type, etc., then we could use this information in the prioritization of areas for conservation. In this sense, in collaboration with Robert Anderson and Jorge León Cortés (from El Colegio de la Frontera Sur, San Cristóbal, Chiapas), we have studied the distribution patterns, abundance and diversity of the Curculionidae associated with leaf litter in the cloud forest and different successional forests in the Región de los Altos, Chiapas. So far we have found (*inter alia*) that the primary forest communities have a greater number species and individuals than secondary forest types.

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Jesús Luna Cozar (end)

Less than half of the species are found in the successional gradient habitats, suggesting that these are species with greater tolerance towards variations in the microclimate of the leaf litter.

During our collections of leaf litter weevils we have found many undescribed species and possibly new genera. I believe this underscores two important aspects of the weevil fauna of Mexico, namely (1) the state of our knowledge of the taxonomy of weevils in numerous habitats of the Mexican landscape is in its infancy, and (2) at least 50% of Mexican weevils are undescribed (Anderson & O'Brien 1996), including a large portion of species associated with leaf litter or forest floor substrates in montane forests.

As a consequence of the identified trends, I am planning to elaborate a revision of the genus *Tylostinus* Champion (Cryptorhynchinae: Tylochina) for my Ph.D project under the supervision of Robert Anderson (Canadian Museum of Nature). *Tylostinus* weevils are a common and diverse component of leaf lit-

ter communities throughout Central America. At this point 20 species have been described, but previous and ongoing field work and taxonomic analyses indicate that many undescribed species exist. The challenge for my Ph.D. will be to redefine *Tylostinus* and to revise the taxonomy of the species within the genus.

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Research Activities and Requests for Specimens

Roberto Caldara (Italy: r.caldara@tin.it). The revision on Afrotropical *Cleopomiarus* has been published and is now available on-line at www.robertocaldara.it. Revisions of Palearctic Mecinini and Afrotropical Cionini, as well as DNA studies of several species in these tribes, are in progress.

Jennifer Girón (Colombia: entiminae@gmail.com). Currently studying towards a bachelors degree in biology in her last year at the Universidad del Valle in Colombia. Working on a generic key to the Entiminae (Coleoptera: Curculionidae) from various Colombian regions (see also p. 6). **In need of literature including generic descriptions of *Exophthalmus*, *Compsus*, *Xestogaster*, *Exorides*, *Litostylus*, and other related genera.**

Robert Hamilton (USA: rhamilt@luc.edu). Continuing his work on New World attelabids and rhynchitids. A paper on the *Euscelus* species of the West Indies and a paper on the *Temnocerus* species of Central America are progressing. **Could always use more material if anyone has specimens of these two genera from the aforementioned regions.** Has also accumulated a good collection of different weevil groups from Costa Rica that are available for loan to qualified workers.

Muhammad Haseeb (USA: muhammad.haseeb@famuedu). Following the retirement of Dr. Charles O'Brien, now working

with the new director of the Florida A&M University Center for Biological Control, Dr. Moses Kairo. New assignments include the biological control of insect pests, invasive species in the United States and Caribbean islands, and the development of *Lucid*-based Expert Information Systems. The development of a *Lucid* key on Weevil Biological Control Agents of Aquatic and Terrestrial Weeds in the United States and Canada is near completion. This system includes 28 genera and about 40 species. The system will pass through various stages of testing by the *Lucid* technical team as well as end users and peer reviews. The second system under development is on the Weevil Invasive Species in the United States and the Caribbean. Most of the images and distribution records of each species are completed. Currently working on the key design and development. The second system will include 27 genera and 42 species; most of them serious pests on cultivated citrus trees such as *Diaprepes* spp., *Exophthalmus* spp., and *Pachnaeus* spp. This work is being conducted in collaboration with the USDA-APHIS, CPHST.

Anne Howden (Canada: henry.howden@sympatico.ca). Revising the *Pandeteleius* (Entiminae) of southern South America, particularly south of the equator, and **requesting the loan of specimens for study.** Does not wish to see specimens from North or Central America at this time.

(continued page 4)

Research Activities (end)

Luigi Magnano (Italy: luigimagnano@libero.it). Interested in Curculionidae, especially Entiminae, and currently compiling a catalogue of the genus *Otiorhynchus* (Otiorhynchini). Studying *Otiorhynchus* from central and oriental Asia. **Would be grateful for the loan of study material from this wide geographical region.**

Jose Ricardo M. Mermudes (Brazil: jrmermudes@uol.com.br). Finishing the revision and cladistic analysis of the tribe Ptychoderini (Coleoptera, Anthribidae), and moving to Rio de Janeiro to start a new postdoctoral position at the Museu Nacional, Universidade Federal do Rio de Janeiro. This project will explore the phylogenetic relationships among tribes in the subfamily Anthribinae based on morphological characters. The study is in an early stage, and **the author is interested in bor-**

rowing any pertinent Anthribinae specimens (please contact him by e-mail).

Alexander Riedel (Germany: riedel@smnk.de). Presently shifting his focus from *Euops* towards the cryptorhynchine genus *Trigonopterus*. Numerous *Auto-Montage* images of type material have been taken. Papers are in preparation on the morphology of this genus and on the taxonomy of species from Java.

Nikolai Yunakov (Russia: omias@mail.ru). Continuing research projects on the morphology, ecology, and evolution of broad-nosed weevils, and **requesting literature and the exchange of material in this group**. Interested in particular in the Entiminae inhabiting soil or leaf litter. Seeking research collaborations concerning Palearctic broad-nosed weevils and offering the exchange of specimens and reprints.

