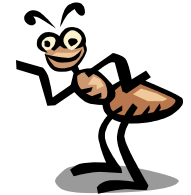


Friends of the Entomology Research Museum



Newsletter



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Editorial transition and apology

No doubt it hasn't escaped peoples' attention that this newsletter is long overdue - that we had no Spring 2005 issue. Eagle-eyed regulars may also have noticed a slight shift in the names at the top of the page, as well. Without going into gruesome details, our long-standing editor, Rick Vetter, has recently experienced a change in his position here at UCR, necessitating—at least temporarily—that he would be unable to work on the Newsletter. We were not really prepared for this eventuality, and it's taken some time to figure out what, exactly, our "Plan B" would be. So, for the foreseeable future, it looks like I, Doug Yanega, will have to take over the primary Editorial duties, despite my glaring lack of familiarity with the proper use of Microsoft Publisher. If the learning curve proves to be manageable, we shouldn't have problems getting back on schedule, but it's hard to say. There will definitely be a Winter Newsletter to announce the next Annual Meeting, but the Fall issue this year is a little more iffy. We (mostly me) apologize for not picking up the pieces a little quicker in order to salvage the Spring Newsletter, and hopefully that won't happen again. But we do need submissions rather badly

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:

Doug Yanega (dyanega@ucr.edu)

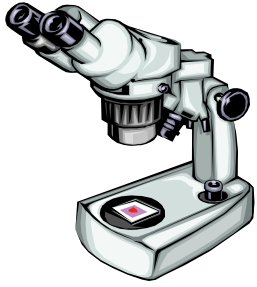
FERM Annual Meeting!

Saturday, February 5th 2005
6:30 PM, UCR Entomology Building

Guest Speaker: Dr. Peter S. Cranston
*"Travels in Remote Gondwana:
Midges in Deep Time"*

It's that time again! Our Annual Meeting will be February 5th (Saturday) starting at 6:30 PM. Our speaker is Dr. Pete Cranston, Professor of Entomology from the University of California, Davis. Dr. Cranston teaches courses in systematic entomology and biodiversity, and his research interests include the systematics, ecology, and biogeography of aquatic insects, particularly the Chironomidae (non-biting midges).

This year, our meeting will be catered by the Best Thai Cuisine restaurant, one of our favorite spots for Thursday nights. Hope to see you there!



NEWS FROM THE MUSEUM

by Doug Yanega, Senior Museum Scientist

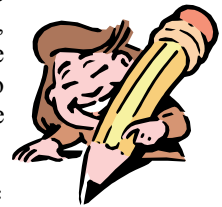
This fall quarter involved little in the field (aside from a few nice rare Sphecid wasps), and it was fairly quiet in the Museum itself, though I was able to undertake a major bout of Sphecid curation, identifying around 1000 specimens, among them about 30 entirely new, unknown species. That's a pretty high percentage, but in a way not all that surprising; the group as a whole has attracted little attention relative to the number of species, meaning there are few active taxonomists working on them, and the southwestern US has a disproportionate number of species, many of them rare and/or highly localized. This part of the ERM collection has not been used much since the 1960's (at which point a lot of what we had were also new species, and were described subsequently), so - as it turns out - another big batch of new species has accumulated since anyone has looked closely at what we have. Hopefully, in the future, I'll be able to devote some time to actually describing some of these species, as well as hunting up more specimens of them, and finding others to add to the list. Southern California is a gold mine for certain groups of insects, and bees and sphecsids (two of my specialties) are among the most diverse, with many undescribed species in both groups still remaining.

Hired helper Nhi Vu's work on the Deep Canyon collection continues, though at a slower pace, but we recently hired Justin Betz, who is point-mounting our backlog of dried but unmounted chalcidoids from bulk samples; both of these efforts getting more material finally integrated into the main collection. We also have a visiting researcher from China, Xiao Hui, working on our pteromalid wasps along with Roger Burks (a UCR graduate student in the Heraty lab), and expect that this will greatly improve the status of our holdings of this family, the largest within the Chalcidoidea.

The Museum's regular database has grown to almost 77,000 specimens, and the authority file now has almost 163,000 species names and over 26,000 genera. The world catalog of Bombyliid flies (another group with major diversity in SoCal) is the latest major addition, passed along to me by Neal Evenhuis; the same man who is responsible for some of the goofiest scientific names in existence, like *Phthiria relativitae*, *Reissa roni*, *Pieza pi*, *Pieza rhea*, and *Pieza kake*. Having this catalog of names in the database will make it possible to go forward with the databasing of the Deep Canyon bombyliids (several thousand specimens), and getting a full list of our total bombyliid holdings, both of which will be important resources we can put on the web in the future.

Got an idea for a FERM article???

