

## Dates for '04-'05 Meetings

Most of these are 1<sup>st</sup> Thursday:

Sunday, Dec. 5, 1-4 PM Holiday Party at Green Center, see article this page.

No meeting in January 2005.

February 11, Fri., joint meeting with St. L. Audubon at Creve Coeur Gvt. Center on Ballas, Greg Iffrig of Pioneer Forest.

March 3 St. L. Co. Library HQ 7:00 PM

April 7 St. L. Co. Library HQ 7:00 PM

May 10, Tues., Spring Banquet at Eden Seminary with MDC photographer Jim Rathert

Sept. 1, Oct. 6, Nov. 3, 2005 ❁

## Holiday Open House at the Green Center Sunday, Dec. 5, from 1-4 PM

*Continued from page 1*

This year, the Center has agreed to allow limited parking in the driveway for our senior members. Others, please park in the Kaufman Park lot next to the center.

Directions from Interstate-64/Hwy. 40: Take the Interstate 170 North exit; take 170 north to the Delmar Boulevard exit; go east on Delmar Boulevard three stoplights to North and South Road; then north (left turn) to Blackberry Avenue; then west (left turn).

## Bugs & Birds: A Nexus in Texas, Part 1

Ted C. MacRae & Christopher R. Brown  
One of the true delights of natural history study is the opportunity to travel. The natural communities of Missouri are diverse and interesting, to be sure, but they encompass only a small part of nature's diversity. Our studies of unique natural communities and their associated floras and faunas have taken us to many parts of the United States and beyond. Between the two of us, we've visited places familiar to many—the boreal forests, the coastal redwoods, the southwestern deserts—and places that many of us have only dreamt of seeing—the African savannah, the Amazon rain forest, the Andean Cordillera. While literally in our "backyard," the great state of Texas ranks high as a destination for nature study. Its huge landmass encompasses a diversity of landforms and climates that few places can

match. This, combined with its ecotonal position on the North American continent, has resulted in a tremendously diverse, and still incompletely known, flora and fauna.

It has been 20 years now since I (TCM) first began studying the jewel beetles (family Buprestidae) and longhorned beetles (Cerambycidae) of Texas. In that time, I have recorded several species of these beetles from the state for the first time, including one species known previously only from Mexico (*Agrius toxotes*) and another completely new to science (*Mastogenius texanus*). In addition, I have been especially interested in figuring out the host plants in which the species breed, which still remain completely unknown for a good many of the species. One of the best methods for studying these beetles is rearing. The larvae of most species develop by boring through dead wood (and, hence, are known collectively as 'wood-boring beetles'). They can be reared by retrieving infested wood from the field, maintaining the wood in closed containers, and monitoring the containers for adult emergence. It was this technique that led to the recent discovery of a new species right here in Missouri (*Agrius betulanigrae*—see the March 2004 issue of *Nature Notes*). The best time to collect wood for rearing is early spring, since by then the beetles are nearly ready to emerge. It is not always easy to maintain infested wood under ideal conditions for the larvae, so collecting wood just prior to expected adult emergence minimizes the time that larvae must be maintained (and also the time one must wait to see the fruits of their labor!). Rearing has increasingly become the method of choice for these studies, and most of the wood collected during a previous trip to Texas was now "spent." Thus, Chris and I decided another trip was in order, and an early April timing should maximize our wood collecting/insect observing opportunities. However, even though our expectations were primarily "bug" oriented, Chris also planned to keep an eye "skywards" for the many specialty birds known to occur in the areas we would visit. By the end of the trip, even I—the focused, veteran bug collector—was enthusiastically spotting some of these birds.

Our plan was to drive to the southern tip of Texas (Boca Chica near the mouth of the Rio Grande River) and work our way up the Rio