Notable Weevil Specialists of the Past

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

Much of what we know about weevils has been derived from the labor, albeit a labor of love, of individuals who gained their livelihood through unrelated pursuits. **Peter C. Ting** was such a contributor to this storehouse of knowledge. Ting did not publish extensively on the Curculionoidea, but his early papers on mouthparts of weevils were pioneering and he had a long-standing interest in the systematics of desert weevils and other groups of the superfamily. Unfortunately, no obituary or memorial of Ting has been published in the scientific literature and little information about his life and scientific activities is readily available to present-day students of weevils. In the search for such information, I am fortunate to have had the help of individuals who were acquainted with Ting, including his sons, Irwin and Peter C., Jr. I was aided by Paul H. Arnaud, Jr., who provided copies of some of Ting's correspondence deposited in the California Academy of Sciences (CAS). Robert Bechtel and Jeff Wright of Reno, Nevada contributed useful information on the loss of part of Ting's collection due to a flood and the disposition of surviving material in the insect collection of the Nevada Department of Agriculture at Reno. Thanks are due to all.

Peter Clare Ting, Sr. (1909-1980)

Peter Ting was born on a citrus farm in Portersville, California on July 8, 1909. He died in Reno, Nevada, December 21, 1980. Peter completed his pre-college education in the Porters-

ville area. After graduating from high school, he entered Stanford University where he obtained the A.B. degree in 1932. His first scientific paper (Ting 1933), dealing with mouthparts and feeding mechanisms of weevils, was based on thesis research he conducted at Stanford as a part of the requirement for the bachelors degree. His thesis work was probably directed by Gordon Ferris, renowned scale insect systematist and professor at Stanford at the time. After graduating from Stanford, Ting was employed as Junior Quarantine Entomologist with the California State Department of Agriculture in San Francisco. His primary responsibility was the inspection of ships for immigrant pests. After a few years in this position, Ting resumed academic studies at Stanford and received the M.A. degree there in 1936. His masters research was a continuation of earlier work on mouthparts of the curculionoids, resulting in a publication comparing these structures over a wide range of taxa of the superfamily (Ting 1936). This pioneering study was also directed by Professor Ferris.

After graduating from Stanford in 1936, Ting returned to work as Associate Quarantine Entomologist with the State of California. It was during his tenure there that he began to conduct revisionary studies on some of the "broad-nose" genera of Curculionidae. A paper entitled "Revisional notes concerned with *Cimbochera* and related genera", including descriptions of new species, notes on others and some keys for identification, was published in 1940. It was during the 1937-1940 period that Ting did most of his taxonomic work on weevils, describing eight new species in the genera *Cimbochera*, *Cryptolepidus*, *Dyslobus*, *Eupagoderes*, and *Paracimbochera*. He was an early

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Peter C. Ting (continued)

advocate of the use of male and female genitalia for taxonomic purposes in this group of weevils and provided excellent illustrations of these structures for numerous species.

Ting's son Irwin recalls that at an early age he accompanied his father on collecting trips beating weevils from vegetation in the desert at night with a lantern as their only source of light. Judging from published localities of specimens, Ting collected extensively in California and Nevada, occasionally in Wyoming and probably also in other western states. In addition to his quarantine work and sideline interest in weevils, Ting was involved in various other professional activities such as serving as Secretary of the Pacific Coast Entomological Society in 1940. Peter remained in the quarantine position until 1940, after which he became Associate Entomologist in the Division of Insect Identification, United States Bureau of Entomology in Washington, D.C. According to his son Irwin, Ting went to Washington first on a "fellowship" and then was employed there in a fulltime position. For whatever reason, his stay in Washington was brief and he returned to California in 1941. Upon his return, he was employed as Systematic Entomologist by the California State Bureau of Entomology at Sacramento where he was responsible for making insect identifications.

In 1942, shortly after the United States entered World War II, Ting enlisted in the United States Navy and attended officer's training school. After completion of training he was commissioned as a Lieutenant and was, as were several other young entomologists at the time, assigned to a medical unit. His overseas duty was in the Pacific Theater. There he worked on mosquito control projects in Australia and New Guinea and perhaps on other islands in the area. Ting was discharged from military service in 1945.

After the war, Ting resumed employment with the California State Bureau of Entomology at Sacramento where he made general identifications and wrote a few papers on weevils and other insects. Evidence of his identification activities is seen in correspondence (mostly between 1946 and 1951) between Ting and California Academy of Science curators Edward Ross and Hugh Leech regarding the identities of a wide range of insects. The only paper he published on weevils after World War II was one describing a new species of *Dyslobus* infesting a species of lily (Ting 1947). In the latter paper, he stated: "For several years the author has been studying the curculionid genus *Dyslobus* preparatory to a revisional publication dealing with identification and other taxonomy of species assigned to it. The genus contains over fifty species, several of which have established common names in the economic literature. Approximately twenty species known to the author are undescribed." It should be noted regarding this proposed work that for various reasons Ting never completed his goal of revising *Dyslobus*

In the 1949 edition of American Men of Science, Ting listed his scientific interests as: "Taxonomy of Curculionidae and related families of the Coleoptera; morphology of Curculionidae and related families; taxonomy of coleopterous larvae; revisionary systematic study of the curculionid genera *Dyslobus*, *Rhinomacrer* and *Diodyrhynchus*."

Ting resigned from the California Department of Agriculture in 1952 and moved to Reno, Nevada, where he became owner and operator of the Pied Piper Pest Control business. He remained in this business for the remainder of his life. While making his living controlling household and other pests, he continued an interest in taxonomic work on weevils. He became acquainted with Robert Bechtel of the Nevada Department of Agriculture who had established a collection of insects at the State Agricultural Department in Reno. This association resulted in contribution of specimens by Ting to the collection. The research material that he had collected himself and obtained on loan from institutional collections, especially the California Academy of Sciences, was housed in the basement of his home in Reno. An unfortunate event occurred on December 23, 1955, when an irrigation ditch running close to Ting's home overflowed from the Truckee River and flooded the basement, destroying his books, papers, and much of the insect collection. There may have been more than one flood involved in damage to his collection but the 1955 one was the most destructive. According to Robert Bechtel (personal communication), some of the collection was in Schmidt boxes and some in cigar boxes. Even in the Schmidt boxes with close fitting lids, severe damage occurred to some specimens while others survived with little or no harm. Some of the pointed specimens fell off their points and labels were damaged. In some cases genitalia preparations became disassociated from specimens. The damage to the weevil specimens was considerable but as much material as possible was saved. The salvaged material was transferred to the Nevada Department of Agriculture where it remains today. The Ting collection at the Nevada Department of Agriculture consists of 18 drawers of weevil specimens (Jeff Knight, *in litt.*). Although the collection contains paratypes of 19 species of Curculionidae, none of these represent species described by Ting. All of the paratypes that he retained from species that he had described as new must have been lost in the flood. Two specimens of *Dyslobus* in the collection bear Ting's holotype labels but the species these were supposed to represent were never described. Because his records were destroyed, it is unlikely that the true extent of the loss of Ting's personal collection and specimens he had on loan will ever be known. In any event, this unfortunate loss of research material seemed to have ended his interest in pursuing further work on weevils. He did continue some amateur archeological activities and published a paper in 1956 on Indian stone fishing sinkers collected on the shores of Pyramid Lake in Nevada. Over the

