

# CHRYSOMELA newsletter

*Dedicated to information about the Chrysomelidae*

Report No. 34

October 1997

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## Camino de Cantar Nature Trail, Cerro Azul, PANAMA

Donald Windsor takes a moment to collect some insects while looking for *Aulacoscelis* on cycads in the forests of Panama. June 1997. (full story on page 5.)

## Research Activities and Interests

**Maria F. Barberena** (San Juan, Puerto Rico) Working on Master degree (under the advice of Catherine Duckett). Working with two species of the alticine genus *Aspicela* this year (*A. discoidalis* and *A. viridicollis*) and plans to continue work on the genus as a Master's thesis (see Request for Specimens).

**Grace F. Barroga** (Laguna, Philippines) Finished MS thesis in June (Venus J. Calilung, Advisor) and plans to work on the Galerucine fauna of the Philippines. Interested in revising the genera *Aulacophora* and *Monolepta* because of their pest status in the Philippines.

**Jean-Claude Bourdonné** (Alés, France) Systematics and biology of Chrysomelinae and Galerucinae from the Pale-

arctic region. Actually, working on the classification of the great genus *Chrysolina* and carrying on the writing of the Chrysomelinae of French Fauna. Willing to identify Palearctic Chrysomelidae except Alticinae, Hispinae and Cassidinae.

**Andrzej O. Bienkowski** (Moscow, Russia) Currently working on a review of *Chrysolina* subgenera. At present, reviewed the place of *Chrysolina* within the subtribe Chrysolinina (with key to the genera) and prepared diagnosis of several subgenera.

**Caroline S. Chaboo** (Ithaca, USA) Interested in morphology and systematics; evolution, behavior and biogeography; Coleoptera; Chrysomelidae: Cassidinae. Entering Ph.D. program (News and Notes).

**Thi Dap Dang** (Hanoi, Vietnam) Continues work and publication on faunal, biological and populations of Vietnam Chrysomelidae.

**Roy A. Crowson** (Glasgow, UK) Phylogeny, biology and palaeontology of Chrysomeloidea and allied groups.

**Astrid Eben** (Mexico, Mexico) Chemical ecology and evolutionary ecology of plant/insect and of tritrophic level interactions. Currently doing postdoc research on chemical ecology of parasitoids (Hymenoptera: Braconidae) of *Anastrepha* (Diptera: Tephritidae). Future plans include project on evolution of diabroticite (Luperini) host plant associations, especially with *Cucurbita* spp. in Mexico.

*continued on page 6*

# THE EDITOR'S CORNER

Terry N. Seeno, Sacramento

## Items of Interest on the Web

### The Bishop Museum Website

This is one of the best sites for all items related to Pacific Rim natural history, especially entomology. Here are just a few of the things that you may find interesting:

- The Hawaiian Terrestrial Arthropod Checklist; it not only lists the taxa, but the distribution and residency status for native and alien Hawaiian terrestrial arthropods.

- Available through the checklist or as a separate file are 'Species of Concern' (or the old C2 designation for candidate endangered or threatened species). The entries for the candidate species include label data from all the specimens in the Museum collection (ca. 40,000) and literature citations extracted from published sources for each candidate species, including the gray literature.

- The Directory of Pacific Entomologists. The original directory was published by the Pacific Science Association, was updated by Geoff Scudder (University of British Columbia), and provides useful contact information.

- Insect and Spider Collections of the World. This web offering is a subset of the publication by Arnett & Samuelson, *et al.* and provides codens and collections names. The names have linking buttons to collections pages, where available, or the institutional home page. A form to update or add collections is available.

- More? You bet, including images, staff and program information, and even educational activities such as endangered and alien species pages. Neal Evenhuis and Gordon Nishida have done an excellent job of presenting and providing material. The site is both useful **and** easy to use. You can check out the entomology site at: <http://www.bishop.hawaii.org/bishop/ento/ento.html>

The Hawaii Biological Survey address is: <http://www.bishop.hawaii.org/bishop/HBS/hbs1.html>

### CHRYSOMELA

Numbers 31-33 of CHRYMOMELA have been on the WWW for the past three months. Initial problem with the addressing, firewalls and such have been corrected and seem to be repaired. The address: <http://www.cdfa.ca.gov/plant/ppd/publication.htm> will get you to the Plant Pest Diagnostics publications page for selection of a PPD publication. We plan to add three issues to the site before the end of the year (#34, 30 and 29).

