



Smithsonian  
*National Museum of Natural History*

# *EntNews*

**The Newsletter of the Department of Entomology**

Vol. 21 No. 2 February 2006

## **Entomological Society of Washington Officers, 2006**



**Dave Furth, Dave Smith, Wayne Mathis**



**Ray Gagne, Holly Williams, Mike Gates**



**Stu McKamey, Steve Lingafelter**



**Mike Pogue, Buck Lewis, John Brown,  
Jason Hall**

## Front Page:

Officers and Publications Committee members for the Entomological Society of Washington for 2006:

Steven W. Lingafelter, President  
Michael W. Gates, President-Elect  
Stuart H. McKamey, Recording Secretary  
Hollis B. Williams, Membership Secretary  
Jon A. Lewis, Custodian  
Michael G. Pogue, Treasurer  
John W. Brown and David G. Furth,  
Program Chairs  
Jason P. W. Hall, Past President  
David R. Smith, Editor  
Raymond J. Gagne, Wayne N. Mathis,  
and \*Thomas J. Henry, Publications Committee  
\*currently on fieldwork

Photography by G. Hevel:

Thanks to Amanda Hevel for formatting front page, in the absence of Jerry Louton (presently on leave).

## ANNOUNCEMENTS:

The 1099<sup>th</sup> regular meeting of the **Entomological Society of Washington** will convene on March 02 at 7:00 pm in the Cathy Kerby Seminar Room at the National Museum of Natural History. Diana Percy from the Department of Biology, Duke University, will present the topic "Psyllids: Diversification on islands, host plant interactions and acoustic communication."

## GENERAL NEWS:

In early February, **Mary Jo Molineaux** visited the National Library of Medicine at The National Institutes of Health to assist with a new exhibit of Forensic Medicine. One of the displays will be Forensic Entomology, and will feature a rove beetle (Staphylinidae), a carpet beetle (Dermestidae), and several flies (Diptera). Mary Jo was needed to confirm the identities of the insects and place the specimens, borrowed from the Peabody Museum, into the exhibit. The exhibit will be open to the public from February 16, 2006 until February, 2008. Several artifacts from the American History Museum will also be in the exhibit. The website is: <http://www.nim.nih.gov/visibleproofs>.

**Terry Erwin** has been honored with a patronymic name in a recent publication by Alfonso N. Garcia Aldrete of the Universidad Nacional Autonoma de Mexico. Dr. Aldrete has named three new species of bark lice, partly from material collected by Dr. Erwin in the forest canopy of Peru. One of the taxa of bark lice has been given the name *Terryerwinia*, and is notable because it is a new genus. Patronyms for new genera are relatively uncommon. The full name of the new species is *Terryerwinia acutiphallica* Garcia Aldrete.

## PUBLICATIONS BY STAFF:

Research papers by members of the combined entomological staff who are retired will be listed, and those will be preceded by a double asterisk.

Hajibabael, M., **D.H. Janzen, J.M. Burns, & P.D.N. Hebert**. 2006. DNA barcodes distinguish species of tropical Lepidoptera. *Proc. Natl. Acad. Sci.* 103(4): 968-971.

--**abstract**—Although central to much biological research, the identification of species is often difficult. The use of DNA barcodes, short DNA sequences from a standardized region of the genome, has recently been proposed as a tool to facilitate species identification and discovery. However, the effectiveness of DNA barcoding for identifying specimens in species-rich tropical biotas is unknown. Here we show that cytochrome c oxidase I DNA barcodes effectively discriminate among species in three Lepidoptera families from Area de Conservacion Guanacaste in northwestern Costa Rica. We found that 97.9% of the 521 species recognized by prior taxonomic work possess distinctive cytochrome c oxidase I barcodes and that the few instances of interspecific sequence overlap involve very similar species. We also found two or more barcode clusters within each of 13 supposedly single species. Covariation between these clusters and morphological and/or ecological traits indicates over-looked species complexes. If these results are general, DNA barcoding will significantly aid species identification and discovery in tropical settings.

