University of California, Riverside No. 24, Fall 2004

Friends of the Entomology Research Museum

Newsletter

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

More Entomological Quotes

"With a beer and some beetles and a few crickets, they're actually quite good."
Actress Angelina Jolie, on eating Cambodian frogs

"Nature will bear the closest inspection. She invites us to lay our eye level with her smallest leaf, and take an insect view of its plain."
Henry David Thoreau

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 (rick.vetter@ucr.edu)

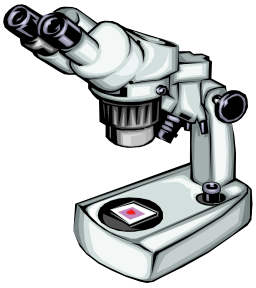
Lao Adventures

G.R.Ballmer
(Also see related story on page 11)

Since November 2001, I have made three excursions to the Lao People's Democratic Republic (aka Lao PDR or Laos). Laos is a moist tropical land surrounded by Viet Nam to the east, Thailand and Burma to the west, China to the north and Cambodia to the south. Its recent tortured history parallels that of Viet Nam, having been colonized by the French during the 19th Century, with a protracted period of rebellion and political strife culminating in the replacement of an American-backed government by the communist Pathet Lao in 1975. Laos has the dubious distinction of being the most intensely bombed country in history, with about two tons of bombs per capita (2,093,100 tons) dropped primarily in the eastern provinces during the 'Secret War' of the 1960s and early 1970s. Much unexploded ordinance and other war relics remain, especially along the Ho Chih Minh Trail corridor.

The Lao landscape is dominated by mountains and rivers. The north-south trending Annamite Range divides Laos from Viet Nam, while the Mekong River provides a well-defined border with Burma and much of Thailand. Several rivers originating in the Annamite Range thread their way westward through a jumble of mountains to the Mekong. Rainfall is concentrated during the summer monsoon (May to September), during which many rural roads become impassable muddy quagmires. Ethnic Lao people grow irrigated glutinous rice and inhabit the lowlands, while several ethnically and linguistically distinct tribes subsist in the mountains on slash-and-burn agriculture.

Continued on page 7



NEWS FROM THE MUSEUM

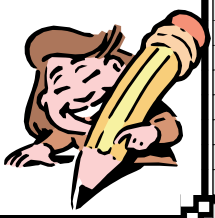
by Doug Yanega, Senior Museum Scientist

The summer quarter has been quiet (no student workers), but a lot has been accomplished, most of it relating to a recent visit by Lynn Kimsey, director of the UC Davis collection. Lynn worked through all of our Chrysidids (cuckoo wasps) and Tiphiids, identifying virtually every specimen to genus or better. In addition to her curatorial efforts, Lynn also brought along a significant set of reprints, many of which contained keys that have enabled me to thoroughly curate a substantial portion of our Sphecoid wasp holdings. This includes the discovery of a number of very rare species in our collection, several of which are evidently undescribed, from various areas in the US southwest and Mexico.

A few recent collecting trips, including FERM's expedition to the Gray Ranch, have yielded a number of valuable specimens, many of which will soon be integrated into the main collection. Hopefully, the fall rains in the eastern half of Riverside and San Bernardino counties will lead to productive collecting in another month or so, and we can improve our holdings of some of the rare species that are active in the Colorado River area only when there is a fall bloom. The Museum's regular database has grown to almost 75,000 specimens, and the authority file now has almost 160,000 species names and over 25,000 genera. The recent curatorial efforts have also led to a large increase in the number of taxa we have catalogued, primarily in the Sphecoidea, Chrysididae, and Tiphiidae, as well as a large number of Deep Canyon specimens.

Got an idea for a FERM article???

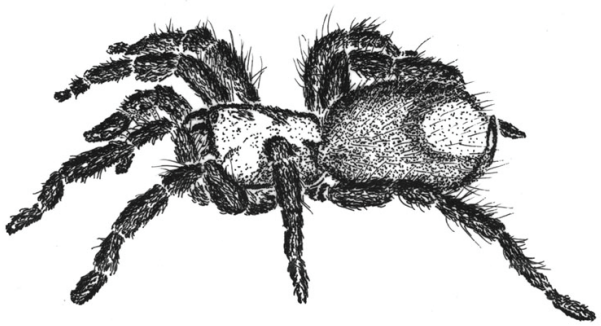
Do you have anything buggy-related that might be of interest for the FERM newsletter? We really would be tickled pinkish if you would send "stuff" in. Remember, this newsletter won't have much in it unless we have material submitted from you folks that we can publish. Feel free to send in photos, articles, 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 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 Jun 15th

