

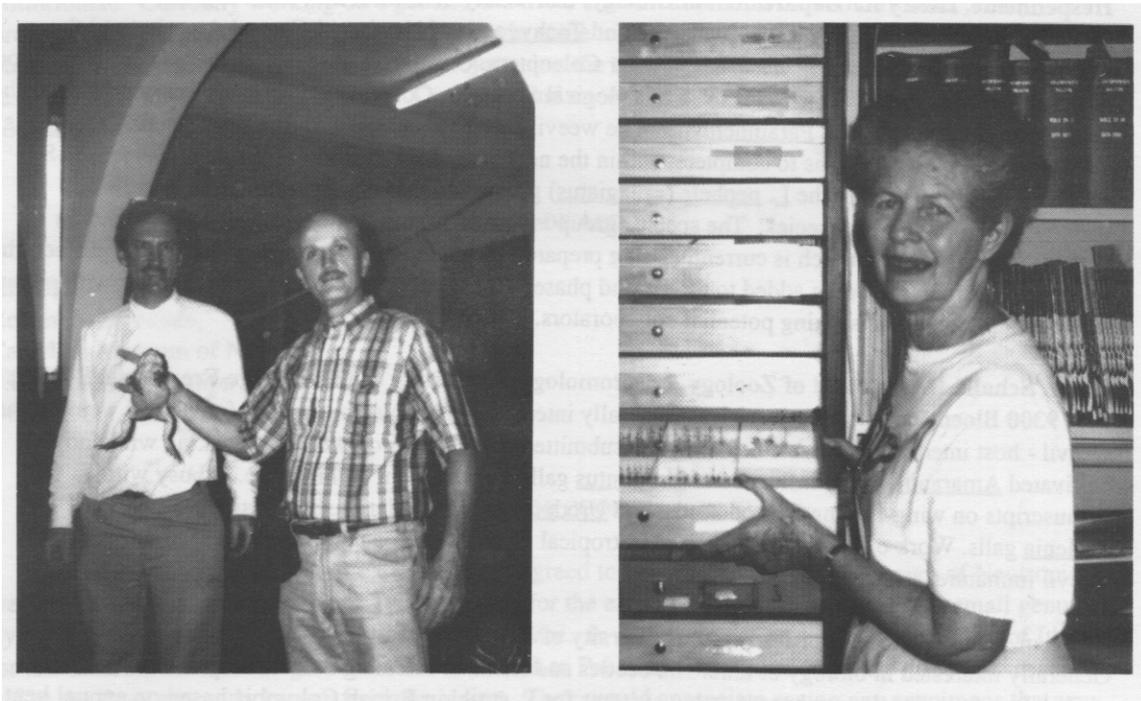
# CURCULIO

A NEWSLETTER DEVOTED TO DISSEMINATION OF  
KNOWLEDGE ABOUT CURCULIONOIDEA

NO. 39 - SEPTEMBER 1995

CANADIAN MUSEUM OF NATURE  
P.O. BOX 3443, STATION D  
OTTAWA, ON. K1P 6P4  
CANADA

EDITED BY  
ROBERT S. ANDERSON



Robert Jones (L) and Robert Hamilton (R)  
Chiapas, Mexico (1995)

Anne T. Howden  
Ottawa, Canada (1995)

# CURCULIO

## RESEARCH ACTIVITIES AND INTERESTS

**Cote, Sylvain. Agriculture Canada, 430 Boulevard Gouin, St. Jean-sur-Richelieu, PQ. J3B 3E6.** Interested in egg parasitoids of weevils. Also involved in inventory, biology and collection of the weevils of Quebec, Canada. Specifically studying the egg parasitoids of the carrot weevil, Listrionotus oregonensis (LeConte). Plans to publish identification guides to the weevils of Quebec.

**Furniss, Malcolm. Division of Entomology, University of Idaho, Moscow, ID. 83843-2339.** Interested in all aspects of Scolytidae, especially the biology, ecology and distribution of unstudied species. Presently studying Dryocoetes betulae Hopk. in paper birch, Alniphagus hirsutus Schedl in alder, Trypophloeus striatulus (Mann.) in willow, and Scolytus subscaber LeC. in grand fir. Wishes to exchange Scolytidae of western North America (Alaska to Mexico) for species from throughout the world, for addition to the W.F. Barr Entomological Museum. Will provide list of species available for exchange on request.

**Hamilton, Robert W. Biology Department, Loyola University of Chicago, 6525 N. Sheridan Road, Chicago, IL. 60626.** Generally interested in systematics and biology of Attelabidae and Rhynchitidae. Presently revising the species of Pterocolinae. Planning to revise the attelabid genera of the New World.

**Hespenheide, Henry A. Department of Biology, University of California, Los Angeles, CA. 90095-1606.** Interests continue to be the Zygoninae and Tachygonus of North and Central America and the occurrence of mimicry among weevils and other Coleoptera. Current major projects include the Arthropods of La Selva (ALAS) project at the La Selva Biological Station in Costa Rica, and revisionary studies of the genera Pseudolechriops and Paramnemyne. The weevil fauna associated with the plant genus Cecropia is also of special interest. Plans to complete, within the next year, a small study of the southwestern U.S. species of Laemosaccus in the L. nephele (= plagiatus) group. To that end, would like to borrow any material identified as this species. The species group is part of a putative mimicry complex based on clytrine Chrysomelidae which is currently being prepared for publication. As part of the ALAS project, the subfamily Baridinae is being added to the second phase. Henry plans to become more familiar with genera in the group, but is also seeking potential collaborators.

