CHRYSOMELA newsletter

Dedicated to information about the Chrysomelidae

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International Congress of Entomology Durban, South Africa 2008

Participants in the ICE 2008 Phytophaga Symposium "Biology of Chrysomelidae". *1st row:* Hugh D.C. Heron, Michael Schmitt; Beth Grobbelaar; Pierre Jolivet; Andrew Moldenke; *2nd row:* Eric H. Smith; David Furth; Gunter Maywald; *3rd row:* Karoly Vig; Eduard Petitpierre; Thomas Wagner; Gaylord Desurmont. Missing are Tyler Eaton, Jürgen Gross and Duane McKenna. *(photo by Karoly Vig)*

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Research Activities & Interests

Monika Hilker (Germany) is studying tritrophic interactions between Chrysomelidae, host plants, and parasitoids.

Chi-Feng Lee (Taiwan) plans to publish a series of books, with each issue introducing 100 species of leaf beetles of Taiwan. He is interested in all chrysomelid groups related to the fauna of Taiwan and is willing to identify chrysomelids from this country.

Adelita Maria Linzmeier (Brazil) is currently involved in a faunistic study of Chrysomelidae in State of Parana, South of Brazil. In her master's project she studied the Alticini fauna trapped with Malaise traps in five areas, three in different successional stages. She is now developing her Ph.D. thesis with Chrysomelidae that were malaise-trapped in the eight municipalities of Parana. In both studies Alticini was the most collected group. However, there are many species of Alticini and other groups that need to be identified, like Eumolpinae, Cryptocephalinae, Hispini, Clamisinae, etc. She wishes to contact collaborators who want to work with Brazilian Chrysomelidae and can help identify this material.

Laura Rocha Prado (Brazil) has been fascinated with the Systematics & Evolution of Arthropods since school. Her main undergraduate research focused on Leguminosae, and was excellent for learning systematic methods. Her next project (M.A., Museu de Zoologia da Universidade de São Paulo) is titled, "Taxonomy and cladistic analysis of *Cochabamba* Bechyné (Chrysomelidae, Galerucinae)" and focuses on a genus with 10 described species, included in the Diabroticites group of the so-called "problematic subfamily" Galerucinae. She wants to borrow *Diabrotica* specimens from *Cochabamba* (*D. virgifera, D. signifera, D. fucata*), *Aulacophora* and *Luperus* for this study.

Don Weber (USA) studies economically-important chrysomelids such as Colorado beetle, its related species, *Acalymma, Diabrotica,* and their natural enemies.

Inside This Issue

The Editor's Page

Happy New Year!

This issue of Chrysomela is late! There were too few submissions for a June issue, then several articles were sent in late November and into January 2009. Therefore, I have merged the two 2008 issues for this fat one.

I hope there will be enough submissions in the future to maintain two issues of our old (issue 50-51!!) and valuable newsletter. The present issue is a true reflection of the diversity of scientists and science working in Chrysomelidae.

My first year as a new professor has been exciting, getting my lab furnished and organized. Now, I am reviewing applications from potential Ph.D. students. I hope those accepted to my lab will become productive chrysomelid specialists!

- Caroline S. Chaboo

In Memoriam

Nicole Berti

We shall never see Nicole Berti again. Our colleague, in charge of the leaf-beetles, among other Coleoptera, at the Paris Laboratoire d'Entomologie du Muséum d'Histoire Naturelle, Paris, France, left us on July 4th 2008, after a long period of illness. Those who have met her occasionally and those who worked regularly with her know she was a very friendly but discrete person, who leaves us with many big and small pleasant memories.

In 1975, Nicole Berti directed my doctoral studies at the Laboratoire d'Entomologie, France. It was the beginning of a very long collaboration between us, lasting 33 years. The subject of my diploma was a revision of the genus *Oreina.* We both never suspected it would not be achieved until 2008. During all these years, I met with Nicole Berti several times a week initially, then several times a year later; she remained my "boss" to exchange ideas and opinions. In spite of our frequent meetings, which progressively became friendlier, and as strange as it may appear, I know very little of Nicole Berti. I realise how much her modesty and discretion impeded knowledge beyond the outlines of a biography. Having little to express about her professional activities or her private life, I would nevertheless like to pay deserved homage to such an esteemed person, whose disappearance saddens me very deeply.

Over the years, I came to appreciate Mme. Berti's competence. She demonstrated an extreme rigor in analyzing the items we were discussing, as well as severe exigency sometimes in selecting conclusions. Her disponsibility was beyond no limits, she never showed any sign of impatience and could spend a whole morning or afternoon discussing systematics.

Her human qualities paralleled the consciousness she showed in her work, being open to all subjects, always with courtesy and affability. Her permanent good temper made very easy the relationships with any interlocutor, she seemed unable to manifest the least sign of irritation. In all circumstances, she managed to keep for herself everything that could have made her interlocutor uneasy. Her internalization of her feelings was very strong as she silently suffered the death of her parents. On the other hand, she could be ready at any moment to listen to other people's problems or sufferings, and to find the proper words of comfort. I thus realised several years ago, when I lost my wife, that we were not mere colleagues, but had indeed become friends a long time ago, without telling each other.

Nicole Berti was esteemed by everybody I know who met her. Her disappearance will leave a big gap. A very sympathetic lady went away on her tiptoes, lonesome, with her usual discretion. Adieu, Mademoiselle Berti.

- Christian Bontems (France)

The Newsletter CHRYSOMELA-Founded 1979-is published semiannully, usually in June and December. It is hosted by the Division of Entomology, 1501 Crestline Drive, Suite 140, University of Kansas, Lawrence, KS, USA, 66049-2811. E-mail: cschaboo@ku.edu. This newsletter is sent to students of Chrysomelidae to encourage the exchange of ideas and to disseminate information on these insects. **Editor:** Caroline S. Chaboo, Kansas. **Advisors:** David Furth, Washington; Vivian Flinte, Rio de Janeiro; R. Wills Flowers, Tallahassee; Elizabeth Grobbelaar, Pretoria; Pierre Jolivet, Paris; Alex Konstantinov, Washington; Michael Schmitt, Bonn; and Terry N. Seeno, Sacramento.

7th International Symposium on the Chrysomelidae
9 July 2008, Durban, South Africa

Michael Schmitt (Germany)

The organisers of the 23rd International Congress of Entomology, held at Durban (South Africa) 6-12 July, 2008, made it possible to place our leaf beetle symposium within the frame of this great congress. Thus we had a small but fine meeting of ten speakers and only a few additional listeners on Wednesday, July 9, in the huge assembly hall (fig. 2) of the Durban International Convention Centre (fig. 1). It was a quite unusual sensation to talk to less than 20 people in a hall with more than 2500 seats. Anyway, our symposium – co-organised by Beth Grobbelaar (fig. 12) and myself – offered a variety of topics, and our group of 10 speakers comprised colleagues from six countries. The talks presented were

David Furth (Washington, DC, USA, fig. 3) "Flea beetle diversity of the Sierra Tarahumara, Copper Canyon, Mexico (Chrysomelidae: Alticinae)"

Pierre Jolivet (Paris, France, fig. 4, with Krishna K. Verma, Borsi, Durg, India) "Biogeography and biology of the New Caledonian Chrysomelidae (Coleoptera)"

Jürgen Gross (Giessen, Germany, fig. 5, with Henrike Schmidtberg and Kerstin Schumacher) "Exocrine glands of leaf beetle larvae: Protective structures against attacking predators and pathogens"

Elizabeth Grobbelaar (Pretoria, South Africa) " First biological and larval records for Afrotropical Donaciinae confirming the tribal placement of *Donaciasta goeckei* Monrós (Coleoptera: Chrysomelidae: Donaciinae)"

Károly Vig (Szombathely, Hungary, fig. 6), "Data on the distribution, life-history and morphology of immature stages of *Eupales ulema* (Coleoptera: Chrysomelidae: Eumolpinae)"

Fig. 1. Durban International Convention Centre. Fig. 2. The Assembly Hall. Fig. 3. David Furth. Fig. 4. Pierre Jolivet. 5. Jürgen Gross. Fig. 6. Karoly Vig. Fig. 7. Tyler Eaton. Fig. 8. Gaylord Desurmont.