Woman breaks leg avoiding spider (from BBC News 3 August 2004)

An embarassed woman who broke her leg avoiding a spider drove to work fearing colleagues would think she was trying to duck out of a team-building weekend. Sharon Edwards, 43, of Peterborough, Cambridgeshire, did the damage jumping backwards in fear when she encountered a tiny spider in her back garden. The travel agent assumed it was a sprain and began driving to work. She headed instead for hospital when she realized she could not feel how hard she was pressing on the pedals. "I have an absolute fear of spiders. I was taking the rubbish out and a spider had managed to build a web across the path where the bins were," Sharon said. "It was only little but it was the shock of seeing it two inches from my nose. I know I stepped back and when I come down I thought ' Ouch, I've hurt my leg'." She felt silly and embarassed so wrapped her ankle in a wet towel to head for work at Thomas Cook, thinking it would soon mend. By the time she reached Peterborough District Hospital, the pain was so bad she was in tears. "They x-rayed it and said that I have broken my tibia. The doctors couldn't believe I had actually driven to the hospital." she said. Sharon's only consolation is that her plastered leg meant she did finally avoid the dreaded weekend's orienteering in Rutland. "I had been trying to get out of it and after I hurt my leg I thought, 'I've got to go in because they will never believe I have done this," she said.



Editor's note: Although this is not an entomological endeavor, because this event is so close to Riverside we felt some FERM members might have an interest in attending.

BIOLOGY OF THE RATTLESNAKES SYMPOSIUM

January 15-18, 2005
Loma Linda University, Loma Linda, California
BiologyoftheRattlesnakes.com

For those who study or are interested in rattlesnakes, we extend a warm invitation to join us in sunny southern California for a very special event. We are in the process of building a website for the symposium at BiologyoftheRattlesnakes.com. Please visit the website for the latest updates. Planned session topics include systematics, morphology, behavior, physiology, ecology, conservation, venom, and snakebite treatment. Oral and poster presentations will be invited. To be added to the tentative speakers list, which will be posted on the website, e-mail whayes@BiologyoftheRattlesnakes.com with your name, institution, appropriate session, and title or topic. Beginning March 1st, we will update the list on a regular basis. Space for speakers will be limited, so please let us know your intentions soon. The keynote speaker will be Dr. David Chiszar of the University of Colorado, a well-known expert on rattlesnake behavior. The organizers intend to produce a peer-reviewed proceedings volume, following the tradition set by the widely acclaimed books, Biology of the Pitvipers and Biology of the Vipers.

Friends of the Entomology Research Museum
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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.)

Pleocoma Collecting in the San Bernardino Mountains

By Mike Raschko

On November 16, 2003, I made a trip to Angelus Oaks in the San Bernardino Mountains. I am primarily interested in Lepidoptera, so it was nice to get out in the field in the winter and try something new. I wasn't looking for "leps" but instead was in search of a member of the genus *Pleocoma* (Scarabaeidae), commonly known as "rain beetles". They have that common name because the adult male beetles start flying and searching for females in response to fall and winter rains. The conditions have to be just right for one to encounter them. The 30 or so species of rain beetles are limited in range to the mountains of the west coast and extreme northern Baja California.

At Angelus Oaks, I was in search of *Pleocoma bicolor*. The *P. bicolor* males have a dark brown head and thorax, and reddish-brown wing covers (elytra). The larger females are a uniform dark brown.

I arrived at Angelus Oaks and followed the dirt road just beyond the restaurant that leads up the hill. There was still a little snow on the ground from earlier in the week. I wondered whether this was a good spot to try. I parked at a wide spot in the road next to another vehicle who's owner turned out to be rain beetle enthusiast Ted Rado. Ted occasionally comes to "Museum night" at the UCR Entomology Museum and is the one who told me about Angelus Oaks and rain beetles. He was bundled up and was carrying a trowel. He looked like someone going clam digging, rather than insect collecting. He explained that he had collected many males of *P. bicolor* and was now after the prized females, which generally remain underground. His technique for finding them was to follow the low-flying males to pheromone-emitting females, who were in quarter-sized burrows near the surface. They mate with the male at the surface and then go back down the burrow to lay eggs in the spring.

Before long, we were joined by FERM members Guy Bruyea, Dave Hawks, and Martin Barnes. These beetles certainly draw a crowd! Dave had collected some females earlier in the week, but was back to collect live females for Jocelyn Millar's and Steve McElfresh's pheromone research at UCR.