**Louw, Schalk. Department of Zoology & Entomology, University of the Orange Free State, PO Box 339, 9300 Bloemfontein, South Africa.** Generally interested in biosystematics of afrotropical weevils and weevil - host interactions. Has completed and submitted manuscripts on weevils attacking wild and cultivated Amaranthus, and influence of Urodontus galls on host-plant architecture. Is busy with manuscripts on wing-folding in urodontids, and Urodontus - Baris relationships inside Galenia galls. Work on biosystematics of Afrotropical Rhytirrhini and descriptions of South African weevil immatures is progressing slowly.

**McLean, John A. Faculty of Forestry, University of British Columbia, Vancouver, BC. V6T 1W5.** Generally interested in biology of ambrosia beetles and terminal infesting weevils, especially Pissodes strobi. Presently developing hazard rating systems for P. strobi in British Columbia based on annual heat sums; genetic variation among P. strobi populations as determined by RAPD markers; biological dispersal of P. strobi in a reciprocal cross white spruce plantation; and, silvicultural system effects on P. strobi biology.

**Miländer, Georg. Sopruše 221 ap. 79, Tallinn, EE0034, Estonia.** Generally interested in systematics and faunistics of Curculionidae, Apionidae and other Coleoptera of Estonia and the East-Baltic area. Currently conducting a faunistic study of Estonian Curculionidae (Adelognatha). Plans to study the Curculionidae (Phanerognatha) in the near future.

# CURCULIO

**Perrin, Hélène.** **Museum national d'Histoire naturelle - Entomologie, 45 rue de Buffon, 75005 Paris, France.** Generally interested in weevils of the Afrotropical region, especially the genus Curculio. Presently has several publications in preparation on the genus Curculio in West Africa. Plans to study Curculio in the eastern part of Africa and in South Africa. Is also interested in all Curculionidae which develop on fig trees in the figs.

**Read, R.W.J.** **43 Holly Terrace, Hensingham, Whitehaven, Cumbria, CA288RF, England.** Generally interested in the biology, ecology and distribution of all British Curculionoidea. Especially interested in the weevil fauna of West Cumbria. Carrying out observations on the biology of Rhamphus pulicarius and its association with the plant Myrica gale in Cumbria County.

**Reidel, Alexander.** **Marienplatz 17, D-86316 Friedberg, Germany.** Has a number of papers in press on a new Besuchetiella and a revision of Guineobius. Manuscripts on a new genus of Caridae, on Australian Araucariini and a new myrmecophilous cryptorhynchine are in preparation. Is continuing with a revision of the large genus Euops (Attelabidae) by focussing on the species with humeral spines. Plans another 2 month collecting trip in October in New Guinea.

**Valentine, Barry D.** **2359 Eastleft Drive, Columbus, OH. 43221.** Generally interested in world Anthribidae. Currently working on a generic and tribal classification of world Anthribidae. Has progressed to the point where keys to the genera in some tribes are written, others in preparation. Is also planning work on a variety of other small projects, but the tribal classification is expected to take up most research time for the next few months. Continues and encourages world-wide exchanges to build his collection.

## CHANGE OF ADDRESS

Anne Howden,  
Research Associate,  
Canadian Museum of Nature,  
P.O. Box 3443, Station D,  
Ottawa, ON. K1P 6P4, CANADA

## REQUESTS FOR COOPERATION

Héctor Barrios and Charlie O'Brien have agreed to begin revisions of two genera of Neotropical weevils. They will do a revision of Trichodocerus for the entire Neotropical Region. This small genus of Zygopinae was treated in the past as Cryptorhynchinae. In addition they intend to do a revision of Ithaura for the Central American Region from Mexico south to Panama. They have currently three new species to add to the three presently known from the region. They would appreciate seeing any specimens that you may have of these two genera on loan for inclusion in these studies.

In addition, to bring to completion more than 20 years of research on cycad weevils of the genus Rhopalotria (including the subgenus Parallocorynus), Charlie O'Brien has agreed to collaborate with Pete Kovarik and Bob Jones on a definitive work which will include a taxonomic study, a complete cladistic analysis of the species, and a proper placement of this important genus in subfamily and/or tribe including a treatment of its familial relationships as well. They have five new species on hand from Mexico, Belize and Costa Rica, and Bob Jones is continuing a collaboration with a Mexican botanist in an attempt to locate further new species in southern Mexico. They will appreciate loans of specimens for inclusion in the study.

All relevant specimens should be sent to Charlie O'Brien, Entomology, Florida A&M University, Tallahassee, FL. 32307.

*Charlie O'Brien,  
Tallahassee, FL.*

## WEEVIL MEETING AT XX ICE, FLORENCE, ITALY

Are there any weevil researchers out there that are planning to present papers and/or posters at the XX ICE during August 1996 in Florence, Italy? If so, please contact any of the persons listed below so that we can organize a Curculionoidea Special Interest Group Meeting. On the congress circulars this has been slotted as IG-9 under Section 1: Systematics and Phylogeny. A topic for the special session will likely be "Biosystematics of Curculionoidea". As the last such meeting was held in 1988 in Vancouver, its time to renew friendships and share in exciting new discoveries. Contact Schalk Louw for more information and for letters of invitation (if required, but note that **no** funding is available). Also note that there are plans to publish the proceedings through the Natural History Museum of Turin.