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Peter C. Ting (end)

years he assembled a large number of Indian artifacts but the disposition of this collection is unknown at this time.

In a response to a letter from Hugh Leech of the California Academy of Sciences inquiring if he had a manuscript on the Nemonychidae, Ting (January 5, 1965) replied: "Yes, I have an unpublished paper on N.A. Nemonychidae. It was never published because the type specimens were destroyed in a flood. This was a severe disappointment as I had noted several unusual and different characters not published before on external and internal structures." In the letter he listed the manuscript names of two new species and one new subspecies of *Cimberus*, and mentioned a "new genus and n. sp." from Mexico deposited in the United States National Museum that was not destroyed in the flood. It is not known to me if a copy of the nemonychid manuscript survives. In addition to the destruction of papers in the 1955 flood as mentioned above, some of Ting's remaining materials were lost after his death. The Nearctic nemonychids were revised by Guillermo Kuschel in 1989 (*Entomologica Scandinavica* 20: 121-171). It would be interesting to compare Kuschel's and Ting's views regarding characters, classification, and delimitation of species of the family but this would, of course, be impossible without having the latter's manuscript and specimens at hand. It is possible that a copy of the manuscript survives in some long forgotten file, and maybe even a few nemonychid specimens examined by Ting still exist. It would be useful if a search for these items could be made in repositories most likely to contain Ting materials.

Peter Ting is another example of the many students of weevils that worked on the group as a sideline to their regular employment. Although his publications on the group were not extensive, he maintained an active interest in several groups of weevils until the unfortunate destruction of his papers and research material by a flood in 1955. His early work on the des-

cription and comparison of the mouthparts of weevils continues to be considered an important contribution to the understanding of the functionality and taxonomic utility of these structures in the Curculionoidea. He did not describe many new taxa but eight of nine of his species are still considered to be valid. Whether due to lack of time or the catastrophic loss of specimens, it is unfortunate that he was unable to complete revisionary projects that he had worked on for many years. Such a story is all too common among those of us whose enthusiasm for the study of weevils often outstrips our time and/or ability to achieve lofty research goals.

Publications of Peter C. Ting on the Curculionoidea

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A Note on Colombian Entiminae

By Jennifer C. Girón (Colombia: entiminae@gmail.com)

It is no secret to anyone that the classification of the superfamily Curculionoidea is very confusing, and the outlook is not encouraging for several of its subgroups. The curculionid subfamily Entiminae is very diverse and widely distributed throughout the world. The relatively recent extension of the subfamily, now including the tribes Brachyderini, Otiorynchini, Eremnini, and others, helps understand certain relationships within the entimines. However, serious taxonomic prob-

lems remain. As a literature review of the Entiminae will reveal, authors such as Marshall (1922), van Emden (1944), Vaurie (1961), Thompson (1992), Bordón (1997), Marvaldi (1997), and Anderson (2002) all agree that certain groups need revision and redefinition.

Presently I am building a dichotomous key for identifying the genera of Entiminae present in several natural history collections from Colombia. Problems related to obtaining taxonomic literature are compounded by the absence of active en-

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Colombian Entiminae (end)

timine workers in Colombia and various surrounding countries. Moreover, most published taxonomic works are local in scope, such as Anderson's key (2002) the Nearctic genera. In 1999, Morrone published a list of the South American species of Entiminae (based mainly on previous checklists by O'Brien



Habitus of an undetermined entimine weevil from Colombia; photo by Jennifer Girón

and Wibmer), therein reporting 46 genera and 216 species present in Colombia. According to Anderson (2002), Entiminae represent the most diverse subfamily of Curculionidae in North America, with 124 genera included in the author's key. Nevertheless, this key proves almost useless for Colombian taxa because only six of the genera reported by Morrone (1999) can be identified using it. During my short period of studying the group, benefiting from the expertise of Robert Anderson, I have come to learn that genera such as *Exophthalmus*, *Compusus*, and *Exorides* are superficially very similar. It has been difficult to identify reliable diagnostic features separating these taxa.

Colombia is a megadiverse Neotropical country and very likely contains many entimine species new to science. Understanding Colombian entimine diversity will make a substantial

contribution to our knowledge of Neotropical insects.

Habitus photos of several undetermined and potentially new entimine species from Colombia are posted on my website at <http://entomologia.univalle.edu.co/entiminae.htm>

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Oviposition Mechanism of the Indian Aak Weevil

By Dilip Amritphale (India: dilipamritphale@yahoo.co.in) and Santosh Sharma

Calotropis procera (Aiton) W.T. Aiton - a milkweed (Asclepiadaceae) locally termed as Aak - is a perennial shrub occurring as a wasteland plant throughout most of India. The plant flowers and fruits profusely during the summers. The larval stages of a molytine weevil, *Paramecops farinosus* Schoenherr, act as major predispersal seed predators of *C. procera* fruits. The adults feed voraciously on the leaves, buds and flowers, but not on fruits that are used as ovipositing sites. The weevil appears to depend on the milkweed for the completion of its entire life cycle.