### ESA Job Listings

The Entomological Society of America job listings: <http://www.entsoc.org/career.htm>

### NSF

The web address for The National Science Foundation is: <http://www.nsf.gov/> This address came to me courtesy of Charles J. O'Kelly, NSF Program Director, Systematic Biology, one of our newest colleagues to receive the newsletter. Charles has a web address of his own: <http://megasun.bch.umontreal.ca/protists/cjocv.html>

### The Insect WebServer

The ecological database of the World's Insect Pathogens (EDWIP) produced by David Onstad at the University of Illinois and the Illinois Natural History Survey: <http://insectweb.inhs.uiuc.edu/>

### The Latest in ICE XXI

**Decio Luiz Gazzoni** (Londrina, Brazil) President of the XXI International Congress of Entomology, invites you to visit the ICE XXI homepage at: <http://www.embrapa.br/ice>

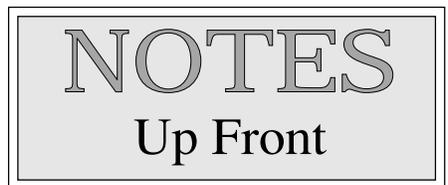
If you have additional questions regarding the event, please call or email. General Program details are given on page 4.

**Bohumila (Mila) de Bêchyné** is experiencing poor health. All of her friends wish her a speedy recovery.

**Grace F. Borranga** finished her MS thesis in June and plans to continue work on Galerucinae.

**Caroline S. Chaboo** is starting a Ph.D. program (**Quentin Wheeler**, advisor) in morphology and systematics of Chrysomelidae at Cornell University.

**Catherine Duckett** received an 18 month NSF Research Planning Grant (RPG) to rear oedionychine larvae in Brazil during the first 3 months of 1998, and will be visiting Rio Grande do Sul and Sta.



Catarina states for collecting. **Maria Helena Galileo** and **Luciano Acevedo Moura** were extremely helpful in assisting in the permit process. Catherine will be collecting and rearing chrysomelids with Luciano in the field.

**John Lawrence**, enroute to various entomology facilities on a round-the-world trip, visited the Plant Pest Diagnostics Cen-

ter in Sacramento on September 25-26.

**Vilma Savini** will be working at the Smithsonian Institute (Washington, USA) on *Heikertingerella* for three weeks beginning October 16, 1997.

**J. S. Yadav** reports that **Prof. H. R. Pajni** celebrated his 65th birthday on June 22, 1997. His colleagues throughout the world wish Professor Pajni well.

### Corrigenda: CHRYMOMELA 33:6

Caption error (left, bottom photo) The person with **Pierre Jolivet** is **Seniz Kis-mali** (Bornova, Turkey) and not Miriam Becker (Porto Alegre). (see page 8.)

The Newsletter CHRYMOMELA—Founded 1979— is published semiannually in April and October by the California Department of Food & Agriculture, Plant Pest Diagnostics Center, 3294 Meadowview Road, Sacramento, CA 95832-1448. E-mail: [tseeno@ns.net](mailto:tseeno@ns.net); telephone (916) 262-1160; FAX (916) 262-1190. This newsletter is sent to students of the Chrysomelidae to encourage the exchange of ideas and to disseminate information on these insects. **Editor:** Terry N. Seeno, Sacramento. **Advisors:** Catherine Duckett, San Juan; Brian D. Farrell, Cambridge; R. Wills Flowers, Tallahassee; Elizabeth Grobbelaar, Pretoria; Pierre Jolivet, Paris and Gainesville; Chris Reid, Townsville; Ed Riley, College Station; G. Al Samuelson, Honolulu; Eric H. Smith, Lynchburg; Charlie L. Staines, Edgewater; and Kunio Suzuki, Toyama.



# THE FORVM

## **The Scientific Method and the Predictive Value of Classification**

**Catherine N. Duckett, San Juan**

In the last four issues of *CHRYSOMELA*, there has been considerable debate about the taxonomic status of the “bruchids,” a demonstrably monophyletic group (Kingslover 1995). In the course of this discussion three main themes have emerged as the primary motivators for taxonomic decisions: ecological distinctiveness of the group, taxonomic stability and the predictive value of classification to comparative biology.

I would like to step back a little, to remove this discussion from the context of any individual taxon and focus on the purpose of systematics and taxonomy. There seems to be confusion in the minds of some readers about the purpose(s) of classification. Let’s begin with a discussion of the nature of systematics/taxonomy and its predictive qualities, then look at the roles of ecological distinctiveness and taxonomic stability in establishing and maintaining classifications.

Firstly, systematics is the study of biological diversity and interrelationships between taxa (Wiley 1981, Mayr and Ashlock 1991, both p.6); biological classification (taxonomy) is a sub-field of systematics, and is a product of the need for humans to have names to identify taxa and facilitate through shared names or groupings, understanding of their relationships with one another (Wiley 1981, Mayr and Ashlock 1991).

