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David Nickle



Rick Wilkerson, Gary Hevel, Linda Sims, Wayne Mathis



Dr. Mathias Jaschhof, Raymond J. Gagné, and Catrin Jaschhof



Volume 3, by Terry Erwin

Front cover photo credits: Jaschhofs/Gagne; retirement group/Malikul; Nickle/unknown; Erwin book/Darrow.

ANNOUNCEMENTS:

Gary Hevel, Wayne Mathis, David Nickle, Linda Sims and Rick Wilkerson retired from government service between October and December 2011. Details of their careers and future plans will be included in the next issue of **EntNews**.

Congratulations to **Ximo Mengual**, who has been selected for a salaried position in Germany. Ximo will begin employment in the new position in the middle of April.

PUBLICATIONS:

Erwin, T.L. 2011. A treatise on the western hemisphere Caraboidea (Coleoptera) their classification, distribution, and way of life. Volume III. Carabidae -- Loxomeriformes, Melaeniformes. Series Faunistica 99, 412 pages, Pensoft, Sofia, Bulgaria.

--abstract-- A synthesis of the taxonomy, distributions, and ways of life of the ground beetles (Coleoptera: Carabidae) dwelling in the Western Hemisphere. Under each taxon account, the historical taxonomy, distribution at the country and/or state/province level, and way of life, including Macrohabitat, Microhabitat, Dispersal abilities, Seasonal occurrence, and Behavior are elaborated. Selected references for each taxon are given in these categories and supplemental bibliography of Caraboidea references for the Western Hemisphere is presented. The sections on way of life include the following: Macrohabitat summary, altitudinal distribution in meters, as well as a general altitudinal classification, habitat/microhabitat details, seasonality, and under Behavior, there are notes on diel activity, adult/larval hibernation, prey items, immature, over wintering, and other pertinent notes presented. Details of dispersal power, or the capability of dispersal, i.e. wing condition, flight data, walking, running, swimming, and climbing records, as far as is known, are included. This work, planned as a ten-volume companion to Larochelle & Larivière (2003), will be an indispensable tool for anybody interested in ground beetles *per se* and their natural history, as well as their role in the environment and importance to agriculture, conservation, and forestry. National, regional, and local libraries will find this set of tools well used due to the incredible amount of information that is summarized at these geographical levels. This work follows a modified classification of Erwin (1984), and the nomenclature of Lorenz (2005), as updated on a six-month cycle by Erwin (e-data base, NMNH, Smithsonian Institution) from recently published literature.

Gilligan, T.M., **Brown, J.W.** & Hoddle, M.S. 2011. A new

avocado pest in Central America (Lepidoptera: Tortricidae) with a key to Lepidoptera larvae threatening avocados in California. *Zootaxa* 3137: 31-45.

--abstract-- *Cryptospasma perseana* Gilligan & Brown, new species is described and illustrated from Mexico and Guatemala. This species is a potential pest of the fruit of cultivated avocado, *Persea americana* (Lauraceae). Images of adults, male secondary structures, male and female genitalia, eggs, larvae, and pupae are provided. Details of the life history are reviewed. We provide characters to differentiate this pest from the most common avocado fruit pest in the region, *Stenoma catenifer* (Walsingham) (Eloachistidae), and a key to identify Lepidoptera larvae threatening avocado in California. In addition, we provide a complete list of tortricids documented from different avocado varieties worldwide.

Kula, R.R. 2011. Two new brachypterous species of *Heterospilus* Haliday (Hymenoptera, Braconidae, Doryctinae) from the Nearctic Region. *Intern. Soc Hymenop.* 22: 53-64.

---abstract-- Two new species, *Heterospilus belokobylskiji* Kula, sp. n. and *Heterospilus vincenti* Kula, sp. n., from the Nearctic Region are described and differentiated from all other New World species of Doryctinae that exhibit brachyptery or aptery. They are the first brachypterous species of *Heterospilus* Haliday known in the New World and increase the total number of brachypterous species in the genus to four worldwide.

LaPolla, J.S., Kallal, R.J. and **Brady, S.G.** 2012. A new ant genus from the Greater Antilles and Central America, *Zatania* (Hymenoptera: Formicidae), exemplifies the utility of male and molecular character systems. *Syst. Entom.* 17(1): 200-214.