Do you have anything buggo-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 rick.vetter@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 Feb 1st****

New book from Princeton University Press

Garden Insects of North America: the ultimate guide to backyard bugs

Whitney Cranshaw

2004. 672 pages, 265 color plates 400+ color photos, 7 1/2" x 10"
paperback: 0-691-09561-2 \$29.95

1-800-777-4726 FAX 1-800-999-1958 orders@cpfsinc.com



PINE : PARTNERS IN NATURE EDUCATION

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

Field Study of the San Andreas Fault: San Bernardino to Mecca Hills

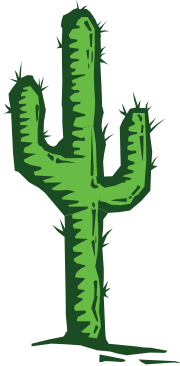
Sat. 8 am-6 pm, Feb. 5. EDP 043-SCF-N22

Ecology of the Palm Oasis

Fri. 5-8 pm, Feb. 25/Sat., Sun. 8 am-5 pm, Feb. 26, 27.
EDP 043-SCF-N28

Geology and Natural History of Death Valley

Sat. 9 am-6 pm, Mar. 12/Sun. 8 am-4 pm, Mar. 13.
EDP 043-SCF-N23



A Field Study of Birds: Spring

Tue. 7:30-9:30 pm, Apr. 19. Field trips all day Sat.
Apr. 23, 30, May 7, 21, June 4.
EDP 044P23

The Greater Roadrunner: A Natural History

Fri. 5:00-8:00 pm, Apr. 22/Sat., Sun. 8:00 am-5:00 pm, Apr. 23, 24.
EDP 044N30

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

Friends of the Entomology Research Museum Membership Form

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

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Basic Membership	\$10.00	<input type="checkbox"/>
Sustaining Member	\$25.00+	<input type="checkbox"/>
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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.)

The Gray Ranch: Collecting In Style by Alexis Park

18 August 2004

“Oh, dear....,” quavered Doug as the first flashes of sheet lightning began crawling across the swollen faces of the storm clouds in the East. Personally, I was enjoying the show. Most of the storms I’ve grown up watching have involved dark clouds and plenty of cold rain. Watching lightning bounce around in these clouds as the last rays of the sun turned them all shades of gray, orange, and red was a new privilege.

The rain caught us before Phoenix, after Phoenix, and a few times alongside Tucson as well. None of it was too bad although I’d wager that Doug didn’t like it all too much. Still, we made it without incident to Barbara Minckley’s house just around midnight. Barbara is the mother of one of Doug’s best friends, Bob Minckley, who works on native bees. She was gracious enough to offer us a place to stay for our first night in Arizona. The porch light was on and the door unlocked. We prepared couches for the night and, because some urgings are almost unconscious, went back outside to inspect the lights for insects.

The porch light offered only a modest harvest, but we were too tired to bother with setting up the mercury vapor lamp. Doug was tired from having driven the whole way from Riverside and soon turned in. I was wound up from sitting in the cramped car for the better part of the day and read a book about Gila monsters and portions of *The Silmarillion* that I found on Barbara’s bookshelf before I was able to doze off. I slept only a couple of hours and was awakened by the unaccustomed amount of light coming through the windows that made up the entire north side of the small A-frame house. However, because of my inability to sleep, I was treated to my first Arizona sunrise: truly a glorious sight.

We stayed the morning at Barbara’s house to eat breakfast and take advantage of the plumbing facilities (presence of) before hitting the road again. I should mention that Barbara has an incredible yard that is entirely packed with prickly pear and cholla (hanging your arms out the car window while going up the driveway would be a bad idea). I made an early-morning tour of the latter to pick up a nice series of *Moneilema armatum*, the black cerambycid that looks like a cross between a robust grasshopper and a large *Eleodes* tenebrionid. I’d seen these things in books while on the East Coast and had always been eager to see them in the flesh. After I crammed a dozen or so into my killing jar, we thanked Barbara for her hospitality and hit the road again.

19 August 2004

Doug and I arrived at Sycamore Canyon around mid-day. The plan was that we were to meet Mike Gates here, collect for the day, and return to Peña Blanca to set up lights and camp for the night. As with all plans involving entomologists, Mike was not at Sycamore Canyon when we arrived. Far from being worried, we were excited to start collecting immediately.

I had come to Sycamore Canyon with a particular target in mind; well, two specific targets actually. I had looked for Hydroscaphidae and Microsporidae around Tumacacori earlier in the year and completely struck out. Reliable sources had informed me that these rare families of beetles could be “easily” found in Sycamore Canyon, so I had been excited about the trip for weeks beforehand. The reader should understand that these rare and wondrous families of beetles are minute, black, and utterly uninteresting to almost everybody. Microsporids, for example, are literally about the size of the period that punctuates this sentence. Why would somebody be interested in collecting such beetles, you ask? Actually, that is a good question. Both families are associated with filamentous algae. This stuff has the consistency of a hair clot that has been freshly extracted from your bathtub drain. Mmmm...slimy.... It also smells just like something that is stringy, slimy, and found in unappetizing green mats on the mud banks of a stream. Mmmm....stinky.... So, again, why would somebody be interested in collecting such beetles? I have no idea. Me, I wanted some.

I geared up, grabbed a pair of white pans and set out with high hopes. Doug got about 30 yards from the car when we found a willow that was humming with Hymenoptera. That was good enough for Doug. When I reached the stream, the first warning signals began going off. The water level was low. There were a few whirligigs milling about, but no algae. Okay, not a problem, there was still a lot of canyon to walk up into. I moved farther into the canyon until I hit a portion that had some water trickling slowly through tall grass. There was a bit of algae here, but not a lot. I hunkered down and started looking.