Secondly, modern biological classification is the product of the scientific method, in which formation of testable hypotheses (phylogenetic trees or cladograms) create a theoretical framework which endeavors to predict the characteristics of new phenomena (in the case of systematics, new taxa) (Hennig 1966, Maddison and Maddison 1992). Modern taxonomy, or

post-Darwinian taxonomy, seeks to construct classifications which reflect the true history of evolution and group organisms with a shared evolutionary history together (Wiley 1981, Mayr and Ashlock 1991).

Most systematists recognize shared, derived (advanced) characters as the markers of Darwinian descent with modification and, as such, use these markers to define natural groups. If a group is natural, it is monophyletic (represents all the descendants of a common ancestor), and predictions can be made based on the morphology, behavior, physiology, development, cellular structure and molecular biology of any member of the group about the same characteristics of another member of that group; **even if those characteristics were not used in formulating the phylogeny** (Hennig 1966, Wiley 1981, Mayr and Ashlock 1991). Moreover, these predictions should be more accurate in their reflection of all aspects the biology of that group than the predictions made by studying any member of another group (no matter what ecological or morphological similarities this other group has, it will not share all the hidden physiological and biochemical characteristics of another member of the original taxon). These comparisons are the embodiment of the scientific method as applied to systematics, and gives great predictive power to systematics and classifications derived from systematic studies.

Because phylogenetic systematics has the strength to predict characteristics of unstudied organisms, it conveys maximum information to other biologists. All biologists who want to accurately communicate with other workers should use classifications based on phylogeny. This classification presumes that a natural group will always be classified in a higher category which also contains its sister taxon (Mayr and Ashlock 1991). This means that individuals of equivalent rank within a taxonomic grouping (e.g. species in a genus, genera in a sub-family) will be more closely related to all members of that taxonomic grouping than they are to any member of any other taxon.

Moreover, failure to classify sister taxa in groupings of equivalent rank leads to species which can be most closely related to a given member of another taxon than they are to a given member of their own taxon. This totally disrupts the predictive

qualities of classification and reduces it from a tool communicating evolutionary information to a mere handle used to identify taxa.

Classification based on phylogeny conveys maximum information to all workers about all aspect of biology of the two groups. Classification based strictly on phylogeny is democratic as it does not favor any particular discipline (ecologists, morphologists, molecular biochemists, *etc.*); all aspects of the organisms biology are accurately communicated. The predictive value of classification based on phylogeny to all biologists is the strongest argument for phylogenetic classification—in other words ‘one classification fits all.’

This is also the strongest argument against an ecologically based classification, which may have very limited value to non-ecologists/morphologists.

The democratic nature of the predictiveness of phylogenetically based classification is also a strong argument against retaining flawed classification for “taxonomic stability.” Taxonomic stability is only valuable insofar as a given classification communicates useful information to the community. As the scientific community becomes increasingly diverse in its interest about the biology of organisms, only classifications which predict the most aspects of the most organisms will be useful.

Moreover, as classification is the product of the scientific method (those which propose hypotheses and test these hypotheses with congruence to real data), classification based on the scientific method may need to be altered as new data are obtained and old hypotheses are falsified. Therefore “taxonomic stability” is not a scientifically defensible argument.

In summary, biological classification is an outgrowth of systematics and the scientific method, which seeks to communicate the evolutionary hierarchy by means of a series of groupings. Members of a given taxon are assumed to be more closely related to each other than to members of any other taxon, hence the predictive value of classification to comparative biology. Because phylogenetic classification is a scientific discipline, it proposes classifications based on hypotheses (phylogenetic trees) which are testable with new data. Inherent in the possibility of testing, a hypothesis is the falsification of that ►

## What's Happening in Systematics in Southern Africa?

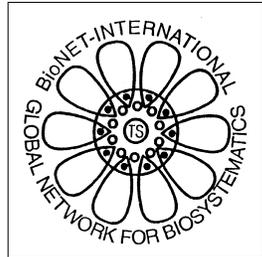
Beth Grobelaar, Pretoria

In August 1995 BioNET-INTERNATIONAL, a global network for biosystematics, met to hold its first Global Workshop in Cardiff, Wales. A Formulation Workshop for the southern African region followed in September 1995, in Pretoria, South Africa. It was attended by delegates from the Southern African Development Community (SADC) countries, namely Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

At this workshop, areas were identified in which a Southern African Network (SAFRINET) could operate to promote the objectives of BioNET-INTERNATIONAL. The goals of this organization are to enable developing countries to become realistically self-reliant in the skills and technologies required for inventorying, monitoring and accessing their biodiversity. Strategies were also outlined, in terms of each country's commitment to the Convention on Biological Diversity, that could lead to the achievement of these goals.

