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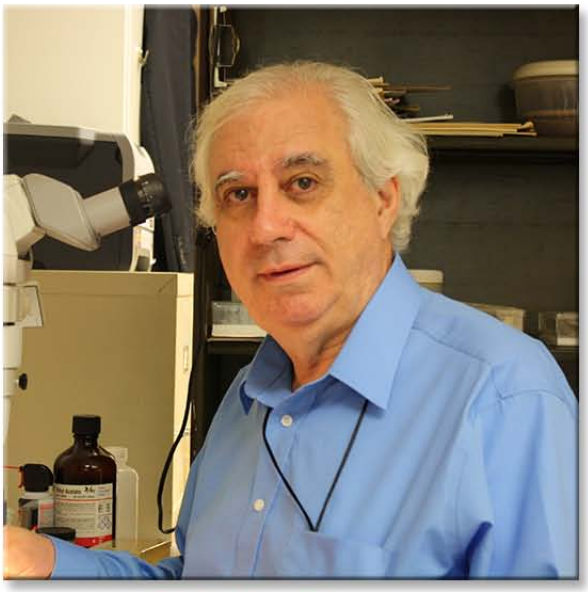
National Museum of Natural History

EntNews

The Newsletter of the Department of Entomology

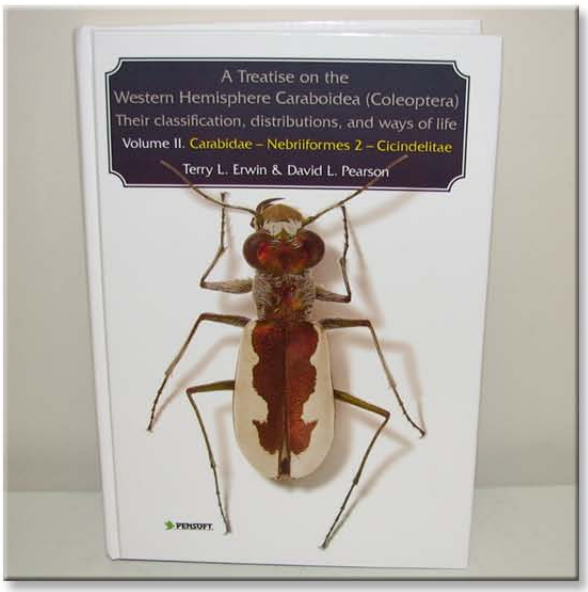
Vol. 24, no. 1-2, January - February 2009

Minister and Mrs. Damrong Kraikruan, Thai Embassy



F. Christian Thompson

Marie Pilar Aguirre



Volume 2 of the Western Hemisphere Carabidae

On the cover: Minister and Mrs. Kraikruan (photo by V. Malikul); F. Christian Thompson, Short-term visitor M.P. Aquirre, and Carabidae volume photographed by G. Hevel. (Formatting by K. Darrow)

ANNOUNCEMENTS:

The 2009 officers for the Entomological Society of Washington are President Jil Swearingen, President-Elect Sean Brady, Treasurer Mike Pogue, Program Chairman Matt Buffington, Recording Secretary Gary F. Hevel, Membership Secretary Hollis Williams, Co-editors Mike Gates and Robert Kula, Custodian Jon Lewis, and Past-President Gary F. Hevel. Officers who are in new positions for the Society are here imaged:

The 1125th Regular Meeting of the Entomological Society of Washington convened at 7:00pm on February 05 in the Carolyn Rose Room of the National Museum of Natural History. John T. Lill from George Washington University presented the topic "Tritrophic interactions and the evolution of diet breadth in generalist herbivores."

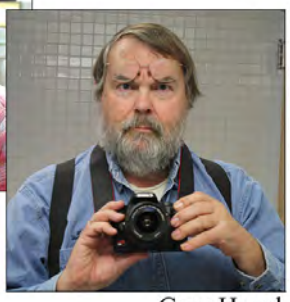
The 1126th Regular Meeting of the Entomological Society of Washington will convene at 7:00pm on March 05 in the Carolyn Rose Room of the National Museum of Natural History. Sonja J. Scheffer of the Systematic Entomology Lab, USDA, Beltsville will present the topic "Life History and phylogenetics of the galling flies Fergusoninidae (Diptera), America's newest fly family."

Congratulations to Chris Thompson, who officially retired from USDA's Systematic Entomology Lab in December, 2008. Chris has now been appointed the position of Adjunct Scientist at the National Museum of Natural History. Chris obtained his Ph.D. at the University of Massachusetts in 1969, and joined SEL in 1974. He has made many notable contributions to his research group, the Syrphidae. His interests in life are wide-ranging, and include gourmet food, the use of electronic image identification systems, bar-coding of museum specimens, and the history of Entomology. He is a walking encyclopedia of stories of collections, colleagues, influences, changes, personalities, and rare books, and has modestly and frequently made contributions to the library at the National Museum of Natural History. His colleagues at NMNH should be strongly pleased that he remains here at the Museum as an active and productive Adjunct Scientist.