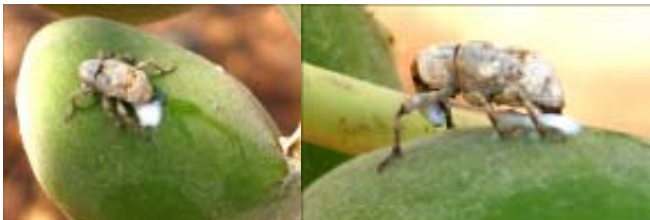
Fig. 1. *Paramecops* weevils on an inflorescence of *C. procera*;

all photos by Dilip Amritphale (continued page 8)

Indian Aak Weevil (end)



Fig. 2: A *Paramacops* female positions herself on the upper side of the fruit (a follicarium), and uses her mandibles to cut a hole of approximately 1 mm diameter into the outer layer of the three-layered fruit wall. Copious amounts of latex exude during the process from the perforated laticifers present in the fruit wall.



Figs. 3 (left) & 4 (right). The female now turns by 180° and aligns her ovipositor structures with the hole. Eggs are laid into the fibrous middle layer of the fruit wall.



Fig. 5. The female turns again by 180° and spreads the plant latex on and around the hole, using her mandibles to seal it, presumably to prevent desiccation as well as predation of eggs by potential enemies, e.g. ants that inhabit the host plant in great numbers.

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Fig. 6. The female engages herself in removing the partially coagulated latex from her mandibles and legs.



Fig. 7. Having freed herself from the latex, the female now moves away from the fruit, but not before depositing her excrement (white arrow) near the sealed hole (black arrow), presumably to deter oviposition by conspecific females. The entire process of oviposition typically lasts 20-30 minutes. The latex around the hole was removed here in order to show the latex seal.



Fig. 8. *Paramacops* weevil eggs deposited into the fibrous middle layer of the fruit wall (stereomicroscopic view from inside the hole). The average number of eggs per clutch is approximately 10 ± 2 .

Informal Weevil Meeting - ESA 2005 Fort Lauderdale

By **Janet C. Ciegler** (USA: ciegler@earthlink.net), with slight modifications by **Robert Anderson and Charles O'Brien**.

On December 17 at the 2005 Entomological Society of America venue in Fort Lauderdale, an informal meeting was opened for anyone interested in discussing weevils. The meeting was organized and chaired by Charles W. O'Brien. Fourteen persons attended and discussed their interests and projects. First each person had a chance to describe their activities, then a general discussion followed.

Robert Anderson of the Canadian Museum of Nature in Ottawa is collecting weevils from leaf litter in Central America. He currently has two M.Sc. students working on the biology of *Cryptorhynchus melastomae* and on a taxonomic revision of *Trachyphloeomimus*. He is building a website listing all dryophthorid weevil species in Costa Rica with keys and illustrations. He is furthermore collaborating with Chris Majka of the Nova Scotia Museum on a list of weevils of the maritime provinces of Canada, and with Rolf Oberprieler on the weevil portions of the Handbook of Zoology, Coleoptera, Volume 2.

Maxwell Barclay, curator of Coleoptera at the Natural History Museum in London, reported on the movement of the entire collection to a new location in a new building a short distance away. He is working on the manuscripts from the outstanding Russian weevil specialist Vladimir V. Zherikhin, who past away in the year 2000 (see CURCULIO 44: 14-16), on an Indian species established in Arabia, and will be publishing many papers. This was his first ESA meeting.

Janet Ciegler (West Columbia, SC) has just begun work on a book for identification of the Curculionidae (exclusive of Scolytinae) of South Carolina. This book will include keys, descriptions, distributions and illustrations of all species. Already, she has published several such books, e.g. on the Chrysomelidae of South Carolina and the Aquatic Beetles of South Carolina.

Ruth Dahlquist (University of Idaho and CATIE in Costa Rica) is studying the behavior of the banana weevil, *Cosmopolites sordidus* in Costa Rica, particularly the weevils' movements between traps set in small, contiguous farms. Part of the study is to evaluate the efficacy of pheromone traps.

Steve Davis (University of Kansas) is a new M.Sc. student working on the possible coevolution, through studies of morphology and cladistics, of the baridines associated with *Zanthoxylum* (*Zygobaris*, etc.), and is studying amber weevils from Dominica. He is also interested in the Chinese weevil fauna.

Muhammad Haseeb (Florida A&M University), in collaboration with Charles O'Brien, is studying 44 species of West Indian weevils of economic importance, developing keys for them and using the *Auto-Montage* imaging system to obtain pho-

tographs to be used as part of a computer expert information system. These authors are working on another such system focusing on weevil biological control agents imported into the USA and Canada.

Henry Hespeneide (University of California at Los Angeles) displayed a poster on buprestids at the ESA meeting, titled "Going up! - jewel beetles along an altitudinal transect in Costa Rica". He has discovered a new *Lechriops* species from Brazil, a pest on *Rubus*, a new *Eulechriops* species from Arizona, and new *Laemosaccus* species from the eastern United States and Arizona. He has reprints available on a paper on Central American *Macrocopturus*, and requested data on West Indian conoderines.

Anne Howden (Canadian Museum of Nature) is continuing her studies of southern South American *Pandeleiteinus*.

Moses Kairo, who replaced Charles O'Brien as director of the Center for Biological Control at Florida A & M University, is working on biological control of invasive species in Florida and the Caribbean.

Charles O'Brien has completed his move from Florida to Arizona, and keeps busy with consulting and identifying weevils for various people pro bono, especially from developing countries and fellow weevil specialists and newcomers to weevils that need his help. He does charge a consultant's fee for those agencies and individuals who can afford to pay for such services. He has been collecting in the sand dunes of southwestern United States and Southern California, and has found several new species of *Trigonoscuta* and *Miloderes*, as well as two new genera. With Guillermo Wibmer he is trying to complete an already 350-page manuscript on Stenopelmini that will expand 20 genera of weevils to 41, and a manuscript with William Tang, Robert Jones, and Peter Kovarik on the cycad weevils, *Rhopalotria* and *Parallocorynus*. He reported some good news concerning Elbert Sleeper, who is alive and well in the Sacramento area of California in Elk Grove, continuing his prodigious studies on the weevils of Baja California. This in spite of periods of serious health problems of 8 to 13 months duration of blindness and paralysis requiring use of a wheelchair. Fortunately, with surgery, he has recovered from these problems and is getting back to work.

