ANNOUNCEMENTS:

The 1148th Regular Meeting of the Entomological Society of Washington will convene at the Insect Zoo, NMNH, at 7:00pm in the Insect Zoo on October 6th. Nate Erwin will present the topic "Insect Zoos in the 21st Century: Where they've come from, and where they are going."
This is a RSVP event: please contact Matt Buffington if you would like to attend: 202-633-4552/matt.buffington@ars.usda.gov.

GENERAL INFORMATION:

Paul Junior Spangler, age 86, died on June 05, 2011, at the Golden Age Living Center in Stover, Missouri. He was born on November 21, 1924, in York, Pennsylvania. Paul was a veteran of the U.S. Navy, where he served during World War II. His higher education was gained at Lebanon Valley College in Pennsylvania, the University of Ohio and the University of Kansas before receiving his doctorate at the University of Missouri. For more than 4 decades, he was a Research Entomologist at the Smithsonian Institution, studying water beetles of the world. He also had interests in aquatic true bugs. It is difficult to discuss Paul Spangler without noting his wife Phyllis. For most of his career, she worked with him as a specimen preparator and assistant curator, and they were commonly within earshot of each other, both at the office and at their residence. Paul led fieldwork trips to many Latin American countries, returning to the USNM (United States National Museum) with copious amounts of specimens. With Karl Krombein, the Spanglers traveled to Africa, and added strong representation of African insect species. They spent fieldwork time mostly in tropical South America, and had the strong reputation of goodwill ambassadors with the staff of Museums and Institutions in that area. Paul retired from the federal government in 2002, rather abruptly, and, with Phyllis, drove to Warsaw, Missouri, where they lived out the rest of their lives on a farm with their son, Richard. Phyllis preceded Paul in death at the age of 82 on June 26, 2010. Sadly, Paul was a victim of advanced Alzheimer's Disease in his last years.

Pat Espenshade (Patricia Ann (Walters) Espenshade died on July 28. Pat had been associated with the U.S.D.A's Systematic Entomology Lab for decades before her official retirement from the federal government in January, 2007. As an employee, she was an executive assistant/secretary for many SEL leaders, including Ron Hodges. She has been described by friends and colleagues alike as efficient, friendly, sociable, humorous, and energetic. After retirement, she was a member of the Annapolis Quilt Guild, and was a knitter for some 50 years. She loved hockey, was an attentive mother to her four sons, and traveled in recent years to Ireland and Italy. An additional photograph of Pat appeared on the December, 2006 front cover of the EntNews (related to her retirement).

OUTREACH:

The Washington Post Express included an article related to the release of the new movie “Rise of the Planet of the Apes” on August 04, with reporter Kristen Page-Kirby posing the question of what group would possibly “take over the world” among the possibilities of dolphins, apes or insects. Gary Hevel was quoted in the article, suggesting that ants are the most likely candidates.

PUBLICATIONS:

Research papers by colleagues who are no longer members of the combined entomological staff, mostly retired members, will be listed, and those will be noted by a double asterisk.

Beard, J.J. & Ochoa, R. 2011. New flat mite genera (Acari: Trombidiiformes: Tenuipalpidae) associated with Australian sedges (Cyperaceae). Zootaxa: 2941: 1-37. +++abstract+++ Two new genera, Gahniacarus gen. nov. and Cyperacarus gen. nov., and four new species, G. gersonus sp. nov., G. tuberculatus sp. nov., C. naomae sp. nov. and C. foliates sp. nov., are described from
native Australian sedge species in the genus *Gahnia* (Cyperaceae). Leg chaetotaxy is provided for all stages of each species. The importance of taxonomic characters offered by immature states and ontogenetic changes in leg chaetotaxy are discussed. A key to the Tenuipalpidae associated with Cyperaceae in Australia is provided.