Grande, eventually reaching Big Bend National Park and, finally, the Davis Mountains. Our first stop though was in San Antonio—not to visit the Alamo or stroll the River Walk, but to look for infested wood in the “Hill Country” northwest of town. This area lies on the southeastern escarpment of the Edwards Plateau and is characterized by dry-mesic oak/juriper forest over a dissected landscape that reminds me very much of our own beloved Ozarks. I was hoping to find dead mistletoe (*Phoracanthus* sp.) infested with a recently described buprestid beetle (*Agrilus turnbowi*) and girdled oak branches that might contain a rare black and red cerambycid beetle (*Purpuricenus linsleyi*). Chris, on the other hand, was hoping (to no avail) to catch a glimpse of the Golden-cheeked Warbler, an endangered species limited to the Edwards Plateau. We went to one spot where I had previously found a single girdled oak branch, but we left only with dead branches of eastern red cedar (*Juniperus virginiana*) and cedar elm (*Ulmus crassifolia*). We then headed to another spot a few miles away to continue our search, where I immediately spotted a dead branch hanging from huisache (*Acacia farnesiana*). Dead branches hanging from living trees are ideal for wood boring beetles, and leguminous trees are especially favored. Chris went off in one direction, while I grabbed my knife and axe and made a beeline for the huisache tree. When rearing wood boring beetles, it’s always a good idea to verify that wood is truly infested before retrieving it from the field—otherwise a lot of time and effort is spent on wood batches that ultimately produce nothing.

With this in mind, I began slicing into the wood to look for evidence of active larval galleries—or better yet, the larvae themselves. At this point in my life, I consider myself to be well schooled in safe knife cutting technique. However, on this particular occasion, a momentary *lapsus cerebrus* found me cutting not away from, but *towards* myself. At the very moment I realized this wasn’t a good idea, the knife slipped on the hard wood and slammed into my thumb. By instinct, I immediately clenched my thumb in my fist and held it tightly—I was afraid to look, but I knew it was bad! I scurried back to the truck, called out to Chris, then unclenched my thumb. It began to bleed profusely. We wrapped it tightly in moist

toweling, got into the car, and drove to a nearby convenience store for directions to the nearest emergency clinic. The clerk told us of one right down the road, and we got back in the car and began following his directions. Although I was relieved to know I would get help promptly, I was sick at the prospect the trip might be over. I was also beginning to feel faint—I really thought I was going to pass out. The clinic was not all that easy to find, but eventually we found it, and then we had to wait another hour before I could be seen. We sat there morosely, trying to convince ourselves (in vain, we thought) that we still might be able to do the trip. Finally the doctor was able to see me. The cut was deep, but its position on the tip of the thumb resulted in little spreading, and the doctor decided—much to my relief—that the cut could be glued rather than sutured before wrapping and covering with a protective splint. Best of all, I could still use my hand. The thumb would be a hindrance, but the trip was still on! We were fortunate that we happened to be collecting in a metropolitan area with quick access to medical attention when the mishap occurred—had we been in a more remote area the situation could have been much more serious.

We left the clinic, picked up a supply of bandages at a nearby grocery store, and returned to the “scene of the crime.” If nothing else, I was determined to at least collect the branch that had caused me so much grief. But bad luck had not finished “raining” on us for the day. While we were at the clinic it had begun to rain, although lightly. As I collected the malevolent branch, it began to rain harder. I quickly finished the job and jumped back in the car just as the rain turned into a full-fledged downpour. We sat there trying to decide what to do next. Our plan had been to stay in the area that evening and “blacklight” (a technique for collecting nocturnal insects), then complete our journey to the southern tip of Texas the following day. But it was raining hard, and even if it stopped the blacklighting would be shot. We decided to go ahead and drive south—whatever ground we could cover that evening would be that much less we would need to cover the next day. We drove, and it rained! We drove further, and it rained harder! At times, it rained so hard that we could barely see the road, and it continued to rain all the

way to Victoria where we stopped for the night. In the hotel room we watched the weather channel—rain was forecast in south Texas for the entire coming week. First the thumb, now rain—not a good start, we were thinking. However, the following morning we awoke to bright sunny skies, and they remained so all the way to Brownsville.

The drive to Brownsville produced our first south Texas specialty bird, the northern caracara, along with other common birds such as scissor-tailed flycatcher and black vulture. This stretch of road passes through flat, monotonous coastal prairie characterized primarily by shrubs and prickly pear cactus (*Opuntia lindheimeri*). The only woody vegetation is the ubiquitous mesquite (*Prosopis glandulosa*). At one point along the highway, however, we noticed an unusual stand of post oak (*Quercus stellata*) at what must be the southernmost extent of its distribution—an island of trees in a prairie “ocean.” We stopped to look for dead wood, but we soon discovered the trees were harboring a veritable cacophony of birds. Chris fondly remembered this location as the place where he had first seen Green Jay eight years prior. He was once again awed by the sight of this bird, as well as Golden-fronted Woodpecker, Tropical Parula, Black-crested Titmouse, Ladder-backed Woodpecker, and a Great Kiskadee vocalizing in the distance. Recently dead wood, on the other hand, was rather scarce. I spotted a few small branches on one of the trees that looked promising, but they were higher than I could reach. I found an old tire, propped it up against the tree, and stood on top of it so I could cut the branches. It was hard pulling Chris away from all the birds he was seeing, but eventually he came back to the car and we continued south.