SAFRINET was officially constituted by the SADC in Lesotho in August 1996 and is, therefore, a SADC government owned partnership. The first SAFRINET business meeting was held in Pretoria in December, 1996. Here SADC countries were represented by a member elected from their National Co-ordinating Institutes (NACI's). Business at this meeting primarily involved finalization of the implementation of donor funded programmes, pertaining to the following activities:

- Information and communication services.
- Training in biosystematics at all levels.
- Establishment and rehabilitation of existing resources.
- Development and application of new technologies.



These four areas were designated to meet the fundamental requirements for capacity building in taxonomy in the region. The meeting was hosted by the Plant Protection Research Institute (PPRI). The Biosystematics Division, one of a number of divisions in the PPRI, offers expertise on the biosystematics of insects, nematodes, mites, spiders and fungi. Due to its active involvement in taxonomic work, this Institute was nominated by the NACI's to be the Network Co-ordinating Institute (NECI), with Dr. Connal Eardley at the helm.

Southern Africa is fortunate to have a long history of biosystematic endeavour, placing it in the privileged position of having both good Museums and highly trained taxonomists. But the vast number of invertebrates and microorganisms in the region require far greater expertise than that which is currently available. Thus, SAFRINET is a welcome initiative which will help the region move towards self sufficiency and encourage interaction between taxonomists, both regionally and further afield.

For further information please contact the SAFRINET Co-ordinator, Dr. C. D. Eardley, Plant Protection Research Institute, Private Bag X134, Pretoria, 0001, South Africa.

## XXI International Congress of Entomology General Program August 20-26, 2000

To all entomologists who may attend this congress, the XXI ICE Organizing Committee has approved the general program for the Congress, as follows:

- **Opening session** - August 20: [1800-1900]
- **Welcome Cocktail** - August 20: [2000-2200]
- **12 plenary sessions**: [0800-0915] (two per day)
- **276 Symposia**: [0930-1200, and 1500-1800]
- **Lunch**: [1205 - 1300]
- **Poster session**: [1000-1800] (Authors present at the sessions between 1330-1430)
- **Insect exposition**: Opening August 20: [1915] (open to the participants 0800-1800 Monday-Saturday)
- **Photo Salon**: Opening August 20: [1930] (open to participants 0800-1800 Monday-Saturday)
- **Entomological software demonstration**: Opening August 20: [1945] (open to participants 0800-1800 Monday-Saturday; software will be demonstrated according to the times arranged with the organizing committee).
- **Congress dinner**: August, 24: [2000-2300]
- **Closing session**: August 26: [1800]

Yours,

**Decio Luiz Gazzoni**

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XXI ICE Home Page:

<http://www.embrapa.br/ice>

◀ hypothesis, in this case the classification. As scientists, we need to accept the idea that classifications must be changed as new data presents itself in order that all biologists can best learn about changes in current understanding of evolutionary relationships, regardless of their favorite character system.

### References

- Hennig, W.** 1996. *Phlogenetic Systematics*. Univ. of Illinois Press. Urbana. 263 pp.
- Kingslover, J. M.** 1995. On the family Bruchidae. *Chrysomela* 30:3.
- Maddison, W. P. and D. R. Maddison.** 1992. *MacClade: Analysis of Phylogeny and Character Evolution*. Sinauer Associates, Inc. Massachusetts. 404 pp.

**Mayr, E. and P. Ashlock.** 1991. *Principles of Systematic Zoology*, Second Edition. McGraw Hill, Inc., New York. XX +475 pp.

**Wiley, E.O.** 1981. *Phylogenetics*. Wiley-Interscience Pub., New York. 439 pp.

*THE FORUM is a place for exchange and discussion of ideas related to the Chrysomeloidea.* —ed.

## Cycad-Feeding by an Ancient Beetle, *Aulacoscelis* in Panama

Donald Windsor, Panama and Pierre Jolivet, Paris

The biology of the Aulacoscelinae, a subfamily of Chrysomelidae now restricted to Central and South America, has remained

an enduring mystery. The presence of both fossil Aulacoscelinae (*Protoscelis*) and cycad foliage in the sedimentary strata of the Upper Jurassic (Kara Tau series) (Medvediev 1968), led Crowson (1981) to wonder if this was indicative of the earliest feeding relationships of Chrysomelidae. Citing notes attached to collection labels, Monros (1954) earlier had suggested that modern Aulacoscelinae are also associated with cycads (*Zamia* spp.). Until now, an account of the beetles actually feeding on cycads has not been published. Our recent observations in the lowlands and mountainous areas of Panama confirm that *Aulacoscelis* sp. (? *melanocera*) adults actively feed on the leaves of cycads. On 5 May 1992 D. M. W. and Dr. Henry Stockwell observed a stationary group of 8-10 adult *Aulacoscelis* on a new, but fully expanded *Zamia fairchildiana* (Cycadales) leaf near the beginning of the "Camino Cantar" nature trail in