---abstract--- The genera comprising the Diglyphosematini Belizin (Hymenoptera: Figitidae: Eucoilinae) are redescribed, all of the valid species are catalogued, and a key to all Diglyphosematini genera is provided. To determine the monophyly of each of the included genera, a phylogenetic analysis of 1060 ribosomal characters, 392 mitochondrial characters, and 169 morphological/biological characters was conducted for 18 ingroup taxa in both a parsimony and Bayesian framework. Based on the results presented here and elsewhere, the Diglyphosematini are comprised of the following genera: *Banacuniculus* Buffington, *Diglyphosema* Forster, *Disorygma* Forster, *Ealata* Quinlan, *Ganaspidium* Weld, *Gronotoma* Forster, *Microstilba* Forster, *Nordlanderia* Quinlan, *Paradiglyphosema* Lin, and *Tobiasiana* Kovalev. *Disorygma* was not recovered as monophyletic; *Sinatra* Buffington, new genus, also included in Diglyphosematini, is described to accommodate *S. pacifica* (Yoshimoto), *Nordlanderia*, revised status, is removed from synonymy with *Tobiasiana*. Characters and character states applicable specifically to Diglyphosematini are defined and illustrated. Characters supporting the monophyly of each genus are discussed. All species of Diglyphosematini whose biology has been studied in depth are parasitoids of leaf-mining and stem-mining Agromyzidae (Diptera), or rarely, of fruit infesting Tephritidae (Diptera). New host records for *Diglyphosema* and *Ealata*, as well distributions and known type repositories for each species of Diglyphosematini, are reported.


---abstract--- We fix and describe the neotype of the cotton aphid, *Aphis gossypii* Glover, and publish its DNA barcode.


---abstract--- The species level taxonomy of *Porthecia* is revised. Six previously described species are recognized: *P. ravus* (Druce 1907); *P. barba* (Druce 1907); *P. dinus* (Hewitson 1867); *P. porthura* (Druce 1907); *P. minyia* (Hewitson 1867); *P. gemma* (Druce 1907), and another six new species are proposed: *P. forasteira* Faynel & Moser n. sp.; *P. annette* Faynel & Robbins n. sp.; *P. johanna* Faynel & Robbins n. sp.; *P. peruensis* Faynel & Moser n. sp.; *P. prieto* Faynel & Busby n. sp. and *P. willmotti* Busby, Faynel & Moser n. sp. For each *Porthecia* species we present diagnostic characters, images of male and female adults, drawings of male and female genitalia, distribution maps, and notes on habitat and other biological traits. An identification key for males is provided. To stabilize names; lectotypes are designated for *Thecia minyia* Hewitson 1867, and *Thecia gemma* Druce 1907. Wing pattern resemblances between *Porthecia* and other genera are discussed.


---abstract--- This paper begins a series of synoptic taxonomic treatments on the Miridae known from Minas Gerais, Brazil, by subfamily, beginning with the Bryocorinae. We provide diagnoses, host-plant
information, distribution data, and illustrated keys to four tribes, 24 genera, and 56 species. For most species, illustrations of the adults, selected morphological characters, and male genitalia are provided to facilitate identification.

---abstract--- The first North American record for Fulvius subnitens Poppius is reported based on one specimen collected in southcentral Virginia. Fulvius anthocoroides (Reuter), Fulvius imbecilis (Say), Fulvius slateri Wheeler, and Fulvius subnitens are diagnosed and described, and color images of adults, updated distributions, a review of feeding habits, and an identification key are provided. For each species, the nomenclatural history and most important citations are given.

---abstract--- Athalia cornubiae Benson, an Old World species that feeds on Sedum (Crassulaceae), is reported from North America. It was collected in a Lindgren funnel trap in East Syracuse, Onondaga Co., New York, U.S.A. in 2007 and found in Malaise trap collections at a residence in Ottawa, Ontario, Canada, in 2010. This is the first record of both the genus and species in the Western Hemisphere.

---abstract--- This paper, treating the subfamily Tortricinae, represents the third and final contribution in the three-part series examining variation in the number of bristles in the female frenulum of tortricid moths. Based on the examination of 3,850 females of 1,082 species from 267 genera, the number of bristles in females varies from one to eight and frequently is asymmetrical on the same specimen (19% of specimens examined). A three-bristled frenulum (i.e., with three bristles on each side) is the most common condition in the Arotropora Meyrick group (100% of females examined), Epitymbini (96%), Orthocomotis Dognin group (92%), Mictopsicha Hubner group (88%), Atterini (83%), Tortricini (82%), Sparganothini (78%), Phricanthini (73%), Eulini (71%), Archipini (62%), Cnehasini (61%), and Schoenotenini (51%). In Cochylini a two-bristled frenulum is the most common condition (i.e., 59% of all females examined). In Ceracini a four-bristled frenulum is the most common condition (i.e., 37%), with the vast majority of individuals possessing four or more bristles on at least one side; only 4% had three bristles (both sides). Although variation is rampant at the species, generic, and tribal levels, the data suggest a strong tendency for the reduction of bristles in Cochylini, where two (both sides) is the dominant condition; the addition of bristles in Ceracini, where four bristles is the most common condition; and more bristles in the largest species (e.g., Choristoneura conficta (Walker), Zacorisca electrina (Meyrick), and Varifula sp.).

