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Elaine R. S. Hodges (1937-2006)



Robert Kula



Oliver S. Flint, Jr.

FRONT PAGE:

On June 27 at her home in Eugene, Oregon, our friend and colleague **Elaine Hodges** died of breast cancer. She had a lengthy and important career as a scientific illustrator with the Smithsonian from 1965 and with the Department of Entomology from 1976 until 1996, when she retired from government service. She was born in Washington in 1937, and was drawing before she was a year old. Elaine had many highlights during her career, but perhaps was most widely known for her editorship of the “Guild Handbook of Scientific Illustration,” published in 1989, and revised in 2003. This volume has been applauded as the foremost of its kind for natural history illustration. Elaine provided numerous illustrations for the Moths of North America volumes, strongly supporting the work of her husband Ronald Hodges, former researcher in the Systematic Entomology Lab, U.S.D.A. In 1968, she was co-founder with Carolyn Gast of the Guild of Natural Science Illustrators, and is credited with the mentorship to hundreds of illustrators around the world. She accumulated many exhibit awards, including Certificate for Merit, Society of Illustrators 1981, and is listed in Who’s Who in American Art.

A local tribute and celebration of Elaine’s life and work is being planned by colleagues.

Oliver Flint, emeritus entomologist with the Department of Entomology, recently received a remarkable surprise when he attended the 12th International Symposium on Trichoptera, held in Mexico City. On the stage at the symposium was a large banner that included his name and image, and he was declared the honoree of the week-long event. His colleagues had secretly produced the banner, then presented flattering comments about him during their sessions.

Robert Kula joined the Systematic Entomology Lab recently, and is a specialist on Ichneumonoidea and Braconioidea, two superfamilies of parasitic wasps. His position is one of the replacements for the “chalcid brothers” Eric Grissell and Michael Schauff. (Hodges photo/Marie Metz; others/G. Hevel, front page formatting/J. Louton).

ANNOUNCEMENTS:

Gary Hevel will present the topic “The Bugs in the Back Yard: How to do Ecological Studies Without a Travel Budget” at a Department of Paleobiology Seminar at 10:00 am in the Cooper Reading Room, NMNH, on July 13.

GENERAL NEWS:

Mike Pogue was one of the scientists in attendance at the recent Potomac BioBlitz, and was quoted in the June 25th edition of the *Washington Post*. The article read as follows: “Mike Pogue, a researcher at the U.S. Department of Agriculture’s entomology laboratory at the Smithsonian Institution, sat among jars, trays of pins and collection boxes, mounting moths on display boards. Particularly in the insect world, he said, “we don’t have a clue what’s out there.” Without biodiversity studies, “things can go extinct, and you wouldn’t know it.””

Terry Erwin and **Warren Steiner** joined beetle researcher colleagues at Carnegie University, Pittsburg, Pennsylvania recently (June 09-10) at the 2006 International Carabidologists Meeting. In particular, the meeting was a celebration of carabid beetle diversity and the 80th birthday of George E. Ball, a ground beetle researcher from the University of Edmonton, Canada. The event included a series of invited talks on carabid beetles and on George’s contributions to the field, with poster sessions, entertaining presentations, mixers, and specimen-sharing opportunities. A sumptuous banquet was held in George’s honor, which provided opportunities to offer personal stories about George, and listen to his. A wealth of Ball’s former students at Edmonton were present for the event, Terry Erwin among those gaining mentorship during formative years.

After the recent Smithsonian Affiliations National Conference, Daniel Spaulding of the Anniston Museum in Alabama was presented with a few hundred specimens of insects by **Gary Hevel**. The specimens, all exhibit-quality but un-labeled, will support the Anniston Museum current exhibit on “Defense and Aggressiveness in Insects,” and future exhibits.

PUBLICATIONS BY STAFF:

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

Brady, S. G., S. Sipes, A. Pearson, and B. N. Danforth. 2006. Recent and simultaneous origins of eusociality in halictid bees. *Proc. R. Soc. B* 273: 1643-1649.