Jil Swearingen

Sean Brady

Mike Gates



Gary Hevel

Bob Kula

GENERAL NEWS:

Owen Lonsdale, who has been a post-doctoral fellow for nearly two years, has accepted a position at The California Department of Food & Agriculture in Sacramento, and will report there in May for a two year position. There, the purpose of his proposed research is to increase understanding of flies in the plant-feeding family Agromyzidae (leaf-miner flies), known for their leaf-mining habits. Because the group is extremely diverse, has a very wide host range, and is very poorly known or unevenly studied, a more comprehensive understanding

of California's fauna, and of the many invasive species likely to be introduced into the State, is a primary goal. The project will seek to facilitate rapid and accurate identification of specimens and plant damage by producing publicly available (via the web) tools to differentiate native and already introduced species from alien invasives that potentially threaten California agriculture, and to more comprehensively document their host ranges, distributions, and leaf-mining strategies that cause the damage to crop plants.

Steve Lingafelter will provide a tour of the Coleoptera Collection on March 18 to a group of nine students from the Sidwell School (the chosen school of President Obama's daughters). Part of the tour will be a demonstration of the digital imaging stations where he will have a few beetle examples set up to indicate how publication quality images are created. Karie Darrow will also be working with the students, showing them how the camera lucida is used for illustrating microscopic specimens. Jens Prena will later accompany the group to the SEM lab where he and Scott Whittaker will demonstrate the imaging system there. This is all part of a four day museum studies workshop which these students enthusiastically chose to attend.

INSECTS IN THE NEWS:

Trond Larsen from Princeton University and Research Associate with the NMNH Department of Entomology was recently featured in a BBC news article on the internet. While conducting research on scarab beetles in Peru, Trond and his colleagues noticed that a species of dung beetle, *Deltochilum valgum,* was battling millipedes. Curious about this interaction, a series of some 1,000 traps were set with a selection of dung, fungus and fruit, and millipedes (live, injured or dead). Results were that the scarabs ate only the millipedes, preferring those still alive but injured. Reporting in the Biology Letters Journal, Larsen was quoted as follows: "This is a remarkable transition. Despite its close relationships with dung feeding species, *D. valgum* has entirely abandoned it ball-rolling behavior."

RECOMMENDED READING:

Since the death last year of Roy Snelling, legendary myrmecologist at the Los Angeles County Museum, many colleagues have left stories and remembrances on the internet. These tales reveal much of the personality of our fallen comrade, and are enlightening reading. Readers are encouraged to search the internet with his name to enjoy such stories.

Start here: http://en.wordpress.com/tag/roy-snelling/

PUBLICATIONS:

(** retired, emeritus, or former dept. member)

Adamski, D., Boege, K., Landry, J-F. & Sohn, J.-C. 2009. Two new species of *Wockia* Heinemann (Lepidoptera: Urodidae) from coastal dry-forests in western Mexico. Proc. Entomol. Soc. Wash. 111(1): 166-182.

--abstract—Two new species of *Wockia* Heinemann, 1870 (Lepidoptera Urodidae), *W. chewbacca* and *W. mexicana,* are described from primary dry-forests in western Mexico. A new host record is reported for the genus from larvae of *W. chewbacca* feeding on leaves of *Casearia nitida* (L.) Jacq. (Salicaceae). Several shared genitalic features and DNA barcode similarities suggest a congeneric relationship between the two Mexican species but uncertain generic placement within Urodidae, Scanning electron micrographs of the larva and illustrations of the larva and pupa of *Wockia chewbacca* are provided, along with illustrations of male and female genitalia of both Mexican species. Three unusual features found in the larval stage are documented for *W. chewbacca* include: a multi-lobed integument, recurved D2 seta on the shield of T1, and a "hydroid bush" consisting of multiple sensilla trichoidea on the apical turret of the antenna. Locality data indicate the existence of Neotropical elements of *Wockia* and an expanded distributional range for the genus.

Adamski, D., Hevel, G.F. & Pultyniewica, A. 2009. Redescription and immature stages of Promalactis suzukiella (Matsumura) (Gelechioidea: Oecophoridae), a new introduction into the United States. Proc. Entomol. Soc. Wash. 111(1): 204-214.

---abstract—Promalactis suzukiella (Matsumura) was discovered independently several times over the past 5 years throughout the northeastern United States by private collectors and biophotographers. These discoveries represent the first records of this species in the United States and validate its approximate distributional range. Color photographs and a redescription of the adult, including the male and female genitalia, are provided. The larva and pupa of Promalactis are described in detail for the first time, with scanning electron micrographs and achaetotaxal maps. A lectotype for Borkhausenia suzukiella Matsumura, 1931, is designated herein. The importance of "backyard

collecting" and amateur biophotography is emphasized, and participants are encouraged to continue the documentation of their findings through meetings, publication, and the internet.

Adamski, D. & Hoddle, M. 2009. A new Holcocera Clemens from Guatemala and redescription of H. iceryaeella (Riley) from the United States (Lepidoptera: Coleophoridae: Blastobasinae: Holcocerini): two congeners with incidental preference for avocado. Proc. Entomol. Soc. Wash. 111(1): 254-262.
--absract—Two species of Holcocera Clemens (Lepidoptera: Coleophoridae: Blastobasinae: Holcocerini) are known to feed on Persea Americana Mill. (Lauraceae), but their frequency of infestation appears low. One species, Holcocera plagatola, n. sp., from Guatemala, is described herein. Holcocera iceryaeella (Riley) is known only from California and has been recorded on many different host plants; it is also known to be a predator of immature Hemiptera and scale insects. Photographs of the imagos of both Holcocera species are included, in addition to illustrations of the male and female genitalia. We comment on host preferences for both species.

