No. 21, Winter 2003

University of California, Riverside

Friends of the Entomology Research Museum

Newsletter

Editor: Rick Vetter Proofing Editors: G. Ballmer, D. Hawks, D. Yanega

TheNext Newsletter

The next FERM newsletter should have a story regarding the recent visit of Chris Hartley of the University of Georgia who came out here during the Xmas break to hunt for local tiny beetles of the family Latridiidae for a genus revision. Chris was helped generously by Doug Yanega, Gene Drake, and Rick Vetter and was successful in finding new material up in the mountains in oak leaf duff. If any of you beetle freaks out there have latridiids, Chris would love to hear from you.

Also, in the next issue SHOULD be an account of the FERM Annual Meeting written by probable-new President, Alexis Park, (see Alexis, there are actual duties to being President) barring any political upheaval at the meeting or electile dysfunction such as hanging chads or Chads hanging around.

The FERM Newsletter is published quarterly and contains articles written by FERM members. If you would like to submit an article, please send it as a Word/Wordperfect 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:

Rick Vetter (vetter@citrus.ucr.edu)

Henry Hespenheide highlights FERM's Annual Meeting

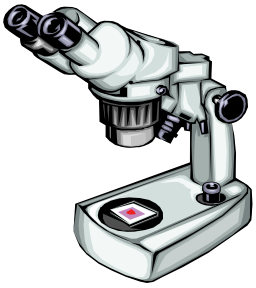
Saturday, January 31
New Entomology Building Conference Room (ground floor)
6 to 9 PM

FERM will hold its Annual Meeting winter program with food and drink (Asian cuisine theme this year) being served at 6:00. The Rondalla Ensemble, a Philippine music group representing the Gluck Fellows Program of the Arts at UCR will provide light and lively music from 6 to 7. A short business meeting will start at 7 PM to elect new officers. The main program will begin at 7:20. FERM members are encouraged to invite friends and potential new members to attend. Please RSVP by January 24 (see below for instructions). Tickets for entry and door prizes will be issued at the door to all whose names are on the RSVP list.

The Nominating Committee has submitted the following slate of officers for 2004:
President – Alexis Park, Vice-President – Ken Osborne, Secretary – Marcella Waggoner, Treasurer – David Hawks.

The featured speaker will be UCLA Professor Henry Hespenheide, whose presentation will be "Collecting in Collections: Mimicry and Museums". Henry's research in the broadest sense involves the evolutionary ecology and biodiversity of Neotropical wet forest insects. The variety of his research projects are united by a curiosity about communities and faunas: How many species live in a particular area? What evolutionary pressures do they face? Of these, predator-prey interactions are of special interest. Most of his current fieldwork is in Costa Rica. Specific projects include the following:

(continued on page 3)



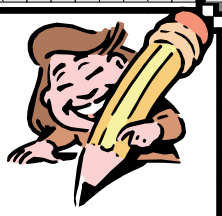
NEWS FROM THE MUSEUM

by Doug Yanega

The fall was a very busy time in the museum, with some 20 loans going out in November and December, and several grad student assistants hard at work. This allowed us to get all of this year's newly-collected pinned specimens (almost 2500 total from myself and FERM president Greg Ballmer) labeled and databased, and several drawers' worth of undetermined insects from recent years sorted to family, as well as databasing a large and very gracious donation of some 8,000 sphecids and other wasps from UCR Professor Emeritus of Biology and FERM member Ken Cooper. This collection was the third, and largest, of Dr. Cooper's recent donations to the ERM, the others mostly consisting of interesting assortments of asilid flies and buprestid beetles. A relatively large number of the species in this latest donation are rare southwestern taxa, previously represented in the ERM by only a few specimens (or none), making the collection especially valuable, and nearly every specimen was collected by Ken himself, over many years of field work. We're very grateful and appreciative of such a significant contribution, some of which has already (through three separate loans, two of them to Europe) gotten into the hands of expert taxonomists to assist in their research.

We've been visited recently by a few notable taxonomists, Lawrence Mound from Australia, and Dmitri Kasparyan from Russia, working with the ERM's holdings of thrips and ichneumonid wasps, respectively, and a UCR alumnus, Gil Challet, who donated a diverse collection of about 200 dytiscid diving beetles from around the world. The Deep Canyon databasing project has been essentially in hiatus, but the records and specimens that had already been processed are largely incorporated now (over 12,000 specimens so far), and it appears that we will have a new data entry person starting soon. The Museum's regular database has grown to over 53,000 specimens, and the authority file now has over 126,000 species names and 22,000 genera. All in all, we've made good progress over the last year, and hopefully next year will be even better!

