

CHRYSOMELA newsletter

Dedicated to information about the Chrysomelidae

Report No. 36

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Hanoi, VIETNAM: Institute of Ecology



Pierre and Siraj are hosted by our Vietnam colleagues in Hanoi on his November '97 trip to the Far East. *from left:* Siraj HASSAN (Phytopathologist), VU Quang Con (Director, Inst. of Ecology), PHAM Van Lam (Entomologist), DANG Thi Dap (Deputy Director, Inst. of Ecology, Entomologist), and Pierre JOLIVET. (story, page 8)

Research Activities and Interests

Laurnet Amsellem (Bangkok, Thailand) PhD student working in Thailand on the interactions between *Rubus alceifolius* and its associated pathogens: a rust and a chrysomelid... The plant is actually a real weed in La Reunion Island, and in order to do biological control on it by releasing its natural pathogens, we first must study the biology of these organisms. Looking for information about rearing specimens of *Phaedon fulvescens* (or related leaf beetles).

Andrzej O. Bienkowski (Moscow, Russia) reviewed the systematics of *Chrysolina* and: revised subgenera *Anopachys* (two new species) and

Pleurosticha; planning to revise subgenera *Arctolina* (Siberian and Arctic species), *Ovosoma*, *Lithopteroides* and *Taeniosticha*. Also finishing doctoral thesis, *Biology of Palaearctic Donacinae* (*Chrysomelidae*).

Lech Borowiec (Wroclaw, Poland) current projects: world catalogue of the Cassidinae; monograph of afrotropical Cassidinae, vol. 3; revision of Oriental Aspidimorphini (with Jola Swietojanoska); and a revision of Australian and Papuan *Notosacantha*. Willing to identify world Cassidinae.

Laurence Chandler (Brookings, USA) is working cooperatively with individuals in eastern Europe on an

outbreak of western corn rootworm, and is interested in trying to develop an identification guide or "key" that incorporates new world *Diabrotica* with the old world fauna. Anyone interested, please contact him (send an email note).

Shawn M. Clark (Charleston, USA) taxonomic studies of Chrysomelidae (all groups) in America north of Mexico and in the West Indies. Also, taxonomic studies of galerucines from anywhere in the Western Hemisphere.

Elisabeth Geiser (Salsburg, Austria) continues her work on chrysomelids and is currently working on an 8,000 year old specimen found in an alpine glacier (paper in press).

cont. page 14

In Memoriam Tiago Ramos



We are all saddened to learn of the untimely death of Tiago Ramos who died from a fall from a building in early June of this year.

Tiago was a masters student under Dr. Ubirajara Martins at Universidade Federal do São Paulo. He did his undergraduate work on Hispinae (*Clinocarisma*) and was starting work on his PhD degree. In preparation, he went to major European collections and photographed all the necessary type material for his thesis

work. Also, he was Treasurer of a São Paulo based Entomological Society.

Another project of Tiago's was Tree Gardiner, an extremely useful program he wrote for IBM compatible computers in English and Portuguese for visualization of character state data from phylogenetic analysis.

Tiago's quiet demeanor and friendly manner will be missed by friends and colleagues.

—Catherine N. Duckett

Pierre Jolivet (Paris & Gainesville)

Is fully recovered and back to work after breaking an upper arm bone while traveling near the Gobi Desert in Mongolia. He was treated by the local shaman with plant extracts and then later underwent physical therapy at a hospital. He reports that he is fully recovered and back to work.

Ross Arnett (Gainesville) has been spending quite a bit of time on the American Beetles manuscript despite some health setbacks. We wish him well.

Catherine Duckett and **Lenice Medeiros** want to know if there is any

NOTES Up Front

interest in a course in the upper classification of the Chrysomelidae, possibly to be held about the time of the ICE in 2000. Page 4 for more information.

Also, **Catherine** has been updating her molecular techniques; she studied with **Karl Kjer** at Rutgers University in Brunswick this summer.



Meetings and Communications

• **U.S. Chrysomelidist 16th Annual Meeting** to be held in conjunction with the Entomological Society of America and American Phytopathological Society meetings at the Las Vegas Hilton and Las Vegas Convention Center, Las Vegas, NV (8-12 November, 1998).

• **Brazil 2000**—Updates from D.L. Gazzoni, President of the XXI International Congress of Entomology—August 20-26, 2000 - Iguassu Falls. For more information, see <http://www.embrapa.br/ice>; e-mail <gazzoni@npso.embrapa.br> or FAX: 55-43-371-6100 (see page 6).

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THE FORVM

Again, Bruchid Classification

Michael Schmitt, Bonn

Based on Hennig's (1950) suggestion that sister-groups should be given the same rank, Bruchidae should be treated as a subfamily or Sagrinae as a family. The former solution was already suggested by Monrós (1960), but did not find many followers until very recently. Normally, the Bruchidae were treated as a family, regardless of the phylogenetic relationships assumed. However, Hennig's 1974 claim that classification should reflect phylogeny was a permanent demand to all systematists.