Jorge Peña (IFAS, University of Florida, Homestead, FL) is studying parasitoids from the Caribbean and Colombia that attack weevils, and is raising colonies of both in his laboratory.

Ken Sorensen (NC State University) is studying the genomics of sweet potato weevils *Cylas formicarius* (F.), tracing their route of invasion from India to the United States. His traps are effective in capturing males, but he needs a mechanism for ob-

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Weevil Meeting FL 2005 (end)

taining females. In his studies of North Carolina invasive insects, he is also working on the white-fringed beetle and elaterids. He had a poster at this ESA meeting, titled "Some major invasive insects established on vegetables in North Carolina", is chair of the International Affairs committee, and plans to attend the International Congress of Entomology in Durban, South Africa, 2008.

Barry and Buena Valentine are moving from Ohio to Sara-

sota. He is working on a review of North American anthribids and a checklist of the West Indian species (including undescribed species) for *Insecta Mundi*. He also has in press papers on the cosmopolitan stored grain pest, the coffee-bean weevil, and another on social grooming in two species of cucujoids, the first observation of that practice in Coleoptera. He travels to private Guana Island in the British West Indies every October, where he is doing a survey of the Island's Curculionoidea. He hopes to be able to work with the ca. 100 drawers of anthribids in the Natural History Museum, London.

The Bulletin Board

News About Weevils

Caroline Chaboo (USA: chaboo@amnh.org) announces the publication of a new, information-packed volume of **CHRYSO-MELA 45**, available for download at <http://www.coleoproc.org/nwsltrts.shtml>

Jerri Larsson (USA: jerri@bioquip.com) is looking for **assistance in identifying a giraffe weevil from Thailand**. It appears to be a *Trachelophorus* species, light orange-brown in color and with small yellowish dots on the elytra, thus differing from species from Madagascar but similar in size.

Gregory Setliff (USA: setl0003@umn.edu) recommends Claude Schott's website complement to the **Alsation weevils**

which includes excellent plates (see p. 14), available at <http://claude.schott.free.fr/iconographie/Iconographies-listes.html>

Jean-François Voisin (France: jfvoisin@mnhn.fr) inquires about **location of insect specimens of Achilles Deyrolle**, a French collector and trader active during the first half of the 19th century. It is probable that his collection was sold in several parts following his death. What remains of it may be thus spread in various collections around the world. Any information in this regard is greatly appreciated and should be sent to the following address: Dr. Jean-François Voisin, Muséum national d'Histoire naturelle, USM 305, CP 51 (Mammifères et Oiseaux), 57 Rue Cuvier, 75 005 Paris, France.

Recent Publications on Curculionoidea

Alziar, G. 2006. Description de *Psolidium chionistriae* n. sp. de Chypre et nouvelles données sur la faune de l'Île (Coleoptera: Curculionoidea). Biocosme Mésogéen (Nice) 22: 185-193.

Arzanov, Yu. G. 2006a. To the knowledge of the weevil genus *Chromonotus* Motschulsky (*sensu lato*) (Coleoptera: Curculionidae: Lixinae). Proceedings of the Russian Entomological Society, Saint Petersburg 77: 8-17.

Arzanov, Yu. G. 2006b. *Borisocleonus* gen. n. - a new genus of weevils from the tribus of Cleonini (Coleoptera: Curculionidae: Lixinae). Russian Entomological Journal 15: 63-66.

Bahr, F. 2005. Cryptorhynchinae in Ungarn. Ergebnisse einiger Kurz-Exkursionen (Coleoptera: Curculionidae: Cryptorhynchinae). Snudebiller 6: 134-136.

Barratt, B. I. P., R. G. Oberprieler, C. M. Ferguson, and S.

Hardwick. 2005. Parasitism of the lucerne pest *Sitona discoi-*

deus Gyllenhal (Coleoptera: Curculionidae) and non-target weevils by *Microctonus aethiopoidea* Loan (Hymenoptera: Braconidae) in south-eastern Australia, with an assessment of the taxonomic affinities of non-target hosts of *M. aethiopoidea* recorded from Australia and New Zealand. Australian Journal of Entomology 44: 192-200.

Bartolozzi, L., and A. Sforzi. 2006. Remarks on the brentid collection of the Warsaw Museum and Institute of Zoology (Coleoptera: Brentidae). Annales Zoologici 56: 29-36.

Bayer, Ch., and P. E. Stüben. 2005. Chances and necessity of a close Europe-wide cooperation of the specialists of West Palearctic Weevils (Curculionoidea). Report on the First International Meeting of the Members of the CURCULIO-Institute in Cattolica/San Giovanni in Marignano (Italy) in October 2001. Snudebiller 6: 137-139.

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Recent Publications (continued)