Got an idea for a FERM article???



Do you have anything buggy-related that might be of interest for the FERM newsletter? We really would be tickled pinkish if you would send "stuff" in. Remember, this newsletter won't have much in it unless we have material submitted from you folks that we can publish. Feel free to send in photos, articles, recent publications related to insect taxonomy or natural history and even stories about how the Entomology Research Museum has assisted you in your bug-related endeavors. Send them to vetter@citrus.ucr.edu, preferably as attachments (not in email text). Additional information is on the front page of this newsletter.

*****Deadline for submission of material for next Newsletter is Mar 15th*****

RECENT PUBLICATIONS BY FERM MEMBERS:

DiGiulio, A., M. A. Bologna, and **J. D. Pinto**. 2002. Larval morphology of the *Meloe* subgenus Mesomeloe: inferences on its phylogenetic position and a first instar larval key to the *Meloe* subgenera (Coleoptera : Meloidae). Italian J. Zoology 69: 339-344.

Pinto, J. D., G. R. Platner, and R. Stouthamer. 2002. The systematics of the *Trichogramma minutum* complex (Hymenoptera : Trichogrammatidae), a group of important North American biological control agents :The evidence from reproductive compatibility and allozymes. Biological Control 27 : 167-180.

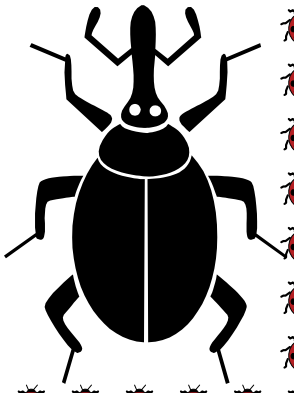
IF YOU ARE A MEMBER OF FERM AND HAVE RECENT PUBLICATIONS THAT INVOLVE ARTHROPOD TAXONOMY OR NATURAL HISTORY, PLEASE SUBMIT THE CITATION TO RICK VETTER.

FERM Annual Meeting Announcement (continued from page 1)

The insect fauna of the La Selva Biological Station, Costa Rica: Systematic collecting and ecological sampling by the Arthropods of La Selva project (ALAS) to determine the species richness of arthropods of a lowland tropical forest site. Inventory of the biodiversity of the tropical regions is one of the largest frontiers of biological research and Costa Rica's Instituto Nacional de Biodiversidad (INBio), a collaborator in the ALAS project, has become a model for faunal inventories.

Although Henry's particular expertise entails a subfamily of weevils, his broad research interests also entail:
1) Taxonomy and ecology of leaf-mining beetles and their use as bioassays of the effectiveness of insect defense of plants bearing extra-floral nectaries. Although ants are usually considered the protectors of such plants, the frequency of parasitoids visiting such nectaries indicates their likely importance as well.
2) Taxonomy of wood-boring beetles and the evolution of mimicry. The occurrence of mimicry is being investigated in terms of the size and biogeography of the mimics, as well as the ecology of the models.
3) Prey selection and structure of robber fly communities. This work involves delimiting the robber fly fauna of La Selva and Cave Creek Canyon, Arizona, (about 100 species recorded to date in each place) and accumulating information on the behavioral ecology of the species present.

Henry received his B.Sc. from Duke University and his Ph.D. from the University of Pennsylvania. He currently is in the Department of Organismic Biology, Ecology, and Evolution at UCLA.



Help!

Volunteers are also needed to help set up and take down tables and chairs and to clean up after the event. To volunteer for set up or clean up duty and to RSVP (be sure to include the names of guests), contact Gordon Pratt (phone: 909-788-9703; email: euphilotes@aol.com).

Friends of the Entomology Research Museum Membership Form

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

Name _____

Address _____

Interests _____

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:

David C. Hawks, Treasurer
Friends of the Entomology Research Museum
Department of Entomology - 041
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.)

What FERM activities will heighten your interest?

By Gordon Pratt

What is your preference for FERM activities in 2004?

During 2003 there was diminished participation in FERM-sponsored field trips and related activities. In order to increase participation, we are soliciting your views on what sort of activities you would like FERM to sponsor in 2004. Should field trips be better advertised in the newsletter? Should field trips include more exotic locations or should they include more accessible places nearer to home? Should FERM sponsor other events, such as seminars in insect photography, butterfly gardening, collecting or collection techniques, and maybe even short-term Entomology courses for beginners broken down into the major groups such as Coleoptera, Diptera, Hymenoptera, Lepidoptera, and then the rest.