Blinn, D.W., Ruiter, D.E., & **Flint, O.S., Jr. 2009. Notes on a collection of caddisflies (Trichoptera) from Carroll County, Iowa, U.S.A. Proc. Entomol. Soc. Wash. 111(1): 151-158.
--abstract— Six families, 18 genera, and 34 species of Trichoptera are reported from Carroll County in western Iowa of which 18 are new state records. Hydropyschidae, Hydroptilidae, and Leptoceridae made up over 80% of the caddisfly fauna. The caddisfly assemblage corresponded to streams that were highly altered by agricultural activity with heavy sedimentation and reduced canopy cover. Supplemental collections from central and eastern Iowa were also made. Assemblages in Carroll County were markedly different than those in the Paleozoic Plateau/Coulee Section in northeastern
Iowa. We located an additional 14 species records in the literature and have an additional 13 new state records, primarily from central and eastern Iowa collections, for a total of 63 caddisfly species now reported for the state.

Buffington, M.L. & Morita, S. 2009. Not all oak gall wasps gall oaks: the description of *Dryocosmus rileypokei,* a new apostate species of Cynipini from California. Proc. Entomol. Soc. Wash. 111(1): 244-253.
--abstract—Cynipini gall wasps (Hymenoptera: Cynipidae) are commonly known as oak gall wasps for their almost exclusive use of oak (*Quercus* spp.; Fagaceae) as their host plant. Previously, only three of the nearly 1,000 species of Cynipini have been recorded from hosts other than *Quercus.* These three are known from western chinquapin (*Chrysolepis)*, chestnut (*Castanea*) and tan bark oak *(Lithocarpus),* all lineages of Fagaceae related to *Quercus*. Here we describe *Dryocosmus rileypokei* Morita & Buffington, new species, a second species of cynipine which attcks *Chrysolepis.* Unlike the previously known gall wasp *D. castanopsidis,* which produces a medium-sized spherical external gall near the base of the staminate (male) flowers of *Chrysolepis sempervirens, D. rileypokei* attacks the same host acting as a nut galler. *Dryocosmus rileypokei* creates a gall within the mesocarp wall of the nut and appears to draw nutrients away from the developing seed. Later instar larvae and teneral adults were found within these internal galls. It appears that the adult wasp eventually chews an exit hole from these galleries. The evolution of host use in the three, non-oak galling *Dryocosmus* species is discussed.

Cheng, W-Y. and Thompson, F.C. 2008. A generic conspectus of the Microdontinae (Diptera: Syrphidae) with the description of two new genera from Africa and China. Zoo taxa: 1879: 21-48.
---abstract—A new genus of flower flies is described from China (*Furcantenna* Cheng, type *F. yangi* Cheng). Another new genus is proposed for the Afrotropical species incorrectly placed in *Ceratophyta, Afromicrodon* Thompson, type *Microdon johannae* Doesburg. A key is provided to the groups of the Subfamily Microdontinae, along with a checklist of genus-group names proposed within the subfamily and nomenclatural and taxonomic notes on them.

Droege, S., Davis, C.A., Steiner, W.E., Jr. & Mawdsley, J. 2009. The lost micro-deserts of the Patuxent River: using landscape history, insect and plant specimens, and field work to detect and define a unique community. Proc. Entomol. Soc. Wash. 111(1): 132-144.
--abstract—Historical and recent records of both plants and insects are synthesized for uplands along the eastern edge of Maryland's Patuxent River from the edge of the Piedmont south to Jug Bay. This strip is characterized by deep sandy soils found in the Evesboro and Galestown sandy loams soil series. Within this narrow strip there exists a unique flora and fauna adapted to open dry sandy soils and occurring in small remnant patches associated with old sand mining operations and scattered protected

areas. We illustrate the uniqueness of these sites using four groups; vascular plants, tenebrionid beetles (Coleoptera: Tenebrionidae), tiger beetles (Coleoptera: Cicindelidae), and bees (Hymenoptera: Apoidea: Anthophila). Within each of these groups, rare species were detected whose populations were locally restricted to this soil type and whose nearest known populations were often hundreds of kilometers away. In addition to documenting the direct conservation importance of these small sandy openings along the Patuxent, we contrast the lack of any indication from vertebrate inventories that this region is unique. The combination of plant and insect inventories appears to be a better means of clarifying a site's importance than does any survey of a single taxonomic group.