About two hours later, I had found nothing and my titer of optimism was rapidly waning. I was hungry, my fingers were green, my legs were aching from kneeling in the grass and mud, and the mosquitoes were running out of new places to bite me. I decided to head back to the car to have a snack and get some DEET on me. On the way back, I ran into Doug, who had apparently moved about 20 feet from his last recorded position. He seemed fine, ankles and all. After adjusting my wardrobe to better thwart the local skeeters, we headed out again. Neither Doug nor I fared any better on this second foray. We found some more algae to check, but aside from some little specks that we suspected *might* be beetles, we didn’t find anything. Later on, we would find that all the specks we picked up turned out to be just that: specks. Great.

(Continued on next page)

(continued from page 4)

Mike showed up a couple hours before sunset. We modified our original plans and decided to just spend the night at Sycamore Canyon (as it would take another hour or so to return to Peña Blanca) and head over to New Mexico in the morning. As dusk settled in, we concentrated on getting a fire and a mercury vapor lamp going, with priority falling on the latter. A few *Chrysina gloriosa* showed up early, but on the beetle front, the night was dominated by *Xyloryctes jamaicensis*. I picked up a few smaller, more interesting beetles, but ended up leaving Sycamore Canyon without any new families. So it goes. Some hours later, after we had our fill of the nighttime Arizona insects, we peeled Doug off the sheet and decided to call it a night.

Don't get me wrong: Mike is a great guy. He's really friendly and hospitable (especially considering that I was a total stranger to him on this trip). However, if any of you ever have occasion to share a tent or some other enclosed structure with Mike Gates, do **NOT**, under any circumstances, accept. Sleep outside. Sleep on a rock. Sleep hanging from your knees in a tree. Sleep in a dry streambed under flash flood advisory. Whatever. On average, you will probably get a better night's rest.

To better understand the situation, you'd have to know that there was no hope of reclining the front seat in Doug's Sentra since the back seat was full of gear. That and the relatively small size of the vehicle made me consider the disturbing possibility that I might wake up with Doug's head on my shoulder (creeping horrors!). Also, the space available was pretty confining for my legs and I figured that trying to sleep in the Sentra would result in a world of hurt in the morning. I weighed the other options. I had spent the night outside in Arizona the previous year; I knew what the conditions would be like, and it was pretty darn cold already. At this point, Mike pointed out that I was welcome to sleep in his rental SUV. This sounded good. Mike planned to sleep in the back of the vehicle and I could take the front seat, recline, and have plenty of space. Ah, had I but known!

The first problem became rapidly clear about 2 minutes into the experience. The persistent mosquitoes made it necessary to close the windows of the vehicle to the point where ventilation was nonexistent. Two good-sized humans breathing in a closed car will rapidly coat every surface with moisture. Combine this with an ambient temperature of about 50° F and you have excellent wine cellar conditions, but not very good sleeping conditions.

The second problem, I'm sorry to say, was Mike himself. This became clear about 10 minutes into the experience. Perhaps the back of the vehicle forced him to assume a position different from his usual sleeping posture or perhaps it was something he had eaten earlier that day. In any case, as soon as he lapsed into unconsciousness, Mike began emitting a veritable medley of sounds that made sleep absolutely impossible for me (keep in mind that I had only slept a couple hours the previous night to boot). After several hours of constantly nodding off and constantly being awakened by some new eructation from the back seat, I think I entered a state of delirium. I began to think of Mike not as a living entity, but a machine equipped with a pressure safety gauge and a faulty pressure release valve. As soon as I realized that I could see the trees around the vehicle once again, I thrust my clammy sleeping bag away from me and emerged once again into the fresh air...tired, but wiser. I enjoyed another Arizona sunrise while shivering and trying to coax the slumbering fire back into life.

20 August 2004

We breakfasted, packed up, and headed for New Mexico. My perceptions were a bit fuzzy by this point and I kept dozing in the car. The only concrete thing I remember about the drive was discussing random things with Doug: Schrödinger's cat box (nothing to do with a litter box), altering the laws of probability with your mind, causing streetlamps to dim as you approach...just your typical dork stuff. I also remember the last mile or so where I lost cell phone reception. It was vaguely comforting to know that the thing wouldn't be ringing for the next four days.

The rest of the day was pretty uneventful until Doug ran the car off the road. We were rushing to meet up with Gray Ranch personnel to get permits for parking on the ranch. Doug was going a lot faster than he was probably used to, especially considering the winding road we were negotiating.

Anyway, you are very likely to skid when making fast, sharp turns on loose gravel. We did. There is a chance Doug may actually have *improved* the situation when he tried to turn *away* from the direction of the skid since it pretty much meant that we left the road perpendicularly and thus had a smaller probability of taking down street signs. Oh, well. Fortunately, aside from a small shrub that lodged itself on the undercarriage, there was no damage we could discern. I thought the whole thing was actually pretty funny, but even when he was done cursing, Doug didn't seem to think so. I drove after that.