The males began flying about 4:45 pm. The first one I encountered was in the middle of a mud puddle. Dave said they're attracted to the reflective surface of mud puddles. I captured several male beetles while patrolling up and down the road. The highlight came as we were running out of daylight. I followed a male until it plopped down in the middle of the road. Somehow sensing the male's presence, a female pushed up through the hard pan of the road close by. I called Dave over and he was able to extract her from the burrow. This would be our third female collected that evening, and Dave had his specimen for Jocelyn. I'm told that this made for a total of 23 females collected this flight season, which is considered a large number.

I'd like to thank Ted Rado and also Matthew and Alex Van Dam for sharing the locality information with me. Also, thanks to Dave, Martin, and Guy for their help. I had a great time and we'll meet there again next year. It might be a larger group, though!

New Entomology Books

Just thought that you bug freaks would be interested in knowing about the following books from Cornell University Press

The Black Flies (Simuliidae) of North America
Peter Adler, Douglas Currie and Monty Wood, 2004
960 pages, 255 maps, 13 tables, 887 line drawings
Cloth ISBN 0-8014-2498-4
$99.95

The Monarch Butterfly: Biology and Conservation
ed. by Karen Oberhauser and Michelle Solensky, 2004
256 pages, 64 tables, 122 charts/maps/line drawings, 4 halftones
cloth ISBN 0-8014-4188
$39.95

phone orders 607-277-2211

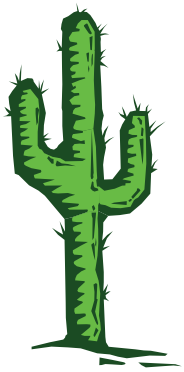
PINE : PARTNERS IN NATURE EDUCATION

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

Mammals of the Southern California Deserts
Fri. 5-8 pm, Sept. 24/Sat., Sun. 9 am-5 pm, Sept. 25, 26. $206 (42P21)

Birds of Anza-Borrego
Fri. 7-9 pm, Oct. 1/Sat. 7 am-5 pm, Oct. 2/Sun. 8am-2 pm, Oct. 3. $169 (42P25)

Introduction to Bird-Banding
Tue. 5:30-9:30 pm, Nov. 2/Sat., Sun. 6 am-3 pm, Nov.6, 7. $206 (42P25)



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

Life imitating art imitating life

This is a minor thing but some might find it amusing. If you remember the Australian travelogue of Dave Hawks and Bryan Carey, you may remember that Bryan's nickname is "Jimmy". Well if you haven't seen Bryan with his new vehicle recently, you might be amused to know that he now drives a GMC Jimmy. I think I can hear Mike Gates' lusty, rafter-rattling laugh all the way from Washington DC.

FERM Bug o' the Issue Centerfolds

Hey, folks!! We all know and love those FERM Bug Centerfolds. Right now we have a decent stockpile of stories with pictures, some pictures without stories, and some stories without pictures. I just thought that possibly some of y'all would care to contribute to the FERM newsletter but don't have both photos and stories. Anywho, we currently have lovely photos of a millipede, the painted lady butterfly and pseudoscorpions but currently no stories to go with the picture. Therefore, if any of y'all would care to contribute a FERM bug centerfold on any of these creatures, we would be tickled pinkish to get your story. Currently, we have about 4 stories prepped and ready to go so if you do contribute a story it may not get used for several issues as we select what we have which is most appropriate (i.e., we try to use images when the arthropod is active so there might be a chance that you can use the FERM newsletter at the appropriate time of the year. Aren't we just sooooo clever??)

Editor's note: I asked FERM member Mike Gates to provide an eyewitness account of the Brood X cicada emergence as he is living in the Washington DC area. His story arrived after the previous newsletter was already printed. However, considering that he was an eyewitness to this historic event, I didn't want to trash the story. So late as it is, here it is.

Periodical Cicadas: If They're Too Loud, Then You're Too Old

By Mike Gates

Adult cicadas emerging from pupal skins

Where shall I begin? The droning cacophony? The malodorous, deliquescing goop formerly known as periodical cicadas on residential streets? Hmmm.

I've never seen quite so massive a mobilization of hemipteran biomass as that which has assaulted the greater Washington D.C.-Baltimore area between mid-May and mid-June this year. It began slowly at first, an exuvium here, an exuvium there, first contact with an adult, with most emergence first occurring in sunny edges where the soil warmed more quickly. Three species of the 17-year periodical cicada are known: *Magicicada septendecim*, *M. cassini*, *M. septendecula*. The first is the most common in our neighborhood with *M. cassini* occurring in smaller pockets within the greater emergence of *M. septendecim*. I will not belabor the biological details that can be had at the excellent website: http://insects.ummz.lsa.umich.edu/fauna/michigan_cicadas/Periodical/Index.html

A mutant cicada emerging as a small boy

I offer some highlights on our interactions with these beasts and the impressions made upon our psyche.