Tylor Eaton (Griffin, GA, USA, fig. 7, with S. Kristine Braman and Tracie Jenkins) "Elucidation of the phylogenetic relationships and host-specificity of an oligophagous flea beetle (Coleoptera: Chrysomelidae: Galerucinae)"

Gaylord Desurmont (Ithaca, NY, USA, fig. 8, with Paul Weston) "Aggregative oviposition of viburnum leaf beetle, *Pyrrhalta viburni* (Paykull): Mechanisms and benefits of an unusual social behavior"

Thomas Wagner (Koblenz, Germany, fig. 9) "Diversity patterns of African Galerucinae (Chrysomelidae)"

Michael Schmitt (Bonn, Germany, with Uta Heidenreich) "Extraocular photoreceptors and frontal grooves in Criocerinae (Coleoptera: Chrysomelidae"

Eduard Petitpierre (Palma de Mallorca, Spain, fig. 10, with Y.E. Mikhailov and J.A. Jurado-Rivera) " Chromosomal evolution, molecular phylogeny and trophic affiliation in *Chrysolina* (Coleoptera: Chrysomelidae)"

Additionally, seven posters on leaf beetle related topics were presented (only the last two were assigned to our symposium):

Jane Elek & Natasha Beveridge: "How much do

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eucalyptus leaf beetles eat?"

Elena Zvereva, Mikhail Kozlov & Oksana Kruglova: "Interspecific competition rather than predation explains host plant shift of a leaf beetle *Chrysomela lapponica*"

Heungtae Kim, Jihyun Yoon & Jae Geun Kim: "Leaf insect *Galerucella nipponensis* as a useful bioindicator for heavy metal pollution"

Jianhua Zhang, Claudia Goyer & Yvan Pelletier: "Environmental stresses induce expression of cuticular protein genes in the Colorado potato beetle"

Gunter Maywald, Lyn Cook & Chris Reid: "Testing the monophyly of the Australian leaf beetle genus *Paropsis* (Chrysomelidae: Chrysomelinae)"

Károly Vig: "Leaf beetle fauna of the Mecsek Hills (southern Hungary) (Coleoptera: Chrysomelidae)"José Manuel Pineda-Uriostegui & Armando Burgos-Solorio: "Some aspects of the preliminary biology of *Leptinotarsa lacerata* Stål (Coleoptera: Chrysomelidae).

Lunch and coffee breaks provided ample opportunities to meet for a chat on leaf beetles with other colleagues, e.g., Hugh Heron from Durban (fig. 11). In the afternoon, we had an informal meeting in a cozier room, where Pierre could go into more detail on his journey to New Caledonia, and where Thomas Wagner agreed in principal to organise the International Symposia on Chrysomelidae when Michael Schmitt will hand this job over to someone else after the next International Congress of Entomology in 2012. The proceedings of this symposium will be published in Research on Chrysomelidae volume 2, which will appear in 2009.

Fig. 9. Thomas Wagner. Fig. 10. Eduard Petitpierre. Fig. 11. Hugh Heron. Fig. 12. Beth Grobbelaar.

The next ICE will be held in Daegu, South Korea, in August 2012. The organisers have already indicated their agreement to the eighth international leaf beetle symposium within the ICE. Thus, be prepared to gather in Daegu in 2012.

Nocturnal Hunting Grounds and Chrysomelidae

Pierre Jolivet (France)

I know of a French entomologist in the Ardennes, northern France, Alain Grafteaux, who hunts insects exclusively from 9 pm to 5 am. Thus, he discovered the life cycle of *Timarcha metallica*, a fully nocturnal species, and activities of many other nocturnal insects. I collected with him several times, and I observed this "rare" species in the hundreds on the *Vaccinium myrtillus* in the mountains. I started, in 1957, full night insect nocturnal catches with mosquitoes (*Anopheles minimus*) on the belly of Philippine carabaos, the local buffaloes. I did not like that sight very much. Besides, beetle hunting in the tropics is risky as poisonous snakes are abundant and active at that time. Pitfall traps, used to collect ground beetles that are active during day or night, also easily catch *Timarcha*.

1. American Timarcha.

There are at least two species of *Timarcha* in western north America (Oregon, Idaho, California, Washington, Vancouver, Montana). *Timarcha intricata* is black, small, and the smallest of them, *Timarcha cerdo*, has brown reddish colour. They are also rare in the collections, since their activity is essentially nocturnal. Curiously, they live on two unrelated plant families, Rosaceae (*Rosa, Rubus, Fragaria*) and Ericaceae (*Gaultheria, Vaccinium, Rhododendrum*) (Poinar & Jolivet, 2004; Poinar et al., 2002). European *Timarcha* (the diurnal subgenera *Timarcha* and *Timarchostoma*) spit blood (haemolymph) through pre-existing prebuccal openings and via the femoro-tibial joints. It is a red, abundant blood, rich in anthraquinones and very toxic. Part of that blood can be reabsorbed after an alarm. American *Timarcha*, being nocturnal, do not show reflex bleeding, which is mainly a defensive device against day predators. In general, *Timarcha* are well protected against their parasites and predators, but some enemies do exist and can be very abundant (Jolivet and Poinar, 2007). Parasite interference on *Timarcha*'s behaviour has been studied (Thomas et al., 1999a,b, 2006).

The American *Timarcha* (subgenus *Americanotimarcha*) species get out of the leaf litter around 9 pm, climb on their host plant, namely *Rubus* around Corvallis, and start to eat the tender leaves. They are active during the whole night and go to hide on the

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groound around 5 am. The larvae are active on their host-plants day and night. Only local species of *Rubus* are eaten in America, not introduced species.

Fig. 1. Timarcha (Americanotimarcha) intricata Haldeman *in Corvallis, Or., USA, 1989. Photo: P. Jolivet. Fig. 2.* Timarcha (Metallotimarcha) metallica Laicharting *in Deville, Ardennes, France, April 2000. Photo: A. Grafteaux.*

2. Old World Timarcha.

Timarcha, the big species, in Europe, Asia Minor, North Africa, are all diurnal, although certain species, during hot weather, show a tendency, mostly in North Africa, to be crepuscular. The only exceptions are totally nocturnal species of the subgenus *Metallotimarcha*, a mostly mountainous Central European group, which are distributed from Caucasus to Ardennes and Pas-de-Calais. The hidden biology of those *Timarcha* species was the discovery of Grafteaux (2003) during his nightly jaunts. *Timarcha metallica* feeds on *Vaccinium myrtillus*, an Ericaceae. When bilberry is missing, as in Guines Forest, northern France, the beetle feeds on *Asperula odorata* and, on the Eastern French mountains, on other Rubiaceae, like *Galium*. *Timarcha hummeli* and *T. armeniaca* in Caucasus feeds also on *Vacccinium* and *Asperula*. The other species of the two subgenera, *Timarcha*, *Timarcha* s. str. and *Timarchostoma* feed on Rubiaceae and Plantaginaceae, but unusual host plants are sometimes taken to in Spain and in North Africa (Brassicaceae, Asteraceae and Scrophulariaceae).What is interesting is that *Americanotimarcha* and *Metallotimarcha* species have at least one food plant in common, *Vaccinium*. That is possibly due to a common origin. The genus is very ancient, and its differentiation dates probably from the Cretaceous, but the splitting between the two groups perhaps arose in the Neogene through the opening of the North Atlantic. *Metallotimarcha* species, being nocturnal, do not show practically any reflex bleeding.

3. Other Chrysomelids.

Many other Chrysomelidae are nocturnal or semi-nocturnal, e.g., Chrysomelinae: several *Oreina*, all *Cyrtonus*, *Cyrtonastes*, *Chrysolina*, and many exotic species, which hide under the stones or among mosses during the day. Bontems (pers. com.) has observed *Oreina speciosissima* during day on *Adenostyles* and nightly on *Doronicum* sp. (both Asteraceae). Recently Christopher Darling (2007) observed the galerucine *Aplosonyx ancora* Laboissière cutting nightly circular trenches into the leaves of various Araceae in Vietnam. Many other Coleoptera have a nocturnal activity in the Holarctic and the Tropics, as carabids and tenebrionids. *Carabus* hidden during the day, can be active on the trunks of trees at nights.