(Continued on page 9)



Author Alexis Park on a life-altering walkabout to discover who he is

The Giant Longhorns of Fiji (and the search for Taxonomic Truth)

by Doug Yanega

In the summer of 2003, I was contacted by David Olson, of the Wildlife Conservation Society's Pacific office in Suva, Fiji, about my interest in coming out there to help them with a taxonomic problem that was causing them some confusion with a CITES listing they were considering. CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is the most important international treaty governing trade in threatened and endangered wildlife, working to prevent the extinction of wild plants and animals threatened by trade. Recent interest in developing conservation protocols for rare and endangered wildlife endemic to the Fijian archipelago had, among other things, renewed interest in those members of the cerambycid beetle genus *Xixuthrus* Thomson that occur there - at least the Giant Fijian Longhorn Beetle, *X. heros* (Heer), and the Taveuni Beetle, *X. heyrovskyi* Tippmann. The former is often regarded as the world's second largest beetle species, with specimens sometimes reaching 14 to 15 cm in body length; their size and apparent rarity has made them prized among beetle collectors, with specimens commanding very high prices, and some websites even put forth the possibility that the species is extinct. The problem was that there were anecdotal reports and literature suggesting that there might be as many as five species of these beetles in Fiji, not just two, and no one had a handle on which was which, or who was correct. I was flown out to help them, thanks to the Schlinger Foundation (one of the main donors to FERM, among its other charitable entomological efforts), and it soon became apparent that there really was a mess that needed to be cleaned up. A thorough review of original literature, museum holdings, and a public reward program initiated by the WCS in Fiji eventually revealed that not only is *X. heros* not extinct, but that there are three species of *Xixuthrus* presently occurring in Fiji, all of them having been originally described as Fijian, one of them essentially unrecognized for the last century. A paper with the results of my research is in print already in the journal *Zootaxa*. Readers of the FERM Newsletter may find it interesting how this sort of detective work is done, so I've written this more narrative version to give some insight into the nuts and bolts (and twists and turns) of the taxonomic process.

First off, the historical literature had to be consulted, and all of the works involved were so old or obscure that they were impossible to obtain here at UCR. There was also the major logistical problem of trying to locate the type specimens and other vouchers of the various species in question, as they are mostly in museums in Europe. So, I needed help from various people who did have access to these papers and specimens; David Olson had a few, and then I made contact with Sharon Shute, one of the curators at the Natural History Museum in London (the world's second largest insect collection), and that at least got things rolling. It all started in 1868 when *X. heros* was described by Oswald Heer - however, Heer's specimen is lost. It was originally stated to be in the Godeffroy collection, in Hamburg, Germany, but is not among Godeffroy's specimens today - however, the illustrations of it and descriptions are excellent and we can characterize this species with confidence (after all, how can one confuse a gargantuan, striped beetle with enormous spiky antennae?). As the identity of this species is unambiguous, the Code of Zoological Nomenclature (basically, the "official rule book" for scientific taxonomy) states that we simply have to accept that situation, despite the absence of a standard reference specimen (a "holotype"). However, in a typical taxonomic twist, the larva that Heer described in the same work appears to be that of an *Olethrius* species (another genus of large prionines commonly encountered in rotting logs in Fiji), and is only a fraction of the size reported by Fijians who claim to have seen true *Xixuthrus* larvae. In other words, the confusion around these beetles goes back right to the very beginning.

Then, in 1877, J. Thomson described *X. terribilis* from a single male specimen, which resides in the Muséum National d'Histoire Naturelle in Paris (the world's largest insect collection). It was placed in synonymy with *X. heros* by Lameere in 1903 - in other words, Lameere thought the

two were the same species, and since *X. heros* was the older name, it had precedence. Most experts since that time followed Lameere's lead, though Tippmann in 1945 believed *X. terribilis* to be a valid taxon, and Ziro Komiya figured a *X. terribilis* specimen in a paper he published in 2000, noting that it was not conspecific with *X. heros*. Tippmann and Komiya did not, however, examine the holotype in Paris - nor, as it now appears, did Lameere, who was completely wrong about it and *X. heros* being the same thing! In fact, all three of these authors each made a different serious mistake, each of which would have been avoided had they gone to Paris to examine Thomson's specimen. You see, in 1945 Tippmann described yet another species, *X. heyrovskyi*, almost identical to *X. heros*, but with a solid covering of pubescence on the elytra instead of longitudinal non-hairy stripes - Tippmann's type specimen is in the Smithsonian, and I was able to get the curator there to send me photos of it. Komiya's *X. terribilis* specimen, in a 2000 publication, also lacked stripes, and was clearly not the same as *X. heyrovskyi* or *X. heros*, further evidence that *X. terribilis* was not a synonym of *X. heros*, and