--abstract-- The ant genus *Prenolepis* (Hymenoptera: Formicidae) is the nominal member of the recently established *Prenolepis* genus-group within the subfamily Formicinae. Our molecular phylogenetic analyses using fragments from five nuclear genes (*arginine kinase*, *carbamoylphosphate synthase*, *elongation factor 1-alpha F1*, *elongation factor 1-alpha F2*, *wingless*) and one mitochondrial gene (*cytochrome oxidase 1*) indicate that this genus is polyphyletic. Although the majority of *Prenolepis* species was found to belong to the same monophyletic group (*Prenolepis* sensu stricto), a smaller subset of *Prenolepis* species, all found in either Central America or the Greater Antilles, was robustly inferred to comprise a distinct lineage that is sister to the Old World genus *Parapatrechina*. Here we describe this newly discovered lineage within the larger *Prenolepis* genus-group clade. The genus *Zatania*, gen.n., is composed of five extant species (*Zatania albimaculata*, *Zatania cisipa*, *Zatania gibberosa*, *Zatania gloriosa*, sp.n. and *Zatania karstica*) and one Dominican amber fossil species (*Zatania electra*, sp.n.). These are medium-sized ants

(generally between 2.5 and 3 mm in total length) that are characterized by having long scapes and legs, and elongated mesosomata. A reliance on worker-based taxonomy has previously prevented the discovery of this new lineage because of worker convergence consisting of various combinations of elongated mesosomata, long scapes and legs, and a constriction immediately behind the pronotum, observed in several distinct lineages within the *Prenolepis* genus-group. However, we did find that male morphology complements our molecular results in revealing important diagnostic and potentially phylogenetically informative characters. Our study highlights the value for ant systematic to expand beyond its traditional foundation of worker-based morphology and embrace character systems from other castes and molecular data.

Lee, C.F., Haruki, S., & Staines, C.L. 2011. A review of the genus *Agonita* E. Strand (Coleoptera, Chrysomelidae, Cassidinae, Gonophorini) of Taiwan. Japanese J. Sys. Entomol. 17(2): 355-363.

--abstract-- The species of *Agonita* in Taiwan are reviewed. Three species are recognized and redescribed: *A. tricolor* (Chujo), *A. unicolor* (Chujo), and *A. omoro* Takizawa (New Country Record). New host plant records are provided for all three species. An updated key to the Taiwan species is presented.

Lonsdale, O. & Sheffer, S.J. 2011. Revision of nearctic holly leafminers in the genus *Phytomyza* (Diptera: Agromyzidae), including description of four new species. Ann. Entomol. Soc. Amer. 104(6): 1183-1206.

--abstract-- The *Phytomyza ilicis* species group is the only taxon in the phytophagous family Agromyzidae (Diptera: Schizophora) known to feed on hollies (Aquifoliaceae: *Ilex* L.) in North America, mining within the living leaves as larvae. The clade is represented here by 11 species native to eastern North America, although *P. vomitoriae* has been introduced into California. The sole European holly leafminer, *Phytomyza ilicis* Curtis, is also present in western North America following introduction. The North American fauna is revised, following a molecular treatment of the group by Scheffer and Wiegmann (Mol. Phylog. Evol. 17: 244-255; 2000), who discovered several previously undescribed species. These new species, *Phytomyza ambigua* spec. nov., *Phytomyza leslieae* spec. nov., *Phytomyza lineata* spec. nov., and *Phytomyza wiggii* spec. Nov., are formally named, and all adults and puparia of North American species are described, illustrated, and included in an updated identification key. A lectotype is designated for *P. ilicis*.

Mathis, W.N. & Zarwarnicki, T. 2012. Revision of New World species of the shorefly subgenus *Allotrichoma* Becker of the genus *Allotrichoma* with description of the subgenus *Neotrichoma* (Diptera, Ephydriidae,

Hecamedini). Zookeys 161: 1-101.