So, entomologists are advised to look for beetles by night, not only with a white sheet and a lamp, but also to observe them in nature like Purser (2007), who observed freely jungle bugs hunting their preys in tropical forests or feeding on the plants. His excellent book has wonderful pictures of these observations.

Literature:

Darling, C. 2007. Holey aroids : Circular Trenching Behavior by a Leaf Beetle in Vietnam. *Biotropica*. on line.

Grafteaux, A. 2003. Note sur la biologie de *Timarcha metallica* (Laicharting). *Natural. Charl. Bull.* 56(2):1-2.

Jolivet, P. & Poinar, G. 2007. Parasites, commensals and phoretics of *Timarcha* (Coleoptera: Chrysomelidae). *Genus* 18(4):589-596.

Poinar, G. & Jolivet, P. 2004. Origin of *Timarcha* : Trophic relationships in the Old and New World. in *New Developments in the Biology of Chrysomelidae*. Jolivet, P., Santiago-Blay, J. A. and Schmitt, M. (eds.). SPB-Brill Academy Publishing, The Hague: 281-290.

Poinar, G., Jolivet, P. & Grafteaux, A. 2002. New food-plants provide clues for the origin and distribution of *Timarcha* (Coleoptera : Chrysomelidae : Chrysomelinae). *Lambilionea*, *Bruxelles* 102(1):03-109.

Purser, B. 2007. *Jungle Bugs in the Night. A Scientific Adventure in the Tropical Forests of the World*. Pensoft. Sofia-Moscow: 168 pp.

Thomas, F. & De Meeus, T. 2006. Population variability in the beetle *Timarcha maritima* (Coleoptera: Chrysomelidae). *Acta Zool. Sinica* 52(3):491-497.

Thomas, F., Gente, P., Desmots, D. & Renaud, F. 1999a. Parasitoid Infection and Sexual Selection in the Beetle *Timarcha maritima* Perris (Coleoptera : Chrysomelidae). *Coleop. Bull.* 53(3):253-257.

Thomas, F., Oget, E., Gente, P., Desmots, D. & Renaud, F. 1999b. Assortative pairing with respect to parasite load in the beetle *Timarcha maritima* (Chrysomelidae). *J. Evol. Biol.* 12:49-390.

The species of *Cryptocephalus* in the William Hunter's collection in Glasgow

Mathias Schöller (Germany)

The University of Glasgow, Scotland, houses the eighteenth century collection of William Hunter. Hunter (1718-1783) was a Scottish anatomist and physician who studied at the University of Glasgow. He later worked in London, where he build a private museum harbouring around 7,600 specimens of insects. After Hunter's death, the collection was moved to Glasgow (Hancock, 2005). It is of significant historical interest for several reasons. Many specimens were collected during the voyages of Captain Cook, and other explorers, so it gives a good impression what exotic species arrived in Europe at that time. The collection itself is preserved almost unchanged since it arrived in Glasgow, and so retains the curatorial practices used at that time. Moreover, the collection was arranged by Johann Christian Fabricius, who described species based on specimens in the collection. Fabricius (1784) wrote in 1782: "Hunter lives very thriftily in his house but does everything he can to increase the inner value and outer splendour of his collection. I consider his insect collection to be the largest and best collection in England. I know it very well because I laid it out myself and contributed to its gradual increase in size. On every visit to England, I have described, ordered and arranged it as I wished".

Restored cabinet

I was looking for possible syntypes of Fabricius in the genus *Cryptocephalus* in the Hunter collection. A total of 24 species in 37 specimens are labelled as *Cryptocephalus* in the collection. However, only 8 species out of these are *Cryptocephalus* according to the generic diagnosis in use today. Generally chrysomelids that are cylindrical in shape were described as *Cryptocephalus*. The majority of the species are placed today in Clytrini (10 species) and Eumolpinae (5 species); the collection includes syntypes of species in these taxa, too.

Among the specimens still placed in *Cryptocephalus*, two females of *C. bifasciatus* were of special interest. This species is among the most frequently determined Afrotropical *Cryptocephalus* in museum collections, even though in almost every collection another species was considered to be *C. bifasciatus*. The specimens were collected by Henry Smeathman (1742-1786) in Sierra Leone between 1771 and 1775 (Douglas & Hancock, 2007). I found the species to be related to *C. senegalensis* and allies. Its range is surely much more restricted than previously thought, but this needs further studies.

Drawer A-4

Details of the types of the chrysomelids have already been published by Staines (2002). I found that the specimens of both *Cryptocephalus venustus* Fabricius, 1787 and *C. notatus* Fabricius, 1787 belong to the nominate subspecies. Another interesting observation concerns the common European species *Cryptocephalus sericeus*. It has been previously discussed as if the metallic green *Cryptocephalus* described by Linnaeus might have referred to species of *Chrysomela* (Weise, 1882: 185). In the Hunter's collection, three specimens were placed below the label *C. sericeus*, two specimens of *C. hypochoeridis* and one specimen of *C. aureolus*. Even though they are not *C. sericeus*, these species are similar to *C. sericeus* and placed in the same subgenus *Chrysocryptocephalus*,suggesting Fabricius had the same concept of *Cryptocephalus sericeus* and allies as we do have today.

E.G. Hancock alongside cabinet

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The Chrysomelidae are currently being photographed and each specimen in Hunter's collection will be available in the internet (http://www.hunterian.gla.ac.uk/search/search_index.shtml). Hopefully, this will encourage other chrysomelid workers to look at this interesting collection.

Literature:

Douglas, A.S. & Hancock, E.G. 2007. Insect collecting in Africa during the eighteenth century and William Hunter's collection. *Archives of natural history* 34:293-306.

Fabricius, J.C. 1784. *Briefe aus London vermischten Inhalts*. Dessau & Leipzig.

Hancock, E.G. 2005. William Hunter's insect collection and emerging descriptive taxonomy in the Eighteenth Century. *Natural Sciences Collections Association News* 4:8-13.

Staines, C.L. (2002) Chrysomelidae (Coleoptera) types in the Hunterian Museum, University of Glasgow. *J. New York Entomol. Soc*. 110:405-412.

Weise J. 1882. Chrysomelidae. In: Erichson, W.F.: *Naturgeschichte der Insecten Deutschlands. 1. Abtheilung Coleoptera,* Band 6. Berlin: Nicolaische Verlags-Buchhandlung, 192 pp.

In Memoriam

Reverend Dr. Carlo Brivio

26 October, 1924 – 21 April, 2008

On 21 April 2008 the Reverend Dr. Carlo Brivio, the founder of the Museo Entomologico del PIME (Pontificio Istituto Missioni Estere), died at the age of eighty four years, due to an abruptly worsening tumor that had been diagnosed some months before.

Carlo Brivio was born at Cascina Bracchi di Casatenovo (in the district of Lecco), Italy, on 26 October 1924. An early calling induced him to enter the PIME in 1940. He studied theology from 1943 to 1947 and he was ordained on 29 June 1947 by Cardinal Schuster. In 1950 he graduated in theology in Rome. While he was a seminarian Father Brivio also demonstrated a great interest in the natural sciences, particularly entomology. In 1951, just after graduating in theology, he formally established the Museo Entomologico del Pontificio Istituto Missioni Estere, in Milan, based on material partly collected by himself in Italy and by other missionaries throughout the world, and either purchased or obtained in exchange. Three years later the PIME Entomological Museum was transferred to the Seminary of Monza, inside a very large park that also had an interest in entomology. In 1961 Carlo Brivio graduated in natural sciences at the University of Milano by completing a doctoral dissertation on Coleoptera of Lago di Sartirana Briantera. That same year he was transferred to the Meryglad College (Seminary) in Memphis, Michigan, though he remained Director of the PIME Entomological Museum until 1968. At that time the Italian part of the PIME collection, containing approximately 57,000 Coleoptera, was donated to the Museo Civico di Storia Naturale di Milano (Italy).