During peak emergence, our eldest son was enamored of cicadas and spent hours collecting, squashing, and throwing them about with abandon. Then he found one with, "powder in its butt", and I told him how sometimes a fungus (*Massospora*) grows inside cicada bellies. After that, every cicada encountered was subjected to a cavity search, seeking the elusive fungus.

I witnessed cicadas being caught on the wing by peckish avifauna and gorged upon by terrestrial mammalia. They were certainly able to eat their fill. My wife, however, began to view them as houseguests who have overstayed their welcome. She cited the constant, loud droning as the primary complaint. To me, they were a fun addition to my entomological 'life list' even though they shredded our ornamental cherry with their oviposition activity.

Massive pile ofcast pupal skins

The cicadas were generally well received by the public and popular press. Local papers and newscasts offered near continual coverage of the beasts and maintained updates on the progression of the emergence. Some local garden suppliers marketed cicada netting (repackaged bird-proof netting), adding fuel to the isolated pockets of cicada paranoia. At the Beltsville Area Research Center's (USDA) annual public field day, sauteed and chocolate-covered cicadas were offered to visitors interested in a taste. "Tastes like chicken" was heard numerous times that day. Although the adult cicadas are gone for now, the nymphs are now raining out of the trees to begin the cycle anew.

Laos Adventures (continued from page 1)

Because all major towns and primary agricultural areas are located along rivers, they were accessible primarily by boat until recent all-weather highway construction. Route 13, the primary north-south highway, has been paved since 2003 and links the Capital, Vientiane, with Cambodia to the south and China to the north. A few other paved roads (some still under construction) extend eastward from Route 13 into Viet Nam.

Prior to 2000, foreign travelers were required to register with provincial police authorities upon entering each province. This xenophobic policy has been abandoned and tourism is now actively promoted. Two-week visas are available on entry by air and overland from Viet Nam and Thailand, while internal travel is officially unrestricted to most areas.

My journeys to Laos were as a guest of John Burton, a long-time friend and authority on Southeast Asian Tabanidae (horseflies and deerflies). John spent two years in Thailand as a Peace Corps Volunteer during the mid 1960s (when I first met him) and another seven months in that country during 1969 collecting specimens for his PhD dissertation on Tabanidae of Thailand (Cornell, 1974). After seven years as a public health entomologist in Malaysia and another twenty in Saudi Arabia as chief pest controller for ARAMCO, John relocated to Vientiane in 2001 for a 3-year stint to study the Lao tabanid fauna.

Laos is fertile ground for entomological exploration. Because of poor access and protracted political strife, large-scale harvesting of the hardwood forests is a recent phenomenon. A fusion of Himalayan, Oriental, and Malayan elements comprise the Lao fauna and flora. Drought deciduous dipterocarp forests dominate the hot lowlands and merge with broadleaf evergreen and coniferous elements in the temperate highlands. The highest elevation (Phou Bia) is 9246 ft, while most peaks rise to no more than about 5000 feet above sea level. Much of the landscape has been deforested by recent logging and slash & burn agriculture, although 17 National Protected Areas scattered around the country provide a modicum of habitat protection for remaining megafauna (elephant, tiger, bear, etc) and lots of insects. Although there is great potential for ecotourism, it is largely a do-it-yourself endeavor, because of poorly developed infrastructure.

Over the last three years, John has explored all 142 Lao administrative districts and has amassed a humongous collection of tabanids. John's 4WD Toyota Prado and Lao collecting assistant/translator, Bee, have been key to accessing remote areas.

On a typical day we would explore patches of forest in search of insects (tabanids for John and lycaenids for me). My primary interest is the immature stages and host plants of lycaenids, which are richly represented in Southeast Asia; my almost annual trips to that region are largely devoted to elucidating lycaenid life histories. The tabanid fauna of SE Asia is also especially rich, with many new species to be described. Late in the day, we would seek a mild-mannered cow or buffalo to serve as tabanid bait near forest and/or wetlands. Tabanids generally prefer to bite at dusk and they prefer to bite larger animals; thus the order of preference is elephants > buffalo> cattle > horses > people. When docile animals are not available, a handful of salt can often persuade a skittish bovine to remain in one place long enough to capture a few biting flies.