--abstract-- The New World species of the subgenera *Allotrichoma* Becker and *Neotrichoma* (new subgenus) are revised, including a phylogenetic analysis of the species groups and subgenera within the genus *Allotrichoma*. For phylogenetic perspective and to document the monophyly of the genus *Allotrichoma* and its included subgenera and species groups, we also provide a cladistic analysis of genera within the tribe Hecamedini. The ingroup included seven exemplar congeners from within *Allotrichoma*. Outgroup sampling included exemplars of other genera within Hecamedini and from the putative sister group, Lipochaetini, and to root the analysis, we used an exemplar of the tribe Discocerini. Analyses, with successive weighting and implied weighting recovered a monophyletic *Allotrichoma* and indicated clades within the genus. Eight new species are described (type locality in parenthesis): *A. bifurcatum* (Utah. Utah: Lake Shore (40°

06.9'N, 111° 41.8'W, 1370 m)), *A. dynatum* (Oregon. Benton: Finley National Wildlife Refuge (44° 24.6'N, 123° 19.5'W)), *A. occidentale* (Oregon. Lake: Lakeview (44 km E; Drake Creek; 42°11' N, 119° 59.3'W)), *A. robustum* (California. Kern: Kern River (35° 16.1'N, 119° 18.4'W)), *A. sabroskyi* (New Mexico. Sandoval: La Cueva (Junction of Highways 126 and 4; 35° 52'N, 106° 38.4'W' 2342 m)), *A. wallowa* (Oregon. Baker: Goose Creek (35 km E. Baker City; 44° 49.2'N, 117° 27.79'W; 825 m)), *A. baliops* (Florida. Monroe: Key West (Willie Ward Park; 24° 32.9'N, 81° 47.9'W)), and *A. insulare* (Dominica. Cabrits Swamp (15° 35'N, 61° 29'W)). Within *Allotrichoma*, we recognize three subgenera of which one, *Neotrichoma* (type species: *A. atrilabre*), is newly described. All known species from the New World are described with an emphasis on structures of the male terminalia, which are fully illustrated. Detailed locality data and distribution maps for the New World species are provided. A lectotype is designated for *Discocerina simplex* Loew and a neotype is designated for *Allotrichoma bezzii* Becker. *Allotrichoma filiforme* Becker, *A. trispinum* Becker, and *A. dahlia* Beschovski are reported as new synonyms of *A. simplex* (Loew) and *A. Yosemite* Cresson is a new synonym of *A. atrilabre* Cresson. We also clarify the status of previously described species, including those with Holarctic distributions. For perspective and to facilitate genus group and species-group recognition, the tribe Hecamedini is diagnosed and a key to included genera is provided.

Menqual, X. 2011. Black-tie dress code: two new species of the genus *Toxomerus* (Diptera: Syrphidae). ZooKeys 140: 1-26.

--abstract-- *Toxomerus hauseri* Mengual sp. n. and *Toxomerus picudus* Mengual sp. n. are described from Peru and Ecuador respectively. *Toxomerus circumcinctus* (Enderlein, 1938) is treated as a valid

species and not considered synonym of *Toxomerus marginatus*, and *Toxomerus ovatus* (Hull, 1942) is considered junior synonym of *Toxomerus nitidus* (Schiner, 1868). An identification key for the *Toxomerus* species with dark abdomens is given along with diagnoses for each studied species.

Mohamedsaid, M.S. & Furth, D.G. 2011. Secondary sexual characteristics in the Galerucinae (*sensu stricto*) (Coleoptera: Chrysomelidae). International Scholarly Research Network, Zoology, pp. 1-60.

---abstract--- A list of 1298 species and 172 genera of Chrysomelidae from the subfamily Galerucinae (*sensu stricto*) with the males having at least one form of secondary sexual characteristic (SSC) is presented. The number of species amounts to 24% of the total Galerucinae presently known from all over the world --- a very significant amount. The SSCs comprise various types of modified structures found on all parts of the body – head, thorax, and abdomen. They are not variable but species specific. Illustrations from selected 87 species that include 84 images and 15 line drawings showing various types of SSC are provided. The amazing array of SSCs from the Galerucinae offers a large and taxonomically diverse set of data that are not comparable with other sub-families in the Chrysomelidae and may be useful in phylogenetic analysis of the family.

Pogue, M.G. 2011. Larval description of *Copitarsia incommoda* (Lepidoptera: Nocutidae). Ann. Entomol. Soc. Amer. 104(6): 1292-1296.