In the USA, Carlo Brivio started a second PIME Entomological Collection and also completed his academic development by specializing in cultural anthropology, useful for his activity as a teacher at the Seminary (of which he became Principal) and by following a qualifying course in biological sciences at the University of Michigan. In 1974 the Maryglade Seminary (and the second PIME Entomological Museum) was transferred from Memphis to Detroit where Carlo Brivio stayed until 1984. In 1985 he was asked to return in Milan to teach and conduct archival research in the Seminary of Monza; since it proved too difficult to convey his second PIME collection (approximately 230,000 specimens, mostly Coleoptera) Carlo Brivio decided to sell it to American Institutions (e.g., Yale University, Ohio State University, Michigan State University) as well as to private coleopterists. Again in Italy Carlo Brivio amassed a third PIME Collection, which he increased with his inherent enthusiasm until the very end of his life using personal resources to purchase specimens (mostly Coleoptera and Lepidoptera from all biogeographical regions of the world) and using much of his personal time to prepare the purchased material. His third collection has been left to the Museo Civico di Storia Naturale di Milano and it is already incorporated into that Museum, but it is impossible at this time to give a detailed information on its composition since the material (approximately 200,000 specimens) is largely undetermined and unsorted.

Carlo Brivio conducted research all on Chrysomelidae and produced 14 publications. A complete list of his papers as well as detailed information on the first and the second PIME Collections are contained in the following publication:

Furth, D. & C. Brivio. 1988. Dissemination of the second PIME Entomological Museum. *Coleop. Bull.* 42 (2):193-201.

- Carlo Leonardi and David Furth

Annual Meeting of the German-speaking leaf beetle workers

Chrysomelidologists participating in the 51st meeting of the German-speaking coleopterists at Beutelsbach (Germany). Standing, from left to right: André Theunissen (The Netherlands), Eva Sprecher-Übersax (Switzerland), Matthias Schöller (Germany), Ron Beenen (The Netherlands), Elisabeth Geiser (Austria), Joachim Mauser (Germany, in front), Uwe Heinig (Germany, back), Frank Fritzlar (Germany), Michael Langer (Germany), Christian Baden (Germany), Regine Jäckel (Germany). Sitting, from left to right: Theo Michael Schmitt (Germany), Horst Kippenberg (Germany), Mrs. and Manfred Doeberl (Germany), Andrzej Warcha³owski (Poland), and Carlo Leonardi (Italy).

As usual, leaf beetle enthusiasts from the German-speaking part of Europe gathered the last weekend of October (25-26) in Beutelsbach near Stuttgart (Germany). This informal meeting is always embedded into the annual meeting of the German coleopterists, organised by the Working Group of South-West German Coleopterists. This year, Regine Jäckel (Hamburg) reported on phylogeny, chromosome numbers and excess of females in the genus *Altica*, Thomas Roenn (Diploma student of Michael Schmitt, Bonn) gave a talk on his completed diploma project on biogeography of Central European leaf beetles, and Theo Michael Schmitt showed some colorful photos of Costa Rican beetles and other natural history items from there.

- Michael Schmitt (Germany)

Entomological Society of America, 2007

Chrysomelid lunch

From left to right.
Back: Dan Clark,Dave Furth, Terry Seeno, Geoff Morse, Sasha Konstantinov, Alex McClay.
Front: Eric Smith, Rob Barney, Lourdes Chamorro-Lacayo, Shawn Clark.

A simple type of Cycloalexy in larvae of *Pyllocharis undulata* (Linnaeus) (Chrysomelidae: Chrysomelinae)

Mohamed S. Mohamedsaid (Malaysia)

According to Jolivet *et al*. (1990), cycloalexy is defined as the attitude adopted at rest by some insect larvae, both diurnal and nocturnal, in a tight circle where either the heads or ends of the abdomen are juxtaposed at the periphery, with the remaining larvae at the centre of the circle. Cycloalexy is one defense strategy known among insect larvae and has been documented in Coleoptera, Hymenoptera and Diptera (Jolivet *et al*., 1990). In the subfamily Chrysomelinae, cycloalexy have been reported in eight genera: *Gonioctena* Chevrolat, *Plagiodera* Chevrolat, *Phratora* Chevrolat, *Paropsis* Olivier, *Platyphora* Gistel, *Proseicela* Erichson, *Eugonycha* Chevrolat and *Labidomera* Chevrolat (Vasconcellos-Neto and Jolivet 1994). The occurrence of cycloalexy in *Phyllocharis undulata* (Linnaeus) (Chrysomelinae) is reported here for the first time.

During a short trip (June 12-14, 2007) to Lombok, Indonesia, I collected some life specimens of *Phyllocharis undulata* (Linnaeus) feeding on *Clerodendrum inerme* (L.) Gaertn. (Verbenaceae). This is also a new record for Lombok. The host plant, *C. inerme,* is also a new record for *P. undulata.* The beetle has a wide distribution in south-east Asia, being reported from Laos, Cambodia, Vietnam, Peninsular Malaysia, Singapore, Java and Timor (Kimoto, 1984; Mohamedsaid, 2004). Jolivet and Hawkeswood (1995) reported that *P. undulata* feeds on *C. fragrans* (Vent.) Willd. in Vietnam.

At the site where the beetles were collected, many adults were seen feeding on leaves of the host plant, but eggs and larvae were absent. Adults were easily hand-picked but when disturbed they flew to another branch and perched on leaf of the host plant. I collected 14 specimens. Eight were killed in a killing bottle and another six were kept alive in a plastic bag filled with a small branch of leaves from the host plants. In the lab, the beetles were placed in a plastic container (14 x 7 x 7 cm) together with a small branch of leaves of the host plant. The beetles were voracious, feeding on the leaves, and the container had to be cleaned of fecal material and fresh leaves were provided when necessary.

On the second day, around noon, I noticed a cluster of eggs was laid on the underside of a leaf. A total of 22 eggs stacked on the leaf surface was transferred into another plastic container, together with a small branch of leaves. After an incubation period, in the morning of the seventh day, I noticed 13 first instar larvae on a new leaf and the former piece of leaf with 13 empty cases and nine eggs that had failed to hatch. Ten first instar larvae arranged themselves in a loose circle, with the heads and end of the abdomens, in the centre and outside of the ring, respectively. Besides, there were splinters, with two larvae located on the left and one at the bottom. About 17 minutes later, one larva located at the bottom join the cycloalexic ring, while another one wandered at the top, near the midrib. Around 2.30 pm, on the same day, the larvae had moved to the right side of the midrib and formed another cycloalexic ring that comprised nine larvae, with three scattered elsewhere.

After two days, the larvae molted into second instar and moved to another fresh leaf but they were scattered all over the leaf surface. However, there were only nine larvae seen and the rest was either dead or hiding under the leaf. At this stage, cycloalexy was not observed in these second instars. It could not be ascertained whether these larvae were looking for a hiding place. Unfortunately, there were no more fresh leaves available for the larvae and leaves in the container soon became dry and the larvae were later found dead. Generally, most larvae of the Chrysomelinae, including *P. undulata,* live openly on plants while feeding and burrow into soil to pupate (Jolivet and Hawkeswood, 1995).

In the observed cycloalexy the larvae arranged themselves with ends of the abdomen juxtaposed at the periphery. This larval arrangement was maintained when the larvae were feeding on the right side of the leaf midrib in the morning and then shifted to the left side of the midrib in the afternoon. However, the cycloalexy is very loose and not tight as there is only one ring and no individuals in the centre of the ring. This is due to a smaller number of larvae involved, compared to a complex cycloalexy, for example in *Coelomera lanio* Dalman (Chrysomelidae: Galerucinae), where about 29 larvae tightly encircled about 15 larvae stacked in the centre of the circle (Jolivet and Hawkeswood, 1995).

Since cycloalexy was not observed in this species in the wild, could rearing the larvae in a container trigger them to form a cycloalexic ring?