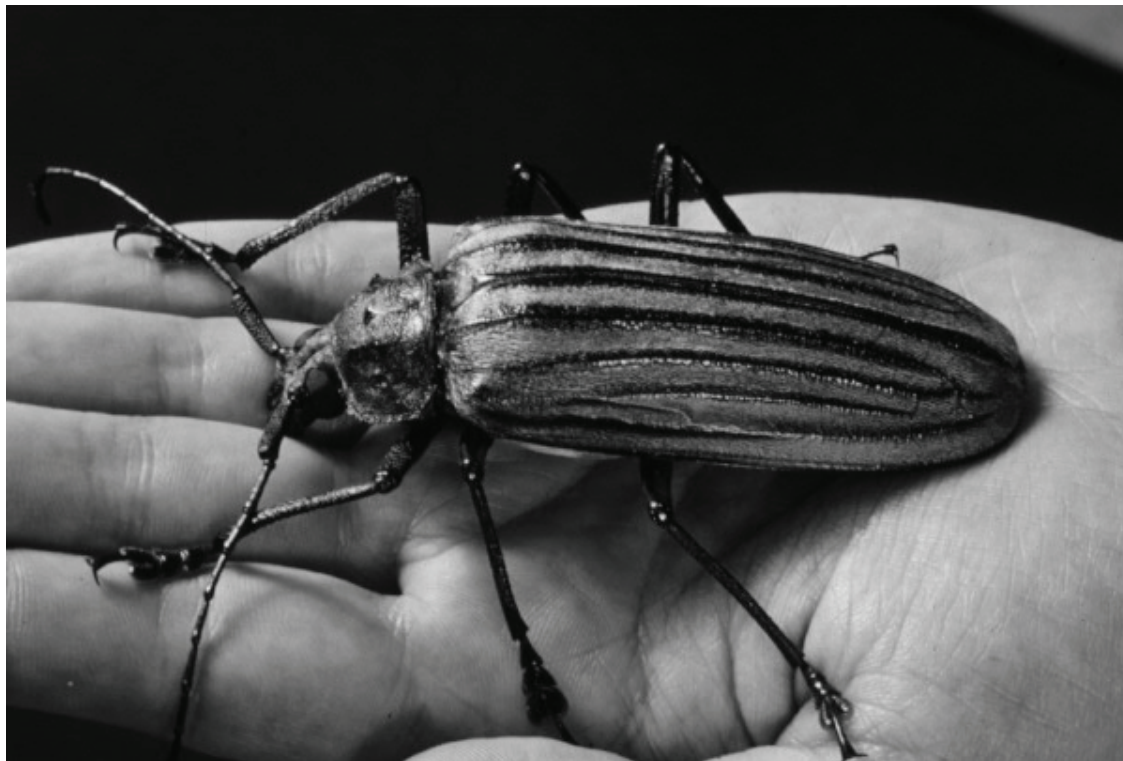
Xixuthrus heros

suggesting there were three species involved. However, when Sharon Shute eventually got a chance to examine and photograph the type from Paris (which took several months), it turned out that it was in fact the same thing as *X. heyrovskyi*, and not the same as Komiya's specimen. So, *X. heyrovskyi*, a name used since 1945, was actually a junior synonym of *X. terribilis*, while Komiya's specimen presented a dilemma. After over a year hunting around for photos and specimen records, it was starting to look like what Komiya had was a new and previously unknown species, which I might have to describe. That seemed a bit hard to believe, so I started looking for specimens of other *Xixuthrus* species from other Pacific islands. Then, in Guy Bruyey's collection, I came across specimens of *X. microcerus* White from Irian Jaya that were identical to Komiya's beetle. After contact and discussion with Komiya, it turns out that his specimen was bought from a commercial insect dealer, and given that no other specimens resembling it have ever been documented from Fiji or nearby areas, it now seems likely that he was the victim of labeling fraud, where the dealer faked the locality data in order to make the specimen seem more valuable than it really was. So, instead of a possible four species (if all three names had been valid, and Komiya's had been a new one), we were back down to two.

However, in 1912, Lameere also described *X. ganglbaueri*, also from a single male specimen (labeled as from "Fidji"), with a very limited diagnosis and no illustrations; essentially the only useful information was regarding the antennal and tarsal proportions, and that it was striped. It was asserted in the description that the specimen bore a resemblance to *X. helleri* Lameere (a striped species, but much smaller than *X. heros*), and since *X. helleri* was from New Guinea, the *X. ganglbaueri* specimen must have been mislabeled, and was probably from New Guinea, rather than Fiji - which is not only pretty foolish (who says species that resemble one another have to live together?), but gave further evidence that Lameere had never seen the types of either *X. terribilis* OR *X. heros*! After all, it's incredibly suspicious that he placed such emphasis on the broad elytral stripes of *X. ganglbaueri* and *X. helleri* when discussing their resemblance (as opposed to *X. heros*), when *X. heros* ALSO shares these stripes - implying that, in all likelihood, his "*X. heros*" specimen did not have stripes (i.e., that it was actually a specimen of *X. terribilis*)! Confusion upon confusion, all stemming from not looking at type specimens. Unfortunately (and ironically), the type specimen of *X. ganglbaueri* is also lost, though it was presumed to be in the Boppe collection in Paris. But that's not the end of that.

