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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 approximately semi-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

FERM ANNUAL MEETING
Sat., January 28, 6 PM

The 2011 Annual FERM meeting and Potluck Dinner will be held on January 28th, a Saturday, at the U.C.R. Entomology Bldg. foyer and large conference room, on the ground floor.

Setup starts at 5:00pm

Dinner at 6:00

Lecture at 7:00

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

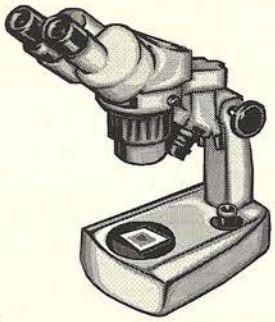
This year's Meeting will be headlined by **Dr. Don Feener**, from the University of Utah in Salt Lake City. The title for the talk will be:

"Biting the ant that feeds you: The lives of ant parasitoids"

Dr. Feener is a professor who received his Bachelor's from the UC system back in 1971 (so it's sort of like a homecoming), and completed his Ph.D. (in Zoology) at the University of Texas in 1978. Since then, he has been doing research on a variety of topics such as tropical ecology and biodiversity, the ecology of social insects (especially ants), and the ecology and evolution of host-parasite interactions, as well as teaching various courses along these lines, such as "Rain Forest Ecology & Conservation", and "Ecosystems of Western North America". This promises some lively pre-talk and post-talk discussions, and we hope you all can join in. See you there!

NEWS FROM THE MUSEUM

by Doug Yanega, Senior Museum Scientist



This past year has been a very busy one in the Museum, in many ways. Our big NSF-funded bee-databasing project has been plugging along, and Keve Ribardo and I have nearly completed the inventory and georeferencing for all of the bumblebees in the LACM, CSCA (in Sacramento), UC Berkeley, and ERM collections, some 30,000 specimens, all told (mostly from UCB). It's been difficult to work with so many old specimens, whose labels are prone to so many errors and omissions that it boggles the mind, but there is light at the end of the tunnel—of course, that's just one genus of bees (albeit one with a lot of specimens, and a lot of public and research interest), and there are dozens more still do be done over the next two or three years. The ERM database now contains nearly 320,000 records, but this now includes a lot of material that belongs to other collections, not only due to the bee databasing, but also due to work in the Heraty and Weirauch labs, databasing specimens on loan from institutions around the world.

As usual, we've had some turnover in the workers helping us out here; Jen Thieme (who was point-mounting specimens) has moved on to greener employment pastures, while Chris Jordan (who had spent several years helping label and database re-mounted slides of parasitic wasps) and Cole Watson (who had been doing a lot of pinned specimen labeling), both graduated over the summer, though Cole still comes in once a week as a volunteer, and we have just hired on a new assistant, Jee Park, to help with dehydration of ethanol samples, and point-mounting of dried specimens. We've also had the helpful services of Ryan Neff, through departmental support, in doing a lot of curatorial work with our ant collection, which has been largely neglected for decades (since most of it was, and a lot of it still is, on loan to the LACM). We also received a very generous donation of books this year, from the family of Robert L. Scharf, comprising some 8 boxes of literature on North American Lepidoptera.

This was also a good year for field collecting, much of it—as is pretty typical—being carried out by Greg Ballmer, some in Thailand but mostly in the southwest, including a trip with myself and Keve Ribardo to Arizona and New Mexico, where we were able to rediscover a "lost" species of bumblebee, *Bombus cockerelli* ("Cockerell's Bumblebee") in the mountains there, having last been recorded in 1956. The story managed to go viral on the internet and news media when UCR issued a press release about it! It was even spoofed in "The Onion", one of the premiere satire news outlets. Those trips, plus the BioBlitz in Joshua Tree, and malaise samples and such from Pakistan and elsewhere, made for a lot of new and interesting material, and much of it is still in ethanol—so that will give our new assistant plenty to do, as if there wasn't enough already!