Acknowledgement. I would like to thank Dr Pierre Jolivet for suggesting that I write this observation and reading the manuscript, and Mr Razali Jaman, Herbarium, Universiti Kebangsaan Malaysia, Bangi for the identification of *Clerodendrum inerme.*

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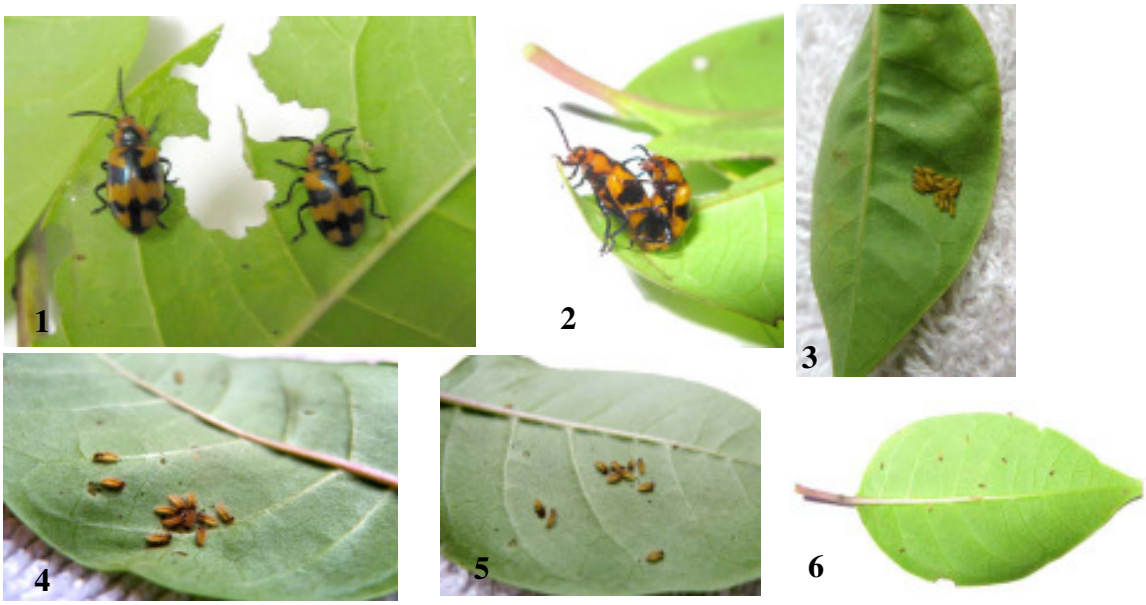

Figs. 1-6. Phyllocharis undulata (Linnaeus). *1. A pair of adults. 2. Copulation. 3. First instar larvae forming cycloalexy. 4. Cycloalexy on the left side of the midrib. 5. Cycloalexy on the right of the midrib. 6. Second instar larvae dispersed on the leaf.*

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Entomological Society of America, Reno, Nevada, 2008 Chrysomelid Lunch

From left to right. Back: Dave Furth, Mauro Daccordi, Wills Flowers,Terry Seeno, Shawn Clark, Dan Clark, John King. Front: Eric Smith, Caroline Chaboo, Rob Barney.

Terry Seeno (L) & Mauro Daccordi (R) (Photo: D. Furth)

Brazilian flea beetle visit to the Smithsonian Institution, USA

Adelita Linzmeier (Brazil)

Since my M.Sc., I have been working on ecology and taxonomy of Chrysomelidae, mainly flea beetles (Alticini), from Malaise traps in the south of Brazil. This kind of trap is very useful because it collects many species and also provides an opportunity to compare different habitats with respect to flea beetle communities both in space and time. In my Ph.D. study, for example, I found about 460 chrysomelid species in just a few sites in the south of Brazil. However, only about 50% of these species could be identified. Thus, with the main aim of identifying more species, I visited the National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA, in August 2008, to work with Dr. Alexander Konstantinov, and become familiar with one of the most important insect collections in the world.

Fig.1. Adelita looking for some flea beetles in the collection.

Fig. 2. From left: Adelita, Alexander Konstantinov, & Edward Riley (Dept of Entomology, Texas A&M University).

Fig. 3. Some Chrysomelidae from southern Brazil.

The Smithsonian's flea beetle collection is indeed large and well organized. It is also databased and contains about 3,000 species and 376 genera, with Palearctic, Nearctic and Neotropical taxa well represented. Their holotypes of 370 flea beetle species have been photographed and I was able to download all the files to take home for future references. My days were productive since Dr. Konstantinov and I worked a lot. This visit gave me the privilege to study the material using more sophisticated equipment (digital camera, microscope, etc.) and techniques. We described a new genus of the subtribe Monoplatina with two new species from Brazil and identified some more species for my Ph.D. thesis, but some are still unidentified possibly representing new taxa or ones missing from the collection. We discussed future projects and partnerships.

For my Ph.D. we decided to revise the genera of subtribe Monoplatina. The group is mostly Neotropical and abundant in Brazil. It is of reasonable size, with ~60 generic names of which 45 are

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South African National Collection of Insects (SANC), Pretoria

Elizabeth (Beth) Grobbelaar & Riaan Stals

The South African National Collection of Insects (SANC) of the ARC-Plant Protection Research Institute (ARC-PPRI), is located in Pretoria, Gauteng Province. It is currently housed in a historic building called Vredehuis, in the gardens of the Union Buildings near the city centre (Fig. 1). The collection will relocate to new facilities, currently being built for the entire ARC-PPRI Biosystematics Division (Fig. 2), towards the end of 2009. This is in a bushveld setting about 30km NE of its current location, near the existing headquarters of ARC-PPRI at Roodeplaat Dam.

Fig. 1

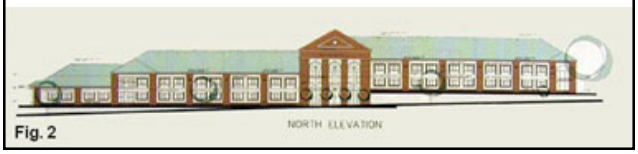

Fig. 2

The most valuable components of the Coleoptera collection are the comprehensive collections of mainly southern African Curculionoidea (weevils and their close allies), Chrysomelidae (leaf beetles), Bruchidae (seed beetles) and Scarabaeinae (dung beetles). Other strong points in the SANC beetle collection, amongst others, are the terrestrial Adephaga, other Scarabaeoidea, Buprestidae, Bostrichidae, Melyridae: Malachiinae, Coccinellidae and Cerambycidae. The holdings contain associated biotic information and important voucher material pertaining to more than a century of applied research in South Africa. A very valuable component of the phytophagous beetle collections is ample host-reared material, linking specimens with host plant data and immature stages. Apart from the Afrotropical fauna, the collection also contains reference material from other biogeographical regions.

Almost all the beetle families known from southern Africa are represented in the SANC Coleoptera holdings. The collection (Fig. 3) houses an estimated 600,000 to 700,000 specimens, and grows by about 1,600 specimens a month. Most of these specimens are housed in 55 wooden

Fig. 3

cabinets, each with 40 drawers, and 25 steel cabinets, each with 30 drawers. New steel cabinets with sealing doors, each holding 54 interchangeable wooden drawers, are currently being phased in to cope with the expansion of the collection (Fig. 4). The collection is rich in primary and secondary type material. It is continually being expanded, curated and upgraded.

Fig. 4

The bulk of the SANC Chrysomelidae, totalling about 41,000 specimens, is housed in five wooden cabinets and has been sorted at least to subfamily level. This excludes another nine steel drawers full of leaf beetles that were inherited from the University of Pretoria collection (UPSA); a number of smaller batches of project-related identified material; small inherited collections; and labelled and unlabelled material from fieldwork and a variety of other sources. These will be incorporated in the main chrysomelid collection.

Two coleopterists work at the SANC, Beth Grobbelaar (GrobbelaarB@arc.agric.za) who specializes in the Chrysomelidae, and Riaan Stals (StalsR@arc.agric.za) who

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Novel trophic behavior in two South African tortoise beetles (Chrysomelidae: Cassidinae)

Hugh Heron (South Africa)

Adult tortoise beetles (cassidines) are open foliar feeders (Chaboo, 2007). Studies on cassidines from eastern South Africa reveal that holes, marginal indentations and scrapings (trenches) are produced principally from the ventral leaf surface (e.g., *Chiridopsis suffriani* Boheman) or dorsal leaf surface (e.g., *Basipta stolida* Boheman) and, less commonly, from the leaf margin (e.g., *Aethiopocassis vigintimaculata* Thunberg). Similarly, cassidine larvae are also open foliar feeders (the leaf-mining Notosacanthini excluded).

In the course of trophic observations in coastal Natal, South Africa, two cassidine species, *viz*. *Cassida litigiosa* Boheman and *Cassida coagulata* Boheman, were found to exhibit, in additional to normal foliar feeding, stem scraping and leaf-vein feeding, respectively. These are briefly described.

