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Amphibious Ladybird Beetle



Jeff Pettis



Don Windsor



Gillian Joy, Brittany Lob & Randy Miller

On the Cover:

- Ladybird illustration by N.Vandenberg (see Travel notes);
- Jeff Pettis, ARS/USDA Research Leader of the Bee Lab was the speaker for the November meeting of ESW (photo taken by G.Hevel; photo-montaged by K.Darrow);
- Don Windsor, staff scientist at STRI (photo by C.Staines);
- Randy (William) Miller and his students visited G. Hevel regarding Collections and BioBlitz issues. (Photo by G. Hevel)

ESW:

The 1123rd Regular Meeting of the **Entomological Society of Washington** convened at 7:00pm on December 04 in the Cathy Kerby Seminar Room of the National Museum of Natural History. Joseph F. Bischoff, a mycologist and plant pathologist from USDA/APHIS in Beltsville, Maryland presented his talk entitled “Dropping like Flies: Fungal insect pathogens of the order Hypocreales (Ascomycota)”.



PUBLICATIONS:

(** retired or emeritus)

LaPolla, J.S., Burwell, C., **Brady, S.G.,** & ****Miller, D.R.** 2008. A new ortheziid (Hemiptera: Coccoidea) from Australia associated with *Acropyga myops* Forel (Hymenoptera: Formicidae) and a key to Australian Ortheziidae. *Zootaxa* 1946: 55-68.

--abstract—A peculiar new genus of Ortheziidae is described from Queensland, Australia. *Acropygorthezia williamsi* LaPolla & Miller, n. gen. & sp. was discovered in two localities in the nests of *Acropyga myops*. Descriptions and illustrations are provided for

the adult female, adult male, first-instar nymph, prepupa, and pupa; descriptions only are provided for the second- and third-instar nymphs. Prior to this study, *Acropyga* ants were known to enter into trophobiotic relationships only with mealybugs (Hemiptera: Pseudococcidae). Therefore, this study represents the first non-mealybug association between a scale insect and *Acropyga*. The new ortheziid genus has a number of unusual morphological attributes; no definite wax plates; no ovisac; an anal ring lacking setae and pores, located dorsally in the middle of the abdomen; simple, large metasternal and mesosternal apophyses; numerous spines over the body, and various instars that are so similar that they are difficult to separate. These characteristics may represent adaptations to its relationship with ants. A key is provided to the Australian Ortheziidae.

Lonsdale, O. & Marshall, S.A. 2008. Revision of the temperate South American genus *Apiochaeta* Czerny, 1903, with synonymy of *Alloclusia* Hendel, 1917 (Diptera: Clusiidae). *Zootaxa* 1944: 1-33.

--abstract— *Apiochaeta* Czerny, 1903, the only genus of Clusiidae endemic to temperate South America, is revised with the description of 16 species from Chile and Argentina. The redefined *Apiochaeta* includes all former species of *Apiochaeta* and *Alloclusia* Hendel, 1917 syn. n., as well as four species described as new: *A. dacyodes* sp.n., *A. furcillata* sp. n., *A. lenticula* sp. n. and *A. mallochi* sp. n. *Apiochaeta aequalis* Malloch, syn. n. is included as a junior synonym of *Apiochaeta aterrma* Malloch, *Alloclusia varia* var. *claripennis* Malloch, syn. n. is included as a junior synonym of *Apiochaeta varia* (Malloch), comb. nov., and *Peratochaetus limbipennis* rondani syn. n. is treated as a junior synonym of *Apiochaeta vitticollis* (Blanchard), comb. nov.

Rota, Jadranka. 2008. A new genus and new species of metalmark moths (Lepidoptera: Choreutidae) from Costa Rica. *Zootaxa* 1933: 12-18.