--abstract-- The last instar of *Copitarsia incommoda* (Walker) is described for the first time. Specimens in this study were reared from quinoa (*Chenopodium quinoa* Willd., Chenopodiaceae), Bolivia, La Paz, 4 km S Viacha, Quipaquipani, 3,880 m. The larva of *Copitarsia incommoda* is compared with larvae of *Copitarsia decolora* (Guenee) and *Copitarsia corruda* Pogue and Simmons.

Pogue, M.G. 2012. The Aventiinae, Boletobiinae, Eublemminae, Pangraptinae, Phytometrinae and Scolecocampinae (Lepidoptera: Noctuidea: Erebidae) of Great Smoky Mountains National Park, U.S.A. Zootaxa 3153: 1-31.

--abstract— Twenty-five species of Erebidae are documented from Great Smoky Mountains National Park (GSMNP) from the following subfamilies: Aveniinae (1 species), Boletobiinae (7 species), Eublemminae (1 species), Pangraptinae (2 species), Phytometrinae (6 species), and Scolecocampinae (8 species). Each species is documented with an adult image, description/diagnosis, flight period, park distribution, abundance, elevational range, general distribution, and larval hosts. The most common (155 specimens) and widespread (40 localities) species was *Pangraptia decoralis* Hubner.) *Scolecocampa liburna* (Geyer) is the next most common (87 specimens) and widespread (30

localities). The most species rich locality was the combination of the 11 localities along the Foothills Parkway, Cocke Co., Tennessee.

Prathapan, K.D. and Konstantinov, A.S. 2011. A new species-group in *Aphthona* Chevrolat (Coleoptera: Chrysomelidae) with a description of a new species from southern India. Cole. Bull. 65(4): 329-334.

---abstract--- A new species-group in the flea beetle genus *Aphthona* Chevrolat is defined and *Aphthona yercaudensis* Prathapan and Konstantinov, new species, from southern India is described. A key to *Aphthona* species-groups in the Oriental Region is provided. Herbaceous species of *Phyllanthus* L. (Euphorbiaceae) are recorded as the host plants of *Aphthona bombayensis* Scherer.

**Smith, D.R. 2011. An ensign wasp (Hymenoptera: Evaniidae) new to Virginia. Banisteria 38: 86-87.

**Smith, D.R. 2011. Nematinae (Hymenoptera, Tenthredinidae) of Thailand, with notes on some other southeastern Asian nematines. Inter. Soc. Hymenoptera Research 22: 1-27.

--abstract— Nine species in five genera of Nematinae are recorded for the first time from Thailand: *Trichiocampus pruni* Takeuchi, *Dineura sharkeyi*, sp. n., *Moricella ruaeensis*, sp. n., *Nematus soidaoi*, sp. n., *Pristiphora chalybeata* Benson, *Pristiphora ettera*, sp. n., *Pristiphora inthanoni*, sp. n., *Pristiphora annetna*, sp. n., and *Pristiphora phahompoki*, sp. n. A key is given for the genera and species of Thailand. New records and description of the male are given for *Prisiphora borneensis* Forsius from Sabah, Malaysia, and a new record is given for *Pristiphora sinensis* Wong from China.

**Smith, D.R. Tripotin, P. 2012. Trigonalidae (Hymenoptera) of Madagascar. Journal of Hymenoptera Research. 24: 1-25.

--abstract-- Seven species of the primarily hyperparasitoid family Trigonalidae are reported from Madagascar: *Orthogonalys brevis* Smith & Tripotin, sp. n., *Orthogonalys gigantea* Benoit, 1951; *O. hova* Bischoff, 1933; *O. maculata* Bischoff, 1933; *Orthogonalys parahova* Smith & Tripotin, sp. n., *O. seyrigi* Bischoff, 1933; and *Trigonalys natalensis* Kriechbaumer, 1894. Diagnoses and a key to species are given.

Staines, C.L. 2011. Hispines (Chrysomelidae: Cassidinae) of La Selva Biological Station, Costa Rica. In P. Jolivet, Santiago-Blay, J., & Schmitt, M. (eds.) Research on Chrysomelidae 3. Zookeys 157: 45-65.