Schalk Louw: Fax: 2751-48-8711; E-mail: dsl@rs.uovs.ac.za

Enzo Colonnelli: Fax: 0939-6-49-58-259 (through Prof. A. V. Taglianti, University of Rome)

Giuseppe Osella: Fax: 0862/433205

*Schalk Louw  
University of the Orange Free State  
Bloemfontein, South Africa*

## "ZIMMIE" AWARDED 1995 SPECIAL CSIRO MEDAL

Elwood ("Zimmie") C. Zimmerman is now an Honorary Research Fellow with the Australian National Insect Collection, CSIRO Division of Entomology, Canberra. He began his Pacific island weevil studies in 1930 with Hawaii's Bernice P. Bishop Museum, where he was for many years Curator of Entomology and also a member of the staff of the Experiment Station, Hawaiian Sugar Planters' Association and the University of Hawaii. He has explored more than 50 Pacific islands to study their faunas, and he has written extensively on them.

Between 1949 and 1973 he spent many years as an Honorary Associate at the Natural History Museum in London where he studied the world's finest collection of weevils. In 1972 he began there his Australian Weevils monograph and in 1973 he was brought to Australia by CSIRO to complete the work. His Australian Weevils monograph is the culmination of more than 60 years of research on Pacific island weevils, the last 22 of which have been devoted mostly to the preparation of the new eight-volume set.

Zimmerman is one of the world's most distinguished, highly recognized and widely honoured entomologists. In February 1995 Dr. Zimmerman was honoured by the Hawaiian Entomological Society with their Lifetime Excellence Award. He has published more than 225 research papers and books on entomology, biogeography and evolution of island biotas, including nine volumes of the well-known *Insects of Hawaii*, which he began in 1936, and for the *Lepidoptera* volumes of that work he was awarded the Karl Jordan medal. When *Australian Weevils* is complete, he will have published more than 10,000 pages of scientific information and more than 14,000 illustrations.

He has been a leader in science by the example of his own work and commitment and he and his wife, Hannah, have made generous financial contributions to scholarly societies and scientific research institutions in both the USA and Australia.

On February 22, 1995 Dr. Zimmerman was awarded the 1995 Special CSIRO Medal. Congratulations Zimmie!

*CSIRO, Canberra, Australia*

[Ed. note: Zimmie has also recently been awarded the Herbert E. Gregory Medal from the Pacific Science Foundation]

## INDIANA JONES IS ALIVE AND WELL IN CHIAPAS

Are you looking for adventure, good food, good music and good weevil collecting? If so, plan a trip to Chiapas, Mexico - I highly recommend it. I spent ten days in and around San Cristobal de las Casas as the guest of Dr. Robert W. Jones (a.k.a., "Indy") last June. Bob and Deborah Jones both work for the Mexican National Institute of Ecology (formerly CIES) in San Cristobal. Both are doing important work there - Bob with weevils, as well as building the institute's insect collection, and Deb with pioneering conservation work and a much needed botanical garden. Both of them went out of their way to make me feel welcome and help me to be successful in my entomological quest. Yes, they were great and their four month old daughter (Jennifer) who joined us several times for dinner is a perfect little lady.

I vialled a total of 827 specimens including 439 weevils. Unfortunately (for me) only 9 attelabids and 32 rhynchitids were taken. They included specimens of Himatolabus, Phyletobius, Eugnamptus, Involvulus, and Apterocolus. Other curculionid weevils included a large number of broadnoses (133) and cryptorhynchines (87); about 20 zygotines, baridines, erirhinines and tanymericines; some anthonomines, hyperines, hylobiines, magdalines, rhynchophorines, otidocephalines, cleonines; and a single curculionine and choline. Other weevil families included 10 apionids, 2 brentids, and 5 anthribids. Broadnoses and cryptorhynchids anyone????!!! Who works on cryptorhynchids anyway? I concentrated on beating oaks and a large number of these weevils are associated with Quercus spp. We collected at the following sites during my stay: Sumidero Canyon area just north of Tuxtla Gutierrez; Huitepec reserve just west of San Cristobal; Cerro Tzontehuitz north of San Cristobal; Chamula Laguna east of San Cristobal near Teopisca; a river canyon near Chamula; and a site close to the Chiapas-Oaxaca border near Rizo de Oro.

Two of these trips are worth further mention. First, the trip to a river canyon near Chamula was not only a good collecting site but I'll always remember the introduction to Mayan Indian culture. This trip started early in the morning and included a rough ride on wet muddy mountain roads to an area near the Indian town of Tenejapa. The expedition included Bob Jones, Jack DeKinga, Adrian Mendoza, Manuel Gigron and myself. We were able to meet and talk with Antonio Gigron (Manuel's father) and his family who live and farm (coffee, bananas, corn, etc.) on the steep mountain slopes. This was possible because Manuel was hired by Bob Jones to pin and label insects at the Ecological Institute. "Indy" had already established a good relationship with Manuel and his family and we were warmly welcomed. We sat in the house on tiny wooden chairs and drank "Frescas" (huge bottles of coke). The Indians in the Chamulan community speak little or no Spanish and it was fascinating to listen to Bob, Manuel and Antonio communicating in Spanish and Tzotzil (Bob would occasionally relate the general course of the conversation to Jack and me in English). In this small one room house on those tiny wooden chairs on the dirt floor I felt as if I'd gone back in time. Jack DeKinga, a free lance photographer, was along to take pictures for the USDA of "Indy" at work. He took shots of all of us as well as the boll weevil relatives and their Hampea host plants growing along the river. The hike down to the river was not for indoor types. To negotiate the narrow rocky steep path in the pouring rain was a challenge - I was the only one who fell and