Erwin, T.L. and Pearson, D.L. 2008. A treatise on the Western Hemisphere Caraboidea (Coleoptera), their classification, distributions, and ways of life. Volume II. Carabidae – Nebriiformes 2 --- Cicindelitae. 365 pp, 33 plates. Pensoft Series Faunistica 84, Pensoft, Sofia.
---"Introduction"--- Inspired by the utility and elegance of Larochelle and Lariviere's book, "A Natural History of the Ground Beetles (Coleoptera: Carabidae) of American North of Mexico: and at the urging of Grace P. Servat (the first author's wife), and knowing that Prof. George E. Ball recognized the place for books even in this electronic age, the first author decided to migrate the information in his electronic database of Western Hemisphere Caraboidea to the printed page. There are, at present, in excess of 9,300 species and subspecies recorded from the Western Hemisphere, and thus this Treatise will appear in at least seven volumes, with subsequent supplemental updates. The electronic version is updated on a six-month basis as Zoo Record tracks new entries. These volumes will add to and update the species of North America documented by Larochelle & Lariviere (2001, 2003), and Pearson et al. (2006) with new information garnered from data in the large collections at NMNH, CAS, CMNH, UASM, FDSA, and others, as well as the personal field notes of both the present authors. From decades of Neotropical field work, we can now extend Larochelle & Lariviere's and Pearson's important contributions to treat tiger beetles from south of the U.S. – Mexican border, including species of northern Mexico, the Neotropics, and Neaustral Regions. Together, these volumes and those of Larochelle & Lariviere function as a complementary set of handbooks to formalize what is presently known of the 'ways of life' of Western Hemisphere carabid beetles. While Larochelle & Lariviere included information that we don't cover here, such as laboratory feeding and trapping methods of the North American species, we include information that they did not such as historical nomenclature, distributions, altitudinal information, and data from specimens in major collections not heretofore published. In addition, we include color images of representative adults and landscapes/habitats. The bibliographies in the two works (Erwin 2007 and here) are also complementary.

We wish to point out that the literature on Tiger Beetles is exceedingly rich on ways of life of these attractive beetles, especially in the journal *Cicindela* and *The Coleopterists Bulletin.* We have not attempted to capture all data therein, but we have referred to many pertinent articles on Tiger Beetle species published in them. We recommend that interested readers "mine" the pages of those journals, as well as other journals for far more information then provided in our overview treatise here. We hope that gaps in our contribution and those in previously published articles will be a challenge to an active and highly motivated Tiger Beetle Guild to go out and discover! Fill in the gaps, send us your information for updates; better yet publish it in *Cicindela* and we will capture it.

Even with this considerable background of evolutionary, taxonomic, physiological, ecological, and behavioral studies, it is evident that more studies are needed on nearly all carabid species before we can reliably know their role in the complexity of this earth's environment. The species' "way of life" snapshots provided by our combined contributions should be regarded as a starting point for further discoveries, many of which will be exciting and worth retelling, both in popular accounts and in formal scientific research. The "Tell" (Film: Mad Max Beyond Thunderdome, 1985, see Volume 1) began early in our evolutionary history by relying solely on oral history. Oral history has now evolved into e-sharing of data, e-stories, e-ideas, e-images and a multitude of other types of modern communications. However, the written page stored amongst dispersed libraries remains, even today, as the only long term secure mode of storage for human knowledge, our "Tell."

Favret, C., Miller, G.L., Nieto Nafria, J.M., & Cortes Gabaudan, F. 2008. Corrections and additions to the Catalog of the Aphid Genera Described from the New World. Trans. Am. Entomol. Soc. 134(3&4): 275-282.
--abstract—Since the publication of the Catalog of the Aphid Genera Described from the New World (Favret et al. 2008), several errors and omissions have come to

light. We here make corrections to seven genus-group names and add 17 valid and nine invalid generic names, raising the total number of available New World genus-group names to 232. Future nomenclatural additions and corrections, at any aphid taxonomic level, will be published in the Aphid Species File database) http://aphid.speciesfile.org).

Ferguson, D.C. (deceased). 2008. Geometroidea, Geometridae (part), Ennominae (part): Abraxini, Casymini, Macariini), in Hodges, R.W., et al., *The Moths of North America,* fasc. 17.2, 431 pp. Allen Press, Lawrence, KS.

--abstract—The Geometridae of the tribes Abraxini (one species), Cassymini (10 species), and Macariini (158 species) are revised. All species are resident in the United States and/or Canada except one each from Mexico and Bermuda, but many of those treated also occur in Mexico. The 169 species are assigned to 17 genera, 10 of which now bear names that differ from previous American usage. One new genus, *Letispe* (Type species: *Semiothisa metanemaria* Hulst, 1887), 22 new species and three new subspecies are described. Eight distinctive subspecies are recognized. Previous treatment of two American genera, *Protitame* and *Heliomata*, as Abraxini is considered incorrect, and they are here reassigned to the Cassymini and Macariini respectively. However, a new indigenous species of the otherwise palearctic genus *Ligdia* was discovered in 2001, and it is thought to be a true abraxinie. The tribe Cassymini is newly recognized for the Western Hemisphere by transfer of genera from two other tribes. Twenty-tow new species are described: *Ligdia wagneri* Ferguson and Adams (Tennessee); *Heliomata scintillata* Ferguson (Mississippi and Louisiana); *Speranza exonerata* Ferguson (eastern U.S.); *Speranza hesperata* Ferguson (Rocky Mountain states); *Speranza austrinaria* Ferguson (southern California); *Speranza saphenata* Ferguson (West Texas and New Mexico); *Macaria juglandata* Ferguson (southern California); *Macaria solisata* Ferguson (Tamaulipas, Mexico); *Macaria masquerata* Ferguson (southern Canada, northern U.S.); *Macaria ponderosata* Ferguson (Rocky Mountain region of U.S.); *Digrammia uniquitata* Ferguson Arizona to Alaska and Manitoba); *Digrammia terramalata* Ferguson (central Great Plains); *Digrammia palodurata* Ferguson (northwestern Texas); *Digrammia imparilata* Ferguson (southwestern U.S.); *Digrammia modocata* Ferguson (Oregon, northern California); *Digrammia extenuata* Ferguson (California and Nevada to British Columbia); *Digrammia equivocata* Ferguson (eastern and Midwestern U.S., southern Manitoba); *Digrammia plemmelata* Ferguson (central California, Oregon); *Rindgea disparcata* Ferguson (Texas); and *Rindgea prolificata* Ferguson (Texas to southern California). Adults of all species and larvae of 81 species are illustrated in color; genitalia of most species are illustrated by drawings. Larvae of about 90 species are described, 45 of them for the first time, including reports of a like number of previously unrecorded host plants. When deemed practicable and useful, keys are provided for tribes, genera, and species, based on adults, larvae, and/or pupae.