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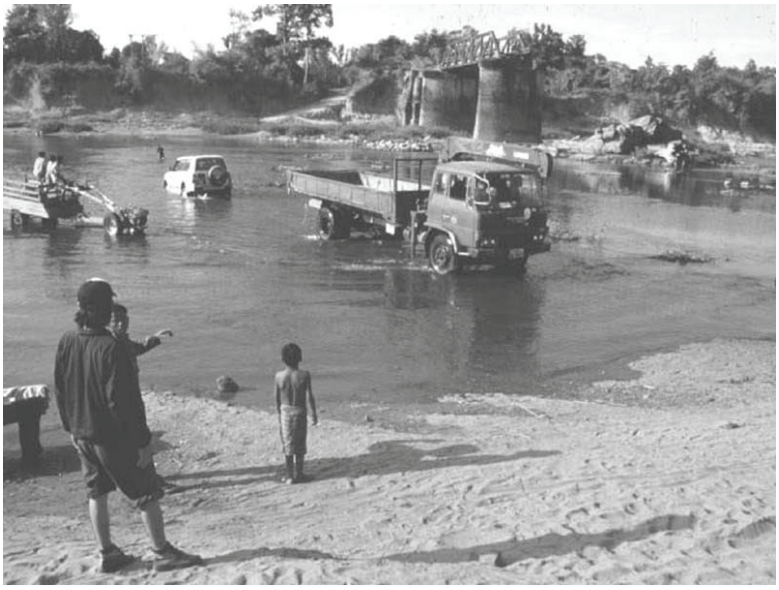
Laos Adventures (continued from previous page)

The Toyota Prado has suffered terribly from wear-and-tear, highway accidents and miscellaneous mishaps. On one of our excursions (January 2003), the vehicle stalled and became partially submerged while fording the Don River (southeastern Laos) next to the bombed-out ruins of a bridge dating to the French colonial period. After about an hour with the swirling water up to the door handles, a flatbed truck happened by and was persuaded to help. With its drive wheels spinning and under the gazes of several bemused villagers and a few water buffalo that swam out to investigate, the truck pulled our vehicle out and towed it about 10 km to the nearest repair shop. The next day, a gang of teenage mechanics cleaned the water out of the carburetor, fuel lines, and gas tank and we were back on the road.



My most recent Lao adventure (April-May, 2004) included five northern provinces from Vientiane to China. John planned to show me the more remote provinces of the North and curious sites, such as the Plain of Jars (a grassy highland region with scattered ancient carved stone jars, some large enough to crawl into, of unknown origin) and the Lao "Stonehenge". This plan was quickly altered by events beyond our control (aren't they all?). In brief: just one day out of Vientiane, John began suffering serious health problems due to the adverse interaction of two prescription medicines; at the same time, the Prado became increasingly difficult to start. Leaving Bee and me in the tourist town of Vang Vieng, John drove back to Vientiane to seek medical advice and car repairs. He planned to return a day later, but ended up confined to hospital for 12 days. John urged me to retrieve the car and resume the journey without him; however, it took a week to repair the car, as the nearest available replacement parts were in Australia.

Vang Vieng

The district town of Vang Vieng is located on Route 13, about three hours drive north of Vientiane (and six hours south of the old royal Capital, Luang Phabang). Vang Vieng is sandwiched between Route 13 and the east bank of the shallow, clear Nam Song River. Due to its picturesque surroundings (rural villages, rice paddies, and sheer limestone karsts), Vang Vieng has become a popular tourist destination. I spent about a week in Vang Vieng, while the Prado was undergoing carburetor repairs in Vientiane.

Numerous guesthouses and resorts catering to foreigners (mostly European backpackers) line the river and the main street of town. Small businesses offer kayaking and tubing opportunities on the Song; tourists are transported by bus upstream a few miles from where they float or paddle back to town. Most guesthouses can also arrange guided tours of various caves in the area. Several open-front restaurants and cafes offer Thai, Lao, Indian, and European cuisine. There are even a couple of pizza parlors. Most restaurants have a large-screen TV playing seemingly endless reruns of "Friends" episodes, Adam Sandler movies, and other annoyingly loud entertainment in a cigarette smoke atmosphere.

I stayed at the Frichittavong Guest House, about a kilometer walk south of the bus station. That is far enough from the town center to escape the tourist traffic and noise of the big-screen TVs but not the loud speakers on the street corner, which broadcast government wake-up folk music and propaganda lectures every morning from 6 to 9 AM (after all, this is a communist regime).