We arrived in Brownsville late in the morning and headed straight for Boca Chica Beach and the Gulf of Mexico. The beach itself is a State Park, and the Lower Rio Grande Valley NWR (National Wildlife Refuge) encompasses much of the surrounding coastal prairie and interspersed tidal flats. I knew from a previous visit that a diversity of tiger beetles (family Cicindelidae) occurred near the water’s edge in the tidal flats. These beautiful (and challenging to collect) beetles prey upon smaller insects that they run down and capture with the huge, sickle-shaped jaws. Species

range from brilliant green to coppery, red, or black and are variously marked with white spots and bands. On this visit, we observed the greenish *Cicindela severa*, the white & green *C. pamphila*, the slender *C. togata*, and the extraordinarily abundant *C. hamata*. While Chris concentrated on photographing the beetles (even more challenging than collecting them), I noticed a few dead plants among the stands of black mangrove (*Rhizophora mangle*) surrounding the tidal flats. I cut into some of the dead branches and immediately found some buprestid beetle larvae. Only one buprestid has been reared from this plant, and it is not known to occur in Texas. Thus, the beetles in the plant either represented a new state record or a new larval host record. They would eventually prove to be *Acmaeodera pulchella*, a species commonly encountered on flowers throughout Texas but until now reared only from mesquite. I bundled up a batch of the dead branches as well as a few other miscellaneous branches that I found. Afterwards, we did a little bird watching and saw, among other things, Long-billed Thrasher, Black-bellied Whistling-Duck, White-tailed Kite, Snowy Plover, Great Kiskadee, Bronzed Cowbird, and Chihuahuan Raven. At one place along the highway back to Brownsville we found a huisache tree that had been attacked by a cerambycid girdler beetle (*Oncideres pustulata*). Adults of this species create their own dead wood by girdling living branches of huisache, mesquite, tepejuaje (*Leucaena pulverulenta*) and other leguminous trees with their powerful jaws and then depositing their eggs on the girdled branch. Typically, they girdle branches of about 1” in diameter, but one of the branches we found measured more than twice that!

The next day—our first full day in the field—featured a visit to Sabal Palm Grove Sanctuary, a reserve owned and managed by the Nature Conservancy and located at the south edge of Brownsville on the Rio Grande River. The reserve is one of just a handful of small parcels of land that have managed to survive the inexorable process of agricultural conversion that has befallen the entire lower Rio Grande Valley, which until recently was an extensive subtropical floodplain community dominated by water-loving trees such as cedar elm, sugarberry (*Celtis laevigata*), anaqua (*Ehretia anacua*), and Rio Grande ash (*Fraxinus*

*berlandieriana*). Only 5% of this community now remains, replaced by vegetable farms, citrus groves, and a suffocating urban sprawl. The reserves are protected from any further encroachment *per se*, but their habitats continue to decline due to interruption of natural flooding cycles from the Rio Grande River by dams. The Sabal Palm Grove (known locally as 'Southmost'), lying at the southernmost tip of the state, is unique among these small reserves in that it contains the last natural stand of sabal palm (*Sabal texana*) in the U.S. It is famous as a winter destination for birders, but far less widely known is its unique assemblage of insects, a number of which occur nowhere else in the country. One of these is *Lochmaecles cornuticeps*, a large, attractive relative of the girdler beetle. This species is quite fond of tepehuaje, and we found several dead branches containing the large, grub-like larval stage of the beetle. We even encountered one adult, a lone straggler hanging on from last summer. I was happy to finally have a chance to explore this area, as three prior attempts to do so in previous years were all thwarted by rain. We hiked the trails and collected several batches of infested wood. All the while, Plain Chachalacas "sang" their raucous duets in the trees above us. Some other birds seen from along the trails include least grebe, green kingfisher, Couch's kingbird, black-crowned night heron, and white ibis. Olive sparrows sang in the thickets but never allowed us a look. One of the best birds of the trip, the typically south-of-the-border short-tailed hawk, was tending an empty nest waiting—probably in vain—for a female to find it there on the fringe of the species' range. We took time to have lunch back at the office so we could sit on the patio and watch birds come to the feeders—white-tipped dove, green jay, and golden-fronted woodpecker were quite common. Most of the birds kept a safe distance, but several Plain Chachalacas dared to venture near us in search of handouts.