luckily I was able to cling to the path while in repose. We all used special sticks (given to us by the Gignon family) that are cut and fashioned for negotiating the steep mountain trails. These long sticks were flexible yet very durable and served us well. On the way down we encountered several Indians, including one woman, on their way up carrying wood on their backs by means of a forehead strap. It was tough enough just to climb back up let alone barefoot with pounds of wood on your back! "Indy" was successful in getting some boll weevil relatives and Jack took pictures even in the rain. I lost a vial of specimens when I encountered an Indian man with a rifle while collecting up river from the rest of the group. I was startled and dropped a vial of specimens somewhere along the river bank (I was never able to find it and it was loaded with good "stuff"). He meant me no harm and when I showed him that I was collecting insects he just smiled and went along his way (joined quickly by a woman and young child that appeared out of nowhere). We must have been quite a sight with our colorful rain ponchos, beating sheets and sticks because the Indian men, women and children would come out of their houses and stand and stare at us (even in the pouring rain).

The second trip worth further comment was a rather long drive from San Cristobal through Tuxtla Gutierrez and on west to Rizo de Oro near the Chiapas-Oaxaca border. We stopped along the way at Chorreadoro Canyon east of Tuxtla G. A unique attelabid, Iseuscelus flohri Voss was collected there back in the '80s. This attelabid is known only from sites around Tuxtla G. and is the only known attelabid that looks like a chrysomelid with large brownish maculae on the elytra. We didn't find the unique attelabid but did find numerous attelabid leaf rolls. Hopefully Bob can rear out the weevils (probably Pilolabus viridans (Gyll.) and Xestolabus corvinus (Gyll.). We arrived late in the afternoon at a motel (Casa De Huespedes, "Paty") near Rizo de Oro on route 190 at Km 33. Some of you may have collected there in the past. "Indy" tells me that its a famous spot. We collected for a few hours before sundown. I found lots of the round leaf rolls of P. viridans on Guazuma ulmifolia but it appeared that I was about two weeks too late for the adults. I did manage to take a good series of a large brownish hyperine weevil (with dark linelike marks near the elytral declivities) on G. ulmifolia, but when the motel lights went on that's when the real collecting started! They attracted large saturniid and sphinx moths, large katydids and mantids, large beetles (scarabs and cerambycids) and a great variety of other groups to rekindle the fascination that most of us old guys had in our youthful pursuit of entomology. Weevils were numerous including many cryptorhynchs, erirhinines, baridines, zygopines as well as some brentids, anthribids and rhynchitids. Two specimens of Apterocolus gravidus (Sharp) and an undescribed species of Eugnamptus were especially welcome. In addition to the long tube fluorescent lights along the front and side of the motel building, a fluorescent tube illuminated the open doorway to a small shrine (about 6'x 10'x 8') on the hill behind the motel. The shrine (presumably where truckers and other motel guests go to pray) was in no time filled with thousands of swarming insects both inside and out. A large saturniid moth perched motionless on the crucifix all night long. Needless to say, we were up late filling our vials while huge toads hopped in from the campo to fill their stomachs.

If you do get down to Chiapas be sure to ask Deb Jones if there are any Indian festivals scheduled during your stay. On my last day in San Cristobal I accompanied Deb and her parents (Alfonzo and Emma, from Mexico City) to the Indian festival in Chamula. Deb knows a lot about Indian history and culture and has a good rapport with the local Indians. For the trip to Chamula she dressed in authentic Indian costume which clearly delighted the Chamulan community. We arrived just in time for the "parade" in front of the old church (built long ago by the Spanish) in the center of town. Deb informed me that this was the last day of a week long celebration honoring one of the Catholic Saints. Homemade rockets and fireworks signaled the start of the unique "parade". Flag bearers led the way with banners representing the different subgroups in the Chamulan community. Behind the flag bearers were men carrying lifelike mannequins of the Catholic Saints above their heads on royalty carriers. The saint's faces were painted in detail and each was uniquely dressed in colorful and elaborate robes. Each Saint had a sizable mirror on a chain around their necks; the significance of which I never found out. Men with incense torches walked beside the saint bearers filling the air with dense clouds of fragrant smoke. Next came men with special white headdresses of unknown significance. Bringing up the rear was the "band" playing ancient Indian music on homemade flutes and stringed instruments. The "parade" made several laps around the church yard (on a bed of fresh pine needles) under the watchful eye of the community rulers who sat solemnly in an elevated review stand.

The crowd (Indians and curious outsiders like me) followed the "parade" into the church. It was a shoulder to shoulder crunch of humanity with considerable confusion (no Andy Frain ushers) and no place to sit -my first church without pews. The saints were returned to their proper positions along the sides of the church and hundreds of candles burned at their feet. Women and children sat in prayer groups while the men mostly moved about in the smoke and the crowd. A catholic priest in white robes moved into the center and began to bless the "parade marchers" with holy water. The blessing was accidentally extended to many of the onlookers - Alfonzo and I were so blessed. Me gusta Mexico!

*Robert W. Hamilton  
Professor of Biology  
Loyola University  
Chicago, IL. USA*

## DEATH OF LUIS PEÑA

Over the years I am sure than many people have heard of Mr. Luis E. Peña of Santiago, Chile. Mr. Peña has been an active entomologist in Chile for the last 40+ years and during that time assembled an excellent collection of Coleoptera (including weevils), some of which is now deposited in the Field Museum of Natural History in Chicago, the remainder in Santiago. Although he was an excellent collector of insects, it is in a different capacity that he is most widely known and respected. Over the years he served as the coordinator, escort and guide for many visiting entomologists on collecting expeditions into Chile. Without doubt, our collective knowledge of Chilean insects is in great part due to the expertise, enthusiasm and dedication of this man. Many of us never met him, and I am included in this group, but we have heard many colleagues speak highly and favourably of him. The entomological community will always owe him a debt of gratitude for making natural history field studies in Chile efficient and effective. As you will see from the following letter Mr. Peña died this past September 27, 1995 but his efforts will be continued by friends and family.