Pierre Jolivet and Don Windsor, continental divide, Panama 1,200m - Le Fortuna



*Aulacoscelis* in copulo on *Zamia* sp.

new rainy season, a single *Aulacoscelis* adult was again observed on the foliage of one of the plants at Cerro Azul. The beetle, which apparently had just landed on the plant, continued lengthening a shallow feeding trench 2 mm in width another 15 mm toward the

tip of the leaflet. The damage resembled that observed 5 years before in that the upper surface was only lightly scored. Feeding appeared to consist of lapping juices from the perforated epidermis rather than wholesale ingestion of parenchyma. The feeding area darkened noticeably over time. The beetle, captured after 30 minutes, was placed in a plastic container where it continued to feed on new *Zamia* leaf and on the juices from thin slices of mango. Additional aggregations of *Aulacoscelis* and the uniquely damaged leaves have now been observed on plants at the Wilson Botanical Gardens in Costa Rica by Dr. Luis Diego Gomez and Mr. Josh Ness, further establishing that the adult *Aulacoscelis* are significant herbivores on *Zamia fairchildiana*.

Much remains to be learned about *Aulacoscelis* biology and its interactions with Cycadales. For example, we still have no idea where oviposition occurs or upon what type of plant tissue *Aulacoscelis* larvae feed. We have been successful recently in obtaining an oviposition from an *Aulacoscelis* female in the lab. The neonate larva is now being described by Dr. Michael Cox (BNHM). Cox is also at work on the description of the neonate larva of *Megascelis* sp., representative of

another subfamily about which fundamental observations are still largely lacking. Yet another example is the Orsodacninae. Are they stem-miners or root-feeders? The biology and larval morphology of the archaic, gondwanian Sagrinae from Australia, Madagascar and northeastern Brazil (probably stem-borers and gall-makers) are still poorly known. Thus, more work remains to be done on the basic biology of several groups, possibly key taxa in understanding the early radiation of chrysomeloid beetles on cycads, gymnosperms and angiosperms.



*Aulacoscelis* feeding on leaf of *Zamia* sp.

### References

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- Medvediev, L. N.** 1968. Leaf beetles of Kara Tau (in Russian). In "Zhurskie Nasekhomie Karatau" (B.B. Rohdendorf, ed.). Nauka, Moscow.
- Monros, F.** 1954. Revision of the chrysomelid subfamily Aulacoscelinae. *Bull. Mus. Comp. Zool.* 112(4):321-360. 🐞

## Research Activities

Cont. from page 1

**J. Gordon Edwards** (San Jose, USA) teaching general and medical entomology, coleopterology, and larval taxonomy; collects Coleoptera, including all chrysomelids seen, especially in the Tropics.

**Danial J. Funk** (Tucson, USA) Interested in speciation, molecular phylogenetics, and sex ratio evolution in *Neochlamisus* (Chlamisinae). Willing to identify *Neochlamisus*.

**Arthur J. Gilbert** (Fresno, USA) Currently working on the Chrysomelidae of the Baja California peninsula.

**Blagoy A. Gruev** (Plovdiv, Bulgaria) Currently preparing a book with **Manfred Döberl** (Abensberg, Germany): *General Distribution of Flea Beetles in the Palearctic Subregion (Coleoptera, Chrysomelidae: Alticinae)*.

**Viviane Jerez** (Concepcion, Chile) Biology and systematics of Chilean chrysomelids. Interested in the phylogeny of insects and their host plants.

**James L. Krysan** (Louisville, USA) Interested in and working on the taxonomy of *Diabrotica* (will identify Neotropical specimens). Currently working on the *Diabrotica* with dark markings on the basal third of elytron enclosing a pale area. Long term goal is to develop a key to the genus.

**Jean-Michael Maes** (León, Nicaragua) Preparing a general catalogue of all Nicaraguan insects. Volume 2 will be all beetles, with a part on Chrysomelidae, in collaboration with D. Furth, C. Staines, W. Flowers, E. Riley, P. Jolivet, and J. Kingsolver.

**Agenor Mafra-Neto** (Riverside, USA) Interested in phagostimulants and food choice in Chrysomelidae. Working on attract-and-kill formulations to control chrysomelid pests.

**Jasbir S. Mann** (Orange, Australia) Presently, on the permanent staff of NSW Agriculture to provide diagnostic service for the immature and adult insects. Currently working on a taxonomic revision of Australian Typhlocybinae (Cicadellidae) with Murray J. Fletcher, but maintains an interest on the endemic Australian Sagraeinae. In addition, supports curation of Agricultural Scientific Insect and Mite Collections (dry and wet) in its new home (ASCU) at Orange Agricultural Institute.