- Beaver, R. A. 2005.** New synonymy in Taiwanese ambrosia beetles (Coleoptera: Curculionidae: Platypodinae). *Plant Protection Bulletin* 47: 195-200.
- Bialooki, P. 2005.** On the distribution of some interesting weevil species (Coleoptera: Apionidae, Curculionidae) in Poland. *Weevil News* 29: 1-8.
- Borovec, R., and F. Bahr. 2005.** Revision des Genus *Cathormiocerus* Schoenherr, 1842 - 1. Teil: Die *Cathormiocerus horrens* - Gruppe (Coleoptera: Curculionidae: Entiminae: Trachyploeini). *Snudebiller* 6: 9-36.
- Caldara, R. 2005.** Revisione dei *Cleopomiarus* della Regione afrotropicale (Coleoptera Curculionidae). *Memorie della Società Entomologica Italiana* 84: 101-167.
- Ciampolini, M., H. Perrin, and R. Regalin. 2005.** *Aclees cribratus*, nuovo per l'Italia nocivo al fico allevato in vivaio. *L'Informatore Agrario* 61: 69-71.
- Delaunay, L. 2005.** *Otiorrhynchus* (*Phalantorrhynchus* Reitter, 1912) *coachei* n. sp. du plateau de Bure, Alpes françaises méridionales (Coleoptera Curculionidae Entiminae). *Bulletin Mensuel de la Société Linnéenne de Lyon* 74: 271-276.
- Franz, N. M. 2006.** Towards a phylogenetic system of derelomine flower weevils (Coleoptera: Curculionidae). *Systematic Entomology* 31: 220-287.
- Franz, N. M., and R. M. Valente. 2005.** Evolutionary trends in derelomine flower weevils: from associations to homology. *Invertebrate Systematics* 19: 499-530.
- Germann, Ch. 2005a.** Beobachtungen zum Vorkommen von *Donus globosus* (Fairmaire, 1858) im Schweizer Jura (Curculionidae, Hyperini). *Snudebiller* 6: 140-145.
- Germann, Ch. 2005b.** Ein Reisebericht über die Exkursion des CURCULIO-Instituts im Winter 2002/03 nach Marokko. *Snudebiller* 6: 146-150.
- Germann, Ch. 2005c.** Entdeckung der potenziellen Wirtspflanze von *Acalles anagaensis* Stüben 2000 auf Tenerife (España, Islas Canarias) (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 161-167.
- Germann, Ch. 2005d.** Report on two excursions of the CURCULIO-Institute to Sardinia in October 2004 and March 2005 with a complete weevil species list (Coleoptera: Curculionidae). *Weevil News* 32: 1-5.
- Germann, Ch., F. Bahr, Ch. Bayer, L. Behne, G. Müller, U. Müller, P. Sprick, P. Stüben, and H. Winkelmann. 2005.** First record of *Pachyrhinus lethierryi* (Desbrochers, 1875) and *Otiorrhynchus crataegi* Germar, 1824 at the Niederrhein (Germany: Rhineland) (Curculionidae: Entiminae: Polydrusini). *Weevil News* 28: 1-3.
- Germann, Ch., and P. Sprick. 2005.** Ergebnisse von zwei Exkursionen ins südliche Italien mit einem Reisebericht über die Exkursion des CURCULIO-Institutes nach Sizilien und Kalabrien (Coleoptera: Curculionidae). *Snudebiller* 6: 151-160.
- Goldson, S. L., M. R. McNeill, J. R. Proffitt, and B. I. P. Barratt. 2005.** Host specificity testing and suitability of a European biotype of the braconid parasitoid *Microctonus aethiopoidea* Loan as a biological control agent against *Sitona lepidus* (Coleoptera: Curculionidae) in New Zealand. *Biocontrol Science and Technology* 15: 791-813.
- Guix, J. C. and X. Ruiz. 2000.** Plant-disperser-pest evolutionary triads: how widespread are they? *Orsis* 15: 121-126.
- Gültekin, L. 2005a.** Biological and distributional notes on *Lachnaeus horridus* Reitter, 1890 (Coleoptera: Curculionidae, Lixinae). *Weevil News* 23: 1-3.
- Gültekin, L. 2005b.** New ecological niche for weevils of the genus *Lixus* Fabricius and biology of *Lixus obesus* Petri (Coleoptera: Curculionidae, Lixinae). *Weevil News* 24: 1-3.
- Gültekin, L. 2006.** A new weevil species *Larinus araxicola* sp. n. (Coleoptera: Curculionidae: Lixinae) from northeastern Turkey with biological notes. *Proceedings of the Russian Entomological Society, Saint Petersburg* 77: 44-47.
- Gültekin, L., B. A. and Korotyayev. 2005.** Biology and distribution of *Larinus sibiricus* Gyllenhal (Coleoptera: Curculionidae, Lixinae). *Journal of the Entomological Research Society* 7: 47-53.
- Jones, R. W. 2006.** March of the weevils. *Natural History* 2/2006: 30-35.
- Kirkendall, L. R. 2006.** A new host-specific, *Xyleborus vochyisiae* (Curculionidae: Scolytinae), from Central America breeding in live trees. *Annals of the Entomological Society of America* 99: 211-217.
- Knutelski, S. 2005.** Cryptorhynchinae weevils of the Tatra Mountains. *Contributions to the weevil fauna of the Tatra Mountains* (Coleoptera: Curculionidae). *Snudebiller* 6: 168-175.
- Komez, N., and Ch. Germann. 2005.** New conclusions on the distribution of *Onyxacalles portusveneris* (Mayet, 1903) in France. *Weevil News* 27: 1-5.
- Korotyayev, B. A., A. S. Konstantinov, S. W. Lingafelter, M. Yu. Mandelshtam, and M. G. Volkovitch. 2005.** Gall-inducing Coleoptera [pp. 239-271]. In: *Biology, Ecology, and Evolution of Gall-inducing Arthropods* (A. Raman, C. W. Schaefer, and T. M. Withers, editors). Science Publishers, Inc., Enfield, NH.
- Korotyayev, B. A., and N. N. Yunakov. 2005.** A new species of the weevil genus *Alatavia* from Kyrgyzstan (Coleoptera: Curculionidae). *Zoosystematica Rossica* 14: 101-103.
- Kozlowski, M. W. 2005.** Consumption of own eggs by curculionid females (Coleoptera: Curculionidae: Curculioninae, Ceutorhynchinae). *Snudebiller* 6: 176-180.
- Kozlowski, M. W., and S. Knutelski. 2005.** First evidence of an occurrence of *Rhopalapion longirostre* Olivier, 1807 in Poland (Coleoptera: Curculionidae: Apionidae). *Snudebiller* 6: 181-184.