---abstract--- Cephaloleia consanguinea Baly, Cephaloleia fulvomembata Baly, Cephaloleia ruficollis Baly, Chalopus amabilis Baly, Chalopus brevicornis (Baly), Chalopus pici Descarpentries and Villiers, Microorthopala erebus (Newman), Octhispa bimaculata Uhnman, Octotoma championi Baly, Pseudispa tuberculata Staines, Sceloenopia erudita (Baly), Stenispa guatemalensis Uhnman, Sumitrosis gestroi (Weise), and Sumitrosis terminatus (Baly) are new country records of hispine chrysomelids for Belize, based on collections cited herein. These collections also document new host records for Calypocephala gerstaeckeri Boheman (Chamaedorea terpejilote


---abstract--- Five weevil species reared or collected from Amaryllidaceae in the New World are compared with morphologically similar weevils, mostly found on orchids. Based on preliminary analyses of external and some internal characters, they are referred to *Stethobaris* LeConte and described as *Stethobaris cerpheroides* Prena and O’Brien, new species; *Stethobaris hybris* Prena and O’Brien, new species; *Stethobaris nemesis* Prena and O’Brien, new species; *Stethobaris sprekeliae* Prena and O’Brien, new species and *Stethobaris ultima* Prena and O’Brien, new species. Central Mexico is their likely origin, but nearly all available specimens have been found elsewhere associated with plants traded among growers. *Stethobaris nemesis* is adventives in the southeastern United States (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi and Texas) and Barbados, Lesser Antilles. *Cerpheres rufescens* Champion is transferred to *Stethobaris* (new combination), and a lectotype is designated for this species. *Cerpheres glavrescens* Champion and *Ovanius conicollis* Casey are recorded newly for Colombia, South America.


---abstract--- During an ongoing study of *Herpetogramma* Lederer (Spilomelinae), four species, three from the Western Hemisphere and one from Japan, were discovered to be misplaced in the genus and the subfamily. Based on primary type material, the following new and revised combinations and transfers to the Pyraustinae are proposed: the male syntype of *Pachyzancla nigripalpis* Hampson is designated as the lectotype and is transferred to *Pyrausta*, and the female syntype of *P. nigripalpis* is transferred to *Hahncappsia* as a species of uncertain identity but closest to *H. jaliscalis* Capps. *Pachyzancla straminea* Hampson and *Pachyzancla holochrysis* Hampson are transferred to *Pyrausta*; *Herpetogramma albipennis* Inoue is transferred to *Aglaoops* Warren. The adults, genitalia, and labels are illustrated for the first time.


---abstract--- The endemic southeastern Asiatic *Pristaulacus comptipennis* species group is revised and illustrated. Twenty species are recognized: *P. asiaticus*

Turrisi & Smith, sp. nov. (China), *P. boninensis* Konishi (Japan), *P. comptipennis* Enderlein (Japan, China, Taiwan, Laos), *P. corellianus* Turrisi & Smith, sp. nov. (Laos), *P. dilleri* Turrisi & Smith, sp. nov. (Laos), *P. emarginaticeps* Turner (Vietnam), *P. exisus* Turner (Vietnam), *P. gusenleitneri* Turrisi & Smith, sp. nov. (Thailand), *P. insularis* Konishi (Japan, South Korea), *P. jenningsi* Turrisi & Smith, sp. nov. (Laos), *P. konishii* Turrisi & Smith, sp. nov. (Thailand), *P. lagrecai* Turrisi & Smith, sp. nov. (Thailand), *P. nobilei* Turrisi & Smith, sp. nov. (Vietnam), *P. porcatus* Sun & Sheng (China), *P. sharkeyi* Turrisi & Smith, sp. nov. (Thailand), *P. thailandensis* Turrisi & Smith, sp. nov. (Thailand), *P. vietnamensis* Turrisi & Smith, sp. nov. (Vietnam, Thailand), *P. vilhelmseni* Turrisi & Smith, sp. nov. (Laos), *P. vivaldianus* Turrisi & Smith, sp. nov. (Laos), *P. watanabei* Turrisi & Smith, sp. nov. (Thailand).