**David R. Nash** (Brantham, UK) Currently recording chrysomelids for a book on the Coleoptera of Suffolk County.

**Guido Nonveiller** (Zemun, Yugoslavia) Is interested in the Palearctic Alticinae.

**Charles J. O'Kelly** (Arlington, USA) National Science Foundation, Program Director, Systematic Biology.

**Karen Olmstead** (Vermillion, USA) Interested in cassidine ecology and evolution, and chrysomelid predator relationships.

**Michal Ouda** (Plasy, Czech Republic) Interested in Chrysomelidae, including Alticinae of Central Europe, and Clytrinae and Chrysomelinae of the palearctic region. Currently working in western palearctic Timarchini.

**H. R. Pajni** (Chandigarh, India) Presently working on biotypes of store bruchids. Also studying the use of egg parasitoids in the biocontrol of bruchids. Another project relates to the annual cycles of field bruchids.

**Tiago Courrol Ramos** (São Paulo, Brazil) Taxonomy of Neotropical (especially South American) Hispinae *sensu antiquo*, and computer programming for Biology (Tree Gardener). Plans for the future include the cladistic analysis of the genera of Sceloenoplini, Chalepini and Uroplatini.

**Flávia Nogueira de Sá** (Campinas, Brazil) Beginning a Master's program, and intends to do some work on resource partition in Cassidinae on Asteraceae plants for dissertation (under the advice of Dr. João Vasconcelos-Neto). Interested in chrysomelid ecology, especially interactions between host plants or natural enemies and beetles. Has always worked in Atlantic forest in Brazil and worked on chrysomelids (Cassidinae) for 3 years. Just finished undergraduate degree in Biology/Ecology.

**Davide Sassi** (Castelmarte, Italy) Working with **Seniz Kismali** on the Cryptocephalinae of Turkey and neighboring regions.

**Zuzana Swigonova** (New Brunswick, USA) Graduate student at Rutgers University working on the phylogeny of *Trirhabda* using molecular data. Has finished analysis of mitochondrial genes of 12S rRNA of 12 species.

**K. K. Verma** (Durg, India) Currently engaged in classification and ecology of Chrysomelidae of the Indian Region.

**Nilio Virkki** (San Juan, Puerto Rico) Working on chrysomelid chromosomes; writing of some publications. 

## LITERATURE AVAILABLE OR NEEDED

**Grace F. Barroga** (Laguna, Philippines) Is interested in all literature dealing with Philippine galerucines.

**Andrzej O. Bienkowski** (Moscow, Russia) Has duplicate reprints (and Xerox copies) of more than 50 articles on the systematics of Chrysomelidae by some Russian and foreign authors; would like to exchange them for other publications on Chrysomelidae. Please write for exchange information and list.

**Thi Dap Dang** (Hanoi, Vietnam) Would welcome all reprints on the Chrysomelidae, especially from the Palearctic region.

**James L. Krysan** (Louisville, USA) Has available: J. Krysan and R. Smith. 1987. Systematics of the nirgifera species group of *Diabrotica* (Coleop. chrysom. Gal.) *Entomographia* 5:375-484.

**H. R. Pajni** (Chandigarh, India) Can supply papers on biology, ecology and taxonomy of Indian Bruchidae. Need latest literature on polymorphism and egg parasitoids of bruchids.

**Flávia Nogueira de Sá** (Campinas, Brazil) Would like to receive literature on chrysomelid resource partition, competition and defense.

**K. K. Verma** (Durg, India) Would like to receive publications dealing with the classification and ecology of Chrysomelidae of the Indian Region.

**Nilio Virkki** (San Juan, Puerto Rico) Has reprints of some publications (write or email for list). 

### Exchange Those Duplicates

Most of us have duplicate literature that could be put to better use than taking up valuable shelf space. Why not exchange them for something you can use? Send your lists of wanted or surplus journals to the editor, and we will either print it in the newsletter or send it to someone who is also interested in exchanging journals.

If you have duplicates of the following, please contact me:

- *Entomologist*, v.1-27 (1971) and v.41 (1985)-present;
- *Entomologist's Gazette*, v.42 (1991)-present; and
- *Revista de Biología Tropical*, v.1-6 (1958) and v.10 (1962)-present.

-T. N. Seeno

# Insects in African Economy and Environment

Beth Grobelaar, Pretoria

The Entomological Society of Southern Africa (ESSA) was founded in 1937 and has about 400 members. The society produces its own journal, *African Entomology*, which appears biannually and has been judged to be of a high scientific standard. Articles submitted cover a wide range of topics, ensuring a balance of interest for the society's readership. The majority of contributing authors reside in South Africa, but during the past year, roughly a third were submitted from other African countries, or included a foreign author.

