University of California, Riverside

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Friends of the Entomology Research Museum



Newsletter



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FERM: Friends of the Entomology Research Museum is a UCR campus sponsored support group whose membership is open to students, faculty, staff, and the general public. Annual dues are ten dollars. Membership privileges include the annual meeting, newsletter, and other occasional meetings and events including field trips and lectures by entomologists and other naturalists.

Newsletters Online!

Back issues of the FERM newsletter are now available for online viewing! They can be accessed at the following URL:

http://entmuseum.ucr.edu/ join_us_ferm.htm

The FERM Newsletter is published annually and contains articles written by FERM members. If you would like to submit an article, please send it as a Word or RTF file using one of the following two methods: (1) an attachment via email to the editor (see below) or (2) a hard copy version on disk. Submissions will be published in the order they are received in accordance with space availability and relevancy to the FERM general readership. If you have questions please contact the FERM Newsletter editor, Doug Yanega: dyanega@ucr.edu

2015 FERM ANNUAL MEETING SPECIAL DAY & TIME Sunday, February 8, 5 PM

The 2015 Annual FERM meeting and Potluck Dinner will be held on February 8th, a Sunday, at the U.C.R. Entomology Bldg. foyer and large conference room, on the ground floor.

Setup starts at 4:15 pm

Dinner at 5:00

Lecture at 6:00

What to bring: something for yourself and 3 others. FERM will provide cups, plates, utensils, some snacks, and drinks.

This year's Meeting will be headlined by **Dr. Phil Ward**, from UC Davis. The title for the talk is:

"The World Wide Web of Ants"

Dr. Ward is an insect systematist with a particular passion for ants, and has been a professor at UC Davis for the last three decades. His research is concerned with exploring the biodiversity and evolutionary history of the world's >13,000 species of ants. This includes a mix of field work, specimen curation, alpha-taxonomy and phylogenetic analysis. He is particularly interested in the ant subfamily Pseudomyrmecinae, a tropicopolitan group of arboreal (mostly twig-dwelling) ants that also includes a substantial number of specialized ant-plant inhabitants. Naturally, we expect to have some diverse and interesting discussions before and after the presentation. See you all there!

NEWS FROM THE MUSEUM

by Doug Yanega, Senior Museum Scientist

The past year has been busy in the Museum, though not as busy as most years. We did, however, complete a major overhaul of the accumulated pinned backlog early in 2014, getting things sorted into different curatorial categories to facilitate processing and prioritization.

There has been a large amount of assistant activity over the past year. Cole Watson (though no longer a student) still comes in once a week, sometimes to sort our miscellaneous backlog to Order, but also has a small project to curate our collection of syrphid flies ("hover flies"), and has been making good progress. Andy Duong, who had been dehydrating ethanol samples using HMDS, and then point-mounting the resulting specimens, has been succeeded by Mariana Romo. The specimens she and Andy mounted are being labeled by Amit Tsanhani, so the specimen-processing pipeline is in steady operation. A fair bit of this is older backlogged material, but also includes newer donations from Greg Ballmer, John Pinto, Gevin Kenney, and Saul Frommer. Eric Gordon, a student in Christiane Weirauch's lab, worked in the Museum for a quarter, and used that time to reorganize our mirid (leaf bug) collection to subfamily, which should be helpful, as ours is one of the largest collections in the country.

Adriean Mayor, a retired former UCR grad student, is back again in SoCal, and has been coming in almost every day and plowing through our melyrid collection. As things are progressing, he's matching up morphospecies to published names, and finding a lot of things that don't appear to have names – in other words, discovering a rather large number of new undescribed species (though many were collected decades ago), which he will name as part of his revisionary work.

The Museum's regular database has grown to roughly 480,000 records, with an impressive 168,000 that are IDed to genus-level or better, georeferenced, and available online as part of the Discover Life website dataset. The coming field season promises to be better than we've seen in a while, given some decent winter rains that should offset the ongoing drought.