"We regret to inform you that our dear friend and relative, Mr. Luis E. Peña G. died a few days ago after a long terminal illness. He passed away peacefully on September 27, 1995. Lucho decided that his life works and studies should be continued and cared for by his two closest friends, Mr. Alfredo Ugarte-Peña and Mr. Pedro Vidal, who will also be the curator of the collection in the future."

Familia Peña,  
P.O. Box 2974,  
Santiago, Chile.

*Robert Anderson,  
Ottawa, Canada*

## DATABASE OF WEEVIL GENERA AND SPECIES

I am currently working on a database covering 26500 genera and species of weevils. So far the fauna of the Americas, Australia, Central Europe and parts of the Palaearctic region are contained. The data provided includes name, author, year, literature (first description and subsequent revisions and keys), synonyms, distribution and in many instances host plants and other biological information. The species can be arranged alphabetically in various ways and also in phylogenetic order. In addition about 5000 literature references can be directly accessed. Several hundred full colour photographs of specimens, host plants and biotopes will serve for illustration and distraction. The software provided runs under Windows 3.1 and allows easy retrieval and one to pose complex questions. Lists can be transferred to any text processor. Editing and addition of data is possible. Distribution is planned on CD-ROM and on 270 MB Syquest

media. The first test versions have already been burnt on CD-ROM. The database is scheduled for development into a worldwide catalogue in the future, but as it is believed that the information contained will already be very useful, it will be published for the first time soon.

*Joachim Rheinheimer  
Merziger Str. 24  
67063 Ludwigshafen, Germany.*

## NEW PUBLICATIONS OF NOTE

*Anderson, R.S. and C.H.C. Lyal [Editors]. 1995. Biology and Phylogeny of Curculionoidea: Proceedings of a symposium convened at the XVIII International Congress of Entomology, Vancouver, Canada, July 3-9, 1988. Memoirs of the Entomological Society of Washington 14. 174 pp.*

Yes, it is finally published! This publication is the proceedings of the symposium on weevil biology and phylogeny that was convened at the 1988 International Congress of Entomology. It includes 10 contributions from a variety of authors (see listing in "Recent Publications on Curculionoidea"). Copies can be ordered by writing to Entomological Society of Washington, c/o Department of Entomology, MRC-168, Smithsonian Institution. Washington DC, 20560, U.S.A. Each copy is \$25.00 US prepaid.

*Burke, H.R. and P.A. Fryxell. 1995. Naturalists and their travels in Mexico: Annotated bibliography and roster of natural history collectors. Contributions from the University of Michigan Herbarium 20: 37-128.*

Horace Burke, well-known to us for his work on weevils, also has a great interest in the travels of early naturalists. With Paul Fryxell, a botanist at Texas A&M University, Burke has assembled an excellent summary of the published accounts of the explorations of naturalists in Mexico.

*Elgueta, M. 1993. Las especies de Curculionoidea (Insecta: Coleoptera) de interes agricola en Chile. Publicacion Ocasional, Museo Nacional de Historia Natural 48: 1-79.*

Written in Spanish this publication is comprised of keys and descriptions facilitating the identification of Chilean weevils of agricultural significance. Interestingly, some of the species treated are only marginally relevant to agriculture and so the publication deserves a wider audience than just those with an agricultural orientation. There are a number of photographs and line illustrations.

*Morrone, J.J. and S.R. Juñent . 1995. The Diversity of Patagonian Weevils. An illustrated checklist of the Patagonian Curculionoidea (Insecta: Coleoptera). Literature of Latin America (LOLA), Buenos Aires, Argentina. 189 pp.*

This publication is a review and checklist of the weevils found in Patagonia, an area of long research interest by the first author. The book consists of an introduction, a review of external morphology, classification and biology of weevils, a biogeographic overview of the Patagonian region with special emphasis on habitats, an annotated checklist of the weevil species present, and literature cited. These sections are relatively short and concise and the majority of the book is taken up by 94 full page black and white illustrations of most of the species in the checklist. A useful appendix listing host plant associations of Patagonian weevils follows the plates and there is also an index. Text is in both English and Spanish. Copies can be ordered from Librería L.O.L.A., Viamonte 976, 2ºD (1053), Buenos Aires, Argentina. Each copy is \$45.00 US (airmail postage included) to North America and Europe; \$50.00 US (airmail postage included) to Asia and Australia.

*O'Hara, J.E. 1995. Henry Walter Bates - his life and contributions to biology. Archives of Natural History 22: 195-219.*

This is a relatively straight forward biography of Henry Walter Bates and as Bates is not known for his contributions to the study of Curculionidae you might wonder why it is mentioned here. Biographies tend to be boring and filled with inconsequential details, but this is an excellent, concise, well-crafted and enjoyable portrait of the life of this early naturalist.