When Reid (1995) published his cladistic analysis which revealed that Sagrinae and Bruchidae are sister-groups, he consequently lowered the rank of the latter and listed the seed beetles as subfamily Bruchinae within the Chrysomelidae. Lawrence & Newton (1995) adopted this ranking in their extensive classification of families and subfamilies of Coleoptera which appeared in the same volume as Reid's study. Kingsolver (1995) and Verma & Saxena (1996) argued in favor of retaining the Bruchidae as a family, while Reid (1996) and Lingafelter & Pakaluk (1997) stressed the principles of science and logic in order to support the subfamily rank.

Duckett (1997) emphasized that "taxonomic stability" is not a scientifically defensible argument. The debate about the interrelationship of systematics and classification dates back to the papers of Mayr (1974) and Hennig (1974), in which the former argued for separation of the two items while the latter strongly proposed that a classification should exclusively reflect phylogeny. Whether or not "taxonomic stability" is scientifically defensible

depends on one's understanding of science. Whether science is seen as isolated from real human behavior (as in Poppers's *Third World*, 1972) or as a social process (Hull 1988) it makes a difference in the role of "taxonomic stability." If science is a social process, then sharing and communicating scientific information forms an integral part of it. For information exchange, stability of terms and names is a necessary prerequisite. Therefore, changing established names should not only be a matter of adjusting a classification to the most recent phylogenetic hypotheses, but should also take into account the requirements for unequivocal communication.

Violating formal logic by ranking sister-groups differently or including a "family" in another one is but one disadvantage of retaining "traditional" classifications in spite of more recent phylogenetic hypotheses. This disadvantage may well be compensated for by the advantage of easier information exchange and retrieval. Phylogenetics, as a part of science, yields hypotheses waiting for their falsification and rejection.

Reflecting "phylogeny" (i.e. the best supported phylogenetic hypothesis) immediately after a published classification change means changes can occur at rather short intervals. A solution to the conflicting aims of naming taxa is suggested in De Queiroz & Gauthier's (1992) "phylogenetic nomenclature." This procedure entirely abandons Linnean ranks but retains the traditional names including their endings, thus formally but not substantially denoting ranks. Subordination of taxa is indicated by typographic means (e.g., indenting lines, typing names in upper case letters, setting them in bold face, etc.). In such a phylogenetic system of names, "Bruchidae" could be used for a taxon which is sister-group to Sagrinae, thus leaving the traditional meaning of "Bruchinae" as a name for a subunit of Bruchidae and so on.

Even if we admit that not all possible problems of suprageneric nomenclature are solved by De Queiroz & Gauthier's method, there are good reasons to take their suggestion into serious consideration. The simplest

solution (e.g., giving up Linnean ranks) might not always be the best, but it could be better than the most "logical" one. In addition, it makes sense to keep in mind that "changes in ranks in a classification do not solve any phylogenetic problem" (Schmitt 1996a). Consequently, it would be appropriate to present phylogenetic hypotheses without changing ranks and names.

Lingafelter & Pakaluk (1997) ask "why maintain a classification that obscures this relationship," meaning the sister-group relationship between Sagrinae and Bruchidae. "This relationship" is far from being well substantiated (as I hope to have shown in my contribution to the Pajni-Festschrift), no matter how many coleopterists agree on it. Transforming a weakly supported phylogenetic hypothesis into a classification pretends that there is stronger evidence than there is, in fact, at hand. Instead of obscuring the weakness of a hypothesis by mere renaming taxa, I would prefer an allegedly logical inconsistency (after all, keeping the names Bruchidae and Sagrinae only violates formal logic as long as we stick to Linnean ranks). The only sound solution could be reached through including additional independent characters into our phylogenetic analyses.

Alfred Kaestner (author of a famous zoology textbook in Germany) warned Günther Osche not to include anything more recent than five years in a handbook chapter, arguing that nothing should be mentioned in a handbook or a textbook which had not passed the purgatory of critique (Schmitt 1996b). Therefore, it would be sensible not to revise a classification according to a phylogenetic hypothesis too soon after its publication. There should be some time for discussion.

Duckett (1997) argues that a phylogenetic classification is "democratic as it does not favor any particular discipline." If we want to refer to democracy in a scientific dispute at all then we should, in my opinion, attempt to find a consensus through an extensive discussion before making a decision. Therefore, the long story about the taxonomic position of the Bruchidae can be brought to a very short point: At

present, it seems best substantiated to regard Sagrinae and Bruchidae as sister-groups. However, the supporting characters are, by far, not as convincing as the advocates of the subfamily rank for the seed beetles want to make us believe.

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*Footnote: This text is part of a more extensive contribution to a Festschrift in honour of Professor H.R. Pajni. I asked the editor several times and through several media for the permission to prepublish the final paragraphs of my manuscript in *Chrysomela Newsletter*, but I did not receive an answer.

Green Algae and Chrysomelid Evolution?