Phylogenetic analyses are based on a previous set of 79 morphological characters. Of this data set, 28 informative including five newly added characters were analysed using TNT under different schemes (equal and implied weighting). All analyses support two large clades, the first with five species, and a more derived and diverse one containing 15 species. Other minor clades are identified and discussed. A key for identification of the species is provided.

Deoxyribonucleic acid (DNA) barcoding is an effective tool for species identification and life-stage association in a wide range of animal taxa. We developed a strategy for rapid construction of a regional DNA-barcode reference library and used the caddisflies (Trichoptera) of the Great Smoky Mountains National Park (GSMNP) as a model. Nearly 1000 cytochrome c oxidase subunit I (COI) sequences, representing 209 caddisfly species previously recorded from GSMNP, were obtained from the global Trichoptera Barcode of Life campaign. Most of these sequences were collected from outside the GSMNP area. Another 645 COI sequences, representing 80 species, were obtained from specimens collected in a 3-d bioblitz (short-term, intense sampling program) in GSMNP. The joint collections provided barcode coverage for 212 species, 91% of the GSMNP fauna. Inclusion of samples from other localities greatly expedited construction of the regional DNA-barcode reference library. This strategy increased intraspecific divergence and decreased average distances to nearest neighboring species, but the DNA-barcode library was able to differentiate 93% of the GSMNP Trichoptera species examined. Global barcoding projects will aid construction of regional DNA-barcode libraries, but local surveys make crucial contributions to progress by contributing rare or endemic species and full-length barcodes generated from high-quality DNA. DNA taxonomy is not a goal of our present work, but the investigation of COI divergence patterns in caddisflies is providing new insights into broader biodiversity patterns in this group and has directed attention to various issues, ranging from the need to re-evaluate species taxonomy with integrated morphological and molecular evidence to the necessity of an approximate interpretation of barcode analyses and its implications in understanding species diversity (in contrast to a simple claim for barcoding failure).

VISITORS:


Paola Barriga from the University of Arkansas visited Ted Schultz and the Formicidae Collection July 05-14.

Sylvio Codella from Kean University, New Jersey, will visit Dave Smith and the Sawfly Collection August 23-25.

Marcelo Duarte from Museu de Zoologia, Universidade de Sao Paulo, Brazil visited Robert Robbins and the Butterfly Collection July 23-August 10.


J. Adriano Giorgi from Univ. Federal Rural de Pernambuco, Brazil will visit Natalia Vandenberg and the Coccinellidae Collection August 15 through September 04.

Israel Guerrero Mayorga from the University of Mexico will visit Tom Henry and the Hemiptera Collection August 15-25.

John Leavengood, Jr. from the University of Kentucky visited Natalia Vandenberg and the Cleridae Collection August 01-10.

Christopher Marshall from Oregon State University visited Floyd Shockley and the Coleoptera Collection May 14-25.

Ajay Narendra from the Australian National University will visit Ted Schultz and the Formicidae Collection August 23-25.

Marcio Oliveria from the University of Kansas visited Sean Brady and the Hymenoptera Collection June 13-17.
Bob Sites from the University of Missouri visited Tom Henry and the Hemiptera Collection August 15-18.

Trista Vanta from Virginia Commonwealth University visited Natalia Vandenberg and the Coccinellidae Collection July 06-20.

Christopher Wilkinson from Sam Houston State University visited Ted Schultz and the Formicidae Collection June 07-11.

Yoram Yerushaimi from Oranim College visited Floyd Shockley and the Coleoptera Collection July 19-22.

Chen Young from the Carnegie Museum of Natural History visited Floyd Shockley and the Diptera Collection July 21-22.