*Wanat, M. 1995. Systematics and phylogeny of the tribe Ceratapiini (Coleoptera: Curculionoidea: Apionidae). Genus (Supplement). 406 pp.*

This publication is a comprehensive analysis of the systematics and evolution of weevils of the tribe Ceratapiini. The book consists of a history of the classification of the group, discussion of the origin and evolution (including phylogeny) of the higher taxa, a review of systematics, morphology, ecology and biogeography in the group, followed by the detailed systematic treatment. Illustrations are good and plentiful and indices to weevil and plant names are very helpful. Copies can be ordered from Polskie Towarzystwo Taksonomiczne, Sienkiewicza 21, 50-335 Wrocław, Poland. Each copy is \$50.00 US plus \$15.00 airmail outside of Europe.

## RECENT PUBLICATIONS ON CURCULIONOIDEA

Alfaro, R.I., G. Kiss and R.G. Fraser [Editors]. 1994. The white pine weevil: Biology, damage and management. Proceedings of a symposium held January 19-21, 1994 in Richmond, British Columbia. FRDA Report 226.

Alonso-Zarazaga, M.A. 1994. Corrections to the nomenclature of some North American weevils (Coleoptera: Curculionidae). The Coleopterists Bulletin 48: 236.

Anderson, R.S. 1995. An evolutionary perspective on diversity in Curculionoidea. Memoirs of the Entomological Society of Washington 14: 103-118.

Anderson, R.S. and C.H.C. Lyal [Editors]. 1995. Biology and Phylogeny of Curculionoidea: Proceedings of a symposium convened at the XVIII International Congress of Entomology, Vancouver, Canada, July 3-9, 1988. Memoirs of the Entomological Society of Washington 14. 174 pp.

Bartolozzi, L. and A. Sforzi. 1994. Contribution to the knowledge of Brentidae from Kenya (Coleoptera: Brentidae). Koleopterologische Rundschau 64: 249-256.

Bennike, O. and J. Böcher. 1994. Land biotas of the last interglacial/glacial cycle on Jameson Land, East Greenland. Boreas 23: 479-487.

Brandt, J.P., S.M. Smith and M. Hubbes. 1995. Bionomics of strawberry root weevil adults, *Otiorhynchus ovatus* (L.) (Coleoptera: Curculionidae), on young ornamental conifer trees in southern Ontario. The Canadian Entomologist 127: 595-604.

Bright, D.E. 1994. New records and species of Scolytidae from Borneo (Coleoptera: Scolytidae). Koleopterologische Rundschau 64: 257-274.

Bright, D.E. 1994. Revision of the genus *Sitona* (Coleoptera: Curculionidae) of North America. Annals of the Entomological Society of America 87: 277-306.

- Brown, V.K. and P.S. Hyman. 1995. Weevils and plants: Characteristics of successional communities. *Memoirs of the Entomological Society of Washington* 14: 137-144.
- Buckingham, G.R. 1994. Biological control of aquatic weeds. pp. 413-480, in, D. Rosen, F.D. Bennett and J.L. Capinera [Editors], *Pest Management in the Subtropics: Biological Control - A Florida Perspective*. Intercept, Hampshire, England. xiv + 737 pp.
- Burke, H.R. and P.A. Fryxell. 1995. Naturalists and their travels in Mexico: Annotated bibliography and roster of natural history collectors. *Contributions from the University of Michigan Herbarium* 20: 37-128.
- Caldara, R. 1995. Studio dei tipi di Tychiini di Henri Tournier custoditi presso il Museo di Storia Naturale di Ginevra (Coleoptera, Curculionidae). *Revue Suisse de Zoologie* 102: 609-613.
- Colonnelli, E. 1994. Neotype and lectotype designations for Curculionidae Ceutorhynchinae, with new synonymies and new combinations. *Fragmenta entomologica*, Roma 26: 179-221.
- Couturier, G. and C. Delgado. 1995. Euscelus spiniger Voss (Coleoptera: Attelabidae: Attelabinae), nouveau ravageur du Goyavier (Psidium guajava L., Myrtaceae). *Annales de la Société Entomologique de France* (N.S.) 31(1): 85-87.
- Davidian, G.E. 1995. To the knowledge of weevils of the genus Plinthus Germ. (Coleoptera, Curculionidae) from the Caucasus. *Proceedings of the Zoological Institute, St. Petersburg* 258: 96-127.
- Dreux, P., Bailly, S., Tarroux, P and S.L. Chown. 1995. Approche cytogénétique de la systématique de trois Curculionides des îles du sud de l'Océan Indien: Ectemnorrhinus angusticollis (Waterhouse), Dusmoecetes marioni (Jeannel) et Canonopsis sericea (Waterhouse) (Coleoptera). *Bulletin de la Société entomologique de France* 100: 287-297.
- Elgueta, M. 1993. Las especies de Curculionoidea (Insecta: Coleoptera) de interes agricola en Chile. *Publicacion Ocasional, Museo Nacional de Historia Natural* 48: 1-79.
- Furniss, M.M. 1995. Biology of Dendroctonus punctatus (Coleoptera: Scolytidae). *Annals of the Entomological Society of America* 88: 173-182.
- Geisthardt, M. 1995. Die Gattung Dinas von den Kapverden und Beschreibung einer neuen Art (Coleoptera: Curculionidae: Brachyderinae). *Mitt. internat. entomol. Ver.* 20: 23-29.
- Guiz, J.C. and X. Ruiz. 1995. Toucans and thrushes as potential dispersers of seed-predatory weevil larvae in southeastern Brazil. *Canadian Journal of Zoology* 73: 745-748.
- Hespenheide, H.A. 1995. Mimicry in the Zygopinae (Coleoptera: Curculionidae). *Memoirs of the Entomological Society of Washington* 14: 145-154.
- Howden, A.T. 1995. Structures related to oviposition in Curculionoidea. *Memoirs of the Entomological Society of Washington* 14: 53-102.
- Ivie, M.A. and D.S. Sikes. 1995. Description of Micromyrmex asclepia, new species, with a redefinition of the genus and life history notes (Curculionidae: Otidiocephalina). *The Coleopterists Bulletin* 49: 235-248.
- Kok, O. B. and Louw, S. 1994. Bird and mammal predators of curculionid and tenebrionid beetles in semi-arid regions of South Africa. *Journal of African Zoology* 108: 555-563.