Gagne, R.J.** 2009. The genus *Arnoldiola* (Diptera: Cecidomyiidae) in the Nearctic Region, with new synonymies and combinations. Proc. Entomol. Soc. Wash. 111(1): 106-110.

--abstract—Six nominal species of gall midges (Diptera: Cecidomyiidae) originally assigned to four separate genera and recognized here as three valid species are transferred to *Arnoldiola* Strand. They are as follows: *Arnoldiola azaleae* Felt 1907a), new combination (from *Oligotrophus* Latreille); *Arnoldiola caudata* (Felt 1915), new combination (from *Phytophaga* Rondani) and new synonym of *A. azaleae; Arnoldia brevicornis* (Felt 1907a), new combination (from *Janetiella* Kieffer); *Arnoldiola tiliacei* (Felt 1907a), new combination (from *Janetialla*) and new synonym of *A. brevicornis; Arnoldiola castaneae* (Felt 1909), new combination (from *Rhopalomyia* Rubsaamen); and *Arnolidola ligni* (Felt 1915), new combination (from *Janetiella)* and new synonym of *A. castaneae.* Diagnostic characters of the genus are outlined, and the newly combined species are described with some characters illustrated.

Henry, T.J., Pena, J.E., Long, D., & Acevedo, F. 2009. *Stethoconus praefectus* (Hemiptera: Miridae): first North American records of an Old World plant bug predacious on avocado lace bug, *Pseudacysta perseae* (Hemiptera: Tingidae), in Florida. Proc. Entomol. Soc. Wash. 111(1): 98-105.

--abstract—The plant bug *Stethoconus praefectus* (Distant), a member of the subfamily Deraeocorinae and tribe Hyaliodini, is reported in North America for the first time based on specimens collected on avocado, *Persea americana* L. (Lauraceae), in South Florida. This predatory mirid, observed feeding on avocado lace bug, *Pseudacysta perseae* (Heidemann), is only the second lace bug specialist established in the Western Hemisphere. The adult is diagnosed and redescribed;

photographs of the adult female, SEM photomicrographs of selected structures, and illustrations of male genitalia are given to help distinguish this species. Preliminary observations on feeding habits and prey consumption of avocado lace bugs are provided.

Heppner, J.B. & Davis, D.R. 2008. Notes on the Hawaiian *Dryadaula terpsichorella* and its presence in Florida and California (Lepidoptera: Tineidae). Lepidop. Novae I(1-2): 55-58.

Kula, R.R. 2009. Review of the New World species of *Coiba* Marsh (Hymenoptera: Braconidae: Doryctinae), including descriptions of two new species, new distribution records, and a key to species. Proc. Entomol. Soc. Wash. 111(1): 183-198.
--abstract—*Coiba jeffersoni* Kula, new species from the Nearctic Region and *Coiba marshi* Kula, new species from the Neotropical Region are described. A diagnosis is provided for both species, as is a key to the New World species of *Coiba. Coiba jeffersoni* likely attacks wood-boring beetle larvae, as label data indicate that specimens were reared from *Carya ovata* (Mill.) K.Koch (shagbark hickory), *Juglans nigra* L. (black walnut), and an undetermined species of *Quercus* L. (oak). The first records of *Coiba dentatus* Marsh in Brazil and *Coiba woldai* Marsh in Venezuela are reported.

Lavigne, R.J. & Pogue, M.G. 2009. Ethology of *Omninablautus nigronotum* (Wilcox)(Diptera: Asilidae) in Wyoming. Proc. Entomol. Soc. Wash. 111(1): 1-6.
--abstract—In southwestern Wyoming, adult *Omninablautus nigronotum* (Wilcox) hunted primarily from the surface of sandy substrate in a greasewood community. Prey, captured in flight, represented four insect orders with Diptera and Hymenoptera predominating. Courtship consisted of the male approaching the female from the front, bobbing up and down, simultaneously waving its fore tarsi, and weaving back and forth. The flies positioned themselves linearly for mating following initial copulation in the male atop female position.