Tentative plans for 2004 include a spring field trip to the southeast end of Riverside's Sycamore Canyon Wilderness Park. Plant diversity in that location is unusual in that it includes a stand of California junipers and a riparian willow community embedded in coastal sage scrub. The advantage of this trip is its proximity to Riverside, so participants can join us for a short time or for the entire day. We plan to set up a mercury vapor light to observe nocturnal species as well. Those interested in such a field trip this spring should contact Gordon Pratt and indicate dates that you are available, how many will accompany you, and either your email or phone number. Depending on popular interest, we may survey this area additional times in the future and help to create a species list, which could be of great conservation value to the park.

The FERM 24-hour Collectathon, traditionally held in September, is a great way for people to learn a lot about insects. This event has attracted primarily experts who compete to collect the largest number of insect families. However, by pairing experts with less experienced entomologists, the competing teams can be more evenly matched and novices can learn entomology directly from the "experts". While past Collectathons have involved hours of driving from Riverside, perhaps future Collectathons could be held in nearby Fairmont Park, in the Gavilan Hills, or even Sycamore Canyon Park and even at different seasons. In particular, we'd like to know if a spring Collectathon would be more appealing.

Please contact FERM Field Trip Committee Chairperson Gordon Pratt (email: euphilotes@aol.com) to make your views heard and to sign up for field trips.

On the Loose in Laos

By Greg Ballmer

Greg Ballmer of the UCR staff has known John Burton since 1967, when John trained Greg to take over his Peace Corps Volunteer assignment at the National Malaria Eradication Project in Bangkok. John studies the Tabanidae of Southeast Asia. Here is how John described a recent collecting episode in Laos to Greg:

I have to tell you about the capture of a spectacular new species of tabanid fly - large and unique. We were in Udomsai, NW of Luang Prabang. There were a few loose cattle along the road, no ropes. I went up to a cow to see if I could befriend the thing into holding still or at least not running away, but I was "cowed," pardon the play on words, by the fact that the animal had a formidable set of horns that protruded directly forward. Based on the principle of "no pain, no gain," or at least "no risk, no gain", I got out some salt and offered it to her while trying to act nonchalant about the horns. She liked the salt and was pressing for more, and very shortly "pressing" meant that! I had two sharp horn points making impressions in my abdomen, as I was directly in front of her. At that juncture a large tabanid landed squarely in the middle of her backbone, facing forward. The specimen and I stared into each other's eyes, both in a certain amount of disbelief as to what we were discerning about the other. With the cow's horns becoming ever more effective about emphasizing her case for more salt, I was barely able to find the voice to tell "Bee," my collecting assistant, in a tone that was both urgent/commanding and yet gentle enough to avoid frightening either cow or specimen, to "catch that fly! Jop sii!" He had been trying to befriend a different animal, but came over instantly and, in one deft swing, had the specimen in the net. How often does someone get to say that he and the future holotype of a highly-capable flying species stared each other in the eyes before capture? We hung around there for some time before the cattle wandered off, but no more of this incredible new species showed up. Do you think I could sell this story to "True Man" Magazine?