Hoffman, R.L. & **W.E. Steiner, Jr.** 2005. *Jadera haematoloma*, another insect on its way North

(Heteroptera: Rhopalidae). *Banisteria* 26: 7-10.

--abstract—Recent collection records for the Red-shouldered Bug (or Soapberry Bug), *Jadera haematoloma*, in eastern United States indicate northward dispersal of this nominally subtropical species as far as Maryland since about the mid-1980s. Perhaps utilization of the Golden Raintree, *Koelreuteria paniculata* (and other *Koelreuteria* species), an important host plant now extensively planted as an ornamental, has been facilitated by warmer climatic regimes during the past several decades.

**Kuntner, M.** 2005. A revision of *Herennia* (Araneae: Nephilidae: Nephilinae), the Australasian ‘coin spiders.’ *Invert. Syst.* 19: 391-436.

--abstract—The nephilid ‘coin spiders’ (*Herennia* Threll) are known for their arboricolous ladder webs, extreme sexual size dimorphism and peculiar sexual biology. This paper revises *Herennia* taxonomy, systematics, biology and biogeography. The widespread Asian *Heterennia multipuncta* (Doleschall) (= *H. sampitana* Karsch, new synonymy; = *H. mollis* Thorell, new synonymy) is synanthropic and invasive, whereas the other 10 species are narrowly distributed Australasian island endemics: *H. agnarssoni*, sp. nov. is known from Solomon Islands; *H. deelemanae*, sp. nov. from northern Borneo; *H. estusilla*, sp. nov. from Java; *H. gagamba*, sp. nov. from the Philippines; *H. jernej*, sp. nov. from Sumatra; *H. milleri*, sp. nov. from New Britain; *H. oz*, sp. nov. from Australia; *H. papuana* Thorell from New Guinea; *H. Sonja*, sp. nov. from Kalimantan and Sulawesi; and *H. tone*, sp. nov. from the Philippines. A phylogenetic analysis of seven species of *Herennia*, six nephilid species and 15 outgroup taxa scored for 190 morphological and behavioural characters resulted in 10 equally parsimonious trees supporting the monophyly of Nephilidae, *Herennia*, *Nephila*, *Nephiliengys* and *Clitaetra*, but the sister-clade to the nephilids is ambiguous. Coin spiders do not fit well established biogeographic lines (Wallace, Huxley) dividing Asian and Australian biotas, but the newly drawn ‘*Herennia* line’ suggests an all-Australasian speciation in *Herennia*. To explain the peculiar male sexual behaviour (palpal mutilation and severance) known in *Herennia* and *Nephiliengys*, three specific hypotheses based on morphological and behavioural data are proposed: (1) broken embolic conductors function as mating plugs; (2) bulb severance following mutilation is advantageous for

the male to avoid hemolymph leakage; and (3) the eunuch protects his parental investment by fighting off rival males.

Mesa, N.C., G.J. De Moraes & **R. Ochoa**. 2006. Two new species of *Tenuipalpus* (Acari: Tenuipalpidae) from southeastern Brazil. *Zootaxa* 1138: 45-51.

--abstract—The flat mites *Tenuipalpus isabelae* sp. nov. and *Tenuipalpus flechtmani* sp. nov. are described based on deutonymphs and adult females collected in Brazil on *Actinostemon* sp. (Euphorbiaceae) and *Campomanesia* sp. (Myrtaceae), respectively.

**Miller, D.R.** 2005. Selected scale insect groups (Hemiptera: Coccoidea) in the southern region of the United States. *Fla. Entomol.* 88(4): 482-501.

--abstract—This publication includes general discussions on the Conchaspidae, Diaspididae, Eriococcidae, Ortheziidae, Pseudococcidae, and Putoidae. Keys are presented for genera in the families Eriococcidae, Ortheziidae, and Pseudococcidae. Material for each family include introduction, field appearance, diagnosis, life history, important references, illustration of a slide-mounted adult female, and a checklist of the species occurring in the Southern Region of the United States and their distribution by state.

**Norrbom, A.L.** & P.I. Prado. 2006. New genera and host plant records of Asteraceae-feeding Tephritidae (Diptera) from Brazil. *Zootaxa* 1139: 1-17.