Nickle, D.A. 2009. Commonly intercepted thrips at U.S. Ports-of-Entry from Africa, Europe, and the Mediterranean IV. Miscellaneous thripine genera excluding *Frankliniella, Iridothrips,* and *Thrips* (Thysanoptera: Thripidae). Proc. Ento. Soc. Wash. 111(1): 215-238.
--abstract—A total of 130 species of thrips occurring in Africa, Europe, and the Mediterranean region were intercepted by U.S. Agricultural quarantine officers from shipments of cut flowers and other plants at various ports-of-entry in the United States from 1983 to 1999. This is Part 4 of a guide to the identification of thrips coming into this country from these regions: it uses keys, line drawings, and scanning electron micrographs to identify 51 species in 36 miscellaneous thripid genera not covered in Parts 2 and 3. Of the 321 records identifiable to species, 70% of the interceptions were attributed to ten species: *Odontothrips karnyi* Priesner clearly was most commonly intercepted, with substantially smaller percentages attributed to *Limothrips cerealium* (Haliday), *Anapothrips obscurus* (Muller), *Neohydatothrips samayunkur* (Kudo), *Limothrips denticornis* (Haliday, *Synaptothrips distinctus* (Bagnall), *Tenothrops discolor* (Karny), *Ceratothripoides brunneus* Bagnall, *Ceratothrips ericae* (Haliday), and *Mycterothrips latus* (Bagnall). Descriptions of these ten species are provided.

Pogue, M.G. 2009. A review of the *Tripudia quadrifera* (Zeller) (Lepidoptera: Noctuidae) species complex. Proc. Entomol. Soc. Wash. 111(1): 68-97.
--abstract—Specimens comprising the species *Tripudia quadrifera* (Zeller) and *Tripudia grapholithoides* (Moschler) were discovered to contain six new species: *Tripudia rectangula,* n. sp., from the eastern United States; *Tripudia paraplesia,* n. sp., from eastern Mexico;*Tripudia flavibrunnea,* n. sp.,from eastern Mexico, Guatemala, and the Dominican Republic; *Tripudia lamina,* n. sp., from eastern Mexico, Central America, Venezuela, and Ecuador; *Tripudia furcula,* n. sp., from El Salvador and Honduras; and *Tripudia fabrilium,* n. sp., from Pernambuco, Brazil. Adults and male and female genitalia are illustrated. Known collection sites of all species are mapped. Keys to the male and female genitalia are provided, as this is the only reliable way to separate these species.

Prathapan, K.D. & Konstantinov, A.S. 2009. Descriptions of eight new species of *Phaelota* (Coleoptera: Chrysomelidae) with a new generic synonymy and a key to species of Indian subcontinent. Zootaxa 1991: 1-27.
--abstract—Six new species of *Phaelota* Jacoby from India *viz. P. assamensis, P. kottigehara, P. maculipennis, P. mauliki, P. saluki,* and *P. viridipennis* and two new species from Sri Lanka *viz. P. ogloblini* and *P. schereri* are described and illustrated. *Thrylaea* Jacoby is treated as a new junior synonym of *Phaelota.* A lectotype for *Phaelota variabilis* (Jacoby) is designated and the species

is removed from the synonyms of *P. flavipennis* (Motschulsky). The consequences of loss of flight on host plant selection in *Phaelota* are discussed and a key to the species of the Indian subcontinent is provided.

Razowski, J. & Brown, J.W. 2008. New species, new combinations, and new synonymies in neotropical *Episimus* Walsingham, 1892 (Lepidoptera: Tortricidae: Olethreutinae). Acta zool. Cracov. 51B(1-2): 83-144.
--abstract—Neotropical members of *Episimus* are reviewed, with 34 new species described: *E. aurobasis* (Costa Rica), *E.lavirgenanus* (Costa Rica), *E. runawayicus* (Jamaica), *E. rondoniae* (Brazil), *E. macropterus* (Costa Rica), *E. zunigae* (Costa Rica), *E. queposanus* (Costa Rica), *E. rufatus* (Jamaica), *E. varablancanus* (Costa Rica), *E. neblinanus* (Venezuela), *E. pitillae* (Costa Rica), *E. albidorsanus* (Brazil), *E. griseatus* (Paraguay), *E. limoyanus* (Paraguay), *E. albifrons* (Costa Rica), *E. mignonatus* (Jamaica), *E. armiferus* (Costa Rica), *E. paraisanus* (Costa Rica), *E. quintananus* (Mexico), *E. vixenus* (Costa Rica), *E. chica* (British West Indies), *E. jamaicanus* (Jamaica), *E. antiguanus* (Antigua), *E. curacaonus* (Curacao), *E. perencausticus* (Costa Rica), *E. dominicanus* (Dominica), *E. coleus* (Virgin Islands), *E. camacanus* (Brazil), *E. minas* (Brazil), *E. beckeri* (Brazil), *E. moderabilis* (Costa Rica), *E. sanjoseanus* (Costa Rica), *E. rufotegulus* (Costa Rica), and *E. exiguus* (Costa Rica). Informal species groups are proposed for the genus, but these are for convenience only; most are unlikely to represent monophyletic lineages. Proposed new combinations include *E. selectanus* (Walker), comb. n.; *E. emicurculanus* (Walker), comb. n.; *E. brunneomargin-atus* (Razowski & Wojtusiak), comb.n.; and *E. intermissus* (Meyrick), comb. n. Proposed new synonymies include *Carpocapsa metaspilana* Walker and *Grapholita condensatana* Zeller with *E. semicriculanus;* and *Episimus utilis* Zimmerman with *E. unguiculus* Clarke. These taxonomic and nomenclatural changes bring to 65 the number of species of *Episimus* recorded from the New World.