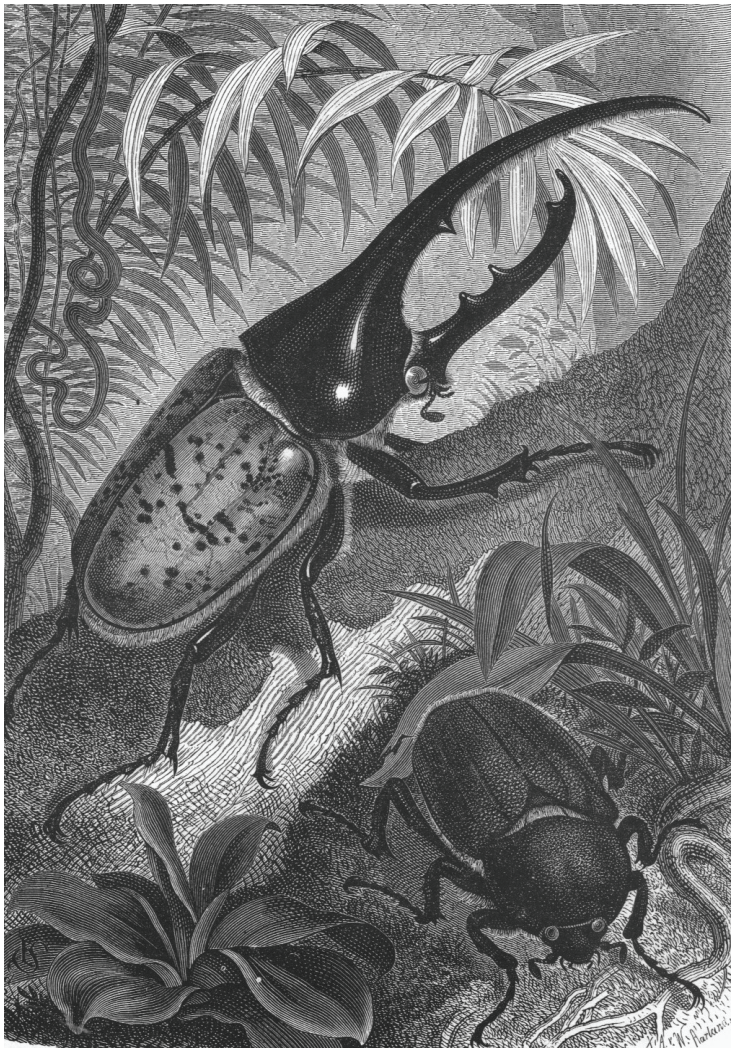
Can you identify these famous Inland Empire scientists?

Below is a picture of two well known scientists of the Inland Empire. Can you name them? Please send guesses to Rick Vetter by Jan 28th . There are no prizes for the correct answers but if anyone guesses both correctly, we will put the names in the next newsletter. If you are pretty sure who they are, please don't tell others (tee hee).. Answers will be announced at the FERM meeting

Photo graciously provided by James Bryant of the Riverside Municipal Museum

The Passions and Perils of Payson

by Elois Hawks



The Hercules Beetle (*Dynastes hercules*), a close relative of *D. granti*

Oh yes, they are passionate, those skulking hordes of beetle collectors who, every August, are compulsively drawn to the vicinity of Payson, Arizona, to collect *Dynastes granti*. These large scarab beetles are very impressive and are highly desired by insect enthusiasts throughout the world.

Dynastes granti is also known as the Western Unicorn Beetle, the Western Hercules Beetle, or Grant's Rhinoceros Beetle. This species ranges throughout the mountains of the eastern half of Arizona, northward into southern Utah and eastward into New Mexico, and they also occur in northwestern México. They are fairly common throughout their distribution, but for unknown reasons they are especially abundant in the vicinity of Payson in central Arizona about 100 miles northeast of Phoenix.

The grayish-colored, speckled adult beetles range in size from about two to three inches in length, and are the largest scarab beetles in North America. The males average longer because of their head and thoracic horns, which they use in battles with other males over feeding sites and mates. Adults emerge from their underground pupal chambers in late July through early September, with peak adult activity in August. These beetles are readily attracted to lights, and most collectors obtain specimens by setting up mercury vapor lamps or searching around the lights of towns.

Adults feed on tree sap, especially sap from Arizona Ash trees, and can be fed various fruits like apples, bananas, and grapes in captivity. They make fun pets, and will live for up to about two months in a terrarium. The grubs feed on decaying leaf litter and rotten wood and take two or three years to mature.

This story actually begins with a bottle of tequila that John Rose and I bought in a restaurant in Showlow, Arizona, during a driving trip we took in August 2003. It was no ordinary bottle of tequila; it was a beautiful, tiny, slender, cobalt blue bottle of Corralejo Reposado that John thought we should buy as a gift for my son, David.

The next day, after visiting the Petrified Forest and Montezuma Castle, we drove into Payson just in time to see specimens of *Dynastes granti* as they began their nightly flight to the bright lights of the various small towns in this part of central Arizona. We had a lot of fun driving from gas stations, to shopping centers, to bar parking lots, to lighted billboards searching for and collecting about a dozen of the beetles. To me, it was like a treasure hunt!

There were several other beetle collectors competing with us that night, and, since they were much more zealous in their pursuit, they had many more *D. granti* specimens than did John and I. We were amused by the various peculiar personalities that we encountered that night. Some of the beetle collectors are so passionate in their desire that they are attracted to Payson each August in a singular and powerful way. Also, some of the people who live in Payson are equally passionate in their desire to protect *D. granti* from these collectors. John and I watched a woman picking the beetles up with tongs and placing them in a gallon pickle jar to be released later, away from the bright lights of the town and the collectors.