Recent Publications by FERM members:

- Cramer, K. L. and R. S. Vetter. 2014. Distribution of the brown recluse spider (Araneae: Sicariidae) in Illinois and Iowa. J. Med. Entomol. 51: 46-49.
- Hoddle, M. S., C. D. Hoddle, S. V. Triapitsyn, S. Z. Khan, & M. J. Arif. 2014. How many primary parasitoid species attack nymphs of *Diaphorina citri* (Hemiptera: Liviidae) in Punjab, Pakistan? Florida Entomologist 97 (4): 1825-1828.
- Puttler, B., W. C. Bailey & S. V. Triapitsyn. 2014. Notes on distribution, host associations, and bionomics of *Erythmelus klopomor* Triapitsyn (Hymenoptera, Mymaridae), an egg parasitoid of lace bugs in Missouri, USA, with particular reference to its primary host *Corythucha arcuata* (Say) (Hemiptera, Tingidae). Journal of Entomological and Acarological Research 46 (1) [1857]: 30-34.
- Triapitsyn, S. V. 2014. *Nepolynema*, a new genus of Mymaridae (Hymenoptera: Chalcidoidea), and its two new species from Costa Rica and Papua New Guinea. Proceedings of the Russian Entomological Society 85 (1): 170-182.
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- Triapitsyn, S. V. & H.-T. Shih. 2014. Egg parasitoids (Hymenoptera: Mymaridae and Trichogrammatidae) of *Kolla paulula* (Walker) (Hemiptera: Cicadellidae) in Taiwan. Journal of Asia-Pacific Entomology 17 (4): 673-678.
- Valle, S. J., C. Bingham Keiser, L. S. Vincent and R. S. Vetter. 2013. A South American spider, Falconina gracilis (Keyserling, 1891) (Araneae: Corinnidae), newly established in southern California. Pan-Pac. Entomol. 89: 259-263.
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by Doug Yanega, Senior Museum Scientist

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Searching for Schizopterids in Costa Rica

by Stephanie Leon and Alexander Knyshov

Schizopteridae (Heteroptera: Dipsocoromorpha) are small (< 3 mm), enigmatic, and poorly studied true bugs. The family has not received much attention from entomologists for the past 60 years, and it is clear that the \sim 250 described species are a great underestimate of the true number of schizopterid species.

Originally destined to explore the schizopterid fauna of western Africa, professor Christiane Weirauch and her students Stephanie Leon and Alex Knyshov travelled instead to Costa Rica in late September 2014 for two weeks to do field work (an area without worries about Ebola). Costa Rica provided the perfect fieldwork environment for first-timers Stephanie and Alex. The team met with Jim Lewis at INBio where they were able to sort some samples and explore the collection. After a few days in San Jose, and thanks to Alex and Christiane's navigational skills, the team crammed into a tiny sedan and drove down to Las Cruces Biological station, which is a few kilometers from the Panamanian border. It was there that Alex and Stephanie learned to properly set up Malaise traps, service yellow pan traps, and sort sifted leaf litter in the mornings, receiving a delicious gallo pinto and fresh fruit reward for dinner. Rain was not a force strong enough to stop the team from setting up traps, although it did dampen the opportunities for vegetation sweeping and beating. Las Cruces provided well-maintained trails, beautiful and comfy cabins--with hot water, and a daily dose of agouti and toucan exposure.

Six days, and 25 bulk samples later, the team packed their bags and took an 8-hour trip up to Monteverde station, not without first stopping at the famous "crocodile bridge" over the Tárcoles River. An hour's drive away from the border with Nicaragua, Monteverde is a small, cloud forest town with Quaker roots and plenty to see and do. The biological station is privately owned, and it so happened that Alex, Christiane and Stephanie were sole inquilines for five days. The station was equipped with a very large, "classroom", which the team used as the set-up, sorting, and packing room. There was also a library, which contained all books published about Monteverde, as well as an array of literature on the flora and fauna of Costa Rica. Let's just say, this library became very popular on the rainy days. All methods used in Las Cruces were also employed at Monteverde, however, the team had to improvise once the days became extremely windy, moving all Berlese funnels into one of the empty rooms at the station. The team was fortunate enough to meet Kenji Nishida, a photographer who works on Lepidoptera, and also works for National Geographic Japan. Kenji became very interested in their research, and followed the team around for a day, documenting their fieldwork. He also experimented with imaging some of the hand-collected schizopterids the team had kept in petri dishes, and provided the team with some of the first pictures of live litter bugs. The team left Monteverde, and headed back to San Jose, but not before stopping at the famous dairy shop in town and indulging in some deliciously uncommon ice cream flavors.

Overall, the trip to Costa Rica was successful. Over 130 schizopterids were collected using active methods (i.e. beating and sweeping), with numbers from passive methods pending. The commonly encountered genera *Nannocoris*, *Corixidea*, and *Schizoptera* are key for Christiane, Alex, and Stephanie's revisionary projects. And a new species of *Chinannus* was also collected for a training/collaborative revisionary project of this genus.