Cassida litigiosa Boheman is a common and widespread beetle found in eastern and southern Africa. In eastern South Africa, observations suggest that it is more likely to be encountered inland than at the coast, where it has been recorded from a number of host plants (Heron & Borowiec, 1997). In Durban-Queensburgh area, coastal Natal, it has been uncommonly and sporadically encountered on *Chenopodium album* L. (Chenopodiaceae). Normal adult trophic patterns are small (ca. 2.0 x 2.5mm to 3.0 x 2.5mm) holes, or scraping/trenches (3.0 x 1.o to 9.0 x 1.5 mm) and, in small leaves, marginal indentations. During an investigation of a small temporary colony at Umbilo in Durban in 1999, adults were found to produce small scrapings on the stems of *Chenopodium album*. These measured on average 2.37 x 0.80mm (range 1.0 x 0.6 to 5.0 x 1.0mm: n = 9) and penetrated shallowly into the cortex (estimated to be 0.1-0.2 mm deep). Similar scrapings were observed on the stems of the same host plant at Escombe, Queensburg during early 2008. In both cases, the stem scrapings were produced in addition to normal leaf feeding and were present on older plants with semi-woody stems. Thus far, scrapings of this nature have only been found on one host plant species.

Cassida coagulata Boheman appears to be widespread but relatively uncommon species ranging from Kenya and Malawi, through Tanzania. Zimbabwe and Mozambique to South Africa, where it has been found in Natal and the former Transvaal Province (Borowiec, 1999; Borowiec, 2005). In addition to the host plants recorded for it in Heron & Borowiec (1997), the beetle has been observed to reproduce on *Celosia trigyna* L. and the garden subject *Alternanthera* sp. (c.f. *pungens* H.B.K.), both Amaranthaceae. *Cassida coagulata* is a curious species; the adults appear to be crepuscular and, uniquely among the African cassidines as known, its larvae host a globular liquid feco-exuvial shield in the supra-anal process. Adults and larvae are normal foliar feeders, creating both holes and marginal indentations, but, during instar V many larvae turn to feeding on the prominent ventral leaf veins, and adjacent tissue, on one plant, viz. *Achyranthes aspera* L. *var. pubescens* (Moq.) Towns. Eleven leaves examined for this report hosted 51 leaf vein holes, ranging in length from 8.0mm to 35.0mm (mean 17.7mm), and varying in width from 1.0mm to 3.8 mm. The leaf vein sections and some of the adjacent leaf tissue were consumed; leaving irregularly ragged elongated holes (Fig. 1). To date, this behavior has only been observed on the pubescens variety of *Achyranthes aspera* (the beetle avoids the variety *sicula* althogether).

Figure 1.
Elongated irregular holes in leaf of *Achyranthes aspera* var. *pubescens* created by instar 5 *Cassida coagulata* larva consuming prominent vein section in ventral leaf surface. Locality: Malvern, Queensburgh Natal.

External stem-scraping and vein-feeding behaviours may be related but the insects appear to exploit different food sources. Stem-scraping *Cassida litigiosa* appears to exploit the cortex layer but does not penetrate deeply enough to utilize vascular tissue. This feeding appears to exploit the cortex layer but does not penetrate deeply enough to utilize vascular tissue, and is in addition to normal leaf-feeding and may prove to be temporary, competition avoidance, response to the presence of larvae on the plant leaves. It would be interesting to see whether or not cassidines of the genus *Oxylepus* also make use of stem feeding on their host plants, *Salsola* sp. (Chenopodiaceae). *Salsola* is characterized by having very small, almost scale-like, leaves and brittle semi-fleshy stems.

Vein-feeding *Cassida coagulata* clearly makes use not just of vascular tissue but also adjacent leaf tissue. It is only exhibited by instar 5 larvae (possibly during later period of the instar?) and, as presently known, on only one host plant. The fact that, of the known host plants, only *Achyranthes* has prominent ventral leaf-vein ridges may also be significant. Reasons for this behavior are obscure at present and do not appear to be related to competition.

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Continued on page 26

Jalla dumosa (Linnaeus, 1758) (Heteroptera, Pentatomidae, Asopinae), a predator of *Timarcha* (Coleoptera, Chrysomelidae) in Spain

Manuel Baena & José Luis Lencina (Spain)

The genus *Timarcha* has a Holartic distribution and is a clear example of disjunct distribution, since the Nearctic representatives of the genus are to be found exclusively west of the Rocky Mountains (Jolivet, 1989, 1995). For some authors, e.g., Gómez- Zurita, (2004, 2008) there is much evidence from divergences, genetics, phylogenetics, ecology, morphology and geography, to isolate the American species in a separate genus *Americanotimarcha* Jolivet, 1948.

The number of species of the Palaearctic *Timarcha* is also a controversial matter; of the approximately 240 species and subspecies described (Warchalowski, 2003), nearly 80% of them, in Warchalowski's opinion, should be reduced to infrasubespecific level. For Gómez-Zurita (2008) there are nearly 130 species and subspecies, stable taxa.

The genus ranges mainly in central and southern Europe (including Turkey) and North Africa, with some species reaching Ireland and Scandinavia in the north and the Urals and Ukraine in the east. More than 40 species occur in the Iberian Peninsula, including the Pyrenees, and most of them are endemic to the area (Warchalowski 2003). Good photographs of many European species are available online at Borowiec (2006).

Timarcha is a charismatic genus that has attracted the attention of researchers and there are several studies published on various aspects of its biology (Jolivet, 1948), ecology (Jolivet, 1952; Jolivet & Petitpierre, 1973; González-Megías & Gómez, 2001; González-Megias *et al.* 2004), physiology (Jolivet, 1948), genetics (Petitpierre, 1970, 1973; Gómez-Zurita *et al.,* 2005), population dynamics (Gómez-Zurita *et al.* 2000a; Gómez-Zurita & Vogler, 2003, 2006), systematics (Gómez-Zurita, 2004, 2008) and evolution (Gómez-Zurita, *et al.* 2000b, 2000c; Gómez-Zurita & Vogler, 2003, 2006). Some studies are particularly devoted to the study of its predators, parasites and phoretics, including those of Abeloos (1933), Jolivet (1950, 1954), Jolivet & Poinar (2007), Thomas *et al*. (1999a, b) and Thomas & De Meeus (2006).

Due to the presence of anthraquinones in its blood, it has been speculated that *Timarcha* is highly toxic, and thus it is refused by birds and lizards (Hollande, 1926). Our friend Dr. Eduard Petipierre (pers. comm.) tried to feed a young *Timon lepidus* (Daudin, 1802) using a larva of *Timarcha intermedia,* the lizard did not eat this larva by itself but swallowed it when forced manually, without any negative consequences.

The number of known invertebrate predators of *Timarcha* is also very reduced and restricted to three species in three orders of insects - a ground beetle, *Steropus madidus* Fabricius, an ant of the genus *Myrmica* and one asopine bug, *Zicrona coerulea* (Jolivet 1950, Cox 1996). These predators are known to attack only two species, *T. tenebricosa* (Fabricius) and *T. goettingensis* (Linnaeus). Dr. Eduard Petipierre (pers. comm.) has observed in the island of Tabarca (Alicante, East Spain) the presence of adults of *Timarcha intermedia* Herrich-Schaeffer, 1838 trapped in webs of *Latrodectus* sp. Gómez-Zurita (pers. comm.) has also observed specimens of *Timarcha* trapped in spider webs but the species was not identified.

We recently observed the predation of larvae of *Timarcha* by a so far unknown predator for the genus, a predaceous stink bug, *Jalla dumosa*. The observation (fig. 1) was made on 13.V.2007 in the vicinity of a forest of *Acer granatensis* Boiss., in a meadow on the banks of the stream "Santiago de la Espada", Nerpio, Albacete, Spain. Three species of *Timarcha* occur in this area—*T. granadensis* Bechyné, 1948, *T. marginicollis* Rosenhauer, 1856, y *T. parvicollis* Rosenhauer, 1855. The larvae killed by the bugs belong probably to *T. marginicollis.*

Jalla Hahn, 1832 is a small genus restricted to the old world and represented only by three species (Thomas, 1994). *Jalla dumosa* is the most widespread species, distributed in much of the Palaearctic region, but it is apparently not very abundant (Butler, 1923; Dupuis, 1949). Thomas (1994) summarized the distributional data and the references about the biology, morphology, life cycle, host plants, nymphal stages and preys. The species, a known predator of caterpillars (Butler, 1923; Dupuis, 1949), is not listed among the predaceous stink bugs of economic importance by De Clercq (2000), and it was reported by Herting (1973) as predator of two Chrysomelidae of the genus *Galeruca* (data not recorded by Cox (1996)).