You see, some specimens in the insect collection at the Colo-i-Suva Forestry Station in Fiji were cited in a 1989 report as *X. costatus* Montrouzier, a species known only from the Solomon Islands - but when I arrived in Fiji, I found that these were misidentifications. They looked a little odd for *X. heros*, too, and a few days later, a live female beetle was brought in as part of a local "bounty" program (50 Fijian dollars per live specimen), and it, too, was different from the other *X. heros* specimens. We decided to clip off a tarsus for genetic sequencing, and also took a tarsus from a live *X. terribilis* that had also been brought in. The beetles weren't happy about it, and hissed loudly and gnashed their jaws and clawed at me - pretty impressive, and dangerous (one bit clean through a pencil). Originally, I thought that it might be an undescribed species, and only later did I manage to

get a translation of Lameere's description of *X. ganglbaueri* (it was in French), and start to put the story together. I brought back the tarsi, that odd female, a male *X. heros*, and what I thought was an odd male that went along with the female. When Dave Hawks dissected "him", it turned out that it was actually a female *X. heros*, so even I had gotten confused! However, we'd also been sent a tarsus from a true *X. heros* a few months later, and when Dave did the sequencing, it turned out that the odd female really was a separate species from



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Xixuthrus ganglbaueri

(continued from previous page)

X. heros. Since the few obvious differences from *X. heros* also correspond to what little was known about *X. ganglbaueri* (the antennal and tarsal proportions), I concluded that instead of discovering a new species, I'd actually rediscovered *X. ganglbaueri* - and since the original type was lost, and there was serious confusion about its identity (as well as about whether it was really from Fiji!), the Code allows for me to designate the specimen as a "neotype" - so it now becomes the official standard reference specimen for that species. In essence, even though no one can ever be positive that this species is the same one Lameere described, no one can ever prove that it is NOT the same, so it's preferable to put Lameere's name back into circulation, rather than letting it go to waste, as it were. That specimen, incidentally, is featured in this issue's Bug of the Month.

So, after all this, the bottom line is that there are only three species of *Xixuthrus* occurring in Fiji (*X. ganglbaueri*, *X. heros*, and *X. terribilis*), all of them limited only to Fiji. Just to sort out the mess surrounding these three species - three very large and conspicuous species - took the efforts of at least 9 people, and well over a year, to get everything straightened out, after over a century of confusion. Much of the trouble can be traced to Lameere: he incorrectly synonymized *X. terribilis* with *X. heros*, which threw everyone off, and then claimed *X. ganglbaueri* was not from Fiji, which basically tricked people into forgetting about it (it didn't help that the only known specimen was lost, either). Tippmann made it worse by adding another name (*X. heyrovskyi*) for a species which already had a name (*X. terribilis*), and then someone else misidentified some specimens, and someone else lied about where another specimen was from, all adding to the mess. Confused yet? Now just imagine how much trouble taxonomy can be when dealing with groups containing dozens or hundreds of species, and when the critters are less than a few millimeters long! That's what taxonomy is all about, and it's not a job for the faint at heart.

As for the beetles themselves, while all of the species are under some pressure from insect collectors, given their great size and popular appeal, it is also apparent that they are more likely to be threatened by habitat loss. Consumption of larvae appears to be largely (if not entirely) opportunistic, and unlikely to represent significant threat. It is only an assumption, though not without logic, that present attempts to enact protective measures for these species (for example, CITES listing) will have a significant positive effect on their survival; at the very least, however, we should gather sufficient knowledge of these beetles' biology to determine exactly what measures will be most beneficial in the long term. With knowledge of host associations, for example, it might become possible to "farm" these beetles and create an indigenous industry, as has been done for birdwing butterflies elsewhere in the Pacific - but this is only possible if the beetles are *NOT* protected under CITES. An unfortunate aspect of the bureaucracy, in this case, is that measures meant to protect species can actually backfire, since the CITES treaty is written so it doesn't distinguish between wild-caught specimens and farm-raised specimens; in essence, a ban on their trade would mean farming wouldn't be profitable, and if farming isn't profitable, there's little incentive for Fijians to protect the habitat, or care about the beetles. On the other hand, if it takes, say, 5 years for a larva to reach maturity (which is a definite possibility), or if there is only one tree species they can feed on, it may be very difficult to farm them, making it unprofitable simply because they can't raise beetles fast enough. We just don't know yet. Only time will tell what the future holds for these beetles, but at least we now know exactly what species are there.



Could this have been the incident that lead to pre-imago Dave Hawks' life-long fascination with beetles? (well, actually not, because it isn't Dave, but it was deemed amusing enough to be used as a filler item)

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We met up with Greg Ballmer and Zac Porcu at our rendezvous spot and got our permits. From there, it was about another 3 hours to drive *around* the Gray Ranch to our appointed guest quarters. The recent rains meant that it would have been next to impossible to get the passenger cars in our party directly *through* the ranch. By the time we made it through the gate, it was full dark. Piloting Doug's Sentra in the dark on unfinished roads treacherous with loose sand and large rocks in a dust cloud raised by the vehicles in front was fun, but I still would rather do it in a vehicle with more ground clearance. Despite the darkness, roads, and the inability of five people to use a map correctly, we only needed one GPS and compass reading to find the ranch house where we would be staying.

The Gray Ranch house where we were to stay finally came into view and was a welcome sight. It was an impressive structure given its isolation and the fact that there are no other lights in sight. First impression? This would be a great place to set up a light! The interior of the building was sparsely furnished, but quite luxurious from a camper's point of view. There were six beds in two bedrooms, three showers (one inside and two in a separate building just outside the ranch house), sofas, propane refrigeration, and gas lighting. This was one posh resort! True, there was a little New Mexico dust on the tile floor. Yes, there were a few solpugids running around on the walls. But for an insect collecting base camp, this was heaven!