Natural History in Non-Exotic Locations

by John Hash

My ongoing dissertation research on the millipede-parasitic genus *Myriophora* (Diptera: Phoridae) has taken me to various localities in Costa Rica, the Southwestern US, and this past summer to Florida. Florida's climate makes it an ideal home for a wide range of arthropod groups, including high-humidity and vegetation-loving millipedes. During the two week trip, I was amazed at the local density of *Narceus americanus* (Spirobolidae: Spirobolida), rivaling and possibly exceeding the densities of large (four inch plus) millipedes I've seen in Costa Rica. In these hardwood, deciduous forests, *N. americanus* and other millipedes are major decomposers of fallen logs, and one of their major enemies, *Myriophora*, can reach high densities, as well.

I didn't discover any new species of *Myriophora* on this trip, but the known geographic range for one new species that I'm currently describing and another described species, *M. juli*, has been expanded to eastern Florida. I also had success in acquiring fresh specimens for molecular sequencing, rearing *Myriophora* from a parasitized host, and gathering crucial data on host-seeking behavior. I presented some of these natural history observations at the Lorquin Entomological Society meeting at BioQuip last November. In short, this was a productive and important trip for my dissertation, which I am currently writing.

It can be surprising how such interesting natural history stories, such as millipede parasitism, can literally be unfolding in one's backyard. Some areas where I collected in Florida, such as arboreta and city parks were small, semi-natural areas right in the middle of Jacksonville. There are *Myriophora* attacking large spirobolidan millipedes in the mountains all around the Los Angeles basin, and one specimen has even been collected in a Malaise trap near a restaurant a few blocks from USC. I hope I haven't made my project sound easy because it hasn't been! I am also not denigrating the extreme importance of foreign fieldwork. (Most of the 65 species of New World *Myriophora* are in fact found in tropical Central America and northern South America.)

Even in my own backyard, only about 80 x 40 feet, I've watched braconids attack aphids, bumblebee robber flies eating honeybees, and bombyliids ovipositing at carpenter bee nests. The take home message is that there is still plenty of personally interesting and potentially scientifically important natural history even in the USA and in urban areas to tide you over until that next big trip to the Amazon.

On recent establishment of non-native spiders in southern California

by Rick Vetter

Two years ago in the FERM newsletter, I presented information about two species of non-native spiders that had become established in southern California. This current article is an update as new information is available about their spread and another one to add to the list.

Brown widow, Latrodectus geometricus (Theridiidae)

This spider has gotten a lot of media attention as it spread across the Los Angeles Basin and San Diego metropolitan area. Usually the general public is pathetic in regard to their anecdotal observations and ability to correctly identify spiders, however, with the brown widow, the general public has been very accurate in their assessments although they still misidentify immature native black widows as brown widows sometimes. A very commonly repeated and accurate statement from homeowners is: I used to have a few black widows, but now I have no black widows and lots of brown widows. This is supported by a study I did with my colleague, Lenny Vincent, professor of Natural Sciences at Fullerton College and four of his students. Brown widows were very common in urban areas (homes, parks, zoos, etc.) but were absent from native, xeric areas like chaparral and around agricultural areas such as our own Ag Ops. Although the spider spread like wildfire through urban southern California in the first decade of the 21st century, it seems to have slowed down or stopped its expansion. In the east, it doesn't seem to be getting past the San Bernardino-Redlands area as I have not heard of any specimens from Yucaipa, Banning, Beaumont, etc. In the west, it seems to be very common in the San Fernando Valley but specimens, although found in the Ventura and Santa Barbara areas, aren't that plentiful there (yet). The brown widow hasn't been verified north of the Los Angeles basin yet but is well established south to the Mexican border. The brown widow is native to Africa but is now almost pantropical in distribution being found in many countries around the world.

Steatoda nobilis (Theridiidae)

Two years ago, I reported finding a non-native European spider, *Steatoda nobilis*, in a few cities in Ventura County. These were the first collections of this species in North America. Since then, specimens have been submitted to UCR showing that this spider is now well established in coastal San Diego county, the San Francisco Bay-Monterey area with the first specimens now being collected in western Los Angeles county. The spider is one of the larger *Steatoda* species (females can get up to around 14 mm in body length) and when it retains its dorsal abdominal pattern, the pattern looks like a house with two elongate windows and a domed roof. It is a web spinner in the same family as the widows (Theridiidae) so it has the body form of a black widow, i.e., a bulbous abdomen. This spider is large enough that it probably could inflict a painful bite from fang penetration but the one verified bite in England resulted in mild reaction. *Steatoda nobilis* is native to western continental Europe but was transported to England where it is now established (if I remember my British arachnology newsletter info correctly). Recently reports are that it is found in Ecuador. I have a paper on its further expansion in California forthcoming in *Pan-Pacific Entomologist* in 2015.