Acknowledgements.

We thank Gloria Bastazo and José Miguel Vela

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(Málaga), Carlos Hernando (Barcelona), Eduard Petitpierre (Palma de Our special thanks to Eduard Petipierre for communicating his observations and to Jesús Gómez-Zurita (Barcelona) for valuable suggestions and critique of our manuscript.

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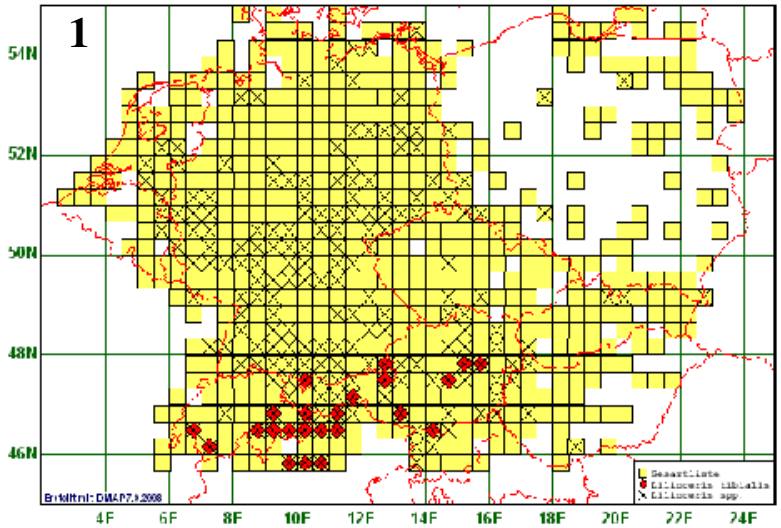
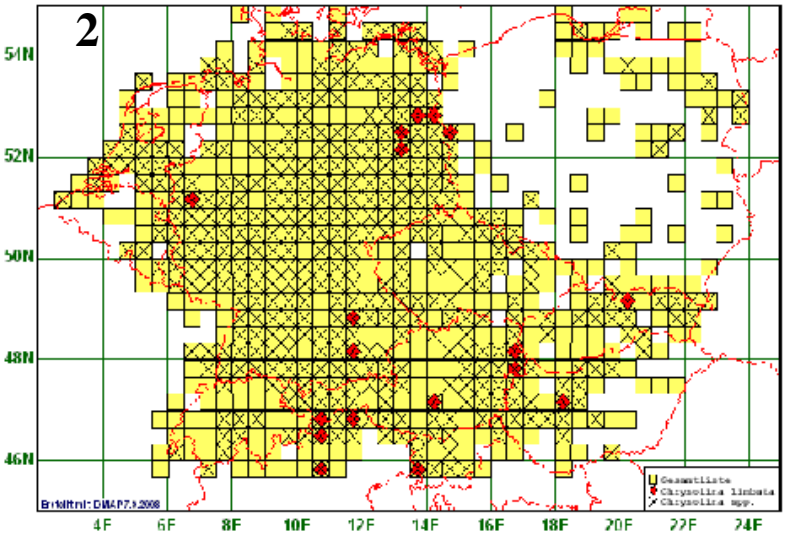
CHRYFAUN – a faunistics project on Central European Chrysomelidae

Michael Schmitt (Germany)

In Chrysomela Newsletter no. 48, I gave a short historical outline of our ongoing project on the biogeography of leaf and seed beetles in Central Europe. This year, good progress was made since Thomas Roenn completed his diploma thesis on this topic. The computer programme we use has been completely reshaped by a professional programmer. Thomas entered label data from the private collections of Manfred Döberl (Abensberg, Germany) and Horst Kippenberg (Herzogenaurach, Germany). At present, we have more than 50,000 entries in our files – definitely not enough to draw final conclusions, but sufficient for interesting hypotheses in special cases. Thomas found 14 fairly distinguishable types of geographical distribution, e.g. alpine, eastern, coastal etc.

Fig. 1 demonstrates that *Lilioceris tibialis* (Villa, 1838) is clearly restricted to the alpine region. We present the data as grid field maps in which all grid fields from where we have data at all are marked in yellow. Those fields from where we have records of the genus in question are marked with a black X, while the red diamonds indicate the records for the respective species. The rationale behind is that collectors will hardly discard specimens of a certain species as long as they collect other species of the same genus. Consequently, gaps in our maps can certainly be regarded distributional gaps if there are sufficient records for other species of the same genus from grid fields in which the species in question is not reported. *Chrysolina limbata* (Fabricius, 1775) (Fig. 2) gives an example of a quite unusual and therefore interesting distribution since the gaps in the map seem to represent real distributional gaps in nature.





It also becomes clear from the example maps that we do not have enough data. Thus, whoever can and wants to contribute records is invited to do so. If you can help to fill the white grid fields, please send an e-mail to m.schmitt@uni-bonn.de. We ask you to provide the locality, preferably along with the geographical coordinates down to the minute, the date of collection, and the indication of the collection where the voucher specimen is housed.

International Date Book

2009 Immature Beetle meeting, Oct 1-2, Prague, Czechoslovakia; www.cerycon.edu/IBM/IBM2009.htm

2009 Entomological Society of America, 57th annual meeting, Dec 13-16, Indianapolis, USA; www.entsoc.org; Entomology Collections Network, Dec 12-13; Coleopterists Society, Dec 15; *Informal Chrysomelid lunch*

2009 Hennig Society, Singapore, June 22-26 2009 www.cladistics.org/meetings.html

2009 Arthropod Genomics Symposium, June 11-14, Kansas City, USA; www.k-state.edu/agc

2010 VI Southern Connections Congress, Feb 15-19 , Bariloche, Argentina; www.southernconnection2010.crub.uncoma.edu.ar

New Series on Chrysomelidae

During the 23rd International Congress of Entomology, the first volume of the newly launched series Research on Chrysomelidae was presented to the public (fig. 1). This series is edited by Pierre Jolivet (Paris, France), Jorge Santiago-Blay (Washington, DC, USA), and Michael Schmitt (Bonn, Germany), assisted by Susanne Düngelhoef, Bonn. The first volume (fig. 2) contains 20 papers:

Beenen, Ron & Jolivet, Pierre: Classification and habitat of brachelytrous Chrysomelidae (Coleoptera). Pp. 161-173.

Biondi, Maurizio & D'Alessandro, Paola: Revision of the C*hatocnema pulla* species-group from the Afrotropical region with description of a new species from Central Africa (Coleoptera: Chrysomelidae). Pp. 265-286

Bontems, Christian & Lee, Chi-Feng: A new case of viviparity among Chrysomelinae. Pp. 260-264, pls. 30-36

Cuignet, Marie; Windsor, Donald; Reardon, Jessica & Hance, Thierry: The diversity and specificity of parasitoids attacking Neotropical tortoise beetles (Chrysomelidae, Cassidinae). Pp. 345-367

Eben, Astrid & Espinosa de los Monteros, Alejandro: Specialization is not a dead end: Further evidence from *Diabrotica* beetles. Pp. 40-58

Elias, Scott A. & Kuzmina, Svetlana: Response of Chrysomelidae to Quaternary environmental changes. Pp. 174-193, pl. 16

Flinte, Vivian; Valverde de Macedo, Margarete & Ferreira Monteiro, Ricardo: Tortoise beetles (Chrysomelidae: Cassidinae) of tropical rain forest in Rio de Janeiro, Brazil. Pp. 194-209

Grenha, Viviane; Valverde de Macedo, Margarete & Ferreira Monteiro, Ricardo: Population fluctuation of *Mecistomela marginata* (Chrysomelidae: Cassidinae). Pp. 320-333