- Korotyaev, B.A. 1990. New weevils of the subfamily Apioninae (Coleoptera, Apionidae) from tropical regions of Asia. Proceedings of the Zoological Institute, Leningrad 211: 135-148.
- Korotyaev, B.A. 1991. New and little known Palearctic weevils (Coleoptera, Apionidae, Curculionidae). Revue d'Entomologie de l'URSS, Entomologicheskoe Obozrenie 70: 875-902.
- Korotyaev, B.A. 1992. New and little known species of weevils (Coleoptera, Curculionidae) from Russia and neighboring countries. Revue d'Entomologie de l'URSS, Entomologicheskoe Obozrenie 71: 807-832.
- Korotyaev, B.A. 1994. New and little known species of the weevil genus Rhamphus from Sri Lanka, Ethiopia and Namibia (Coleoptera: Curculionidae). Zoosystematica Rossica 3: 107-110.
- Korotyaev, B.A. 1994. New weevils of the subfamily Ceutorhynchinae from the Far East (Coleoptera: Curculionidae). Zoosystematica Rossica 3: 111-114.
- Korotyaev, B.A. 1994. New data on systematics of Palearctic weevils (Coleoptera, Curculionidae). Revue d'Entomologie de l'URSS, Entomologicheskoe Obozrenie 73: 870-890.
- Korotyaev, B.A. 1995. New species of Palearctic weevils (Coleoptera, Curculionidae). Proceedings of the Zoological Institute, St. Petersburg 258: 64-95.
- Korotyaev, B.A., Ismailova, M.S., Arzanov, Y.A., Davidian, G.E., and V.N. Prasolov. 1993. Spring fauna of weevils (Coleoptera, Apionidae Rhynchophoridae, Curculionidae) of the lowland and foothills Dagestan. Revue d'Entomologie de l'URSS, Entomologicheskoe Obozrenie 72: 836-865.
- Koubaiti, K., Phalip, M. and J. Lerin. 1995. Baris des Crucifères: critères de détermination des larves et biologie du développement de l'espèce dominante sur le colza, Baris coerulescens (Scopoli) (Coleoptera, Curculionidae). Bulletin de la Société entomologique de France 100: 315-324.
- Kuschel, G. 1995. A phylogenetic classification of Curculionoidea to families and subfamilies. Memoirs of the Entomological Society of Washington 14: 5-33.
- Lanteri, A.A. 1995. Analisis cladistico y evolucion de la partenogenesis en el grupo de Pantomorus auripes (Coleoptera: Curculionidae). Revista de la Sociedad Entomologica Argentina 54:17-24.
- Lanteri, A.A. and A.E. Marvaldi. 1995. Graphognathus Buchanan a new synonym of Naupactus Dejean and systematics of the N. leucoloma species group (Coleoptera: Curculionidae). The Coleopterists Bulletin 49: 206-228.
- Lanteri, A.A. and J.J. Morrone. 1995. Cladistics of the Naupactus leucoloma species group, Atrichonotus, and Eurymetopus (Coleoptera: Curculionidae). Revista de la Sociedad Entomologica Argentina 54:99-112.
- Louw, S. 1995. Systematics and biogeography of the subfamily Microcerinae (Coleoptera: Curculionidae): A re-evaluation based on larval morphology. Memoirs of the Entomological Society of Washington 14: 169-174.
- Lyal, C.H.C. 1995. The ventral structures of the weevil head (Coleoptera: Curculionoidea). Memoirs of the Entomological Society of Washington 14: 35-51.
- Morgan, A.V. and J.E. Motz. 1995. Carphoborus andersoni Swaine: Fossil occurrences in North America and comments on its modern distribution (Coleoptera: Scolytidae). The Coleopterists Bulletin 49: 127-131.