--abstract—*Alasea*, new genus, is described and illustrated. As currently defined, *Alasea* is monotypic with the single species *A. corniculata*, n. sp., from Heredia, Limon, and Puntarenas provinces in Costa Rica. The new genus is assigned to the subfamily Choreutinae based on morphological and molecular data. As in other choreutines, *Alasea* has a bluntly pointed forewing and hindwing (in Brenthiinae the

wings are obtuse); the basal segment of the labial palpus is parallel-sided (in Brentiinae it is narrowed basally); and the basal flagellomeres of the antenna are heavily scaled (in Brentiinae such scaling is never present). The immature stages and the biology of *A. corniculata* are unknown. Additionally, the terminology and homology of genitalic characters used in descriptions of Choreutidae are reviewed, and suggestions for more consistent usage are provided.

Turell, M.J., Sardelis, M.R., Jones, J.W., Watts, D.M., Fernandez, R., Carbajal, F., Pecor, J.E., & Klein, T.A. 2008. J. Med. Entomol. 45(6): 1165-1172.

--abstract- This study was conducted as part of a field-ecology study of arboviral and malarial activity in the Amazon Basin, Loreto Department, Peru, to determine the relative abundance, species diversity, and seasonal and vertical distributions of potential mosquito vectors. Mosquitoes were captured either by volunteers using mouth aspirators while mosquitoes attempted to land on the collectors or in dry ice-baited ABC light traps. *Anopheles darlingi*, the principal malaria vector in the region, was the most commonly captured anopheline mosquito in Puerto Almendra village (99%) while landing on humans, with a mean of 37.1 mosquitoes captured per 24-h period, representing nearly one half of all mosquitoes collected. *An. darlingi* human landing activity began shortly after sunset, peaked at 2000-2100 hours, and declined gradually until sunrise. This species readily entered houses, because 51% of the *An. darlingi* captured by paired collectors, stationed inside and outside houses, were captured indoors. Human landing collections provided a more accurate estimate of human attraction of *An. darlingi*, capturing 30 times as many as co-located dry ice-baited ABC light traps. In contrast, eight times as many *Culex (Melanoconion)* species, including known arbovirus vectors, were captured in light traps as by co-located human collectors. Despite being located within 300 m of the village collection site, only a few *Anopheles* species were captured at the forest collection site, including only 0.1 *An. darlingi*/24 h, thus indicating that *An. darlingi* activity was directly associated with the rural village. These data provide a better understanding of the taxonomy, population density, and seasonal distribution of potential mosquito vectors of disease within the Amazon Basin region and allow for the development of appropriate vector and disease prevention strategies that target vector populations.

van Vondel, B.J. & **Spangler, P.J. 2008. Revision of the Haliplidae of the Neotropical Region including Mexico (Coleoptera: Haliplidae). Koleop Runds. 78: 69-194.

--abstract— The species of the family Haliplidae (Coleoptera) occurring in the Neotropical Region (including Mexico) are revised. Two genera, *Haliplus* Latrielle and *Peltodytes* Regimbart, and 53 species of Haliplidae are now recognized in the region of which the following 18 species are here described as new: *Haliplus colombiensis*, *H. costaricanus*, *H. drechseli*, *H. elsaltois*, *H. grandis*, *H. gravidoides*, *H. heppneri*, *H. langleyi*, *H. megapunctatus*, *H. mesoamericanus*, *H. mexicanus*, *H. minimus*, *H. nieseri*, *H. tantoyucanus*, *H. tocumenus*, *H. tripleborni*, *H. uicarinatus*, and *H. youngi*. Lectotypes are here designated for *H. brandeni* Wehncke, *H. brandeni* Wehncke, *H. curtulus* Sharp, *H. fuscipennis* Germain, *H. gravidus* Aube, *H. havaniensis* Wehncke, *H. maculicollis* Zimmermann, *H. ornatipennis* Zimmermann, *H. robustus* Sharp, *H. testaceus* Zimmermann, *H. thoracicus* Zimmermann, and *H. tumidus* LeConte. Only adults are treated in detail, because the knowledge of the immature stages of the Neotropical Haliplidae is very poor. Identification-keys to the species are given. All species are (re)described and illustrated and their distributions mapped. *Haliplus nigrolineatus* was described from Uruguay, but it is identical with the Australian *H. testudo* and therefore excluded from the Neotropical fauna.