FERM Annual 2011 - The year in review

by Gene Drake

This has been a busy year for some FERM members. Our Doug Yanega and Greg Ballmer managed to squeeze in an interesting trip to Thailand; which will be recounted in this newsletter. The Bio-Blitz collecting trip into Joshua Tree National Park took place on the tail end of the spring flower bloom. Approximately a dozen FERM members spent most of one weekend capturing insects around black lights, servicing Malaise traps and yellow pan traps, or sweeping. We have a short report (above the dues reminder) on this weekend in California's unique desert National Park. By the time you get this newsletter John Heraty and Christiane Weirauch will also have returned from a collecting trip to Peru, the latest of several trips this year.

Your author has spent many days during the months of January and February for the last 5 winters digging into leaf packs which were captured between rocks in southern California's mountain streams to find winter emergent stonefly larvae. On some collecting trips this involved removing a foot or more of snow to simply get access to the flowing stream itself. Fellow FERM members were offered a ride to the pristine aquatic collecting areas on these mid-winter trips and no one has stepped up to the challenge. One young FERM member was overheard muttering something derogatory about old fools, hypothermia and lack of gray cells. Several years of drought created problems for this study and delayed completion.

The project is finished and the paper is published. "The Larvae of Five Species of the Winter Stonefly Genus *Capnia* from Southern California" was published in Illiesia on July 4, 2011. Illiesia is an open source electronic journal so reprints may be downloaded at your discretion.

FERM Collecting in Joshua Tree National Park

by Gene Drake

Last spring during the Bio-Blitz event at Joshua Tree National Park we were confined to the area around park headquarters for the first day. About a dozen folks, including faculty, staff, students, and others affiliated with UCR (mostly FERM members) collected the normal ho hum desert floor insect taxa. Doug Yanega identified the material to morphospecies level for the benefit of the Park Headquarters staff, ending up with a total of nearly 600 different insects, making up the majority of the entire Blitz. On the second day of the event yours truly ventured up to the pinyon pine zone near the old Cottonwood Mine. 150 yellow pan traps were placed in a bunch grass pasture surrounded by pinyon pines and Joshua Trees. Two Townes style Malaise traps were placed in the same general area. The high winds during the night prevented insect movement for the most part and actually blew down the Malaise traps. The yellow pans produced a nice representative collection of Cicadellidae from this "Island in the Sky" that were turned over to Serguei Triapitsyn in the Museum. Several wingless Hymenoptera species were found in the yellow pan traps. The most unique of these was the wingless Encyrtid wasp of the genus *Stemmatosteres*. This unique Encyrtid represents a new undescribed species. The only other species in this genus is *S. apterus*, reared from scale insects feeding on salt grass root balls in the salt marshes of San Francisco Bay. The Cottonwood Mine area is truly an "Island in the Sky" with interesting insect life that would be good to investigate if additional access can be made in the future.

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, and the good news is we now have enough money to start up curation/collection grants again. 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
2012 Membership Form

☐ Check here if you are renewing (renew by July each year)

Name _____

Address _____

Telephone _____ Email _____

MEMBERSHIP CATEGORIES:		**Please Check**
Basic Membership	$10.00	☐
Sustaining Member	$25.00+	☐
Donor	$100.00+	☐
Benefactor	$500.00+	☐
Patron	$1000.00+	☐

Submit your membership form and dues to:

Keve Ribardo, Treasurer
Friends of the Entomology Research Museum
Department of Entomology
University of California
Riverside, CA 92521-0314

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.)

The further adventures of Doug and Greg in South Thailand – 2011

by Greg Ballmer

FERM member Doug Yanega and I collected insects for two weeks in southern Thailand during March of this year. This was Doug's third trip and my 12th since 2000; we have learned to expect the unexpected. Arrangements had been made to visit David Lohman's lab at the Khao Chong Forest Insect Ecology Research Laboratory located on the grounds of the Southern Region Botanic Garden, adjacent to the mountain range which forms the spine of peninsular Thailand. The mountains are clothed in dense tropical evergreen forest and drained by streams with waterfalls which attract numerous weekend tourists. We intended to stay at Khao Chong for about a week and then travel further south to Hat Yai, the commercial center and travel hub of southern Thailand. But unfavorable weather necessitated changes.