R. A. Crowson, Glasgow

I have recently come to suspect that Pleurococcus-type green algae growing on trunks of trees have been a significant source of food in some of the earlier stages of chrysomelid evolution—associated structural features include special modifications at the apex of antennite 11 and glandular development in the mandibles, also a rather deflexed head and emarginate eyes. Other CHRYSOMELA readers might have relevant evidence of these matters. If so, please write to me.

A Proposed Course in the Upper Classification of the Chrysomelidae

**Lenice Medeiros, Ijuí
Catherine Duckett, San Juan**

Is there any interest in a formalized course on the upper classification of the Chrysomelidae. The 'course' could be held either immediately before or after ICE 2000. If our chrysomelid colleagues are interested in such a presentation, what we need to know is the following information: how long should it be (one week, shorter or longer); who would be interested in active participation (poss. 5-7 section leaders); and who would like to attend (open to everyone with an interest in chrysomelid classification)?

Time is an important factor in planning such an event, so please let us know your views on this proposal as soon as possible. We especially need to hear from those colleagues who may serve as instructors.

Because travel is usually the largest part of the expense involved in long distance training, the International Congress may be the best opportunity to combine a class and attend the meetings at the same time.

Send your thoughts to either of us via email or regular post.

Colombia Field Trip and Museum Tour

Biologische Bundesanstalt für Land- und Forstwirtschaft, Institut für Vorratsschutz, Berlin

Matthias Schöller, Berlin

Colombia's geography is one of the most diverse in South America, as is its flora and fauna. Colombia claims to have the highest number of species of plants and animals per unit area of any country of the world, and in absolute terms, it is second only to Brazil, even though Colombia is seven times smaller. It is the fourth largest country in South America, after Brazil, Argentina and Peru. However, relatively little is known about its Chrysomelid fauna, and the last revisions of many leaf beetle groups date back to the last century. In March 1998, I had the opportunity to travel three weeks through Colombia, and visited many of the Museum collections as well as do some insect collecting.

In the Valle del Cauca area, I visited three collections. The first was in the Biology Department of the "del Valle" University in Cali, the Museo Entomología Universidad del Valle. Margarita Losano is responsible for the collection. It is well preserved in an air conditioned room and all specimen are computer listed. The Chrysomelidae, for the most part, are determined only to subfamily, with some to genus. There are 634 specimen of Chrysomelidae, mostly Galerucinae. Most specimen in this collection were collected near the Pacific Coast.

The second collection is housed at the International Centre for Tropical Agriculture (CIAT) in Cali. R. E. White worked on this collection. Most of the specimens were collected from field crops, a list of taxa is given in Table 1. Maria del Pilar Hernandez is responsible for the collection, which is located in the "Entomología de Yuca"-section. This collection contained a new species of *Pachybrachis* from the Cauca department.

The third collection is located in the Biology Department of the National University in Palmira, 28 km east of

Cali. Nora Cristina Mesa is currently reorganizing the collection, and a computerized specimen list is planned. The main collection contains four drawers with about 850 specimen, with about 200 more in a separate collection. There are an additional 150 more specimens sprinkled throughout other drawers of insects associated with certain field crops or collected by individual students. All the insects originate from the local area. Only few specimens are determined to species, and about half of the material to the subfamily. Again, the material is predominantly galerucine, but there are some interesting cassidines and hispines.

There are two more collections in Cali which I was not able to visit; one at the CORPOICA (Corporación Colombiana de Investigación Agropecuaria), and the other at the Natural History Museum of Cali (Museo de Ciencias Naturales "Federico Carlos Lehmann"). José Marin Riascos is the responsible biologist in charge of curation at the Museum.

Cali is set in the verdant Cauca Valley. When you find a place in the valley that is not covered by sugarcane, it's a Savannah type of vegetation with *Acacia* trees and other leguminous arboreal plants on cattle pasture. At least in March, species *Cryptocephalinae* and *Clytrinae* seem to be predominant on these leguminous trees with only a few alticines and *Colaspis* present in small numbers. I found *Euryscopa cingulata* (which stridulate when disturbed), *Saxinis* sp., *Cryptocephalus anceps*, *Cryptocephalus* sp. and *Pachybrachis dissolutus*. Case bearing larvae were present under the trees in the leaf litter. It would have been nice to spend more time in this location, but unfortunately, some of the most interesting places in Colombia are currently inaccessible due to civil unrest. There-

fore, I made my way North to Villa de Leiva, northeast of Santafé de Bogotá.

The Instituto Humboldt Colombia (IHC) was moved from Bogotá to Villa de Leiva, in the Boyacá department. The aim of the institute is the study and protection of biodiversity in Colombia. Fernando Fernandez, of the arthropod section, is Curator of insects. The well-organized collection contains three drawers with Chrysomelidae. Several of the galerucines were determined by Vilma Savini. Many of the specimens originate from the Amazons and Bolivia, which is valuable as there is little material from these regions in the other collections. Fernando collected in these regions using malaise and pitfall traps, and a section of the collection extends to the Pacific Region. For the number of specimens of Chrysomelidae, *sensu lato*, in this and the following collections (see table 2).

