



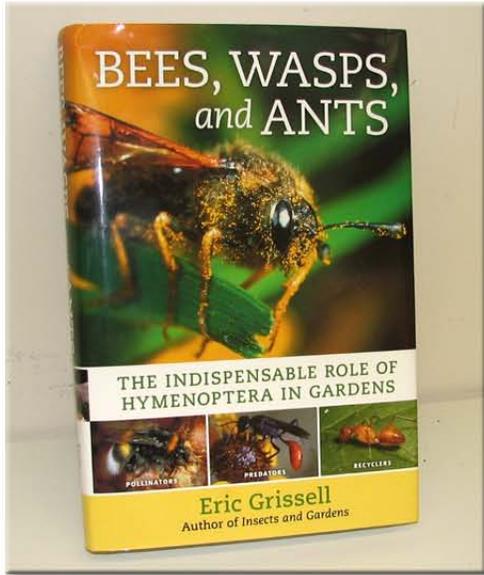
Smithsonian
National Museum of Natural History

EntNews



The Newsletter of the Department of Entomology

Vol. 25, no. 5-6, May-June 2010



New Book by Eric Grissell
(USDA-SEL Research Entomologist, emeritus)



Kim Todd, author and speaker
at the ESW Annual Banquet



Pupa of *Cephise nuspesez* (23) (Hesperiidae), from
“A tropical horde of counterfeit predator eyes”



Dug Miller (USDA-SEL) serving
chocolate covered insects at BARC Field Day

On the cover (photo credits): Grissell book/G.Hevel; skipper pupa/D.Janzen; Todd/M.Buffington; Miller/BARC.

ANNOUNCEMENTS:

The 1137th Regular Meeting of the Entomological Society of Washington convened at 7:00 pm on May 08 in the Schmitt Room of the National Museum of Natural History. **Marc Allard** from the Office of Regulatory Science and the Division of Microbiology, FDA, presented the topic "Waiter, what's this fly doing in my soup? On insect vectors as potential carriers of foodborne pathogens."

The Entomological Society of Washington held their **Annual Banquet** on June 03 at the Woodend Sanctuary of the Audubon Naturalist Society, in Chevy Chase, Maryland. **Kim Todd** from Pennsylvania State University in Erie presented the topic "Maria Sibylla Merian and her studies of metamorphosis." The description of the talk is as follows: "Even as a girl raised in an artist's workshop in seventeenth-century Frankfurt, Germany, Maria Sibylla Merian was fascinated by the transformation of insects. Her investigations eventually lead her to South America where she spent two years conducting pioneering field studies and making watercolors for her masterwork *The Metamorphosis of the Insects of Surinam*. Her books were valued during the Enlightenment, but flawed editions and mistranslations led to them being dismissed and forgotten. Kim Todd, author of a new biography of Merian, looks at how her observations, documented in a study book she kept for 50 years, helped lay the groundwork for the modern discipline of ecology."

GENERAL NEWS:

The combined entomological staff (Dept. of Entomology, Smithsonian, USDA's Systematic Entomology Lab, and the Walter Reed Biosystematics Unit) represented Entomology for an Open House event that occurred on May 19. Research, operations, biodiversity, and modern technology were offered to the hundreds of NMNH staff who attended the event. The Open House was relative to the 100th anniversary of the National Museum of Natural History, and Entomology was the first unit to make a presentation.

PUBLICATIONS:

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

Adamski, D., Landry, J.-F., Passoa, S., and Tracy, R.A. 2010. History, distribution, and identification of *Exoteleia dodecella* (L.) (Lepidoptera: Gelechiidae) in

North America, with insights into the systematic of *Exoteleia* Wallengren using characters of the adult, immature, bionomics, and DNA barcodes. Proc. Entomol. Soc. Wash. 112(3): 183-206.

--**abstract**-- *Exoteleia dodecella* (L.) (Lepidoptera: Gelechiidae), a native of Europe, was first documented from North America at several locations in eastern Canada. Additional records indicate this moth has now spread throughout New England and west to northern Pennsylvania, New York, and possibly into Michigan in the United States. A second introduction of *E. dodecella* has occurred near the Vancouver area of British Columbia in Canada. To help with the identification of *E. dodecella*, morphological, biological, and molecular evidence are presented. Key features of the adult, larval, and pupal morphology are compared to other species of *Exoteleia* and illustrated with line drawings or scanning electron micrographs. The high sequence divergence (>7%) of *E. dodecella* compared to samples of related native North American species demonstrates that DNA barcodes are a useful identification tool for this pest. A summary of the biology of *E. dodecella*, including 12 species of larval and pupal parasitoids (most representing new host records), is also included.