Our journey began as planned, although Doug's breaking of a tooth just before boarding the plane foreshadowed misfortunes to come. After a 14-hr flight from LAX to Bangkok, and a restless overnight bus ride to Trang, a city near the center of southern Thailand, we were met by Khun Pitoon, Lohman's project foreman, who drove us to the lab, 18 km east of town. We were given a tour of the ground floor work areas, introduced to the staff and assigned sleeping quarters on the second floor.

The facilities were somewhat rustic and pleasantly surrounded by the wooded grounds of the botanic garden and nearby farms. Our guestrooms were simply furnished with floor mattresses, a small table, a chair, and a fan. Shared toilet and shower rooms were down the hall. Our rooms were also home to a vast termite colony, which rendered the walls paper thin in places; perforated sections were patched with cardboard. Columns of ants traipsed in and out through cracks around the windows. But these were minor annoyances; after all, we came for the bugs.

From our quarters, we could walk (about two miles) to a popular waterfall and a network of forest trails with excellent insect diversity. However, finding food was a major logistical problem. Vendors near the waterfall sold snacks and cold drinks, while two restaurants along the highway near the lab offered complete Thai meals, but they closed at 5 PM (sometimes earlier). Fortunately, the lab had a coffee pot and a refrigerator where we could store some food, drinks, and specimens. Initially, we had good weather and good insect collecting. Doug set up a Malaise trap along a forest trail and, near the waterfall, found a large, though still immature, female stick insect.

Although northern and central Thailand have a single well defined monsoon wet season (June to September), the southern region typically has precipitation more evenly distributed throughout the year. When we last visited Lohman's project site in February 2005 it was in the grip of a drought. But on this occasion rain was almost a daily occurrence, so that carrying an umbrella in the field was advisable. After two days, Greg made a side trip to Tarutao, a forested island in the Andaman Sea, off the west coast (where the weather was dry), while Doug remained at Khao Chong and endured almost constant rain. The inclement weather, plus the Thai equivalent of "Montezuma's Revenge", severely limited Doug's insect collecting. When Greg returned to Khao Chong in mid afternoon, after a 5-day absence, Doug was recovering from intestinal problems but still weak. The weather cleared up long enough for Greg to hike to the waterfall to recover the malaise trap; but after dinner heavy rain fell again all night long. Fickle sunshine greeted us the next morning, but we had already made plans to leave Khao Chong. We headed north to the Island of Pha Ngan, off the coast of Surat Thani Province in the Gulf of Thailand, where we expected the weather to be much drier and more amenable to insect collecting.

The journey from Trang to Pha Ngan took all day and a succession of conveyances including two minivans, a boat, and finally a pickup truck taxi. The last vehicle took over an hour to drop off other passengers and traverse the mountainous island from the boat dock on the SW shore to our destination, the seaside village of Thong Nai Pan on the NE coast. We arrived around 10 PM, having seen none of the island's forested interior, and checked into the Dolphin Bungalows. The friendly bungalow owners (Aussies) and Thai staff greeted us at the busy open-air office/bar. Our bungalow, a tidy wooden structure, was set in a garden of trees and flowering shrubs, just a stone's throw from the beach. Doug could not wait until morning to take a dip in the water.

By morning light we saw that our lodging was near the south end of a white crescent beach, perhaps two miles long. Steep wooded slopes arising behind the beach merged into rocky headlands defining the northern and southern boundaries of Greater Thong Nai Pan Bay; slightly smaller Lesser Thong Nai Pan Bay lay just beyond the headlands to the north. Both are lined with resorts, upscale bungalows, restaurants, and private mansions. A few speed boats and several small fishing boats lay at anchor just offshore in the placid water. European tourists strolled the beach.

(ctd. from previous)

The small village of Thong Nai Pan, with more restaurants, ice cream shops, travel agents, and the ever-present Thai 7/11 convenience store, is strung out along the 'highway', sandwiched between the beach and the island's interior slopes. While many of the villagers are engaged in the tourist industry, others are fishermen and farmers (chiefly growing bananas and coconuts). The forest margin and streams descending and crossing the narrow 'coastal plain' provided excellent insect collecting opportunities.