Finally, I visited three collections at Bogotá. Gonzales Andrade is the director of the Instituto de Ciencias Naturales of the Universidad Nacional de Colombia (UNB), which houses this relatively large insect collection. There are thirteen drawers of Chrysomelidae and specimens preserved in alcohol originating from the Amazons. Most specimens are determined only to the subfamily level, with a few to genus and species. Again, Vilma Savini worked on some of this collection. Of the 1,641 flea beetles, 240 *Macrohaltica*, 200 *Omophoita*, and 90 *Systema* are represented.

The main institutes of CORPOICA (CCB) are in Bogotá, containing the largest insect collection I visited in Colombia. The collection is located at the Programa Manejo Integral de Plagas and Eduardo Espitia is the curator. There are sixteen drawers of leaf beetles and an additional five drawers of seed beetles. R. E. White, J. Bechyné, C. D. Johnson and J. M. Kingsolver all have identified material in this collection.

The third collection is Museo de la Salle (UDS), which is housed at the Universidad de la Salle in the Candelaria area of Bogotá where Brother Roque Casallas Lasso is the Director. The zoological collections were founded by a French Brotherhood, and some of the specimens date back to the turn of the

century. The collection focuses on Lepidoptera. Unfortunately, most of the historical collection was destroyed by a fire in 1948, however, it still contains some chrysomelids from France. The insect collection is currently undergoing reorganization.

There is one more collection in Bogotá which I was not able to visit; the Museo de Historia Natural at the Universidad Pedagógica Nacional, Departamento de Biología. Rodrigo Torres is the responsible coleopterist. This collection is reported to be small, and probably does not have more than two drawers of chrysomelids.

In the collections, I worked on specimen of *Pachybrachis*. The last revision of the neotropical species of *Pachybrachis* was done by Eduard Suffrian. He was only able to give "Colombia" as *locus typicus* for the species he described, and at that time Gran Colombia united Venezuela, Colombia, Ecuador and Panama. I was able to verify that four species which were studied by Eduard Suffrian occur in what today is known as Colombia. Two of the four are *Pachybrachis aegrotans* and *P. dissolutus*, described in 1852 and 1866, respectively; the other two are undescribed species which were in the syntype series. Currently, eight species of *Pachybrachis* are known from Colombia.

Acknowledgments

My sincere thanks to all the curators responsible for the collections mentioned herein, and for enabling me to work on the material at their facilities. All were very cordial and helpful. In addition, the following persons helped to organize the visits and to overcome logistical problems: Eduardo Florez (Villa de Leiva), Brigitte Dorn, Christina Schmal and Adriana Ortega (Cali), and Fredy Castellanos (Bogotá). Special thanks to Andrés Varón, who accompanied me to the different localities in Bogotá.

The visit to the research institutes was supported by the Gemeinschaft der Förderer und Freunde der Biologischen Bundesanstalt für Land- und Forstwirtschaft e. V. (GFF).

Fifth International Symposium on the Chrysomelidae

David G. Furth, Washington

For over a year I began the organizing process for the Fifth International Symposium on the Chrysomelidae (FISCB) to be held at the XXI International Congress of Entomology (ICE) in beautiful Iguassu Falls, Brazil (20-26 August 2000). I have been in constant contact with the Organizers of the ICE in order to best plan our FISCB. I have requested that FISCB be held on the final two days of the ICE (Friday-Saturday, 25-26 August). All previous Chrysomelid symposia were done this way and this schedule seemed to be very successful. The first day (Friday, 25 August) will be a full day of formal oral presentations (ca. 15 minutes each), Saturday (26 August) will be part of the day with informal presentations, discussions, etc. This schedule gives our colleagues who attend ICE the entire week to get to know each other, especially each evening at a specific restaurant, and for those who can only come for the chrysomelid symposium they can come for the weekend. Also as before we plan to have an all-day field/collecting trip on Sunday (27 August). I am the Organizer of FISCB and I have asked Prof. Joao Vasconcellos-Neto (Universidade Estadual, Campinas, Brazil) to be the Co-Organizer.

At this time FISCB is listed on the ICE World Wide Web Home Page under the Satellite Events. If you have access to the Web you can find out about many aspects of the ICE. If not you can write to the ICE Organizing Committee for written information (XXI International Congress of Entomology; Caixa Postal, 231; 86001-970 Londrina PR; Brazil). You can also contact the President of the Scientific Committee, Dr. F. Moscardi by email at: moscardi@cnpso.embrapa.br

At this time I am requesting that IF you think you MIGHT BE INTEREST-

ED in participating in FISCB by presenting a formal or informal presentation, please let me know soon so that I can plan to include you in the program because space for presentations will be limited. I realize that some of you do not know at this time if you will be able to find the funding to attend; however, if you think you may be able to participate you should let me know now. If necessary I can provide you with a letter of invitation from me (as FISCB Organizer); however, such a letter does not promise any financial support.