A Congress, held every second year, is the main activity in which the members participate. This year, a joint congress of the ESSA (11th Congress) and the African Association of Insect Scientists (AAIS) (12th Congress) entitled **Insects in African Economy and Environment**, was held for the first time. This memorable meeting took place in the picturesque town of Stellenbosch at the southern tip of Africa, between the 30th of June and the 4th of July.

## Keynote speakers at the congress included:

• **Dr. Maxwell Whitten**, head of the FAO Inter-country Programme on rice and vegetable IPM in South and South-east Asia. Title of address: Small scale farming, IPM, science and food security.

• **Dr. Richard Lane**, head of Entomology at the Natural History Museum in London. Title of address: Systematics at the crossroads.

• **Dr. Hans Herren**, director of the International Center of Insect Physiology and Ecology in Kenya. Title of address: The new entomologist's duties; understanding and highlighting the role of arthropods in the environment, health and agriculture.

• **Prof. Janet Hemingway**, professor of applied molecular entomology at the University of Wales, Cardiff. Title of address: The molecular basis of DDT and organophosphorus insecticide resistance in mosquitoes.

• **Dr. Peter Neuenschwander**, of the international Institute of Tropical Agriculture's Biological Control Center in Coto-

nou, Benin. Title of address: Biological control as the basis of plant protection in West and Central Africa: the experience of the International Institute of Tropical Agriculture.

• **Dr. Jaques van Alphen**, head of the Animal Ecology research group at the University of Leiden's Institute of Evolutionary and Ecological Sciences in the Netherlands. Title of address: The role of behavioural and life-history trade-offs in the selection of biological control agents.

Sessions were presented on Integrated Pest Management, control of crop and pasture pests, control of locusts, control of stored product pests, control of fruit pests, microbial control of insect pests, the use of natural insecticides in pest control, biological control of weeds, honeybees, insects as food, medical and veterinary entomology, forensic entomology, biodiversity and systematics, conservation and environmental monitoring, insect-plant interactions, ecology, biology, and education and training.

In the sessions on the biological control of weeds, a number of papers featured Chrysomelidae. **Dr. C. J. Cilliers** indicated how successful *Lysathia* (Alticinae) was as a biological control agent of the alien plant *Myriophyllum aquaticum* (Parrots' feather). A poster, presented by **H. E. Sparks**, illustrated work being done on *Charidotis* (Cassidinae), a natural enemy of *Macfadyena unguis-cacti* (Cat's claw creeper), intended for release in South Africa. Chrysomelids collected as part of a survey in South Africa, with a view to the biological control of *Acacia nilotica* in Australia, were mentioned in a talk presented by **E. Grobelaar**. An alticine, *Longitarsus*, is currently under investigation for the control of the weed *Chromolaena odorata*, according to **C. Zacharias**. But, more on some of these in the next issue of CHRYSEMELA.

In addition to the 8th Annual Meeting of the Biosystematics Interest Group (BIG) which is run under the auspices of the ESSA (<http://www.up.ac.za/academic/entomological-society/entsoc.html>), two sessions on biodiversity and systematics were held. Both are indications of the activity of biosystematists in southern Africa. Further information on BIG can be obtained from the Chairman, **Dr. H. G. Robertson** (e-mail: [hroberts@samuseum.ac.za](mailto:hroberts@samuseum.ac.za)).

For the first time, entomologists from North and Central Africa could discuss entomology face to face with their southern African counterparts. Delegates enjoyed the contact and the Congress was seen as having been refreshingly different and successful.

## SPECIMENS AVAILABLE OR NEEDED

**Maria F. Barberena** (San Juan, Puerto Rico) Would like to borrow specimens of the alticine genus *Aspicela*, especially *A. discoidalis* Baly, *A. viridicollis* Jacoby, and *A. nigroviridis*, for work on Master's thesis.

**Grace F. Barroga** (Laguna, Philippines) Would like specimens of Philippine Galerucinae. Contact for details.

**Roy A. Crowson** (Glasgow, UK) Would like to see the mandibles of any adult Palophaginae.

**Danial J. Funk** (Tucson, USA) Needs host records from *Neochlamisus* specimens.

**Arthur J. Gilbert** (Fresno, USA) Would like to examine all chrysomelids from Baja California.

**Christina Hoinic** (Bucuresti, Romania) Needs specimens of the following: *Labiostomis brevipennis* Falderman, from Asia Minor, Caucasus, northern Iran; and *L. bipunctata* (Mannerheim), from Tuva Autonomous Republic, Mongolia, Transbaikalia, northern China.

**James L. Krysan** (Louisville, USA) Wants *Diabrotica* with dark markings on the basal third enclosing pale areas of the elytra.