--abstract— Eusocial organisms are characterized by cooperative brood care, generation overlap and reproductive division of labour. Traits associated with eusociality are most developed in ants, termites, paper wasps and corbiculate bees; the fossil record indicates that each of these advanced eusocial taxa evolved in the Late Cretaceous or earlier (greater than 65 M yr ago). Halictid bees also include a large and diverse number of eusocial members, but, in contrast to advanced eusocial taxa, they are characterized by substantial intra- and inter-specific variation in social behaviour, which may be indicative of more recent eusocial evolution. To test this hypothesis, we used over 2400 bp of DNA sequence data gathered from three protein-coding nuclear genes (opsin, wingless and EF-1a) to infer the phylogeny of eusocial halictid lineages and their relatives. Results from relaxed molecular clock dating techniques that utilize a combination of molecular and fossil data indicate that the three independent origins of eusociality in halictid bees occurred within a narrow time frame between approximately 20 and 22 M yr ago. This relatively recent evolution helps to explain the pronounced levels of social variation observed within these bees. The three origins of eusociality appear to be temporally correlated with a period of global warming, suggesting that climate may have had an important role in the evolution and maintenance of eusociality in these bees.

Buffington, M. L. 2006. The description of *Moritiella* Buffington, new genus (Hymenoptera: Figitidae: Eucoilinae). *Zootaxa* 1237: 611-68.

--abstract— The genus *Moritiella* Buffington, n. gen., is described, diagnosed and illustrated (Hymenoptera: Figitidae; Eucoilinae). Two species new to science are described: *M. elegans* n. sp. and *M. astrudae* n. sp.

Phylogenetic evidence suggests *Moritiella* is among the *Zaenocoila* group of genera, a group of eucoilines chiefly parasitic upon leaf-mining Agromyzidae (Diptera).

Gates, M. W., H. Liu, L. S. Bauer, and **M. E. Schauff.** 2006. A new species of *Pediobius* (Hymenoptera: Eulophidae) parasitizing *Chyliza apicalis* (Diptera: Psilidae) in ash trees attacked by *Agrilus planipennis* (Coleoptera: Buprestidae). *Great Lakes Entomol.* 38 (1&2): 76-82.

--abstract--- *Pediobius chylizae*, spec. nov. (Hymenoptera: Eulophidae) is described as new and illustrated. This parasitoid has been reared from the puparia of *Chyliza apicalis* Loew (Diptera: Psilidae) collected from under the bark of ash trees (Oleaceae: *Fraxinus* spp.) dying after attack by the emerald ash borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), an invasive beetle from Asia. This species is compared with related species of *Pediobius* from the Holarctic Region.

Marinoni, L. and **W. N. Mathis.** 2006. A cladistic analysis of the Neotropical genus *Sepedonea* Steyskal (Diptera: Sciomyzidae). *Zootaxa*: 1236: 37-52.

--abstract— A cladistic analysis of the 13 known species of *Sepedonea* Steyskal, 1973, is presented and a new species, *Sepedonea giovana* sp. n., is described. The monophyly of the genus is confirmed, as is the genus' sister-group relationship to *Sepedomerus* Steyskal, 1973. The cladistic analysis was done using NONA and a matrix of 27 adult morphological characters, including structures of the male and female terminalia. The relationships in parenthesis notation are: *S. guatemalana* (*Veredae* (*S. lindneri* (*S. isthmi* (*S. lagoa* ((*S. barbossai*+*S. canabravana*))(*S. neffi* (*S. giovana*+*S. guianica*))(*S. telson* (*S. incipiens*+*S. trichotypa*)))))))).

Pogue, M. G. 2006. The Noctuidae (Lepidoptera, Noctuidae) of Great Smoky Mountains National Park, U.S.A. *Zootaxa* 1215: 1-95.

--abstract— Forty-eight species of Noctuidae are recorded from Great Smoky Mountains National Park, Tennessee and North Carolina, U.S.A., with 17 species in the tribe Agrotini and 31 species in the tribe Noctuidini. Images of adults, description/diagnosis, flight

period, collected localities, abundance, elevational range, general distribution, and larval hosts are presented for each species. The greatest diversity of Noctuid species (n=29) was recorded from four combined localities along Big Cove Road, Swain Co., North Carolina.