As with all previous chrysomelid symposia (Hamburg, 1984; Vancouver, 1988; Beijing, 1992; Firenze, 1996) the Proceedings of FISCB will be published. I have been the Organizer of all previous chrysomelid symposia and I promised to organize five such events; however, the Brazil symposium will be the last one which I organize, afterwards someone else will have to continue the organization if there is an interest to do so.

XXI International Congress of Entomology

Decio Gazzoni, Brazil

May 15, 1998

We are pleased to inform you that we have received several suggestions of symposia for the scientific sessions of the XXI ICE. We will still be open for suggestions up to the end of next June, when the sessions conveners will start to define which symposia will compose each session. And, next July we will open for suggestions for the XXI ICE Plenary Lectures, so start also thinking about that.

June 1, 1998

June will be your last chance to submit symposia for the XXI ICE. We still have some opportunities on most of the sessions. If you have a suggestion, please call moscardi@cnpso.embrapa.br. But, do not forget to go first to <http://www.embrapa.br/ice> and check the rules for symposia.

The 1998 Mid-Atlantic States Field Trip

Zuzana Swigonova, New Brunswick and Catherine Duckett, San Juan



seated, l to r: Eric Smith, Emily Wryo, Suzy Staines, Charlie Staines
standing, l to r: Dave Furth, Dale Schwietzer, Catherine Duckett, Zuzana Swigonova and Karl Kjer

The Mid-Atlantic States Field Trip commenced promptly at 9 am at the Cedar Light Cafe in Dividing Creek, Cumberland Co., NJ, on June 14th. Dave Furth, Charlie and Susy Staines, and Emily Wryo from the Washington area joined Eric Smith, and Catherine and Francis Duckett for a hearty breakfast. After Dale Scheiwitzer (a lepidopterist at the Nature Conservancy) arrived, the group proceeded to a salt marsh at the end of Maple Avenue in search of *Trirhabda bacharidis*. There they met Zuzana Swigonova, her husband David, and her advisor Karl Kjer, a trichopterist at Rutgers University, who were delayed by a loose bolt in Karl's 1969 Impala. (*love that car—ed.*)

Eric, Catherine, and Zuzana were eager to collect *Trirhabda* (the genus *Trirhabda* is the subject of Zuzana's thesis, and collection of pupae and adults were expected). Frustratingly, only pupae were found, but these were very desirable, as the pupal stage has not been

described yet. Eric noticed that all the pupae were found on the shady side of the food plant (*Baccharis halimifolia*). After briefly watching some night herons and nesting plovers, the group proceeded to an abandoned dredging site two miles west of Dividing Creek. The high diversity and abundance of chrysomelids satisfied all collectors. Criocerinae and Cassidinae were the only major subfamilies that were not represented. Dave and Catherine were pleased to find adults and immatures of *Blepharida rhois*. At the end of the field everyone admired a large patch of Calypso orchids growing in a shallow marsh near the shore.

The company was forced to break for lunch by a rainsquall, but no one complained after they tasted the excellent crab cakes at the Cedar Light Cafe. After lunch the group braved New Jersey's enemy (Lone Star ticks) to collect in a meadow east of Dividing Creek near Hansey Creek Road. Catherine

was pleased to collect *Capraita* and *Kushelina* for her Oedyonychinae study, at which point Eric, Dave, and Catherine speculated that specimens of *Kushelina* might be placed in *Alagoasa* because American *Kushelina* lacks a characteristic found in South American members of the genus.

In a salt marsh down the road from the meadow, Zuzana, Dave, and Eric hit the jackpot collecting more than 70 adults of two species of *Trirhabda* (*T. bacharidis* and *T. canadensis*). Feeding damage from the two species on their host plants (*Baccharis halimifolia* and *Solidago* sp. respectively) was extensive. The large amount of *T. bacharidis* at this site was intriguing given its physical proximity and apparent ecological similarity to the Maple Avenue site where only two adults and pupae were found.

After exchanging specimens and personal information the group was dispersed by a big black rain cloud and everyone drove home in a downpour. 

Far Eastern Entomology

Pierre Jolivet, Paris/Gainesville

I went 'exploring,' with two colleagues (Dr. Thomas LeBourgeois and Dr. Siraj Hassan), to North Vietnam and Northern Thailand from November 4-27, 1997. In that Fall season, the leaf beetles were rather rare and only multivoltine species were collected. The groups usually so abundant in the Spring—eumolpines, chlamisines and alticines—were practically absent this time of year. Even the *Aspidomorpha* spp. (Cassidinae) were uncommon on wild *Ipomoea*, which grows commonly along the edges of the roads.

In two Vietnamese localities—Cuc Phuong National Park (300m) and Tam Dao National Park (900-1600m), both adults and larvae of *Phaedon fulvescens* Weise are active during the entire year. In various papers, Drs. Dang Thi Dap



Altica coerulea Olivier aggregation on *Polygonum* leaves, Tam Dao, Vietnam

and L. N. Medvedev record this species from other localities, always in the middle altitudes in North and Central Vietnam. *P. fulvescens* feeds only on two species of *Rubus* (Rosaceae): *R. alceaefolius* Poiré and *R. aff. annamensis* Card. (?= *moluccanus* L.). *Rubus* taxonomy is difficult and a certain confusion exists about the local species. It does not seem that the beetle feeds (at least in the field) on any of the other thirteen species of *Rubus* known to Vietnam or the leaves of *Fragaria*, there a mountainous species.