VISITORS:

Jonathan Clark from Weber State University, Ogden, Utah visited Wayne Mathis and the Diptera Collection November 20-23.

Mauro Daccordi from Museo Divico di Storia Naturale, Verona, Italy will visit Dave Furth, Alexander Konstantinov and the Chrysomelidae Collection December 02-December 11.

Graham Griffiths from the University of Alberta, Edmonton, Canada, visited Chris Thompson and the Diptera Collections October 11 through November 16.

Gillian Joy from Baker University, Baldwin, Kansas was a visitor with Gary Hevel on November 20. See details of the visit under William Miller.

Brittany Lob from Baker University, Baldwin, Kansas was a visitor with Gary Hevel on November

20. See details of the visit under William Miller.

Steven Milgrin, an amateur naturalist from northern Virginia visited Gary Hevel and Chris Thompson on December 03 to gain an identification on a hover fly.

William (Randy) Miller from Baker University, Baldwin, Kansas was a visitor with Gary Hevel on November 20 to examine collections storage and discuss the third Bioblitz of a series sponsored by the National Park Service and the National Geographic Society.

Paul Opler from Colorado State University visited John Brown and the Lepidoptera Collections for research and attendance at a Wedge Foundation meeting, October 20-24.

Francisco Posada from the USDA in Beltsville, Maryland visited Don Davis and the Moth Collection on November 14 for consultation.

Luca Toledano from Museo Divico di Storia Naturale, Verona, Italy will visit Terry Erwin and the Carabidae Collection December 01 -05.

Dave Wagner from the University of Connecticut visited John Brown and the Moth Collection on October 24 for taxonomic research and attendance at a Wedge Foundation meeting.

Don Windsor, an entomologist from STRI, visited Conrad Labandeira, Steve Lingafelter and Charlie Staines during the second week of November.

Don Wright, without institution affiliation, visited John Brown and the Moth Collection October 20-23 for taxonomic research and to attend the Wedge Foundation, October 20-23.

Richard Zack from Washington State University, Pullman, Washington, visited Wayne Mathis and the Ephydriidae Collection November 23-27.

TRAVEL:

Entomological Society of America meetings in Reno, Nevada:

Don Davis, together with Susan Weller, Director of the Bell Museum, University of Minnesota, and **John Brown**, Systematic Entomology Laboratory, ARS, USDA, organized a symposium on Larval Morphology and Biology. This was the third consecutive Lepidoptera symposium presented as part of the Lepidoptera ATOL project. **Davis** also presented a review of the “Morphology and biology

of larval Micropterigidae and leaf-mining Lepidoptera.” **John Brown** and Todd Gilligan (presenter), Colorado State University, provided “An overall review of larval morphology of “advanced” microlepidoptera.....but mostly Tortricidae.” **Alma Solis**, Research Leader, Systematic Entomology Laboratory, ARS, USDA, was unable to attend but was able to deliver her talk “live” via internet on “Snout moth caterpillars (Lepidoptera: Pyraloidea) eat wax, feces, or just plain plants – Yikes!: What do they look like?” Francesca Vegliante of the Museum für Tierkunde, Dresden, Germany, presented a thorough review of “The glands of lepidopteran larvae.” Following the formal talks, Susan Weller led a discussion of the Lepidoptera ATOL website, leptree.net, emphasizing some of the main features available. She and others present encouraged all Lepidopterists to contribute to this rapidly growing global resource.

Gary Miller, the only representative from the ARS, USDA at the ESA meetings, made two presentations at the meetings. At the ECN (Entomological Collections Network), “Exploring novel alternatives to preservation: from field to laboratory” was presented, with authors G.L. Miller, M. K. Miller, B. T. Miller, A. Carmichael and C. Favret. Abstract as follows: Two techniques for insect preservation were presented. The first technique involves the proprietary development of a non-toxic, non-flammable, non-reactive preservative medium for insects. DNA analysis (i.e., on Aphidoidea) can be subsequently performed without destruction of the specimen. This allows for specimen vouchering with corresponding DNA material. The second technique involves DNA storage with associated voucher specimen at room temperature. Subsequent extractions can be performed using the medium. These techniques might revolutionize the way some insects are collected, shipped, and their DNA is stored.