Ferreira, P.S.F. and **Henry, T.J.** 2010. Revision of the genus *Ambracius* Stal, 1869 (Heteroptera: Miridae: Deraeocorinae: Clivinematini), with descriptions of three new species. Zootaxa 2485: 1-15.

--**abstract**-- The clivinematine genus *Ambracius* Stal is revised and the three new species *Ambracius alineae* from Venezuela, *A. liviae* from the United States (Texas), and *A. rudybuanoi* from Panama are described and illustrated. The previously known species *Ambracius capucinus* (Reuter), *A. defouri* Stal, *A. mexicanus* Carvalho, *A. pallescens* (Distant), *A. rubricosus* (Distant), and *A. vittatus* Carvalho are redescribed. A Key to species is provided to aid in identification.

Gates, M.W. and Stoepler, T. 2010. A new species of *Alveoplectrus* Wijesekara and Schauff (Hymenoptera: Chalcidoidea: Eulophidae) parasitic on Limacodidae (Lepidoptera). Proc. Entomol. Soc. Wash. 112(2): 207-213.

--**abstract**--*Alveoplectrus lilli* Gates, new species, (Hymenoptera: Chalcidoidea: Eulophidae) is described and illustrated. This species was reared from five species of field-collected slug caterpillars (Lepidoptera: Limacodidae). It is differentiated from similar species of *Alveoplectrus*.

****Grissell, Eric.** 2010. Bees, Wasps, and Ants. Timber Press, Portland, 335 pp.

---subtitled as "The indispensable role of Hymenoptera in gardens."

Janzen, D.H., Hallwachs, W., and **Burns, J.M.** 2010. A tropical horde of counterfeit predator eyes. Proc. Nat. Acad. Sci. 107(26): 11659-11665.

--introduction-- We propose that the many different, but essentially similar, eye-like and face-like color patterns displayed by hundreds of species of tropical caterpillars and pupae--26 examples of which are displayed here from the dry, cloud, and rain forests of Area de Conservacion Guanacaste (ACG) in northwestern Costa Rica--constitute a huge and pervasive mimicry complex that is evolutionarily generated and sustained by the survival behavior of a large and multispecific array of potential predators; the insect-eating birds. We propose that these predators are variously and innately programmed to flee when abruptly confronted, at close range, with what appears to be an eye of one of *their* predators. Such a mimetic complex differs from various classical Batesian and Mullerian mimicry complexes of adult butterflies in that (i) the predators sustain it for the most part by innate traits rather than by avoidance behavior learned through disagreeable experiences, (ii) the more or less harmless, sessile, and largely edible mimics vastly outnumber the models, and (iii) there is no particular selection for the eye-like color pattern to closely mimic the eye or face of any particular predator of the insect-eating birds or that of any other member of this mimicry complex. Indeed, selection may not favor exact resemblance among these mimics at all. Such convergence through selection could create a superabundance of one particular false eyespot or face pattern, thereby increasing the likelihood of a bird species or guild learning to associate that pattern with harmless prey.

Jensen, A.S., **Miller, G.L.**, and Carmichael, A. 2010. Host range and biology of *Uroleucon (Lambersius) erigeronense* (Thomas 1878), and its synonymy with *Uroleucon (Lambersius) excalantii* (Knowlton) 1928 (Hemiptera: Aphididae). Proc. Entomol. Soc. Wash. 112(2): 239-245.

--abstract--*Uroleucon (Lambersius) excalantii* (Knowlton) (syn. nov.) is declared a junior synonym of *Uroleucon (Lambersius) erigeronense* (Thomas) based on examination of slide mounted material from many hosts and localities, using data from host plant transfers, and DNA sequences. A diagnosis and new information

on the host plant biology of the species are also provided.