- Morris, M.G. 1995. The function of the dilated hind femora in male Deporaus betulae (L.). (Col., Attelabidae). Entomologist's Monthly Magazine 131: 114.
- Morris, M.G. 1995. Surface swimming in some Curculionidae. Memoirs of the Entomological Society of Washington 14: 129-136.
- Morrone, J.J. 1994. Cladistic placement of the subantarctic genus Haversiella (Coleoptera: Curculionidae). Journal of the New York Entomological Society 102: 299-302.
- Morrone, J.J. 1995. A new genus of Rhytirrhinini from Colombia (Coleoptera: Curculionidae). Caldasia 17: 603-606.
- Morrone, J.J. and F. Ocampo. 1995. Acroriellus, a new weevil genus of northern Andean Listroderina (Insecta: Coleoptera: Curculionidae). Zoologica Scripta 24: 257-262.
- Morrone, J.J. and S.R. Juñent . 1995. The Diversity of Patagonian Weevils. An illustrated checklist of the Patagonian Curculionoidea (Insecta: Coleoptera). Literature of Latin America (LOLA), Buenos Aires, Argentina. 189 pp.
- Morrone, J.J., A.E. Marvaldi and C.W. O'Brien. 1995. Lixellus LeConte, a new synonym of Listronotus Jekel (Coleoptera: Curculionidae). Entomological News 106: 108-112.
- Oberprieler, R.G. 1995. Systematic position and composition of the tribes Tanyrhynchini and Myorhinini (Coleoptera: Curculionidae). Memoirs of the Entomological Society of Washington 14: 155-167.
- O'Brien, C.W. 1995. Curculionidae, premiere biocontrol agents (Coleoptera: Curculionidae). Memoirs of the Entomological Society of Washington 14: 119-128.
- O'Brien, C.W. and I.S. Askevold. 1995. Systematics and evolution of weevils of the genus Bagous Germar (Coleoptera: Curculionidae), V. Taxonomic treatment of the species of the Indian Subcontinent. Contributions of the American Entomological Institute 28(5): 1-182.
- O'Brien, C.W., I.S. Askevold and K. Morimoto. 1995. Systematics and evolution of weevils of the genus Bagous Germar (Coleoptera: Curculionidae). IV. Three new species from Japan. Esakia 35: 1-15.
- O'Brien, C. W. and G. Couturier. 1995. Two new agricultural pest species of Conotrachelus (Coleoptera: Curculionidae: Molytinae) in South America. Annales de la Société Entomologique de France (N.S.) 31(3):227-235.
- O'Hara, J.E. 1995. Henry Walter Bates - his life and contributions to biology. Archives of Natural History 22: 195-219.
- Orbach, E., L. Bartolozzi and A. Sforzi. 1995. A new afrotropical species of Rhinopteryx Lacordaire (Coleoptera: Brentidae). The Coleopterists Bulletin 49: 17-22.
- Orbay, L., J.A. Mclean, B.J. Sauder and P.L. Cottell. 1994. Economic losses resulting from ambrosia beetle infestation of sawlogs in coastal British Columbia, Canada. Canadian Journal of Forest Research 24: 1266-1276.
- Peng, C. and G.J. Brewer. 1995. Economic injury levels for the red sunflower seed weevil (Coleoptera: Curculionidae) infesting oilseed sunflower. The Canadian Entomologist 127: 561-568.

- Perrin, H. 1995. Rhopalapion longirostre (Olivier) (Coleoptera, Apionidae) 12 années de récoltes en France. *L'Entomologiste* 51: 67-70.
- Pesic, S. 1993. Ecological-faunistic review of weevils (Coleoptera, Curculionidae) in Kraguevac Vicinity (Serbia). *Revue d'Entomologie de l'URSS, Entomologicheskoe Obozrenie* 72: 830-835.
- Read, R.W.J. 1995. List of Chrysomelidae and Curculionoidea (Coleoptera) from Saint Bees Head, West Cumbria. *Entomologist's Record* 106: 77-81.
- Rheinheimer, J. 1994. Ein neuer Plaesiorhinus Blackburn und Bemerkungen über australische Rüsselkäfer (Coleoptera: Curculionidae). *Koleopterologische Rundschau* 64: 275-277.
- Richard, R. 1995. Note sur l'apparition brusque d'une variation importante de la squamulation de Cratopus humeralis Boheman (Coleoptera, Curculionidae). *Bulletin de la Société entomologique de France* 100: 303-306.
- Riedel, A. 1995. A new Besuchetiella Osella (Coleoptera: Curculionoidea: Rhynchophoridae) from Sumatra. *The Coleopterists Bulletin* 49: 293-299.
- Riedel, A. and C.W. O'Brien. 1995. A new species-group of Ottistira Pascoe from New Guinea (Coleoptera: Curculionidae: Entiminae: Ottistirini). *Invertebrate Taxonomy* 9: 247-277.
- Rose, H.S. and A.K. Sidhu. 1994. Patialus tecomella Pajni, Kumar and Rose, an öotheca-laying weevil (Coleoptera: Curculionidae). *The Coleopterists Bulletin* 48: 10.
- Valentine, B.D. 1994. Two new species of Mylascopeus Fairmaire and other Anthribidae (Coleoptera) from nests of Cerceris Latreille wasps in Madagascar. *The Coleopterists Bulletin* 48: 201-206.
- Valentine, B.D. 1995. Identity of the Phillipine anthribid prey of the wasp, Cerceris luzonensis Crawford. *The Coleopterists Bulletin* 49: 52.
- Voisin, J.-F. 1994. Description du genre Brevanchonus nov., et de deux espèces nouvelles du genre Baillytes Voisin, de l'Equateur (Coleoptera, Curculionidae). *Nouvelle Revue Entomologie (N.S.)* 11: 247-253.
- Volovnik, S.V. 1994. On the oviposition of weevils of the genus Lixus (Coleoptera, Curculionidae). *Zoologicheskyy Zhurnal* 73: 49-54.
- Wanat, M. 1993. Weevils (Coleoptera: Curculionoidea: Anthribidae, Rhinomaceridae, Rhynchitidae, Attelabidae, Apionidae, Curculionidae) of the Bialowieza Primeval Forest. *Polskie Pismo Entomologiczne* 63: 37-112.
- Wanat, M. 1995. Systematics and phylogeny of the tribe Ceratapiini (Coleoptera: Curculionoidea: Apionidae). *Genus (Supplement)*. 406 pp.
- Williams, G. and P. Adam. 1994. A review of rainforest pollination and plant-pollinator interactions with particular reference to Australian subtropical rainforests. *Australian Zoologist* 29: 177-212.
- Zuppa, A., G. Osella and S. Biondi. 1994. Parental care in Attelabidae (Coleoptera, Curculionoidea). *Ethology, Ecology and Evolution, Special Issue* 3: 113-118.