P. fulvescens is completely missing in Northern Thailand and we looked for it in vain in Khao Yai National Park (300m) and Doi Ithamon (2565m) on the various species of *Rubus*, including *R.*

alceaefolius present in those areas. *P. fulvescens*, a palaeartic relic, has a patchy distribution in Southern China (Kwantung area) and Eastern Taiwan, always in elevated areas. It seems to be rarer now in Taiwan (S. Kimoto, pers. comm.). I was unable to find any in Hainan Island in 1995, although I didn't have a chance to look for them on the two high mountains of the Island, practically the only place where it could have survived.

In the Spring time, five species each of *Chlamisus* (Chlamisinae) and *Basilepta* (Eumolpinae), as well as the alticine *Pseudoliprus* aff. *difficilis* Chen, feed on *Rubus annamensis*.

During that trip, I found *Chrysolina* (*Pierryvetia*) *aurata* (Suffrian) in the Tam Dao and Yen Bai areas at an elevation of about 300 meters. The species seems to be monophagous since the beetles rejected *Plantago lanceolata* L. and all the Asteraceae in Lamiaceae offered in the laboratory. Normally, species of *Plantago* and *Ranunculus* (the last one not offered) are accepted by that group of beetles (this I hope to verify on another trip.)

In Tam Dao, adults of *Altica coerulea* Olivier aggregate on leaves of *Polygonum chinense* in a semi-social arrangement. They behave exactly like the *Macrohaltica jamaicensis* (Fab.) on *Gunnera insignis* in Panama and Costa Rica. This tendency to congregate seems common to several

Altica and related genera. Several papers (Flowers & Tiffer, 1992; Hilje & Coto, 1994) have been written on the topic.

In several localities in Vietnam and Northern Thailand (and probably also in the South), the alticine *Chaetocnema confinis* Crotch was collected on *Ipomoea aquatica* Forsskal and *I. batatas* Poiré. It seems that this North



Stopping for a rest near Lung Son, Vietnam (nearly more entomologists and pathologists than insects)

American species (already noted by M. L. Cox) has now invaded the lands of the Indian Ocean (La Reunion, where I found it in 1978 and Mauritius, Madagascar) and the Pacific Islands (Palau, Taiwan, the Ryu-kyus, Galapagos, etc.). Outside the U. S. (where both sexes exist), only parthenogenetic females are represented (M. L. Cox, 1996), and are probably disseminated by typhoons and hurricanes. Data on the beetle can be found in Jolivet (1979-1998) and



Dr. Pham points out *Ipomoea aquatica* L. along roadside near Yen Bai, North Vietnam.



Agetocera filiformis feeding on fruits of *Cayratia japonica* near Doi Ithamon, Thailand

Takizawa (1996).

On Doi Ithamon (2565m)—the highest spot in Thailand—many *Agetocera filiformis* Laboissière (a bluish galericine) were feeding on the fruits of the vine *Cayratia japonica* (Thunberg) Gagnepain (Vitidaceae). The females have inflated abdomens (similar to *Agelastica alni* L.) and dig holes in the fruit in order to suck the juices inside. I kept them alive in captivity with grapes, but evidently, they feed only reluctantly on this fruit. *Cayratia japonica* is already known as a host for several other galericines including *Oides tarsatus* (Baly) and *Gallerucida flaviventris* (Baly) (Yu, et al, 1996).

Several galericines, including many *Oides*, are Vitidacea specialists (Jolivet & Hawkeswood, 1995). But, other than several eumolpines and alticines, that kind of selection is rather rare among the Chrysomelidae.

Rabenstein & Schöller (1996) also mention several galericines on Vitidaceae in Malaysia, near Kuala Lumpur: *Parastetha nigricornis* Baly, *Gallerucida balyi* (Duvivier) and *Oides pectoralis* Clark on *Cissus repens* Lam.; and *Semyloides pallicornis* F. on *Cissus repens*, *Tetrastigma lanceolarium* Planch., *T. pedunculare* and *Cayratia japonica*.

Sincere thanks to Drs. Dang (Institute of Ecology, Hanoi), Pham (Institute of Plant Protection, Hanoi), and Banpot

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Doi Ithamon, Thailand, the group of insect collectors stops for a rest and photo opportunity.

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Additional photos, see page 10

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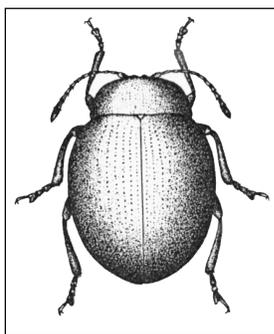
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cont. from pages 8 & 9



Phaedon fulvescens Weise
(line drawing)



Rubus moluccanus
A. flowering shoot & B. vertical section of flower.