****Kruse, J.J., Smith, D.R., and Schiff, N.M.** 2010. *Monsoma pulveratum* (Retz) (Hymenoptera: Tenthredinidae: Allantinae), a Palearctic sawfly defoliator of alder in Alaska and new to the United States. Proc. Entomol. Soc. Wash. 112(2): 332-335.

Kula, R.R., Knight, K.S., Rebbeck, J., Bauer, L.S., Cappaert, D.L., and Gandhi, K.J.K. 2010. *Leluthia astigma* (Ashmead) (Hymenoptera: Braconidae: Doryctinae) as a parasitoid of *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae: Agrilinae), with an assessment of host associations for Nearctic species of *Leluthia* Cameron. Proc. Entomol. Soc. Wash. 112(2): 246-257.

--abstract--Published host associations are assessed for *Leluthia astigma* (Ashmead), *Leluthia floridensis* Marsh, and *Leluthia mexicana* Cameron the three known species of *Leluthia* Cameron in the Nearctic Region. *Leluthia astigma* is reported as a parasitoid of *Agrilus planipennis* Fairmaire, emerald ash borer (EAB), infesting *Fraxinus americana* L., white ash, in Delaware County, Ohio. It is the first species of *Leluthia* for which a determined species of *Agrilus* Curtis has been confirmed as a host and the association vouchered. All other hosts reported in the literature for *L. astigma* require confirmation through rearing from an isolated host or documentation of an unequivocal host-parasitoid association. *Leluthia astigma* adults reared from parasitoid cocoons collected in Delaware County, Ohio parasitized and produced F1 adults in the laboratory on last-instar EAB larvae collected in Ingham County, Michigan. Parasitism of EAB and other natural history data are reported for *L. astigma*, including the first records of *L. astigma* from Kansas and New York.

LaPolla, J.S. and Dlussky, G.M. 2010. Review of fossil *Prenelepis* genus-group species (Hymenoptera: Formicidae). Proc. Entomol. Soc. Wash. 112(2): 258-273.

--abstract--The fossil record of the *Prenelepis* genus-group is comprehensively reviewed for the first time. Five fossil species are presently known from this clade: *Nylanderia vetula*, sp. nov. (Dominican amber); *Nylanderia pygmaea*, comb. nov., *Prenelepis henschei* and *Pseudolasius boreus* (Baltic and other contemporaneous amber deposits); and *Protrechina carpenter* (Arkansas amber). With the reclassification of *Nylanderia pygmaea*, it is now clear that the major

lineages of the *Prenolepis* genus-group existed by at least the Eocene.

Lenat, D.R., Ruitter, D.E., Parker, C.R., Roginson, J.L., Beary, S.R., and **Flint, O.S., Jr. 2010. Caddisfly (Trichoptera) records for North Carolina. *Southeastern Naturalist* 9(2): 201-236.

--abstract—Information is presented on 348 Trichoptera (caddisfly) species recorded from North Carolina, including 76 new state records. This information includes distribution across 4 ecoregions, occurrence by stream size, and the 1st published North Carolina record for each species.

Pogue, M.G., Honey, M., and Zilli, A. 2010. New synonym in a North American species of *Pyrrhia* Hubner, [1821] (Lepidoptera: Noctuidae). *Proc. Entomol. Soc. Wash.* 112(2): 274-280.

--abstract—The nomenclatural history for *Pyrrhia aurantiago* (Guenee 1852), *Pyrrhia cilisca* (Guenee 1852), and *Pyrrhia exprimens* Walker 1957) is detailed to resolve confusion over the last 150 years concerning these names. Based on characters of the male and female genitalia and coloration and pattern of the fore- and hind wing, *Pyrrhia adela* Lafontaine and Mikkola 1996 is proposed as a new synonym of *Pyrrhia cilisca* (Guenee 1852).

****Polhemus, D.A.** and Andersen, N.M. 2010. *Rhagovelia* of Madagascar and adjacent Indian Ocean Islands (Hemiptera: Veliidae): Revision of the *diabolica* species group. *Insect Syst. & Evol.* 41: 143-186.