Serena Zhao from Harvard University visited Natalia Vandenberg and the Coccinellidae Collection July 18-21.

TRAVEL:

Mignon and Don Davis offer the following report on a recent trip (photo on front cover):

In search of ancient moths (Neopseustidae) in northeast China

At the invitation and with the support from Dr. Houhun Li of Nankai University, Mignon and Don Davis traveled to China July 21 to August 4 to investigate the biology of a newly discovered population of primitive moths (Neopseustidae). Dr. Li is one of the foremost researchers of Lepidoptera in Asia and has published extensively on several families. His wife, Dr. Shuxia Wang, is also a professor of Entomology at Nankai University where she studies the moth family Oecophoridae. We began our journey as guests of Dr. Li at Nankai University in Tianjin, China, where Don presented a lecture on the basal groups of Lepidoptera to the entomology students. One of the graduate students, Yanpen Cai, later assisted Dr. Li on our field trip to the Wulingshan National Nature Reserve. Fieldwork was concentrated near the northern boundary of the mountainous Wulingshan Reserve, in Xinglong County, Hebei Province. Night collecting was by sheets illuminated by mercury vapor lamps near the base of a massive rock named Double Monkey Peak for which the small motel where we stayed was named. Repeated visits to the light sheets, from sunset to dawn, were facilitated by the close proximity of this motel. A small waterfall and extensive canyon (see photo) near the hotel were also the focus of nocturnal collecting as well as sweeping vegetation during the day. Among the more than one thousand Lepidoptera specimens collected were nearly 60 specimens of a new species of Neopseustis in the rare family Neopseustidae. This number exceeds the total specimens of all Neopseustidae collected to date in Asia. We found that adult Neopseustis were completely nocturnal, first appearing on the light sheets around 9:00 pm and continuing to fly until about 4:00 pm.

The Neopseustidae are ancient moths that possess a Gondwanan distribution. On the basis of both morphological and preliminary molecular studies (see Leptree.net) they are positioned near the base of the Lepidoptera clade Myoglossata and distantly related to the Hepialoidea. The family is represented by two genera and an estimated 10 species in Asia (from northeast India to Taiwan and northern China) and two genera and four species in southern South America (Davis 975, Davis and Nielsen 1980, Chen et al 2009). Interestingly, two of the new species of Chinese Neopseustis which Davis reported in 1975 were discovered in the D.C. Graham collection, which our museum had accessioned earlier between 1920 and 1929. Unfortunately, nothing is known about the immature stages of Neopseustidae. The wings of Neopseustis are broad, distinctively mottled with dark brown and white, and positioned very flat at rest. This suggests that the adults might rest during the day on some substrate of similar coloration, e.g., lichen-encrusted rocks or tree trunks. No adults could be found during our daylight searches.

The Wulingshan National Nature Reserve, where we collected in China and where Dr. Li first discovered this new species of Neopseustis, should be of special interest to anyone concerned with primitive moths.
Because of the relative abundance of Neopseustidae in this large area, it promises to be one of the best sites to discover the biology of this enigmatic family.

References:
Davis, D.R. 1975. Systematics and zoogeography of the family Neopseustidae with the proposal of a new superfamily (Lepidoptera: Neopseustoidea), Smithsonian Contributions to Zoology 210: 1-45.

Davis, D.R. and Nielsen, E.S. 1980. Description of a genus and two new species of Neopseustidae from South America, with discussion of phylogeny and biological observations (Lepidoptera: Neopseustoidea). Steenstrupia, Zoological Museum, University of Copenhagen 6(16): 254-89.


Gary Hevel will travel for three weeks in October, starting October 09. He will 1) represent the Smithsonian at the 10th Anniversary Oklahoma BioBlitz at Chickasaw Natural Recreation Area near Sulphur, Oct. 14-15, 2) represent the Smithsonian at the “National BioBlitz” at Saguaro National Park, near Tucson, Oct. 21-22, 3) collect insects in Oklahoma, Texas and Arizona for the new NMNH Learning Center, and 4) collect insects in the Southwest US to enhance the Smithsonian collections.

Wayne Mathis attended the North American Dipterists Society meetings and conducted field work in New Mexico June 04-20. More recently, Wayne traveled to Alaska to collect ephydrid flies,