--abstract— Survey work from 1992-2001 identified 139 species of hispines at the lowland part of La Selva Biological Station, Costa Rica. The tribe Cephaloleiini was the most speciose with 58 species (41.7%) followed by the Chalepini with 55 (39.5%). The fauna is most closely related to that in South America but with some genera which are more speciose in the Nearctic Region.

Plant associations are known for 88 (63.3%) of the species but many of these are merely collecting records, not host plant associations. The first plant associations are reported for *Alurnus ornatus*, *A. salvini*, and *Acentroptera nevermanni*.

VISITORS:

Jay Abercrombie, a former researcher with the Walter Reed Biosystematics Unit, visited **Wayne Mathis** and the Diptera Collection January 04-08.

Pia Addison from Stellenbosch University, Matieland, South Africa visited **John Brown** and the Lepidoptera Collection January 23-27.

Julia Almeida from the Field Museum of Natural History visited the Coleoptera Collection and **Norman Woodley** November 21-25.

Lorenza Beati from Georgia Southern University visited **David Furth** and Collections Management January 26-27.

Timothy Bonebrake from the University of California at Riverside visited the Butterfly Collection and **Robert Robbins** January 11.

Brendon Boudinot from The Evergreen State College, visited **Ted Schultz** and the Formicidae Collection December 29-30.

Emily Bzydk from the University of California at Davis visited **Sean Brady** and the Hymenoptera Collection on December 16.

Sophie Cardinal, from Agriculture Canada, visited **Sean Brady** and the Hymenoptera Collection January 30 through February 06.

Tami Carlow, former USDA entomology technician, visited **Natalia Vandenburg** and the Coccinellidae Collection February 03-04. Tami will be a volunteer in the Coleoptera Collection for some time.

Janet Ciegler, from West Columbia, South Carolina, visited **Warren Steiner** and the Coleoptera collection November 1-5. They are pictured here below.



Kevin Chase from Mississippi State University visited **Dave Smith** and the Hymenoptera Collection November 21-22.

Patricia Corro from the University of Panama visited **John Brown** and the Lepidoptera Collection November 21-23.

Heather Cummins from the University of Minnesota visited the Lepidoptera Collection and **John Brown** November 09 through December 14.

Steven Davis from the University of Kansas visited **Don and Mignon Davis** and the Lepidoptera Collection December 20-23.

Michael Fizdale from Prince George's Community College in Maryland visited **Michael Gates** and the Hymenoptera Collection January 23 through February 22.

Nick Grishin from the Southwest Medical Center was a visitor with **Robert Robbins** and the Lepidoptera Collection February 06-07.

John Heppner from the McGuire Center for Lepidoptera & Biodiversity, University of Florida visited **John Brown** and the Micro-Lepidoptera Collection November 21-23.

Mathias and **Catrina Jaschhof**, from the Senckenberg Deutsches Entomologisches Institut, Muehlenberg, Germany, visited **Raymond Gagne** and the Cecidomyiidae Collection 11-25 October. Their stay included collecting specimens in the forests of West Virginia.

Eduard Jendek from Canadian Food Inspection Agency, Ottawa, Canada, visited **Steve Lingafelter** and the Buprestidae Collection February 06-17.

Tristan Kim from Germantown Friends School, Maryland, visited **Michael Gates** and the Hymenoptera Collection January 14-30.

Lynn Kimsey from the University of Southern California at Davis visited **Sean Brady** and the Hymenoptera Collection on January 26.

Dennis Kopp from USDA visited **Tom Henry** and the Heteroptera Collection on January 23-25, and then return for a longer visit January 31 through February 28.

Vitya Kuban from the National Museum of Czech Republic visited the Buprestidae Collection and **Natalia Vandenburg** January 30 through February 29.

Nathan Lord from the University of New Mexico visited **Steve Lingafelter** and the Coleoptera Collection January 23-29.

Mikhail Mandelshtam from the Institute for Experimental Medicine, St. Petersburg, Russia visited **Natalia Vandenburg** and the Coleoptera Collection September 19-24.

Eugenio Nearns from the University of New Mexico visited **Steve Lingafelter** and the Coleoptera Collection January 23-29.

Andre Nogueira from the Universidade de Sao Paulo, Brazil visited **Dana DeRoche** and the Arachnida Collection December 15-16.