We all settled in quickly and got the mercury vapor going in the "backyard." As it was fairly chilly, things were pretty slow around the light. I turned my attention to the outdoor showers. Mike informed me that the best water pressure was to be had under the "water tower." This was a tall building that housed the water tank and had two separate shower rooms at ground level. I enjoyed a scalding hot shower, put sheets on my bunk and stretched out. This was more like it!

21 August 2004

We piled into Mike's rental SUV (to deal with the harsh road conditions) and headed for a stabilized dune area on the ranch. This place turned out to be very interesting. As you might surmise from the description, it was a lot of packed sand, but there were still plenty of swales that held loose sand. There were a lot of wildflowers everywhere (Doug was happy) with small oaks punctuating the landscape. Upon getting out of the vehicle, it became clear that this place was prime collecting real estate. There were insects everywhere: on the flowers, hanging around the bare patches on the ground, and zooming up and down the sandy tire tracks. We geared up and fanned out.



Tiger beetle, *Cicindela marutha*, from Gray Ranch

My first interest was in the sandy tire tracks. Sure enough, there were a couple tiger beetles trotting about. I netted a couple, but while I was focusing on these, I also noticed some fast-flying light-colored insects zooming up and down the cleared paths. The speed and behavior of these insects meant that they had to be sand wasps. Now, I generally focus my collecting entirely on beetles, but I'll nab interesting groups in other Orders if I know people who are interested in them. Doug was still about 10 yards from the car and I yelled at him to come over and take a look. He yelled back for me to catch some and bring them over. Typical. These sand wasps blended in nicely against the sandy tire tracks. They are also very fast and maneuverable. Netting them is not unlike swinging at a mostly invisible baseball that is alert to your presence and tries to avoid the bat. About thirty swings (and twenty-seven strikes) later, I had three and that was enough. I took them over to Doug and stomped off to see what else I could find.

While stalking my sand wasps, I had seen some larger insects buzzing slowly about. Since they were slow fliers, I guessed there were some good-sized beetles running around. This was confirmed when I ran into Zac, who showed me some magnificent cerambycids. These beetles turned out to be *Plinthocoelium suaveolens*, which are about 4 cm long (around 1.5 inches) and metallic green with orange legs and body. I had Zac take me to where he had seen these beetles and we ended up in a lot of chest-high thorny *Bumelia*. There were a couple beetles buzzing about, but not nearly as many as Zac claimed to have seen. Still, that didn't stop us from chasing after them, oblivious to the thorns. Zac had neglected to bring his net, so was chasing beetles with his hands and also his hat (an amusing sight). Since we were running out of beetles where we were, we headed off to find better hunting grounds.

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The rest of this day runs together in my memory. As the sun rose high overhead, it became very hot and I ended up drinking all my smaller containers of water until I had only a large gallon container left. I even had to reapply my sunscreen once because my arms started feeling unusually warm. I remember walking around a lot amongst the oaks and whacking the foliage with a dry yucca flower stalk. This would scare up *Plinthocoelium* and I'd nab them with my net. There were also a lot of nice beetles to be taken on the variety of flowers in the sandier portions of the area. All too soon, the sun was setting and I had a nice haul for the day. I hadn't found any new families, but had a bunch of nice specimens from a fairly unique habitat. I also had a nice series of *Plinthocoelium* for the Museum, the collection back at the University of Delaware, and myself.



The non-peripatetic Doug Yanega, ankles intact

We sat around in the sand, eating various forms of preserved food, while we rested and waited for the sun to drop beneath the horizon. We draped a sheet over the car and set up the light in the sand. It was pretty disappointing considering the amount of nice stuff that we came up with during the day. The only notable catches were a number of glaresids that Doug suspected might be a new species. We gathered up as many of these as we could find and then packed up and headed back to the ranch house.

Upon returning to the ranch house, everybody pretty much collapsed for the day. It had been a very hot day and we had been walking in loose sand for most of it. Greg set up his little studio and started shooting pictures on the rickety table. I set about sorting the day's catch into glassine envelopes and stashing them in my chlorocresol container. It is a testament to how tired we were that we didn't even set up a light at the ranch house that night.

21 August 2004

This was the last day that all of us except for Mike were to spend in New Mexico. We breakfasted and headed out early to hit a bunch of spots on the ranch that might prove interesting. The first spot was an artificial pond or reservoir that the recent rains had turned into a virtual oasis. I had been in deserts in California, but New Mexico seemed like a different planet altogether. With the reddish cast in the rocks and rugged beauty of the landscape, I kind of imagined that New Mexico was what Mars might be like if we could visit it (for Mars' sake, I hope we never do). This part of the ranch was in complete contrast to the rest of the area; the water trickling around crumbling concrete and the dragonflies patrolling the shores reminded me more of springtime back East. It then occurred to me that this *was* the equivalent of springtime here.