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Recent Publications (continued)

- Legalov, A. A. 2005a.** Leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) of the world fauna (morphology, phylogeny, systematics, ecology). Dr. Sci. Biol. dissertation abstract. Novosibirsk, 42 pp. [in Russian]
- Legalov, A. A. 2005b.** Characteristics of morphology of the rhynchitid beetles (Coleoptera; Rhynchitidae). Proceedings of the Chelyabinsk Scientific Center 3(29): 91-95. [in Russian]
- Legalov, A. A. 2005c.** Characteristics of morphology of the attelabid beetles (Coleoptera; Attelabidae). Proceedings of the Chelyabinsk Scientific Center 4(30): 165-170. [in Russian]
- Legalov, A. A. 2005d.** Modelling of phylogeny of the rhynchitid beetles (Coleoptera: Rhynchitidae). Proceedings on Taxonomy and Faunistics of Beetles (Coleoptera) Dedicated to the 100th Birthday of the Latvian Entomologist Mihails Stiprais (1905 - 1990), pp. 37-45.
- Legalov, A. A. 2006a.** Phylogenetic reconstruction of weevils superfamily Curculionoidea (Coleoptera) using the SYNAP method. Biology Bulletin 33: 127-134.
- Legalov, A. A. 2006b.** Reconstruction of phylogeny of families superfamily Curculionoidea (Coleoptera) of method SYNAP. Izvestiya Akademii Nauk, Seriya Biologicheskaya 2: 165-172. [in Russian]
- Legalov, A. A., and S. E. Legalov. 2005.** A review of fauna of the leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) of Novosibirsk Province. Autumn Zoological Sessions 2005, Novosibirsk, pp. 23-30. [in Russian]
- Legalov, A. A., and L. Ning. 2005.** New leaf-rolling weevils (Coleoptera: Rhynchitidae, Attelabidae) from China. Baltic Journal of Coleopterology 5: 99-132.
- Lu, X., A. A. Legalov, and R. Zhang R. 2005.** A new subgenus and two new species of *Magdalis* Germar from northern China (Coleoptera: Curculionidae: Magdalinae). Coleopterists Bulletin 59: 369-378.
- Lyal, C. H. C., and M. A. Alonso-Zarazaga. 2006.** Addenda and corrigenda to 'A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera)'. 2. Zootaxa 1202: 21-31.
- Magnano, L. 2005a.** Due nuove specie di *Otiorhynchus* (*Tourneria*) del gruppo *europaeus* Stierlin, 1883. (LIII contributo alla conoscenza dei Curculionidae). Atti dell'Accademia Roveretana degli Agiati, Serie VIII, V, B: 291-303.
- Magnano, L. 2005b.** Tre nuove specie di *Otiorhynchus* (*Podonebistus* Reitter, 1914) di Turchia. (LIV contributo alla conoscenza dei Curculionidae). Atti dell'Accademia Roveretana degli Agiati, Serie VIII, V, B: 305-315.
- Magnano, L. 2005c.** Una nuova specie di *Limatogaster* (*Dialonedus*) della Grecia (Coleoptera Curculionidae Otiorhynchini). LV contributo alla conoscenza dei Curculionidae. Bollettino della Società Entomologica Italiana 137: 215-217.
- Magnano, L. 2005d.** Revisione di *Otiorhynchus* (*Pseudoprovadilus*) subg. n. (Coleoptera, Curculionidae) (L contributo alla conoscenza dei Curculionidae). Fragmenta Entomologica, Roma 37: 99-128.
- Magnano, L., and E. Colonnelli. 2004.** A new species of *Phacephorus* Schönherr, 1840 from Anatolia (Coleoptera Curculionidae). Redia LXXXVII: 19-21.
- Mandelshtam, M. Yu., A. V. Petrov, S. I. Axentjev, and M. Knizek. 2006.** A new and a poorly known species of bark beetles (Coleoptera: Scolytidae) from Middle Asia. Proceedings of the Russian Entomol. Society, Saint Petersburg 77: 213-218.
- Mantillieri, A. 2005a.** Phylogénie des Stereodermini et description d'un nouveau genre afrotropical (Coleoptera, Brentidae). Bulletin de la Société Entomologique de France 110: 415-426.
- Mantillieri, A. 2005b.** Les espèces orientales du genre *Stereodermus* Lacordaire, 1866 (Coleoptera, Brentidae, Stereodermini). Revue Française d'Entomologie 27: 171-187.
- Mantillieri, A., and A. Sforzi. 2006.** Review of the Neotropical species of the genus *Stereodermus* Lacordaire, 1866 (Coleoptera: Brentidae, Stereodermini). Zootaxa 1207: 1-64.
- Mermudes, J. R. M. 2005.** Revisão sistemática, análise cladística e biogeográfica dos gêneros *Tribotropis* e *Hypselotropis* (Coleoptera, Anthribidae, Anthribinae, Ptychoderini). Revista Brasileira de Entomologia 49: 465-511.
- Mermudes, J. R. M., and D. S. Napp. 2006.** Revision and cladistic analysis of the genus *Ptychoderes* Schoenherr, 1823 (Coleoptera, Anthribidae, Anthribinae, Ptychoderini). Zootaxa 1182: 1-130.
- Murray, T. J., K. J. M. Dickinson, and B. I. P. Barratt. 2006.** Associations between weevils (Coleoptera: Curculionidae) and plants, and conservation values in two tussock grasslands, Otago, New Zealand. Biodiversity and Conservation 15: 123-137.
- Perrin, H. 2005.** Deux cas tératologiques observés chez les Coléoptères (Curculionidae, Elateridae). L'Entomologiste 61: 249-251.
- Prena, J. 2005a.** *Curculio tragiae* F. - a baridine weevil collected by the Cook-Expedition in Brazil 1768 (Coleoptera: Curculionidae: Baridinae). Beiträge zur Entomologie 55: 137-139.
- Prena, J. 2005b.** The Middle American species of *Embates* Chevrolat (Coleoptera: Curculionidae: Baridinae). Zootaxa 1100: 1-151.
- Prena, J., and K. Nishida. 2005.** *Thanius biennis*, a new gall-inducing weevil with a two-year life-cycle from Costa Rica (Coleoptera: Curculionidae: Baridinae). Beiträge zur Entomologie 55: 141-150.
- Riedel, A. 2005.** Digital imaging of beetles (Coleoptera) and other three-dimensional insects [pp. 222-250]. In: Digital Imaging of Biological Type Specimens. A Manual of Best Prac-

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Recent Publications (continued)