--abstract—Riffle bugs in the genus *Rhagovelia* have diversified extensively on the island of Madagascar. The current paper defines and segregates a distinct set of species within this endemic assemblage as the *diabolica* group, containing the previously described species *R. diabolica* Pisson, *R. beangonyi* Poisson, and *R. milloti* Poisson, as well as the following new species described herein: *R. compacta* and *R. suarezensis* from northern Madagascar; *R. manankazo* and *R. angulata* from central Madagascar; and *R. madecassa*, *R. sculpturata* and *R. origami* from eastern Madagascar. Figures of key morphological characters, including male parameres are provided for all species, accompanied by distribution maps.

Scarborough, A.G., and **Perez-Gelabert, D.E.** 2010. A new species of *Martintella* Artigas, 1996 from the islands of Tobago and Trinidad (Diptera: Asilidae). *Trans. Amer. Entomol. Soc.* 16(1+2): 193-198.

--abstract—The genus *Martintella* Artigas, 1996, is recorded from the islands of Tobago and Trinidad for the first time. *M. elliptica* sp. nov. from Tobago and Trinidad is described and illustrated. *M. elliptica* is compared to *M. lestes* (Williston).

Wei, M. and **Smith, D.R. 2010. Review of *Syrista* Konow (Hymenoptera: Cephidae). *Proc. Entomol. Soc. Wash.* 112(2): 302-316.

--abstract-- *Syrista* Konow includes five species: *S. parreyssii* (Spinola 1843) from the Mediterranean Region and Near East; *S. similis* Mocsary 1904, from Japan and China; and *S. xiaoi* Wei 2008, *S. rufiabdominalis* (Wei and Nie 1996), n. comb., and *S. incisa* (Wei and Nie 1996), n. comb., from China. The lectotype of *Syrista similis* and holotypes of *S. incisa* and *S. rufiabdominalis* are redescribed, and the male of *S. xiaoi* is described. A key to the species is presented. Species are shoot borers in *Rosa* spp. (Rosaceae).

Williams, D.J., Matile-Ferrero, D., and **Miller, D.R. 2010. A study of some species of the genus *Stictococcus* Cockerell (Hemiptera: Sternorrhyncha: Coccoidea: Stictococcidae), and a discussion on *Stictococcus vayssierei* Richard, a species injurious to cassava in Equatorial Africa with a description of a new species from Nigeria. *Zootaxa* 2527: 1-27.

--abstract-- The adult female of the scale insect *Stictococcus vayssierei* Richard is described and illustrated. The species feeds on the root system of cassava (*Manihot esculenta*) (Euphorbiaceae) in Equatorial Africa, affecting tuber formation of the plant. Although damage has been reported only recently, the species has probably remained unnoticed because of its subterranean habit. The distribution and host plants of this species are listed and the segmentation of the adult female of *Stictococcus* is discussed to help describe the characters in detail when specimens are prepared on microscope slides. Six other species of *Stictococcus* are described or discussed: *S. formicarius* Newstead, *S. intermedius* Newstead, *S. pujoli* Richard, *S. sjostedti* Cockerell & Cockerell, *S. subterreus* Williams, Matile-Ferrero & Miller, sp. n., and *S. formicarius* var. *tuberculata* Laing which is here raised to specific rank as *S. tuberculatus* Laing.

Williams, D.J. and **Miller, D.R. 2010. The identity and distribution of the mealybug species *Nipaeococcus filameniosus* (Cockerell) (Hemiptera: Pseudococcidae). *Proc. Entomol. Soc. Wash.* 112(2): 326-331.

--abstract— The mealybug *Nipaeococcus filamentosus* (Cockerell) was described originally as *Dactylopius*

filamentosus Cockerell from South Caicos Island in the Turks and Caicos Islands. It has been listed in error from the Bahamas and from Mexico and the mealybug name wrongly applied to a similar species now known as *Nipaeococcus viridis* (Maskell). Furthermore, the name *Dactylopius filamentosus*, as first applied by Cockerell, has been recorded in error from various localities in the Old World because of erroneous synonymy early in the 19th century. The mealybug species *N. filamentosus* has neither been described nor illustrated adequately since it was first named over 100 years ago and its identity has remained obscure. We now describe and illustrate this mealybug and confirm that it is a local species occurring in the Caribbean area only.

VISITORS:

Gabriela Chavarria and two colleagues visited David Furth on May 14 for a tour of the entomological collections.

Fitz Davis from Florida State University visited David Furth on July 06 for an educational tour of the collections.

David Drons from South Dakota State University visited Sean Brady and the Bee Collection July 02-03.