Monique Rentel from Stellenbosch University, Matieland, South Africa visited **John Brown** and the Lepidoptera Collection January 23-27.

Desiree Robertson-Thompson from Frostburg State University, Maryland visited **Alexander Konstantinov** and the Coleoptera Collection January 14-16.

Tatyana Vshivkova from the Far Eastern Branch, Russian Academy of Science, visited **Oliver Flint** and the Neuropteroid Collection January 30 through February 03.

Al Wheeler, Jr. from Clemson University visited **Tom Henry** and the Hemiptera Collection January 12-14.

Hongxia Xu from the Institute of Zoology, Chinese Academy of Sciences, Beijing, visited **Steve Lingafelter** and the Coleoptera Collection February 02-28.

Serena Zhao from Harvard University visited the Coccinellidae Collection and **Natalia Vandenberg** November 07-08.

TRAVEL:

David Furth, after eight months in Israel, returned to the Smithsonian in October. At the request of the government of Israel, he spent his time there advising officials on the construction of a new national museum. His strong knowledge in collections management cast him as the perfect person for this assignment. The new museum of natural

history will be the first modern museum of its kind in the Mid-East, and will be called the Steinhardt Museum of Natural History. A parking lot will be built underneath the museum. Museum space will be 80,000 square feet, with 27,000 square feet devoted to collections space. The present University Museum has oversight by a Scientific Advisory Board, a Scientific and Public Committee, a Steering Committee and a Curatorial Committee. Entomology curators currently are only two individuals, Amnon Friedberg and Netta Dorchin. The Entomology Collection contains one and a half million specimens.



Above: Dave wading in the Huleh Nature Reserve looking for an extinct Donaciine Chrysomelid; Below: photographing a potential secondary habitat for the same extinct Donaciine. Left: transferring his 1969 Dead Sea Oasis (Ein Gedi) collection to the SMNH collection.

Dave profiled the collections to determine current curatorial storage and conditions, and found 400 primary types and 5,561 storage units. Associated collections around Israel will probably move to the new museum. While in Israel, Dave visited other museums, advising them in topics of storage and maintenance for specimens.

During the last three weeks of October, **Gary Hevel** participated in two BioBlitz events in the southwestern section of the country. Driving and other activities were shared by Hevel's wife, Julie, and after two days, they reached southern Oklahoma, where the 10th anniversary Oklahoma BioBlitz took place at Chickasaw National Recreation Area near Ardmore. The familiar faces of coordinator Priscilla Crawford and entomologist Ken Hobson greeted the Hevels and other participants. Although the area had suffered from a strong drought, a reasonable number of plants and animals were collected or observed by scientists and the public during the two day event. The Oklahoma BioBlitz has a strong following of interested families who attend the event annually at locations across Oklahoma. A notable element of the event was the presence of two armadillos that wandered about the collecting area. Afterwards, the Hevels drove further west to Saguaro National Park to participate in what has become known as "The National BioBlitz," sponsored jointly by the National Park Service and the National Geographic Society. This year was the fifth in a planned series of ten BioBlitzes, organized near large cities across the United States, and with the primary goal of public education. SNP had also suffered from a long dry spell, but the locality was agreed upon by everyone to be a spectacular location. Some 150 scientists

and naturalists were counting and collecting organisms during the two day period, and the results registered approximately eight hundred different plants and animals, many yet to be specifically identified.

There were many familiar faces at the BioBlitz, including Wendy Moore, now at the University of Arizona, Dan Kjar, who has appeared at all the "National BioBlitzes," Randy Miller, a tardigrade specialist from Baker University (Kansas), and Katja Schulz, from the Smithsonian's Encyclopedia of Life office. Of special note was a visit by Lois and Charley O'Brien, who Gary met first on a collecting trip in Jamaica, many years ago. The O'Briens live in the Tucson vicinity. A major benefit of attending BioBlitzes is the opportunity to separately collect insects enroute for the Smithsonian. Several stops were made in Texas and Florida to gather specimens. Tom Henry advises that a series of plant bugs (Miridae) collected in Florida represent a species that has previously been confused, and currently remains undescribed by science. Gary and Julie were pleased to get home after the journey, and noted that they had traveled 6500 miles.



Lois & Charley O'Brien



Dan Kjar



Randy Miller