Scheffer, S. J., M. L. Lewis, and R. C. Joshi. 2006. DNA barcoding applied to invasive leafminers (Diptera: Agromyzidae) in the Philippines. *Ann. Entomol. Soc. Am.* 99(2): 204-210.

--abstract-- DNA barcoding involves the sequencing of a single gene region from all species to provide a means for identifying all of life. Although appealing to many scientists, this idea has caused considerable controversy among systematists. We applied a DNA barcoding approach to outbreak populations of invasive *Liriomyza* sp. leafminer pests in the Philippines to explore the use of barcoding in a relatively well studied, economically important group. We sequenced a 527-bp portion of mitochondrial cytochrome oxidase I (COI) from 258 leafminers from 26 plant host species in the Philippines. Neighbor-joining and parsimony analysis were used to compare COI sequences from the Philippines to an extensive database of COI sequences previously obtained from samples of the invasive leafminers *Liriomyza huidobrensis* (Blanchard), *Liriomyza trifolii* (Burgess), and *Liriomyza sativae* Blanchard from locations around the world. We conclude that although a DNA barcoding approach can provide rapid species identifications, in certain instances it is likely to either overestimate or underestimate the number of species present. Only when placed within the context of considerable other data can DNA barcoding be fully interpreted and used. For economically and medically important species, which can be well studied, DNA barcoding offers a powerful means for rapid identifications.

Takiya, D. M., R. R. Cavichioli and **S. H. McKamey.** 2006. Brazilian sharpshooters of the genus *Homalodisca* Stal, 1869 (Hemiptera, Cicadellidae): notes, new records, key to species, first description of the male of *H. ignota* Melichar, 1924, and a new Northeastern species. *Zootaxa* 1249: 23-36.

--abstract-- Four species of the sharpshooter genus

Homalodisca Stal are known to occur in Brazil: *H. ignota* Melichar; *H. ignorata* Melichar; *H. lucernaria* (Linnaeus), a senior synonym of the type-species *Cicada triangularis* Fabricius; and the new species *H. spottii* sp. nov. described from Bahia and Sergipe states. *H. spottii* sp. nov. is probably involved in the transmission of *Citrus* variegated chlorosis in Northeastern Brazil and is easily distinguished from other *Homalodisca* species by the (1) dark dorsum mottled with yellow; (2) contrasting yellow mesoscutellum; (3) broadly concave female sternite VII; and (4) aedeagal atrium not expanded dorsally and with 2 pairs of straight spiniform processes. Males and the female genitalia of *H. ignota* are described and illustrated for the first time (including an undistorted view of the female sternite VII). A sclerotized female internal sternite VIII in *H. ignota* and *H. spottii* sp. nov. is newly recorded for this genus. *Homalodisca* species are newly recorded for following Brazilian states: *H. ignota* from Rio de Janeiro and Sao Paulo; *H. ignota* from Minas Gerais, Parana, Rio de Janeiro, and Santa Catarina; and *H. lucernaria* from Para and Roraima. A taxonomic key and notes on Brazilian species are also given.

Takiya, D. M., **S. H. McKamey,** and R. R. Cavichioli. 2006. Validity of *Homalodisca* and of *H. vitripennis* as the name for glassy-winged sharpshooter (Hemiptera: Cicadellidae: Cicadellinae). *Ann. Entomol. Soc. Am.* 99(4): 648-655.

--abstract--A male of *Tettigonia vitripennis* Germar --- deposited in the recently rediscovered Germar Hemiptera collection, in the Ivan Franko National University (Ukraine) -- is designated as the lectotype and assumed to be erroneously labeled as from Brazil. *Homalodisca vitripennis* is considered a senior synonym of *Tettigonia coagulata* syn. nov. and therefore should be used as the scientific name for the glassy-winged sharpshooter, a major vector of the bacterial Pierce's disease of grapes, phony peach disease, plum leaf scald, and oleander leaf scorch in southern United States and northern Mexico. The previously designated type species of *Homalodisca* Stal, *Cicada triquetra* F., was found to be mistaken by Stal for *C. triangularis* F., which is herein fixed as the new type species of this economically important genus. *Propetes triquetra* comb. nov., previously known only from an unknown locality in South America, is newly recorded from Brazil (Mato Grosso

and Para states).