Rhainds, M., Davis, D.R., & Price, P.W. 2009. Bionomics of bagworms (Lepidoptera: Psychidae). Ann. Rev. Entomol. 54: 209-226.
--abstract—The bagworm family (Lepidoptera: Psychidae) includes approximately 1000 species, all of which complete larval development within a self-enclosing bag. The family is remarkable in that female aptery occurs in over half of the known species and within 9 of the 10 currently recognized subfamilies. In the more derived subfamilies, several life-history traits are associated with eruptive population dynamics, e.g., neoteny of females, high fecundity, dispersal on silken threads, and high level of polyphagy. Other salient features shared by many species include a short embryonic period, developmental synchrony, sexual segregation of pupation sites, short longevity of adults, male-biased sex ration, sexual diamorphism, protogyny, parthenogenesis, and oviposition in the pupal case. The unusual mating behavior of bagworms, characterized by an earlier emergence of females than males and a high proportion of females that do not mate as adults, challenges conventional wisdom regarding the evolution of mating systems.

Scarbrough, A.G. & Perez-Gelabert, D.E 2009. Review of the West Indian species of *Efferia* Coquillett (Diptera: Asilidae) with 13 new species and checklist: Part II. Hispaniola, Puerto Rico, and Lesser Antilles including Tobago and Trinidad. Zootaxa 1994: 1-66.
--abstract—The species of *Efferia* from Hispaniola, Puerto Rico, and the Lesser Antilles are reviewed. Twenty species are recognized including 12 new species from the Dominican Republic: *E. alia* sp. nov., *E. augusta* sp. nov., *E. bullata* sp. nov., *E.clava* sp. nov., *E. exacta* sp. nov., *E. incisura* sp. nov., *E. picea* sp. nov., *E. serrula* sp. nov., *E. sinuosa* sp. nov., *E. suspiciosa* sp. nov., *E. spinula* sp. nov., and *E. woodleyi* sp. nov., and 1 from Puerto Rico: *E. montensis* sp. nov. Seven previously described West Indi an species are recognized: *E. forbesi* (Curran, 1931), *E. fortis* (Walker, 1855), *E. fulvibarbis* (Macquart, 1848). *E. haitensis* (Macquart, 1848), *E. nigrimystacea* (Macquart, 1847), *E. portoricensis* (Curran, 1919), and *E. stylata* (Fabricius, 1775). An unresolved species from Tobago and Trinidad is also reported. All of these belong to the *aestuans* species group. New synonyms include: *E. pachychaetus* (Bromley, 1928) = *E. fulvibarbis* (Macquart, 1848), syn. nov.; *E. tortola* (Curran, 1928) = *E. stylata* (Fabricius, 1775), syn. nov.; and *Phoneus flavotibius* Bigot, 1878, = *E. fortis* (Walker, 1855), syn. nov. *Efferia haitensis* (Macquart, 1848) is removed from synonmy with *E. stylata* (Fabricius, 1775). The male of *E. stylata* is discovered and described. Lectotypes are designated for *E. haitensis* and *E. nigrimystacea.* The species is removed from the list of species from Hispaniola. Endemism is high with most species limited to single islands. Only *E. stylata* and *E. forbesi* occurring in Puerto Rico and the Virgin Islands and *E. nigrimystacea* in the Lesser Antilles are more widespread. Hispaniola has the greatest diversity with 15 species whereas Puerto Rico, the British and US Virgin Islands, and the Lesser Antilles have 5. Keys, illustrations of the left wing of selected males, and terminalia of all known species are included. A

check-list of the West Indian species of *Efferia,* including an unresolved species from Tobago and Trinidad, is also provided.

Steiner, W.E., Jr. 2009. Book review, Darklings into light. *Tenebrionidae of Australia. Descriptions of tribes. Keys to genera. Catalogue of species.* By E. G. Matthews and P.Bouchard. Syst. Entomol. 34: 198.

Stonis, J.R., Davis, D.R., & Diskus, A. 2008. High biodiversity in Costa Rica (Central America): facts or artifacts? [in Lithuanian] *Lietuvos biologine jvairove* (bukle, suktura, apsauga) 3:99-106.

Thompson, F.C. 2008. A conspectus of New Zealand flower flies (Diptera: Syrphidae) with the description of a new genus and species. Zootaxa 1716: 1-20.
---abstract—A key to the New Zealand flower fly genera is presented; one new genus (*Anu* Thompson, type *una* Thompson) and one new species (*Anu una* Thompson) are described. A checklist of the flower flies of New Zealand is also included.
Willmott, K.R., Freitas, A V.L., Hall, J.P.W., Silva-Brandao, K.L., & Paluch, M. 2009. A new species of *Actinote* Hubner from the eastern Andes of Ecuador (Lepidoptera; Nymphalidae: Heliconiinae). Proc. Entomol. Soc. Wash. 111(1): 47-56.
---abstract—A new species of *Actinote* Hubner, *A. kennethi* Freitas, Willmott and Hall (Lepidoptera: Nymphalidae: Heliconiinae), is described from cloud forest habitats in eastern Ecuador. Molecular sequence data and morphological characters both indicate that the new taxon is closely related to *Actinote g. genitrix* d'Almeida, 1922, from southeastern Brazil, and the Venezuelan *Actinote genitrix costae* Neild, 2008. Based on the substantial geographic isolation of these taxa, observed morphological differences and mtDNA sequence divergence, we argue for the treatment of the new Ecuadorian *Actinote* taxon as a distinct species.