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Laos Adventures (continued from previous page)

Sengkeo, the friendly proprietor of Frichittavong, spent 17 years in Canada before returning to his hometown with $10,000 to start his own business. He charges 30,000 kip ($3)/day for a room with overhead fan and cold water shower and $7 for a room with A/C and hot water; Sengkeo is not getting rich. The rooms all face a spacious garden of tropical fruit trees.

The most interesting opportunities for tourists (karsts, caves, and swimming holes) are on the opposite (west) side of the river. To get there, one must cross a narrow bamboo foot bridge over the Nam Song (1000 kip toll) and then either walk, bicycle, or ride a tractor cart shuttle for a couple of miles through farm villages and rice paddies to the nearest caves.

The seedy Vang Vieng Resort, at the south edge of Vang Vieng, is the gateway to the most famous cave (Tham Jang), which was a refuge for villagers during the onslaughts of marauding Chinese warlord cavalry (Jin Haw) during the 19th Century. For a small entrance fee, one can climb masonry steps leading far up the cliff face to the entrance to Tham Jang. Perhaps more popular with tourists is a clear stream gushing from the base of the cliff; steps leading down to a natural basin permit throngs of visitors to enjoy a dip in the cool rushing water.

The valley floor surrounding Vang Vieng is largely devoted to rice paddies, cow pastures, and small villages, while forest remnants rich with insect life cling to the margins of streams and sheer limestone karsts. The best insect collecting was along dry washes and wooded stream courses near the karst formations. The heat and humidity sapped my energy, but also caused lycaenids and many other insects to be concentrated at moist sand.

April is the hottest month. The monsoon rainy season begins in May, as humidity replaces heat. Fortunately, enterprising villagers along the roads and at the more popular caves sell iced drinks and snacks to the tourists. In spite of the daily heat, heavy rain often fell over-night, leaving ephemeral puddles and misty mornings.

In lengthy phone conversations, John instructed me in how to retrieve the Prado (assuming that it would be repaired before my visa expired), the best places to drive to, and how to find them. Because the three commercially available road maps of Lao PDR disagree as to provincial boundaries and the location and condition of many towns and roads, one needs all three. John also delivered long lectures about the dangers of driving in Laos (see sidebar). Finally, I was able to retrieve the Prado, picked up Bee, and headed north for adventure.

Wieng Thong

Meuang Vieng Thong ("Gold City") is a minimal district town in Houaphan Province of northeastern Laos. We reached it at sundown on the second driving day out of Vang Vieng. The whole town is perhaps the length of 3-4 football fields and straddles the Nam Khan (Khan River). From Luang Phabang (former capital of the old Northern Lao Kingdom) it was about a ten hour drive first NE through the Nam Ou and lower Nam Khan river valleys, past humongous vertical limestone karsts, then further east up and over wooded mountain ranges. We arrived at sundown. The last several miles of the road had been so spine-jarringly potholed that it was a relief when Bee and I were able to walk from our lodging to the one-and-only restaurant in town.

The Phou Kae Guest House is one of the few buildings on the west side of the Nam Khan. It is a two-story masonry cube with bare bones comforts. There are six rooms per floor, each with two small beds equipped with mosquito nets. One toilet serves all and, like the guest rooms, is accessed from a central hall. We were on the second floor, which is reached by climbing a steep set of steps on the outside wall. When asked about bathing facilities, the proprietess laughed and motioned toward the creek.

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Laos Adventures (continued from previous page)

Most of Vieng Thong is on the east bank of the Nam Khan and consists of old wooden buildings, some with corrugated tin roofs. The tepid evening air was still and saturated with moisture; fireflies flickered in the vegetation to the side of the road. As we crossed the bridge in the dark, the creaking mill wheels were audible from the edge of the stream far below. We passed several small groups of shadowy figures also heading in the same direction.

Vieng Thong has electicity all night, unlike many towns where it goes off around 10 PM. About half the houses we passed glowed dimly from single internal flourescent lamps. A few had flourescent porch lights. Aromas infiltrated the air. First, wood smoke from cooking fires, then a snort of incense and, finally, the unmistakable stench of burning plastic; everyone burns their trash - to the certain benefit of the creek.

The Kaysorn (father of Lao PDR) monument, which is mandatory for all district towns, sits on a prominence overlooking the central market area; it was brightly lit. A grassy field opposite the market area had a tent decorated with bright colored lights and from which loud music emanated. Scads of Lao youths milled about like moths drawn to a black light.