Whittaker, S. D. and **C. D. Duckett.** 2006. Effects of DNA extraction techniques on morphological analysis of small arthropods. *Scanning* 28, 2: 102.

VISITORS:

Natalie Allen from Bowie, Maryland, is visiting Steve Lingafelter and the Cerambycidae Collection June 12 through August 15.

Wesley Bicha from Oak Ridge National Laboratory, Tennessee, visited Oliver Flint and the Mecoptera Collection on June 15.

Mirna Casagrande from Universidade Federal do Parana, Curitiba, Brazil, is visiting Robert Robbins and the Butterfly Collection June 26 through July 18.

Charles Covell from McGuire Center in Gainesville, Florida, visited Patricia Gentili-Poole and the Geometridae Collection May 30 through June 02.

Steve Davis from the University of Kansas visited Warren Steiner to extract selected weevils from the Ecuador Canopy Project samples, May 30 through June 15.

Ferdy de Moor from Albany Museum, Grahamstown, South Africa, visited Oliver Flint and the Trichoptera Collection June 30 through July 07.

Tomiko Ito from Hokkaido Aquatic Biology, Japan, visited Oliver Flint and the Trichoptera Collection June 15-17.

Dan Janzen and **Winnie Hallwachs** from the University of Pennsylvania visited John Burns and primarily the Skipper Collection on June 14 and June 21.

Esther Julier from the University of Virginia is visiting

Ted Schultz and the Bee Collection July 03 through August 03.

Sindhu Krishnankutty from Illinois State University visited Stuart McKamey and the Hemiptera Collection July 03-07.

Naotoshi Kuhara from Chitose Board of Education, Chitose, Japan, visited Oliver Flint and the Trichoptera Collection, June 15-17.

Lisa Leadbeater from University College in London visited Robert Robbins and the Butterfly Collection on June 09.

Olaf Mielke from Universidade Federal do Parana, Curitiba, Brazil, visited Robert Robbins and the Butterfly Collection June 26 through July 10.

Rich Pakauskus from Hayes State University, Hayes, Kansas, visited Tom Henry and the Coreidae Collection for contract curation, June 12-26.

Ryan Roth from the Pinhead Institute, Telluride, Colorado is visiting Terry Erwin as an intern, June 19 through July 19.

T'ai Roulston from the University of Virginia is visiting Ted Schultz and the Bee Collection July 03 through August 03.

Brian Scholtens from College of Charleston visited Robert Robbins and the Butterfly Collection May 30-31.

Lisa Taylor from Arizona State University in Tempe visited Ted Schultz and the Mutillidae Collection on June 22.

Robert Wharton from Texas A&M University visited Mike Gates and the Parasitic Hymenoptera Collection on June 16.

Michael Wilson from National Museums, Wales,

visited Tom Henry and the Cicadellidae Collection May 29-June 05.

TRAVEL BY STAFF:

John Burns traveled to Gainesville, Florida, 14-18 June 2006, to visit the Florida Museum of Natural History and to attend the 57th Annual Meeting of the Lepidopterists' Society (held in conjunction with the Southern Lepidopterists' Society and the Association for Tropical Lepidoptera). On June 15 he gave a paper entitled "Skipper Butterflies and the DNA Barcoding Controversy."

Don Davis, accompanied by wife Mignon, recently attended the Annual Meetings of the Lepidopterists' Society June 12-19 which was hosted by the McQuire Center for Lepidoptera Diversity at Gainesville, Fl.,

where he participated in ATOL workshops on the Lepidoptera, presented a talk on The moth family Acrolophidae, as well as a short presentation on a new subfamily of Psychidae whose larvae feed on live ants, and later collected leaf-mining larvae around Gainesville.

Terry Erwin will be conducting research in Ecuador during most of July.

David Furth will be on annual leave in Mexico, July 05-15.

Wayne Mathis will engage in field research in Alaska in early July.

Currently in the Dominican Republic for a few weeks of research are **Alexander Konstantinov**, **Steven Lingafelter** and **Norm Woodley**.