**Jean-Michael Maes** (León, Nicaragua) Has a list of the specimens in the collections of Museo Entomologico, S.E.A., León, Nicaragua on request. Preference by email. Can loan collection specimens to anyone working on a genus with species that occur in Nicaragua. Write or email for details.

**Flávia Nogueira de Sá** (Campinas, Brazil) Investigating the ecology of Cassidinae; would like to borrow specimens, especially *Stolainii*, that occur in the Atlantic forests of Brazil.

**Davide Sassi** (Castelmarte, Italy) Is interested in receiving specimens of Cryptocephalinae, loan or exchange (contact for details).

# *Timarcha djerbensis* Pic Lives!

Pierre Jolivet, (Gainesville)

When looking for *Timarcha laevigata djerbensis* Pic, on the island of Djerba (Tunisia), I was pleased to find the beetle, although not abundant, present in the South center of the island under the olive trees.

When I first visited the island during the Spring of 1967, beetles were active, feeding on *Plantago albicans* L., as do all the species of the *laevigata* complex.

This year, I spent the week of April 6-13 on the island. It was cold and rainy and the beetles, instead of running around on the ground, were hiding under stones or at the foot of various plants together with several tenebrionids (*Pimelia*, *Blaps*, *Adesmia*, and *Tentyria*). I even found beetles hiding among the leaves of succulent bushes like *Thymelaea hirsuta* (L.) Endl. [det. by J. P. Boivin].

The taxonomic status of *Timarcha laevigata djerbensis* Pic is still being debated. It was described in 1919 as a species, but its status even as a subspecies of the mainland *T. laevigata* (L.) is still open to question. Morphologically (elytral punctuation and general coloration), it differs very little when compared to the type, and its isolation from the mainland dates only from early quaternary. Studies involving chromosomes, enzymology or molecular tools could add a new dimension in solving the problem.

Djerba is the island of the *lotophagous* of the *Odysseus*, where Homer places an episode in the saga of Ulysses. The fruit of the lotus, really a date tree, provoked the loss of memory among crew the members, and nobody wanted to leave the island. The area of the island is about 514 square kilometers, and is separated from the mainland by a narrow channel. The link to the mainland, a 7 km long footpath built by the Romans, is now a paved road with an aqueduct.

*Timarcha* pupate in the ground and hatch after the first Spring rains. Yearly ploughing of the land under the olive trees prob-

ably kills great numbers of them, however, sufficient numbers survive and seem to be relatively unaffected by road building and urbanization in the area. *Timarcha* are not found in the salty areas to the North and

Northeast (near the airport and hotels). They appear to have never adapted to the salty plants there as other members of the genus did in the coastal areas of western France. In those areas of western France, *Timarcha normanna* Reiche

and *T. maritima* Perris are dwarf species that feed primarily on *Galium littorale* Breb., and secondarily on *Galium arenarium* Loiss. and *Plantago maritima* L. *T. l. djerbensis* feeds on *Plantago albicans* L., a narrow-leaved species that is the main host-plant of most of the Tunisian and Libyan species of *Timarcha*.

The title of this note paraphrases Peters' (1991) paper, '*Timarcha credo* lives'! I thought that the tiny coastal species of Oregon, mostly Cannon Beach area, was extinct (Jolivet, 1989b) but fortunately, Peters found a dozen specimens while night collecting. During the 1920's, there were hundreds of specimens in that same area. The numbers of *Timarcha* are severely reduced due to pollution, herbicides, insecticides, and urbanization. However, the news is not all bad—it will survive the millennium, and that's remarkable for a genus which probably dates back to the Jurassic.

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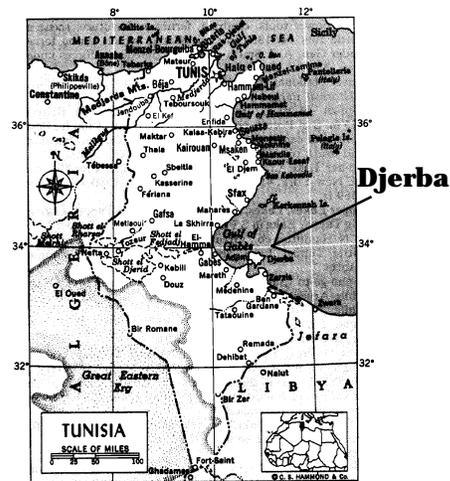
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*Timarcha djerbensis* Pic at home



## A Photo Rerun from The Fourth International Symposium on the Chrysomelidae (FISC) Firenze August 25-31, 1996



Pierre Jolivet (Paris) and Seniz Kismali (Bornova) finally meet at the ICE XX in Firenze after many years of correspondence (see *Corrigenda*, page 2).

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