We were pleased to find the weather and surroundings conducive to insect collecting. It was sunny and warm (even hot), as expected, with easy access to forest and stream habitats. On the second day we walked to a stream leading to Lesser Thong Nai Pan Bay where lycaenids were numerous, especially resting on shady streamside shrubs. While ascending a steep wooded slope to circumvent a waterfall, a male "moth butterfly" was encountered (see "bug of the month" insert). This predator of immature arboreal weaver ants (*Oecophylla smaragdina*) could be considered the "catch of a lifetime", because it is so seldom encountered. But such good fortune could not last.

Throughout our stay on Pha Ngan, until mid-morning two days before our scheduled departure, the weather was warm and dry. But the weather abruptly changed one morning while hiking the main road into the island's interior. A few clouds appeared as we began our hike, but light rain began after about an hour, as we approached a road improvement work site. Taking shelter under the upraised bed of a dump truck, we were soon joined by the workers. But the rain intensity steadily increased until, after about 30 minutes, the work supervisor decided to call it a day and drove away in the truck. We were left without shelter in a proverbial "tropical downpour" and were soon soaked to the skin.

Upon returning to our bungalow we discovered that the storm had knocked out power; but worse was to come. The normally calm bay was raked by three-foot breakers, which pounded the beach and threatened to capsize the fishing fleet. With the help of a backhoe tractor, one-by-one the boats were hauled to safety high up onto the beach. Only one speedboat was capsized and lost in the surf.

The bungalow manager told us that the storm was highly unusual for March and warned us that, if it continued, ferry service to the mainland would be interrupted. We quickly decided to cut our visit short and left the island on the first boat in the morning. That was a good decision. Doug caught his flight back to LAX, while I traveled south to Hat Yai.

We had experienced merely an outlying squall of a very large storm system, which continued and intensified after we left. Thousands of tourists became stranded for days on Pha Ngan and other nearby islands until evacuated by the Thai Navy. We later learned that the storm had originated further west as an unseasonal tropical depression over the Bay of Bengal between India and Burma. Many Burmese fishing boats were lost. As the storm center drifted south and eastward across the peninsula, it caused severe flooding and deadly landslides in four Thai provinces. Among the consequences: bridges were washed out, major highways were under a meter of water, train service was interrupted for several days, and eleven large crocodiles simply swam out of their enclosure at one city zoo. Fortunately for me, the storm system had mostly dissipated before it reached Hat Yai a few days later. Nonetheless, the tail end of the trip turned out to be moderately soggy, but this wasn't too much of a problem for hunting up hairstreak caterpillars. They have to eat, come rain or shine, and I managed to find a fair number of interesting critters without having to swing a net.

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!

mature larva

larval integument

Liphyra Brassolis, the Moth Butterfly

The "moth butterfly", *Liphyra brassolis*, is a giant within the butterfly family Lycaenidae (commonly referred to as blues, hairstreaks, and harvesters). While the wing span of most lycaenids is about an inch or less, that of *L. brassolis* is nearly three inches. This species is a member of the wholly carnivorous subfamily Miletinae, most species of which prey on homopterous insects (chiefly aphids, tree hoppers, mealy bugs, and scales). *Liphyra brassolis* larvae feed on the brood of weaver ants (*Oecophylla smaragdina*) and develop within the arboreal nests of their host. They are highly modified to resist attack by aggressive worker ants and resemble chitons in having a broadly oval, flattened body with a thick leathery skin. Further protection is afforded by a dense covering of flattened, sclerotized setal chalazae resembling lizard scales (see photos above). Pupation occurs within the skin of the last larval instar, and newly eclosed adults are clothed in a loose vestiture of white scales, which shed easily and cling to the mandibles of any attacking ants as they leave the nest. Moth butterflies are rarely seen but range widely from India to northern Australia. The adult specimen figured here was encountered on the island of Pha Ngan in southern Thailand.

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