The restaurant was about 100 meters beyond the grassy field. The menu was scant and we had to settle for buffalo stir-fried with swamp morning-glory and sticky rice. A cool (not cold) bottle of Beer Lao considerably improved the gastronomic value. The two other customers were interested only in beer.

Next morning, we breakfasted at the same restaurant (noodle soup and hot ovaltine) and headed north on an unpaved and unmarked road not found on any official map of Laos. We drove 57 km through lushly forested hills, including a nice patch of magnificent pines. This is largely a National Protected Area containing a wealth of biodiversity. We encountered a few tribal villages, but little of the slash-and-burn devastation that elsewhere has replaced much of Laos' primary forest with bamboo scrub. Here, the creeks flowed clear and wherever they crossed a road, multitudes of butterflies and other insects congregated at moist sand and occasional bovine excrement.

Bright red dragonflies and metallic green damselflies cruised along the creek margins. Black-and-green cicadas buzzed in the trees. We enjoyed a lunch of canned tuna and corn, washed down with fruit juice and canned rambutans; what a life!

Eventually, we exited the hills on the northeast slope of the Annamites, where all the streams drain east to the Gulf of Tonkin. We stopped at a shallow stream (no bridge) in a valley of rice paddies, just beyond a rather substantial village/town, which Bee claimed was populated with Vietnamese. The international border was only a few kilometers further down the road.

At sundown we located a group of mild-mannered tethered buffalo at the end of town closest to the forest and set up to collect horseflies. Soon, about a dozen youngsters showed up to help us, including a couple of young ladies. With the help of the kids and some salt, we were able to grab around 100 flies.

It was another long drive back to Vieng Thong in darkness to the same guest house and the same old miserable restaurant, which had even less food variety available this time. But again, a bottle of cool Beer Lao helped considerably. The night was made even later by the need to stay up to photograph many live insect treasures collected that day.

Over the next few days I traveled through the provinces of Oudomxai, Luang Phabang, and Luang Namtha to the Lao/China frontier and the remote northwesternmost corner of Laos before heading back to Vientiane. So many adventures; so little to space to relate them. Suffice it to say that one day after leaving Vieng Thong, John unexpectedly rejoined us and resumed the role of driver to the great relief of all concerned.

John has now completed his tabanid survey of Laos and intends to relocate to the USA. Nevertheless, the forests and mountains of Lao PDR still beckon. There are so many unrecorded lycaenid life histories waiting to be discovered.

Driving Lao 101

By Greg Ballmer

The best thing about driving in Laos is that convention is to drive on the right (also sometimes on the left or right down the middle). Although most Lao roads have two marked lanes, there is always an invisible third lane in the middle for passing. When one sees two vehicles side-by-side coming at you, it is best to move onto the shoulder. Always expect the unexpected.

Never pass up a gas station, even if your tank is still nearly full. Gas stations can be few and far between; furthermore, although large towns may have multiple gas stations, it is not unusual for all of them to be out of fuel at the same time. Gas stations in rural communities are disguised as small wooden sheds. Inside the shed there are usually two 50-gallon drums, one with gasoline and the other with diesel fuel. Fuel is measured out using a hand crank pump to fill a five-liter jar atop the fuel drum, from which it drains through a plastic hose into one's fuel tank. Smaller sheds dispense fuel in 2-liter soda pop bottles.

More roads are getting paved all the time and one can now drive a paved road from one end of the country to the other; but be careful, its a barnyard out there! Roads always go right through the middle of villages, which often have no other roads, meaning that where there are roads, the villages are linear and one drives past every dwelling unit. Every dwelling unit, in turn, has one or more of the following: chickens, ducks, geese, turkeys, cattle, buffalo, goats, pigs, and, of course, dogs. The road must be shared with these animals, as well as with children of all ages. Especially in tribal villages on steep slopes, a level roadbed is the best place to play.

Adults tend to stay out of the road except at night, which is when they come out and walk all over it. Early evening is when people tend to take a walk down to the stream for a bath and then sit on the pavement in groups to watch TV through someone's open window. [Not many villagers have a TV, but often one or two houses in a village are equipped with a satellite dish and TV, where electricity is available.]

Early evening is also when cattle and buffalo tend to head back home from a day of foraging in the fields. And so, too, do farmers return from the fields driving their make-shift tractors at about 10-15 kph, usually without any lights or reflectors. Other night-time driving obstacles include motorbikes, bicycles, trucks, and miscellaneous other contraptions which often lack headlights, taillights, or reflectors. The best thing about night driving is that one usually has advance warning of an approaching vehicle coming around the next bend (if it has headlights). One last item about night driving: Lao drivers usually dim their headlights when approaching, but then turn on the high beams again just before they pass you (so that you have no time to retaliate).