- Stüben, P. E. 2005d. Breeding of *Kyklioacalles euphorbiophilus* Stüben 2003 (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 222-226.
- Stüben, P. E. 2005e.** The rediscovery of *Acalles droueti* Crotch 1867 and Curculionoidea collected on an excursion on the Azores: a report (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 227-236.
- Stüben, P. E. 2005f.** Zucht von *Calacalles droueti* (Crotch 1867) von den Azoren (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 237-242.
- Stüben, P. E. 2005g.** Zur Biologie von *Acalles poneli* Stüben 2000 (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 243-255.
- Stüben, P. E. 2005h.** Zur Verbreitung von *Kyklioacalles navi-eresi* (Boheman 1837) und *Kyklioacalles roboris* (Curtis 1834) im Rheinland/Germany (Coleoptera: Curculionidae: Cryptorhynchinae). *Weevil News* 25: 1-9.
- Stüben, P. E. 2005i.** "Basar Taxonomie?" - ein erfolgreiches Kreuzungsexperiment zu *Acalles aeonii* Wollaston, 1864 (Coleoptera: Curculionidae). *Weevil News* 31: 1-13.
- Stüben P. E., and F. Bahr. 2005.** Illustrated key of the Cryptorhynchinae of Middle-Europe (Coleoptera: Curculionoidea). *Weevil News* 40: 1-4.
- Stüben, P. E., F. Bahr, and Ch. Bayer. 2005.** Cryptorhynchinae-Exkursion in die Ost- und Zentralpyrenäen (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 206-210.
- Stüben P. E., F. Bahr, Ch. Germann, L. Behne, and Ch. Bayer. 2005.** Beschreibung neuer Cryptorhynchinae aus dem mediterranen Raum (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 84-113.
- Stüben, P. E., and Ch. Bayer. 2005.** CURCULIO Institute established in Eastern Middle Europe! Report on the 3rd International Conference of the CURCULIO Institute in Ochotnica Górna (Western Carpathians), Poland, 1st to 7th August 2004. *Snudebiller* 6: 256-259.
- Stüben, P. E., and L. Behne. 2005.** Das Land der Echinoderen - Reisebericht und Artenliste einer Exkursion des CURCULIO-Instituts nach Tunesien 2003 (Coleoptera: Curculionoidea). *Snudebiller* 6: 260-273.
- Stüben, P. E., and Ch. Germann. 2005.** Neue Erkenntnisse zur Taxonomie, Biologie und Ökologie der Cryptorhynchinae von den Makronesischen Inseln. 1. Beitrag: Kanaren/Tenerife (Coleoptera: Curculionidae: Cryptorhynchinae). *Snudebiller* 6: 37-83.
- Winkelmann, H., F. Bahr, and Ch. Bayer. 2005.** Beitrag zur Verbreitung von *Omphalapion rhodopense* (Angelov, 1962) und Beschreibung der Männchen (Coleoptera: Curculionoidea: Apionidae). *Snudebiller* 6: 274-276.
- Yunakov, N. N. 2005a.** A revision of the weevil genus *Amicromias* Rtt. (Coleoptera, Curculionidae: Entiminae). *Entomological Review* 84: 143-158.
- Yunakov, N. N. 2005b.** Chorological analysis of broad-nosed weevil fauna (Coleoptera, Curculionidae, Entiminae) and zoogeographical attribution of the Ukrainian Carpathians. In: Proceedings of the Report Scientific Session of Zoological Institute RAS by Results of 2004 Year, pp. 40-41. Saint Petersburg.
- Yunakov, N. N. 2005c.** Chorological analysis of broad-nosed weevil fauna (Coleoptera: Curculionidae: Entiminae) and problem of zoogeographical attribution of the Crimean Mountains. In: General and Applied Entomology in Ukraine, pp. 251-253. Lviv.

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Recent Publications (end)

Yunakov, N. N. 2006a. Contribution to a revision of the weevil genus *Brachysomus* Schoenh. (Coleoptera, Curculionidae, Entiminae). Description of new taxa. Proceedings of the Russian Entomological Society 77: 294-330.

Yunakov, N. N. 2006b. New synonyms in the Entiminae (Coleoptera: Curculionidae). Zoosystematica Rossica 14: 263-265.

Yunakov, N. N., and B. A. Korotyaev. 2005. *Bosporomias* gen. n., a new genus of the weevil subfamily Entiminae from Taman peninsula (Coleoptera, Curculionidae). Entomological Review 84: 369-376.

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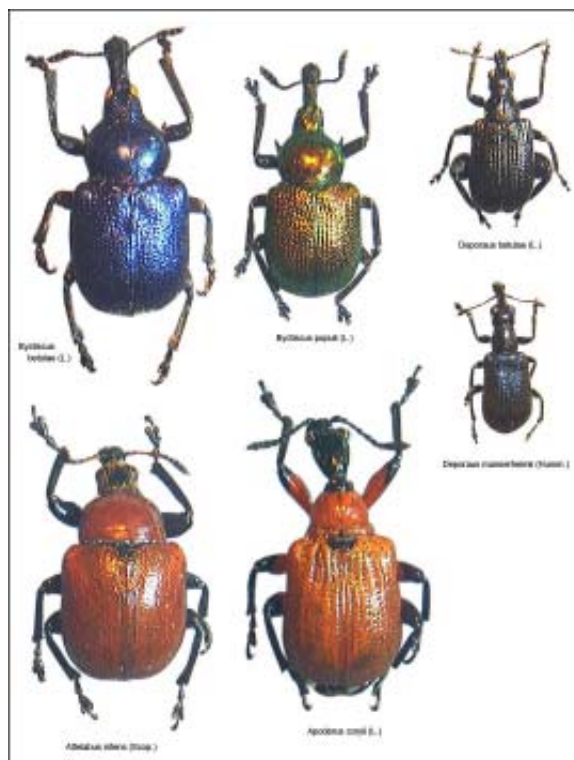


Plate with illustrations of rhynchitid and attelabid species from the Iconographie des Coléoptères Curculionoidea d'Alsace; by Claude Schott. See <http://claudio.schott.free.fr/iconographie/Iconographies-listes.html>