At the ESA meetings **Gary Miller** and A.G. Wheeler presented a talk entitled “Around the world with black locust and the aphid *Appendiseta robiniae* (Gillette).” Abstract as follows: The study explores the biogeography of the black locust tree, *Robinia pseudoacacia* L., and an associated aphid, *Appendiseta robiniae* (Gillette). Black locust is one of the earliest North American trees to have been brought to Europe. Native to the southeastern United States and Appalachia, the tree now has been planted

worldwide. *Appendiseta robiniae* (Gillette) was first described in 1907 from specimens collected on *R. pseudoacacia* in Denver, CO. Previously known only from *R. pseudoacacia* and *R. neomexicana*, the species belongs to a monotypic genus and is holocyclic on its host. Expanded distribution of *R. pseudoacacia* has provided an opportunity for expanded range of *A. robiniae* as the aphid's discovery in continental Europe was well after black locust was first grown there. Since the aphid's detection in Italy in 1979, it has been found in Belgium, the British Isles, Bulgaria, Corsica, Croatia, the Czech Republic, France, Germany, Greece (mainland), Hungary, Sicily, Slovakia, Spain (mainland), Switzerland, and The Netherlands. In the Near East, it has been recorded from Jordan and in South America is recently known from Argentina and Chile. Reevaluation of specimens on which the aphid's eastern U.S. distribution has been based reveals a more limited range (MA, OT, PA). Although common in the western United States, collecting of *A. robiniae* has produced only one new record (NC) on a heretofore new host (*Robinia hartwigii*). Questions persist as to the aphid's original range and host plant.

David Furth, prior to attendance at the ESW meetings, presented the lead-off talk, "A History of ECN" at the meeting of the ECN (Entomological Collections Network).

Molly Rightmyer attended the ESA meetings, and presented a talk at the symposium of the International Society of Hymenopterists entitled "Making sense of the diverse cleptoparasitic bee genus *Nomada* (Apidae: Nomadinae): using DNA to complement morphology." Co-authors on the talk were Sean Brady and Sam Droege (USGS, Patuxent Wildlife Refuge).

Natalia Vandenberg, who was not able to attend the ESA meetings due to budgetary constraints, prepared a poster that was shown at the meetings. Co-presenters of the poster were J. Adrian Giogi, University of Georgia, John J. Obrycki, University of Kentucky, Warren E. Steiner, Jr., Smithsonian Institution, and Jil M. Swearingen, U.S. National Park Service. The poster was titled "Amazing Amphibious Ladybirds (Coleoptera: Coccinellidae: Coccinellinae: Coccinellini: Naemiina), or how to do the six-legged breaststroke," and specifically details certain American wetland ladybirds that are associated with

diverse aquatic habitats and display intriguing adaptations to an amphibious lifestyle.

C.J. Geraci (presenter) & **Terry Erwin** presented the topic "300+ ways to tumble in the canopy: a look at the Mordellidae of Yasuni National Park, Ecuador. At ECN, C.J. presented a talk on "DNA barcoding to benefit science and society," co-authored with Xin Zhou and Olivier Flint, Jr. At ECN, Terry Erwin presented, with colleagues Lyubomir Penev and Jeremy Miller, the topic "From "print-based" to "web-based" taxonomy, systematics, and natural history: a presentation of Zoo Keys."

Warren Steiner delivered a talk on "The genus *Neatus* LeConte (Coleoptera: Tenebrionidae) in North America, with the description of a new and widespread "cryptic" species.

Terry Erwin and **C.J. Geraci** gave the Plenary Address at the ATBI annual meeting in Gatlinburg, Tennessee on Wednesday, December 03.

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