Zhang, J., Yang, D., & Mathis, W.N. 2009. A new species of the shore-fly genus *Oedenopiformia* Cogan from the Oriental Region, with an updated key to the species (Diptera: Ephydridae). Proc. Entomol. Soc. Wash. 111(1): 199-203.
--abstract—The genus *Oedenopiformia orientalis,* n. sp., is described from China. An updated key to the world species of the genus is presented.

VISITORS:

Jay Abercrombie, former employee with the WRBU Mosquito Unit, and now from Suffield, Connecticut, visited Wayne Mathis and the Sciomyidae Collection February 06-14.

Nigar Aghayeva, an entomologist from the Anti-Plague Station, Baku, Azerbaijan, will participate in a training course on the taxonomy of medically important arthropod vectors in Azerbaijan February 16-27, at WRBU.

Maria del Pilar Aguirre T. from Bogota, Colombia is visiting Terry Erwin and the Coleoptera Collection as a Short-Term Visitor, and is currently examining click beetles from forest canopies of Ecuador. Her appointment runs until March 10, but may be extended for a week past that date.

David Aherenholz from the University of Minnesota Medical School, St. Paul, visited Bob Robbins and the Butterfly Collection February 02-03.

Hamid Asgarov, an entomologist with the Anti-Plague Station, Baku, Azerbaijan, will participate in a training course on the taxonomy of medically important arthropod vectors in Azerbaijan, February 16-27, at WRBU.

Andres Baselga from the University of Santiago de Compostela, Spain, will be a visitor with Alexander Konstantinov and the Chrysomelidae Collection March 02-20.

Ronald D. Cave from the University of Florida will visit Steve Lingafelter and the Coleoptera collection January 24-28.

Stylanos Charzimanolis from the University of Tennessee at Chattanooga will visit Gary Hevel and the Staphylinidae Collection March 12-13.

David Gambarzade of the Center for Hygiene and Epidemiology, Baky, Azerbaijan, will participate as a training coordinator in a WRBU training program on the medically important arthropods of Azerbaijan, February 16-27.

Dietrich Gotzek from the University of Lausanne, Switzerland, visited Sean Brady on January 13 to discuss research projects.

Dan Janzen and Winnie Hallwachs from the University of Pennsylvania visited John Burns and the Skipper Butterfly Collection on December 05 and 18.

Fatma Hasanova, an entomologist with the Republican Center for Hygiene and Epidemiology, Baku, Azerbaijan, will participate in a training course on the taxonomy of medically important arthropod vectors in Azerbaijan, February 16-27, at WRBU.

Patrick S. Haslem from USDA-APHIS-PPQ, Los Indios Plant Inspection Station, visited Alex Konstantinov and the Chrysomelidae Collection February 17-20.

Akito Kawahara from the University of Maryland visited Don Davis and the Lepidoptera Collection on February 17 to collaborate for a research paper.

Tom Kollars from Georgia Southern University will be an instructor of a small group from Azerbaijan for a WRBU training program on the medically important arthropods of that country, February 16-27.

Lloyd Knutson, formerly with the USDA in Washington, and now in Gaeta, Italy, will visit Wayne Mathis and the Sciomyzidae Collection January 26 through February 23.

Bill Murphy, a former staff member with the USDA in Beltsville, and now in Indianapolis, will visit Wayne Mathis and the Sciomyzidae Collection January 26 through February 23.

Nizam Mutdalibov, an entomologist with the Center for Hygiende and Epidemiology, Baku, Azerbaijan, will participate in a training course on the taxonomy of medically important arthropod vectors in Azerbaijan, February 16-27, at WRBU.

Emiliya Nasirova, an interpreter from Raytheon Technical Services Company, Baku, Azerbaijan, will participate in a training course on the taxonomy of medically important arthropod vectors in Azerbaijan, February 16-27, at WRBU.

Rahman Rahimov, an interpreter from Raytheon Technical Services Company, Baku, Azerbaijan, will participate in a training course on the taxonomy of medically important arthropod vectors in Azerbaijan, February 16-27, at WRBU.

Alex Segarra from the Department of Crop Protection, Mayaguez, Puerto Rico, visited Natalia Vandenberg February 09-13 for research on ladybird beetles (Coccinellidae).

Jay Sohn, a grad student from the University of Maryland, visited Don Davis and the Lepidoptera Collection on February 10 to collaborate with a research paper.

Jessica Ware, a post-doctoral fellow at the AMNH, was here February 23-March 2 working with Jerry Louton photographing Odonata specimens for the Encyclopedia of Life.

TRAVEL:

Ted Schultz has recently left for research in Brazil, pursuing biological and taxonomic secrets of the ants living there. His return will be approximately April 01. Scott Solomon (SI Post-Doctoral Fellow) and Jeffrey Sossa-Calvo (SI Pre-Doctoral Fellow) are also there working with him.

The EntNews is produced by
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National Museum of Natural History
Smithsonian Institution, Washington DC 20560

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no later than the last week of the month.