Gómez-Zurita, Jesús: Species and speciation in *Timarcha*. Pp. 17-39

Heron, Hugh D.C.: The biology of *Aspidimorpha submutata* Weise, 1899 (Coleoptera: Chrysomelidae: Cassidinae). Pp. 225-245

Jolivet, Pierre & Verma, K.K.: On the origin of the Chrysomelid fauna of New Caledonia. Pp. 309-319

Kergoat, Gaël J.; Delobel, Alex; Le Rü, Bruno & Silvain, Jean-François: Seed-beetles in the age of the molecule: Recent advances on systematics and host-plant association patterns. Pp. 59-86

Lam, Wai-Ki Frankie; Krell, Rayda K.; Bradshaw, Jeffrey D.; Rice, Marlin E. & Pedigo, Larry P.: Validation and application of predictive models on bean leaf beetle, *Cerotoma trifurcata*, population dynamics in Central Iowa. Pp. 334-344

LeSage, Laurent: The pale-legged flea beetles *Altica knabii* Blatchley and *A. pedipallida* LeSage in North America (Coleoptera: Chrysomelidae: Alticini). Pp. 286-308

Medeiros, Lenice & Moreira, Gilson R.P.: Performance of *Gratiana spadicea* (Cassidinae) on its host and on five sympatric non-hosts (Solanum: Solanaceae) in Southern Brazil. Pp. 210-224

Mikhailov, Yuri E.: Body colouration in the leaf beetle genera *Oreina* Chevrolat and *Crosita* Motschulsky and trends in its variation. Pp. 129-148

Nesterova, Oxana L.: Towards the morphology and biology of the larvae of two sibling-species in the genus *Galerucella* Crotch (Coleoptera, Chrysomelidae, Galerucinae). Pp. 121-128

Schöller, Matthias: Comparative morphology of sclerites used by Camptosomatan leaf beetles for formation of the extrachorion (Chrysomelidae: Cryptocephalinae, Lamprosomatinae). Pp. 87-120

Vencl, Fredric V. & Nishida, Kenji: A new gall-inducing shining leaf beetle (Coleoptera: Chrysomelidae) from Thailand and its relevance to the evolution of herbivory in leaf beetles. Pp. 246-259

Verma, Krishna K.: Reflections on male external genitalia in insects - their taxonomic significance, variability, and evolution - with particular reference to Chrysomelidae. Pp. 149-160

Volume 1 is available from Brill (http://www.brill.nl/product_id26044.htm) at • 169.00 / US$ 270.00. Volume 2 is scheduled for 2009 and will contain the proceedings of the 7th International Symposium on Chrysomelidae plus a number of submitted papers. Depending on manuscripts, we plan to publish one volume annually. We hope that Research on Chrysomelidae develops as an interesting forum for all aspects of leaf beetle biology.

Whoever considers submitting a manuscript, please contact Susanne Düngelhoef (s.duengelhoef.zfmk@uni-bonn.de).

-Michael Schmitt, Germany

Pensoft's Display, ICE, Durban, 2008

In Memoriam

Michel Bergeal 1938-2008

Michel Bergeal passed away on the 3rd of August 2008. He joined early ACOREP (Coleopterist's Association of the Parisian Region) at the end of the fifties and regularly attended our meetings, but, during the last few years, health problems often kept him away from our association. He was also a member of the French Entomological Society. Every year he attended the October meeting of the German Coleopterists in Beutelsbach near Stuttgart. At the beginning he showed a great interest in *Carabus*, which he collected actively in Europe according to the traditional methods of the time, using a pickaxe, not by trapping or nocturnal hunting. Later on, he collected Coccinellidae intensively. Around 1980, he switched over to Chrysomelidae and became a renowned specialist. His numerous trips abroad and his multiple exchanges with foreign colleagues in France and overseas allowed him to build an important collection. He published also many papers on leaf beetles and their taxonomy. Quiet and sometimes a bit rude, he was really, for those who knew him well, warm, with a good sense of humour. He was honest, strict and rigorous. Very faithful in friendship, he was also always ready to help those who requested a favour. One of us (P.J.) met him for the last time in October 2007, in Beutelsbach, with his wife at the coleopterists' meeting. He was weakened by illness but we enjoyed discussing beetles with colleagues.

-Serge Doguet & Pierre Jolivet

Nicole Berti 1938-2008

We heard with sadness the death of Nicole Berti on the 4th of July 2008. After her studies in Zoology in Algeria and in France, in 1965, she joined the laboratory of Entomology of the French Museum of Natural History, under Balachowsky direction, where she specialized rapidly in the study of Chrysomelidae. She published on this important beetle family many communications, including a thesis dedicated mainly to Afro-tropical Galerucinae. Her work has been remarkable for its precision and the excellence of the illustrations. Nicole Berti has specially described important novelties in the study of female genitalia and applied them to systematics studies done with Max Vachon. She also specially studied the endophallus of the male genitalia with its complex structures. Self-effacing, and sometimes too discreet, she received and helped willingly the numerous specialists who came to study the material under her own care: Chrysomelidae and many other families, e.g., Staphylinidae and Coccinellidae. She knew how to help her visitors with her extensive knowledge of the French and European collections. She worked also in the past on the palearctic fauna with Michel Rapilly. She volunteered to write the first volume of the "Faune of France" of the Chrysomelidae, which she could not complete. In her memory, it would be desirable that this important book, on which she devoted herself for so long, should be completed by other entomologists. She retired five years ago, but, as long as her health permitted, she came to the Museum each week to help visitors. Her replacement is strongly needed, leaf-beetles and weevils being both important groups, not only extremely varied taxonomatically, but also of a high agricultural importance.

-Serge Doguet & Pierre Jolivet

Enrique Balcells Rocamora 1922-2007

Enrique Balcells was among the first subscribers of *Chrysomela* and he is still listed into the 2000 issue. The notice on his death by José Garcia Ruiz in *Cuadernos de Investigacion Geografica* mentions only his work as director of the Instituto Pirenaico de Ecologia, later the Centro Pirenaico de Biologia Experimental, in Jaca (Huesca), from 1968, linked with the University of Zaragoza. He was also Research Professor at the Consejo Superior de Invesgaciones Cientificas and honorary professor at the University of Navarra.

Enrique got his Ph.D. at the University of Madrid in 1950 and was made Doctor *honoris causa* of the University of Zaragoza in 1991. The Spanish notice mentions his large culture and his work in geography and in national parks. That is to forget his work on leaf beetles around the fifties when I met him several times in Barcelona. He belonged to a very whealthy family of industrialists but, despite all their efforts, he refused to join their work in industry. He had a great liking for insects. He was generous, not hesitating to pay himself the same salary as the workers, when the government would forget to send it. He remained single, during his long life, entirely devoted to scientific research.

Between 1951 and 1955, at a time when cladistics and molecular biology were not invented, Balcells published a series of biological monographs on *Altica*, *Chrysolina*, *Agelastica*, etc., and their predators. He remained all his life interested in Chrysomelidae, but his new jobs kept him away from his dear leaf-beetles. Enrique was very knowledgable, and also an honest and wonderful person.

-Pierre Jolivet

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Brazil chrysomelids, continued from page 11

currently valid. Therefore, I am sure that we are starting a fruitful collaboration between the Laboratório de Sistemática e Bioecologia de Coleoptera (LSBC – UFPR) and the USDA – Smithsonian Institution.

I thank Dr Alexander Konstantinov for teaching me much about flea beetles, hosting me in his home, his patience and for the nice lunches we had with other scientists. I also thank Dr. Cibele S. Ribeiro-Costa, my teacher, for her incentive and support and to the Conselho Nacional de Pesquisa (CNPq) for providing my fellowship.

South African National Insect Collection, continued from page 12

is a specialist on the Curculionoidea. Loans of any beetle group can be requested from either of them. The SANC Collections Manager, Ros Urban (UrbanR@arc.agric.za), can be contacted to arrange visits to the collection. Our postal address is South African National Collection of Insects, Biosystematics Division, ARC-PPRI, Private Bag X134, Queenswood 0121, Pretoria, South Africa.
Tel: +27 12 304 9560; Fax: +27 12 325 6998. The website for the SANC is http://www.arc.agric.za/home.asp?pid=927 ; the landing page of the ARC-PPRI Biosystematics Division is at http://www.arc.agric.za/home.asp?pid=898.

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