I immediately went down to the closest pool to see what creatures were taking advantage of this bonanza of moisture. Libellulids and aeshnids were jealously patrolling the water's edge and getting involved in dogfights. A few females were hovering low and dipping eggs into the water every few inches as they passed. There were a few of the common yellow-speckled dytiscids treading around at the bottom of the pool. Some tiger beetles were running about on the mud as well. However, the most interesting creature I found here wasn't even an insect: my first living tadpole shrimp! Those that we found were about two inches long and look like a combination of a mayfly nymph and a horseshoe crab. These primitive-looking creatures swim/crawl around in the water. They are quite peculiar, but very neat. For an image, check out www.sasionline.org/arthzoo/tpshrm.htm.

There were several unusual tenebrionids strolling around in the cover of the low grasses near the water. Further down from the pool were a number of young willows where I found a nice *Tragidion* longhorn that does a pretty good job of mimicking a spider wasp. Rolling a few rocks over gave me a few more tenebs as well. Mike found a small horned lizard under some detritus by the side of the road. This guy probably wasn't much bigger than three inches long and was incredibly cute.

The next place we stopped at was (in theory) a swampy area of the ranch. In reality, it was quite parched and made for poor collecting overall. I found a few milkweeds growing by where the water should be and found a bunch of small milkweed longhorns (*Tetraopes*) that I hadn't seen before. Doug found some dictyopharids and some strange issids hanging out on some low plants, but that was about it for insects at this spot. The event that really made this spot worthwhile involved Zac. Now, when I see an abrupt drop-off of a few feet into an area that is clearly delineated with reeds all around and through it, I'd suspect water, or at the very least, mud. Apparently, Zac did not connect these signs in the same way and walked right in. Fortunately or un-, (depending on your point of view) there was very little water in the swale, but it was amusing nonetheless and we all got a good laugh, Zac included.

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I'll skip over the last spot for this day and bring us right back to the ranch house (after four pages, it seems a bit pointless to be worrying about brevity, but so it goes). By the time the sun had set, we were sitting contentedly around a large fire, had enjoyed a good meal (thanks mostly to Mike's bratwursts grilled over the flames), and were waiting for things to start showing up at the mercury vapor lamp. It was a pretty good night. We had a couple *Dynastes granti* (Western Hercules Beetles) and a rattlesnake show up. I filled my holding vials and kill jars with some choice beetles. All we had to do was to set the light up in the clear area next to the house instead of behind it. It's amazing what a huge difference such a small change can make.

22 August 2004

We said our goodbyes to Mike early the next morning and headed back to California. I clipped a small tortoise with the Sentra's tire on the way out of the ranch, but he seemed unhurt upon inspection. Doug and I took a slight detour to visit Granite Gap, on Highway 338 a couple miles south of the I-10. I checked the mesquite and acacia trees there to find some really impressive buprestids (*Hippomelas* and *Gyascutus*) while Doug had a ball with the bees and wasps he got on the flowers there. A "short stop" turned into more than two hours before we finally dragged ourselves away and headed home (for real this time).

Epilogue:

I didn't know what to expect from the Gray Ranch in New Mexico. As I am writing this four months later and looking at the specimens I caught there, I mainly recall how unique the habitat was and what a great time I had with the other people who went. Aside from that, the only other thing I keep thinking about is how nice it would be to be able to go back again sometime.

Let's Go Collecting!

by Alexis Park

Unlike the elections we had in this country not too long ago, becoming the President of FERM is not a popularity contest. That's why you have me. There were also no campaign promises involved. Another point for me. However, there is one thing I'd like to see more of while I am in office and that is more FERM members going collecting with us. Our collecting trips often end up being the same bunch of folks over and over again. While there is nothing really wrong with this (unless you consider hanging out with Doug and Dave a problem), I'm sure that there are more of you out there who would like to be able to come along. The problem seems to mainly be a lack of advance notification. It is the nature of collecting trips to not really take shape until a couple days beforehand. This method obviously runs into a lot of schedule conflicts with people who have a lot on the docket. Effectively, this means that, under the current system, only people with no lives are able to come collecting with us on a regular basis. Ouch, that means....well, never mind.

So, we talked about it and came up with a list of places that would be appropriate for daytrips this coming spring/summer. What we'll do is have a trip about every other weekend from March to June, possibly more depending on interest. This eliminates the need to coordinate everybody ahead of time. People can just show up. We are also having daytrips that are an hour's drive or less since they require the minimum of preparation and allow for the most time spent in the field rather than the car. Here's a tentative list:

12 March 2005
Thousand Palms

7 May 2005
Pinyon Flats

26 March 2005
Morongo Canyon

21 May 2005
Anza area

9 April 2005
Gavilan Hills

4 June 2005
Bear Paw Ranch

23 April 2005
Bautista Canyon

18 June 2005
Santa Ana River Wash

These trips are going to be pretty informal. We'll meet at the Museum @ 7:00 AM, head out, collect, get something to eat, etc. In case of inclement weather, trips will be delayed a week. If delayed again, the trip gets scrubbed entirely. Another thing I am going to try is to collect a list of people who would be interested in being notified about collecting trips outside of this list that might occur on short notice. If you would like to receive e-mails about collecting trips, even on 24 hours or less notice, send me a message from the e-mail account you check most. My e-mail is cscutellaris@yahoo.com. This list will also be useful in providing details on whether a trip is viable due to weather or what have you.

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