At about 1:00 AM, just as we were about to head back to our motel, John suggested that we cruise the large Texaco parking lot in Star Valley just east of Payson. "Wow!" exclaimed John. "There are three *Dynastes* together here!" He stopped the car, dashed out and picked up two of the beetles and handed them to me (I stayed in the car this time). After going back for the third beetle, he called to me that I had to come see this one. I said, "Just pick it up John, and let's go." But he insisted, saying that it had two heads! So I skeptically walked over to see John's two-headed curiosity. John was reluctant to touch it, so I picked it up to get a closer look. Under the inadequate lights of the parking lot we turned it this way and that to inspect all parts of its body: top, bottom, fore and aft! That's when we discovered not only two heads, but eight legs! Also, as it was a male, it had four horns! Oh, my! It was incredible!

Since we were immediately excited about this unbelievable find, we lowered our voices and peered around the parking lot and into the darkness looking for persons who appeared to be afflicted with "beetlemania." Nobody was visible. We gingerly placed our extraordinary specimen in solitary confinement for safe keeping.

Only after we were back at the motel behind a locked door did we begin further examination with my 10x magnifier. Then emotions ran wild! We wondered whether we had actually discovered a developmental aberrant; something that no one had ever seen. We were jumping up and down and asking ourselves "What?" "What if?" "How?" "Could this really occur in nature?" "Has something like this ever been found before?" We were aware that there are records of deformities and mutations occurring in insects, but could a *Dynastes* beetle have a head at both ends of its body and still fly? Or did it walk into the parking lot? How could it function with eight legs? Our excitement was equivalent to winning an eighty-million-dollar lottery!

"We need to celebrate!" I exclaimed. John grumped that we needed something to drink; something with which to toast our good fortune, except that we had nothing but motel water. "Oh, yes we do!" I declared. "We have the tiny cobalt blue bottle of tequila!" John insisted, "We can't drink David's special gift!" But we were obviously thinking the same thing, as we both reached for the bottle at the same time. "Just a sip", I said. John opened the bottle and poured a small amount into each of our glasses. I waited for John's reaction since I'm not a tequila connoisseur. "Mmmmm… this is the smoothest tequila I've ever tasted!", proclaimed John. I tried a sip and agreed that it was pleasant; but only later this fall, after I tasted a couple of other brands of tequila, did I realize how good Corralejo Reposado is!

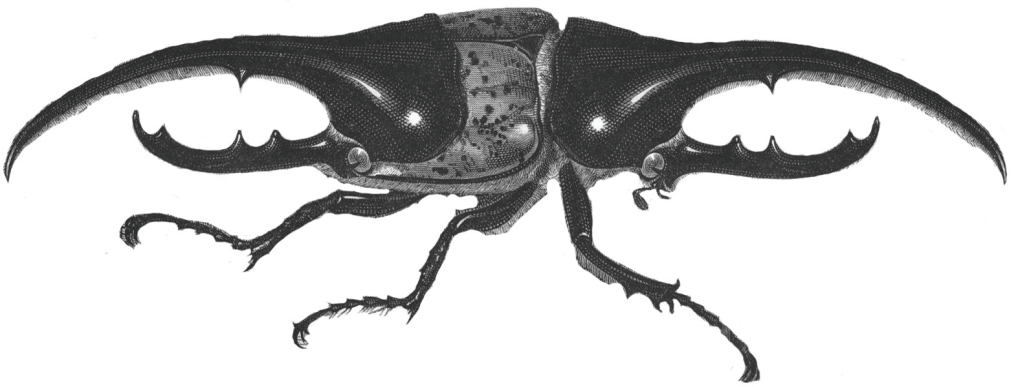
The next day we hit the road back towards John's home near Benson, and didn't discuss the beetle much until two days later when we finally decided that we needed to consult with a professional entomologist about our unusual find. John suggested that we call the Smithsonian. We were quickly connected with a lady coleopterist who, after hearing our story, was just as dumbfounded as we were. She had never heard of any other such beetle, and suggested that we contact the University of Nebraska's "Team Scarab."

Since UCR's inimitable D. Hawks, of Jewel Scarab fame, is an adjunct member of Team Scarab, we decided to go ahead and 'break the news' of our incredible discovery to him. During a very animated consultation with David, we described in detail the two-headed, eight-legged, four-horned mystery bug in our possession. "No way!" he said. "Leave me alone; I'm busy with DNA sequencing right now! I know what good liars you and John are, so tell me the truth!" "It's real!" we insisted. "We're telling the truth. We have it in John's freezer!" At this point, John removed it from the freezer to look at it again and to describe more details to David. But, to his horror, the freezing and thawing had caused the previously invisible glue, which was holding the posterior pronotum and head in place, to turn white and soft. And that's when David announced that we had been the victims of a dastardly fraud; a hoax. We now suspect that the perpetrator may have been lurking nearby in the shadows when we found the beetle, undoubtedly enjoying every minute of our confusion and excitement.