Phaedon fulvescens Weise
(the real thing) on a leaf of *Rubus moluccanus* near Cuc Phuony, Vietnam

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Book Notices:

General Distribution of the Flea Beetles in the Palaearctic Subregion

by **Blagoy Gruev & Manfred Döberl**. Scopolia, vol. 37/1997, 496 pages. Produced by the Slovenian Museum of Natural History, SL-1000 Ljubljana, Presernove 20. Price, ca. \$20.00 (USD) + shipping.

Daily, I approach my mailbox with caution, knowing it usually is filled with a stack of letters and packages requiring urgent attention. Occasionally, I am pleasantly surprised to find something that I immediately know will be useful and make my work easier for years to come; something that will occupy a place on the reference shelf, to be used over and over.

This checklist is an excellent work. It deals with the currently known 87 genera and 1,354 species of the palaearctic subregion in a straight forward, no nonsense manner. It is obvious that some forethought was given to page formatting and layout in order to make such detailed information readable. All listings are alphabetical, questionable or erroneous records are listed, first records are given, and changes in taxonomy are noted in a clear and concise manner.

Part 5, the distribution summary chart (36 pages), shows distribution of each species in each of the 13 subdivisions of the palaearctic subregion, with an additional column for introduced species. This is a particularly handy section, and can be used in a variety of ways.

Last, but not least, the literature sources are painstakingly complete and contains about 1,100 citations with a separate section for references with Cyrillic characters.

It is obvious that the checklist is a labor of love. It is a 'must have' source book for all people who have an interest in the alticines, and is a truly outstanding bargain at the price.

—T. N. Seeno

American Beetles Update

Ross H. Arnett, Jr.

"Beetles of the United States" is being updated by a crew of 55 authors of various family sections under the editorship of Ross H. Arnett, Jr. (the original author) and Michael C. Thomas (Division of Plant Industry, Florida Department of Agriculture, Gainesville, Florida). Also the 2 editors are authors of substantial portions of this new reference (approximately 50% of the new book). Most of the major families, and many of the small families are now complete and set in final format. The book will be published by CRC Press, of Boca Raton, Florida, the publisher of the "Handbook of Chemistry and Physics." As with all of their books, the beetle book will be available in both hard copy and on CD-ROM. Because of the nature of the books this publisher produces, we are assured of the continuation of this book (and also, Arnett's book, "American Insects") as a part of the same series of references as the famous "Handbook of Chemistry and Physics."

Of special interest to the readers of CHRYSEMELA is that the Chrysomeloidea, families Megalopodidae, Orsodacnidae, and Chrysomelidae, has been revised under the direction of Edward G. Riley, with a crew helping him consisting of: Shawn M. Clark, R. Wills Flowers, and Arthur J. Gilbert. These families are done and will be peer reviewed by other chrysomeloid specialists before publication. The much disputed family Bruchidae has been retained as a separate family, and revised by John M. Kingsolver based on his monograph of the family in North America now in press at the USDA. To complete the Chrysomeloidea, Mike Thomas is redoing the Cerambycidae, and will have this peer reviewed by the several active specialists on this family. For more details, including the family classification, the specialists working on each family, and other information, a 32 page booklet is available free for the asking. (email Arnett at: oedemeridae@msn.com. We expect the work will be published in 1999.

Chrysomelidae Biology Update

P. H. A. Jolivet & M. L. Cox (eds.)

The Chrysomelidae, along with Curculionidae and Bruchidae, include the most economically important phytophagous Coleoptera, with at least 37,000 described species. Because of their economic importance and biological diversity, the Chrysomelidae constitute an important taxonomic group for scientific studies. Relatively little is known about eumolpine, galerucine and alticine biology, even though these groups often constitute the highest proportions of the biota of rain forest fogging samples. Chapters dealing with pupae, insect predators, rickettsia-like organisms, fungal pathogens, weed biocontrol, radiation effects and the biology of Donaciinae, Palophaginae, Synetinae, Megalopodinae, and Eumolpinae fill in the gaps in our knowledge.

These books constitute a podium to help resolve conflicting questions concerning leaf beetle biology. They provide the basis of information on the subject available today and point the way for future research.

Vol. 1 The Classification Phylogeny and Genetics (US\$ 175). 444 pages, 119 figures, and 21 tables.

Vol. 2 Ecological Studies (US\$184). 364 pages, 105 figures, and 32 tables.

Vol. 3 General Studies (US\$156). 364 pages, 105 figures, and 32 tables.

Vols. 1-3 available at a special price for the three volume set (US\$450).

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Research Activities and Interests (cont. from page 1)

Trevor J. Hawkeswood (Hastings Point, Australia) working on food plants and general biology of the Australian Chrysomelidae, host plants of the Chrysomelidae of the world, and compiling all of the data published (world) on these topics.

Clarence Dan Johnson (Flagstaff, USA) works on the systematics and ecology of the Bruchidae.