Winnie Hallwachs from the University of Pennsylvania visited John Burns on May 07 for research with the Skipper Butterfly Collection.

Rebecca Hazen from Tulane University, New Orleans visited Don Davis and the Microlepidoptera Collection on April 13.

David Hembry from the University of California at Berkeley visited Don Davis and the Gracillariidae Collection on April 14.

Luis Hernandez from the Natural History Museum of London visited Rick Wilkerson for research with black flies May 28 through June 18.

Dan Janzen from the University of Pennsylvania visited John Burns for research with the Skipper Butterfly Collection on May 07.

Akito Kawahara, a graduate student from the University of Maryland visited Don Davis for collaboration on a research paper on April 14.

Kelsey Lewis from Mount Holyoke College visited Don Davis on May 03 for examination of the Microlepidoptera Collection.

Houhun Li from Nankai University, Tianjin, China visited Don Davis April 17-30 to study and work with Dr. Davis.

Dan Lindsley from the University of California at San Diego visited Bob Robbins and Brian Harris for research purposes on April 09.

Nathan Lord from the University of New Mexico visited Gary Hevel and the Bothrideridae Collection July 06-10.

Armando Luis from the University of Mexico visited Bob Robbins and Brian Harris and the Butterfly Collection April 06-09.

Alfred Moser from UFRGS, Sao Leopoldo RS, Brazil visited the Butterfly Collection and Bob Robbins and Brian Harris June 1-19.

Eugenio Nearns from the University of New Mexico visited Steve Lingafelter and the Cerambycidae Collection July 06-10.

Ron Priest from Michigan State University visited Don Davis to examine the Microlepidoptera Collection in connection with his research project.

Sandra Rehan from Brock University, Ontario, Canada visited Sean Brady on July 13 for research with *Ceratina* bees.

Cecilia Reyes from Emilio Aquinaldo College, Manila, Philippines visited Pollie Rueda and the Mosquito Collection June 28 through July 01.

Philippe Sagot from El Colegio de la Frontera Sur (ECOSUR) was visitor with Chris Thompson and the Diptera Collection, May 24-29.

Chulwoo Shin from the University of Kansas visited Alex Konstantinov and the Coleoptera Collection June 14-19.

Jay Sohn, a graduate student at the University of Maryland, visited Don Davis on May 05 for thesis research and collaboration on his research paper.

J. Bolling Sullivan, a Research Associate, visited John Burns for research on Lepidoptera systematics on April 02.

Yinan Wang from the Heritage Auction Galleries of Dallas, Texas visited Bob Robbins and Brian Harris to discuss fossils of Lepidoptera.

James Wetterer from Florida Atlantic University, Jupiter visited Ted Schultz and the Ant Collection, concentrating on the genus *Technomyrmex*, on June 15.

Christof Zeller-Lukashort from Austria visited Don Davis on June 01 to examine specimens of the moth family Micropterigidae

TRAVEL:

Supported by an NMNH Small Grant award, Dave Furth will be doing field work in Oaxaca (southern) Mexico from 23 July until 6 August and then museum/collection work at the Mexican National Insect Collection (Instituto de Biología, Universidad Autónoma de Mexico – UNAM) from 7-13 August. During the fieldwork portion he will be collecting Flea Beetles and other Coleoptera and will be joined by Atilano Contreras-Ramos (Megaloptera, Diptera, aquatic insects) and Rafael Barba (Trichoptera and aquatics) from the Instituto de Biología, UNAM, as well as José Arturo Casasola-González (Psocoptera) from Universidad de la Sierra Juárez, Oaxaca. This is a pilot trip for a potentially larger, long-term study of the diversity of insects of Oaxaca that will include many more groups and specialists.

At UNAM Dave will be conducting research on Flea Beetles (Alticinae) for his continuing research on the diversity with this group from Mexico.

Gary Hevel will travel to the states of Colorado, New Mexico, and Texas from July 24 through August 08, visting relatives and chasing insects.

Wayne Mathis will travel to Costa Rica August 06-19 to attend the 7th International Congress of Dipterology to be held in San Jose. He will be presenting an invited paper at the Congress, conferring with colleagues on a number of projects, and conducting field work at Zurqui.

The ***Ent News*** is produced by
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