--abstract—Three new genera of Tephritinae (Tephritidae), *Cipomyia* (type species: *C. totofusca*, n. sp.), *Tutretopsis* (type species: *E. albipunctata*, n. sp.), and *Levinsobnia* (type species: *L. magna*, n. sp.) are described from Brazil. The first host plant records are provided for *C. totofusca*, *L. magna*, and *Caenoriata pertinax* (Bates).

Prathapan, K.D. & **A.S. Konstantinov**. 2006. *Orisaltata*, a new genus of flea beetles from the Oriental Region (Coleoptera: Chrysomelidae). *Zootaxa* 1109: 39-47.

--abstract—A new genus, *Orisaltata*, with the type species *Aphthona azurea* Jacoby (the only known species) from the Oriental Region is described and illustrated. Comparative notes and host plant information are provided. *Aphthona babai* Kimoto is

synonymized with *Orisaltata azurea*.

Ramos, M., **J.A. Coddington**, T.E. Cristenson & D.J. Irschick. 2005. Have male and female genitalia co-evolved? A phylogenetic analysis of genitalic morphology and sexual size dimorphism in web-building spiders (Araneae: Orbiculariae). *Evolution* 59(9): 1989-1999.

--abstract-- Sexual size dimorphism (SSD) can strongly influence the evolution of reproductive strategies and life history. If SSD is extreme, and other characters (e.g., genitalic size) also increase with size, then functional conflicts may arise between the sexes. Spiders offer an excellent opportunity to investigate this issue because of their wide range of SSD. By using modern phylogenetic methods with 16 species of orb-weaving spiders, we provide strong evidence for the “positive genitalic divergence: model, implying that sexual genitalic dimorphism (SGD) increases as SSD increases. This pattern is supported by an evolutionary mismatch between the absolute sizes of male and female genitalia across species. Indeed, our findings reveal a dramatic reversal from *male* genitalia that are up to 87 x larger than female genitalia in size-monomorphic species to *female* genitalia that are up to 2.8 x larger in extremely size-dimorphic species. We infer that divergence in SGD could limit SSD both in spiders, and potentially in other taxa as well. Further, male and female body size, as well as male and female genitalia size, are decoupled evolutionarily. Finally, we show a negative scaling (hypoallometry) of male and female genitalia morphology within sexes. Evolutionary forces specific to each sex, such as larger female size (increased fecundity) or smaller male size (enhanced mate-searching ability), may be balanced by stabilizing selection on relative genitalic size.

Saini, M.S., V. Vasu & **D.R. Smith**. 2005. Review of the genus *Eutomostethus* Enslin (Hymenoptera: Tenthredinidae, Blennocampinae) from India, with new species and a key to species. *Deuts. Entomol. Zeits.* 52 (1): 139-153.

--abstract-- Ten new species of *Eutomostethus* from India are described: *E. sulcatus*, *E. unciiformis*, *E. clypeiambus*, *E. sinuatus*, *E. circularis*, *E. canaliculus*, *E. bifidus*, *E. emarginatus*, *E. protrudes*, and *E. flagellaris*. Several generic characters are reevaluated because of variation in some of the additional species. A key is provided for the 45 species now known in India including a summary of the previous literature on

the genus. *Eutomostethus weii* is proposed as a new name for *E. distinctus* Wei 1997, preoccupied by *E. distinctus* Saini and Vasu 1996, and *Eutomostethus vasui* is proposed as a new name for *E. sikkimensis* Saini and Vasu 1997, preoccupied by *E. sikkimensis* (Forsius 1931).

**Staines, C.L.** 2005. *Cicindela hirticollis hirticollis* Say (Coleoptera: Cicindelidae) naturally colonizing a restored beach in the Chesapeake Bay, Maryland. *Cicindela* 37 (3-4): 79-80.

White, W.H., **D. Adamski**, F. Fine & E.P. Richard, Jr. 2005. Stemborers associated with smooth cordgrass, *Spartina alterniflora* (Poaceae), in a nursery habitat. *Fla. Entomol.* 88(4): 390-394.