Falconina gracilis (Corinnidae)

This spider is a free-range hunter, looking somewhat like an ant with a trim, elongate body and thin legs. It is found in the southeastern United States, west into Texas. It is a very fast running spider which is very proficient at escaping capture by arachnologists trying to document its presence in southern California. An interesting story about its find is that the first specimens collected in California were discovered by one of Lenny Vincent's Fullerton College students. Steve Valle got hooked on spiders and, with savant-like absorbance, within about a year was familiar enough with the southern California spider fauna to converse comfortably with all the scientific names of the local spiders. He also taught himself so much so quickly that he was able to recognize that the first specimens of *Falconina gracilis* that he collected were something new to the region. A very cool and spiffy aspect of this discovery is that the first specimens were collected in his backyard in La Habra. This spider is only known from a few locations in Orange and Los Angeles counties with a second population being known from one backyard in Temecula, collected by an amateur nature photography enthusiast.

Although it is part of our jobs as taxonomists to document such establishments, it is somewhat weird to be able to say to future generations, "well, I lived in southern California before we had brown widows" and seeing the look of open-mouthed wonder on the faces of the rosy-cheeked neophytes as they absorb the way life was before their cognizant years.

Got an idea for a FERM article???

More than ever, we need YOUR contributions for the FERM newsletter! Remember, this newsletter won't have much in it unless we have material from you folks that we can publish. Feel free to send in photos, articles, websites, recent publications related to insects and even stories about how the ERM has assisted you in your bug-related endeavors. We're especially looking for travelogues of collecting trips abroad, especially if you can give a talk to a FERM meeting—we'd really like to go back to having more than one meeting per year!! Send them to dyanega@ucr.edu, preferably as attachments (not in email text). Additional information is on the front page. THANKS!

TROUBLESOME SPIDERS

By Rick Vetter

Although some people consider spiders to be dangerous, most educated entomologists view spiders to be beneficial arthropods because, although some have toxic venom, most have a predominantly positive effect on human society by removing many insect pests from agricultural areas, thereby reducing crop damage or removing disease-vectors, thereby increasing overall human health. However, there are some incidents where spiders have had a detrimental effect on human society.

Spiders and barbecues

It's Memorial Day, it's time for the first cookout of the year, friends and family gather, dead animals arranged in slabs, tubular form or ground up are thrown on the grill for cooking. Turn on the gas, try to light the grill, hissing of propane, no ignition, then BLAMMO. Goodbye eyebrows. Spiders have caused problems because they make webs in the Venturi piping leading from the propane tank to the grill causing a back-up of propane which eventually ignites but not at the burners where it is safe to do so. Some barbecue manuals recommend routinely checking and cleaning out your Venturis for spider webs.

Spiders and Mazda car gas lines

In the last two years, there were media accounts of recalls of Mazda cars because yellow sac spiders were crawling into the gas lines, building webs and clogging up gasoline flow. The media was saying that the spiders were attracted to the smell of the gasoline, but this seems a less likely scenario than the spiders just like to hide in protected places and can pass through a small opening. One time I was reading a book (on spiders of course), and was on the earliest few pages so the spine was almost in form like it was when the book was closed. As I had the book open, a yellow sac spider ran randomly all over the page that I was reading, ran up to the binding and in the 1 or 2 mm gap between the book binding and the bound pages, slipped into the book without hesitation as if it knew that the space was there. I left the book open on the table so the spider would eventually crawl out. So in the cars, they were probably attracted to a thin gap that needed to be retrofit to exclude spiders.

Spiders and overheating of equipment

In Florida, one species of non-native cellar spider (similar to the long-legged spiders we get all over the eaves and inside corners of our homes), laid down such thick silk over the air intake screens of machinery that it was reducing air flow and causing equipment to overheat.

Spiders and unsightly appearance on night lit buildings near rivers

Construct a building that sits on a river. Illuminate the building with lights to show off the architecture or increase safety for passing ships. Attract millions of flying riparian insects. Ka-Ching!!! You just made yourself an amazing spider habitat. The former Three Rivers baseball stadium in Cincinnati was so covered with orb weavers that they called in an arachnologist to consult on how to get rid of them. In Washington state, the webbing was so thick on a wheelhouse facility that the spider webs were getting in the way of their work. In a water treatment facility in Maryland, it was estimated that the midges and other insects that were provided as prey allowed a population of 100 million spiders to exist in the facility. The semi-communal spiders laid down such thick webbing that the webs near the ceiling looked like drapes and when they pulled down and rolled some of the silk, the webbing was as thick as nautical rope used to tie down boats in harbor.