Halil Kasap (Calcali, Turkey) general interest in Chrysomelidae.

Natalie Keals (Nedlands, W. Australia) works on Bruchidae—taxonomy, control, and pest/host quarantine.

Michael Langer (Lichtenwald, Germany) working on the classification, phylogenetic and faunistic aspects of *Diabrotica* and Diabrocites (Galerucinae) and willing to identify/revise these groups, worldwide.

Susana Muruaga de L'Argentier (Jujuy, Argentina) working on the *Lithraeus* Bridwell of Argentina; Bruchidae, Leguminosae feeders, and species of *Stator* (Argentina) and systematics of the larvae of *Stator*.

Jong Eun Lee (Andong, Korea) continues to work on the systematic study of the larvae of Alticinae.

Guido Nonveiller (Zemun, Yugoslavia) continues his interest in the Alticinae of Yugoslavia.

Michal Ouda (Plasy, Czech Republic) continuing to work in the Timarchini; currently interested in Hispinae, especially in the oriental region.

T. K. Pal (Calcutta, India) continues work on the systematics of the cucujoid beetle families of the Indian subregion. Developing interest and planning for work on the ecobiology, taxonomy and host plant relationship of the Indian chrysomelid beetles.

Francy Pedreros (San Juan, Puerto Rico) graduate student working with neotropical Chrysomelidae, especially from Colombian Andes. *Aspicela*, Alticinae, Cassidinae, and Hispinae.

Lisa Roberto (Firenze, Italy) CRISOLINA—OREINA con riferimenti all'areale italiano.

Charlie Staines (Edgewater, USA) current research projects are a revision of the genus *Physocoryna* and the description of a new species of *Cubispa*.

Ross I. Storey (Mareeba, Australia) continuing to work on Chrysomelidae and Scarabaeidae.

Werner Topp (Köln, Germany) phytophagous insects living on *Salix* spp.

Robert H. Turnbow, Jr. (Ft. Rucker, USA) completing an annotated checklist of the Coleoptera of Georgia.

Thomas Wagner (Bonn, Germany) working on afrotropical Monoleptites and currently on a revision of afrotropical *Monolepta*. Any material (both determined and undetermined) of this group (also *Candezea*, *Barombiella*, etc.) is highly welcome.

Andrzej Warchalowski (Wroclaw, Poland) works on Chrysomelidae (all subfamilies) of the palearctic and oriental regions, especially of the West palearctic taxonomy, systematics, morphology, zoogeography, and faunistics. Currently working on the 7th (and final) volume of the *Fauna Poloniae*.

Donald Windsor (Panama) patterns of host plant association in Chrysomelidae, esp. Hispinae and Cassidinae; life history, immature stages, and phylogeny of Cassidinae-Hispinae complex.

J. S. Yadav (Kurukshetra, India) chromosomes of Coleoptera in general, and Chrysomeloidea in particular. Willing to collaborate with workers worldwide. Needs live specimens. Methods for fixation of gonads on request.

Peiyu Yu (Beijing, China) current projects include Crioceridae of the Hainan Province. Future plans include work on the Chinese Crioceridae (including Megalopodinae, Zeugophorinae, Sagrinae, Donaciinae, and Criocerinae). Also maintains an interest in Carabidae.

Michael Langer (Lichtenwald, Germany) Wants all *Diabrotica*, Diabrocites and Galerucinae literature and can offer entomological literature in exchange.

Michal Ouda (Plasy, Czech Republic) Would like all literature on World Hispinae, especially the publications on Anisoderini or the oriental region.

Andrzej Warchalowski (Wroclaw, Poland) would like to receive all reprints dealing with palearctic Chrysomelidae.

J. S. Yadav (Kurukshetra, India) Literature pertaining to cell cycle and to phylogenetic interrelationship of various groups.

SPECIMENS AVAILABLE OR NEEDED

Lech Borowiec (Wroclaw, Poland) My collection contains ca. 2,000 species (ca. 2,800 known species); afrotropical is the best represented; please write for a list of available duplicates.

Natalie Keals (Nedlands, W. Australia) wants any pest Bruchidae.

Michael Langer (Lichtenwald, Germany) Needs specimens of worldwide *Diabrotica* and Diabrocites for a detailed anatomical study. Can offer specimens in many beetle families in exchange.

Robert H. Turnbow, Jr. (Ft. Rucker, USA) Collection contains 17,000+ Chrysomelidae from U. S., Central America, Dominican Republic and Puerto Rico.

Andrzej Warchalowski (Wroclaw, Poland) would like to exchange specimens (please contact first).

Peiyu Yu (Beijing, China) Criocerinae: *Liliocerus lili* (Scopoli).



LITERATURE AVAILABLE OR NEEDED

Andrzej O. Bienkowski (Moscow, Russia) would like to receive reprints of publications on the systematics of *Chrysolina*, Chrysomelidae biology and immature stages.

Trevor J. Hawkeswood (Hastings Point, Australia) all reprints are available on request.

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