Although our strange beetle is a hoax, the excitement of finding it and wondering about it was an adventure that John and I will forever remember. Oh yes, we definitely experienced the passion, and survived the perils of Payson! Perhaps a real two-headed *Dynastes granti* truly exists… Will we see you in Payson next August to help with the search?!?!

P.S. Did David eventually receive the tiny, cobalt blue bottle? Yep! — He celebrated our hoax, too!

If you would like to see our two-headed *Dynastes*, we'll have it, and the tiny cobalt blue bottle with us at the FERM Annual Meeting.



PINE : PARTNERS IN NATURE EDUCATION

FERM members are entitled to 20% discounts* on the following UCR Extension field nature study courses:

Earthquakes and California: Geology's Dynamic Duo
Sat. 8 am-5 pm, Feb. 7. $95 (EDP 33N24)

Geology and Natural History of Death Valley
Sat. 9 am-6 pm, Mar. 13/Sun. 8 am-4 pm, Mar. 14. $150 (EDP 33N25)

A Field Study of Birds: Spring
Tue. 7:30-9:30 pm, Apr. 13/Field trips all day Sat. Apr. 17, 24, May 1, 15, June 5. $185 (34P23)

Flora of Joshua Tree National Park: Wildflowers
Fri. 6-9 pm, Apr. 23/Sat. 8 am-4 pm, Apr. 24/Sun. 8am-12 pm, Apr. 25. (Enroll through the Desert Institute, 760-367-5535**)**

Field Study of the San Andreas Fault: San Bernardino to Palmdale
Sat. 8 am-5 pm, May 1. $95 (EDP 34N31**)**

Birds of Joshua Tree National Park
Fri. 6-8 pm, May 7/Sat. 7:30 am-4 pm, May 8/Sun. 7am-12 pm, May 9. (Enroll through the Desert Institute, 760-367-5535**)**

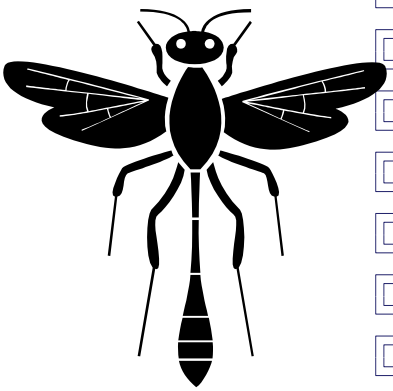
Natural and Cultural History of the Mojave National Preserve: Soda Lake to Kelso Dunes --The Low Country
Fri. 8-10 pm, May 14/Sat. 8 am-5 pm, May 15/Sun. 8am-3 pm, May 16. $265 (34N32)

Geology and Natural History of the Eastern Sierra
Sat., Sun. 8 am-5 pm, May 22, 23. $150 (EDP 34N22)

For current listing of courses at any time, bookmark www.unex.ucr.edu/ns/fns1/classes in your web browser.
For further information, contact: Natural Sciences UCR Extension 909.787.5804 909.787.2456 (fax)
*some restrictions apply

The Etymology of Entomology

by Rick Vetter



Two FERM newsletters ago, Zac Porcu submitted a rather amusing comic strip with an alleged Doug Yanega stating "Entomologist, from the word "ento" meaning bug". Well, being the persnickety person I am, I asked my dear colleague from the American Arachnological Society, Dr. Don Cameron, professor of Classical Studies at the University of Michigan about the etymology of entomology. His response follows:

The Greek word *entomon* means “insect”. It is a neuter singular noun from the adjective *entomos* meaning “cut in pieces” like a butchered sacrificial animal. The *-tom-* part is from a verb meaning “cut” and the *en-* part is a preposition in this case roughly meaning “up” hence “cut up”. Aristotle in his *Historia Animalium* [“Researches on Animals”] called all segmented animals *entoma*, (the plural of *entomon*). In this category he included annelids, insects, arachnids and crustaceans. *Insecta* is simply the Latin translation of the Greek *entoma*. Then the stem or combining form of *entomon* is *entomo-* to which is added the suffix *-logy* meaning “study or science of”.