Spiders and camera lenses

In a recent article in the Newsletter of the British Arachnological Society, they announced a new product made from fluon (a teflon-based liquid) and some grease that was being marketed to place on the side walls of security camera lens wells, because spiders were making webs across the camera lens which, when it became thick enough, caused a whiteout on the viewing screen.

A new book on the Brown Recluse Spider by FERM member Rick Vetter

With all narcissism embraced, I am pleased to announce that in April of 2015, my book on the brown recluse spider will be released for publication by Cornell University Press (actually Comstock Publishing Associates). The book is written for the general public but also contains enough information that it should be a useful and citable reference for arachnologists as well as educational for the medical community. Besides the predictable topics of taxonomy, life history traits, biology, behavior, and identification, other topics include misidentification with a plethora of pictures of spiders mistaken for brown recluses. A chapter on medical aspects covers envenomations using lay terms for symptoms with the medical term in parentheses. Following that is a chapter on medical conditions misdiagnosed as recluse bites as well as a chapter on other spiders incriminated, rightly or wrongly, in envenomations (widows, yellow sac and hobo spiders). Rounding out the book is a chapter on the psychology behind people's fervent misbelief in urban legends and myths despite the mountain of evidence disproving their misconceptions and a chapter on control aspects.

The book is titled "The Brown Recluse Spider" - it should run about 190 pages, and will sell for around \$25. There will be about 50 color photos where I am especially proud of the series of photographs that I got of courting/mating as well as the sequence of molting. Other species of recluse spiders found in North America are also presented in photos and text. It is already being advertised on Amazon.com. As the book comes out in April, buy one for yourself, buy one for Mom for Mother's Day. I'm sure she doesn't have a copy yet.



It is with sadness that we mention the passing in October of 2014 of Dr. Evert Schlinger, one of FERM's original supporting patrons, and former faculty and Chair at UCR Entomology. Mike Irwin, who worked with Ev for much of his career, wrote an excellent obituary which we won't print here (it has been distributed elsewhere), but is available upon request. Ev was a **true** Friend of the Museum, and he will be missed.

Renew Your Membership and/or Join FERM.

While we realize that you have not been hearing much from us (it's been extremely hard to convince people to contribute articles for the newsletter, and even our FaceBook page has seen little activity), we've been careful - as always - not to spend anything we don't need to. Money donated to FERM will get put to good use, and is greatly appreciated.

To those of you who have been kind enough to contribute your dues recently, we are very grateful, and for the rest of you we include below the usual dues renewal form, which we hope you'll send in soon. Thanks very much!

Friends of the Entomology Research Museum 2015 Membership Form Check here if you are renewing (renew by July each year)

Name ______Address _______

Address Email Telephone **Please Check MEMBERSHIP CATEGORIES:** Submit your membership form and dues to: Basic Membership \$10.00 Sustaining Member \$25.00+ Serguei Triapitsyn, Treasurer Friends of the Entomology Research Donor \$100.00+ Museum Department of Entomology Benefactor \$500.00+ University of California Riverside, CA 92521-0314 Patron \$1000.00+

Dues and other contributions are payable by check to the **UCR Foundation**, noting "**Entomology Museum**" on the memo line on your check. (It is **very** important to note "Entomology Museum" in order for your donation to be deposited in the Friends' UCR Foundation account.)



Photo by G. R. Ballmer ©

Junonia hierta (Lepidoptera: Nymphalidae)

Commonly known as the "Yellow Pansy" butterfly, the specimen in this photo is from Thailand, and is a male of the typical SE Asian color form (the species ranges from the African tropics through SE Asia, and has been given nearly a dozen names dating back to 1765), but among the >30 members of the genus *Junonia*, a few members occur in the Western Hemisphere, including the very well-known *Junonia coenia*, commonly known as the "Buckeye". Nearly all known members of the genus have well-defined "eyespots" on the dorsal surface of at least the hind wings, and even the female of this species has such spots, but the male of *hierta* is rather exceptional, and most people unfamiliar with it would never recognize it as belonging to this group of butterflies. The caterpillars are dark brown or grey with a broad dorsal stripe formed of minute white and blue spots, and they have numerous widely-spaced black spines; the pupa is dull reddish-brown to black, with short prickly spines – both of these life stages are recognizably similar to our native species, differing primarily in color.