--abstract-- Extensive ecological studies have been conducted on insects inhabiting native stands of smooth cordgrass, *Spartina alterniflora* Loisel; however, this is not the case for insects found in smooth cordgrass in a nursery habitat. We investigated species composition and larval disposition among stemborers (Lepidoptera: Coleophoridae and Crambidae) infesting stems of smooth cordgrass in nursery plots. One thousand and forth stems of smooth cordgrass were randomly selected in 2003 and examined for presence of stemborer larvae. Height of larvae on or within stem, height of stem from ground level to top-visible dewlap, and condition of the leaf-whorl were documented. Stemborers representing six species of Lepidoptera were recovered. These species were *Blastobasis graminea* Adamski (Lepidoptera: Coleophoridae); a four-species complex comprised of *Diatraea saccharalis* (F.), *Chilo demotellus* Walker, *Chilo plejadellus* Zincken, and *Thaumatopsis* probably *acutella* Barnes & McDunnough (Lepidoptera: Crambidae); and *Donacaula* probably *unipunctella* Robinson (Lepidoptera: Crambidae). Larvae were generally on different parts of the stem and, with the possible exception of larvae of the four-species complex, seemed unlikely to contact one another. *Blastobasis graminea* was the most abundant species collected ( $n = 128$ , 52%) and was located at the base of the stem (eq 0 eqx- = 6.7 + or minus 5.4 cm). The four-species complex was the next most abundant ( $n = 85$ ; 35%) and was always found within the stalk about mid-way up the stem (eq 0 = 16.7 plus or minus 8.6 cm). *Damacaula* sp. was the least abundant species ( $n = 32$ ; 13%) and was always found in the

tight leaf-whorl just above the stem meristem (eq 0 = 23.6 plus or minus 15.4 cm). A total of 544 (52%) of the stems sampled had a dead leaf-whorl, but only 140 (26%) were infested. Stemborer species did not significantly affect the number of plants with and without deadhearts.

## VISITORS:

**John Calhoun** from Palm Harbor, Florida will visit Robert Robbins and the Butterfly Collection, March 20-21, for research on *Glaucopsyche* butterflies.

**James Edmiston** from the Franciscan Foundation for Russia, St. Petersburg, is visiting Wayne Mathis and the Ephydriidae Collection until March 17. His visit began February 14.

**Romain Garrouste** from the University of South-Toulon-VAr (USTv) PROTEE research Unit EMBA, La Garde, France visited the Hemiptera Collection and Tom Henry February 14-17.

**Jeffrey Glassberg** from the North American Butterfly Association, Morristown, visited Robert Robbins and the Butterfly Collection February 20-24.

**Donald Lafontaine** from the Canadian National Collection, Ottawa, visited Robert Robbins and the Lepidoptera Collection, February 13-14. Dr. Lafontaine also transported aphodiine scarab beetles borrowed by Robert Gordon back to Canada.

**Gerardo Lamas** from the Universidad Nacional Mayor de San Marcos, Lima, Peru, visited Robert

Robbins and the Lepidoptera Collection February 14-28.

**Claus Rasmussen** from the University of Illinois will visit Ted Schultz and the Bee Collection March 01 through June 01.

**Paul Ready** from the Natural History Museum, London, visited the Psychodidae and Culicidae Collections February 21-24.

**T'ai Roulston** from the University of Virginia visited Ted Schultz and the Bee Collection on January 31.

**Aubrey Scarbrough** from the University of Arizona visited Wayne Mathis and the Asilidae Collection February 27.

**Peter Vrsansky** from the Geological Institute, Dubravska, Slovakia visited David Nickle and the Cockroach Collection on February 13.

**David Wright** from the University of Pennsylvania at Lansdale is expected as a visitor with Robert Robbins and the Butterfly Collection March 20-21, for research on *Glaucopsyche* butterflies.

## TRAVEL BY STAFF:

**Terry Erwin** left in mid-February for Argentina, where he will conduct research. He will return on March 13.

**David Furth** will be engaged in field work in Israel, March 02-24.