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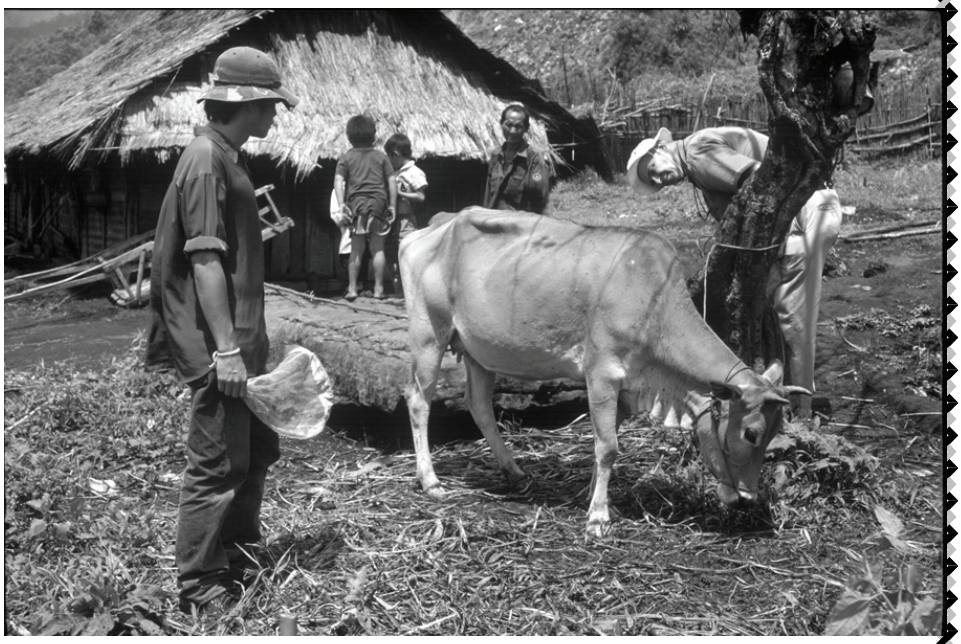
Driving Laos 101 (continued from previous page)

By day, cattle, buffalo, and ducks are easy to deal with. They move slowly and cannot be influenced to move out of the way; nevertheless, they have defined trajectories and, given enough advance notice of their speed and direction, one can steer either to the left or right of them.



Goats stay off the road; after all, they just want to eat greenery. Pigs also tend to mind their own business and usually scatter when vehicles approach. Turkeys and geese also generally stay off the road. Dogs sleep in the middle of the road but readily respond to a horn.

Chickens are something else entirely; like missiles with defective guidance systems, even they do not know what they will do next. While we still do not know why the proverbial chicken crossed the road, it certainly was not to save its feathers. Commonly, a chicken will run back and forth across a vehicle's path, seemingly reaching safety on the shoulder, and then at the last moment change direction again and dive under a wheel. The best thing about chickens is that they go home to roost at night.

Except on the Mekong Plain in the South, Lao roads are mostly serpentine and pot-holed. In the North it is hard to find level ground more than a few miles in extent. Consequently, normal average speed in the mountains of the north is around 30-40 kph, except in the rainy season when it is best not to be there at all.

It is a constant and exhausting guessing game: what is just around the next bend? How about a buffalo or a herd of cattle? Maybe a disabled truck parked smack in the middle of your lane. Or perhaps a truck coming at you - in your lane. Other likely obstacles include fallen trees, boulders, land-slides, and road wash-outs. Terrorist insurgents/bandits are the least likely problem.

Rain always creates more problems. In addition to debris flows, falling rocks, and wash-outs, the tarred road surface becomes very slippery (John's vehicle skidded into a concrete ditch last year during a heavy rain and his driving speed at the time was only about 20 kph). And rain in the mountains is often accompanied by fog. For a special thrill, try it at night.

FERM's Saul and Suzy Frommer on TV

Some of you know that Museum Curator Emeritus, Saul Frommer, and his wife, Suzy, have a unique hay bale constructed home, unlike that of Three Little Pigs fame because the Frommer's is environmentally sane and resistant to huffing and puffing, although it took a lot of huffing and puffing to build. Their home will be featured on September 29th on KCET's program "California Gold" hosted by Huell Hauser. It's a half-hour program and will focus on energy conservation and fire prevention. Saul perhaps will now exceed his proverbial "15 minutes of fame," so don't miss it!