The next day we headed towards Santa Ana NWR, located about 50 miles upriver from Brownsville. Covering more than 2,000 acres, it contains the largest remaining tracts of riparian woodland in the lower Rio Grande Valley. I had been to this area several times already so was hoping to explore some new territory. We picked up our permit at the office and took a

service road to the back part of the refuge. Almost immediately we found things that caught our interest. Chris began investigating near a woodpile, while I found a dead Texas persimmon (*Diospyros texana*) that looked promising. I began chopping into the hard wood and within a few minutes found some buprestid larvae, so I continued to cut up and bundle the wood. Shortly afterwards I found another dead persimmon, this one much larger, and when I chopped into it I found a beautiful unemerged adult buprestid. It turned out to be *Spectralia prosternalis*, a rarely encountered species known only from the lower Rio Grande Valley, and for which the larval host was still unknown—until now, that is. Meanwhile, Chris noticed a small beetle back at the woodpile—an odd-looking thing with short elytra ("wing covers") and fringed antennae. He popped it into a vial and showed it to me later—I recognized it instantly as *Xenorhipis hidalgoensis*, another buprestid endemic to the lower Rio Grande Valley and even rarer than the beetle I had found in persimmon. We continued down the trail and entered a grove of young tepejuahe trees—ideal habitat for developing twig girdler larvae. A momentary pause was all that was needed to confirm this, as we began to hear "munching" sounds all around us caused by twig girdler larvae as they scraped the wood inside their galleries with their hard, chisel-like mandibles. Although still early in the season, one species of buprestid beetle had already begun emerging. These small beetles (*Acmaeodera neoneglecta*) are also limited to south Texas, where the shiny black, yellow-spotted adults congregate in prickly pear cactus flowers. It was along this trail that Chris was able to see the vocal yet skulking Olive Sparrow, which had frustrated him the day before. Other great birds were around as well, including Harris's Hawk (famous for its pack hunting behavior), Buff-bellied Hummingbird, Clay-colored Robin, Brown-crested Flycatcher, and Black-necked Stilt.

One beetle that I held out hope (however slim) of finding was a buprestid called *Trigonogya reticulaticollis*. This small black dot of beetle is nothing special to look at, but it belongs to a strange, relictual side-branch of the family and hasn't been seen since 1934! Nothing was known regarding its larval host, but

since the last encountered specimens had been beaten from Rio Grande ash, I decided to try to locate and bring back wood from this tree. We found good stands of the ash along two of the resacas later in the afternoon, and experience has taught me that naturally shed branches under large, mature trees often yield wood-borers. I cut into a few branches but didn't find evidence of larvae. Nevertheless, I followed a hunch and bundled up a batch of the branches—a smart decision, as later in the summer a total of 16 individuals of *T. reticulatocollis* emerged from the branches. We not only managed to find a species that hadn't been seen for 70 years, but we also figured out its larval host. That evening, after stepping out from under the forest canopy, we watched hundreds of raptors, including Broad-winged and Swainson's Hawks and Mississippi Kites, fly towards the next treeline where they would roost for the night after a long day of migration. The hawks and kites were well on their way to returning to their breeding grounds after overwintering in South America.

Our final day in the lower Valley was spent at Bentsen-Rio Grande Valley State Park, located only about 5 miles further upriver from Santa Ana NWR. The area had obviously received much rain, and the day started out gray and with the threat of even more rain. We checked out the bird feeders in the campground—only a few White-tipped and Inca Doves and Great-tailed Grackles were seen. However, we were entertained for a while by a pair of Brown-headed cowbirds engaged in (presumably) courtship dance, and the nearby resaca produced the diminutive Green Kingfisher. We spent the rest of the day exploring the Rio Grande River Hiking Trail and the Singing Chaparral Nature Trail. Nice looks of a pair of handsome Altamira Orioles, Roadrunner and Cactus Wren were had on the Rio Grande River Hiking Trail. Also on the same trail, small kettles of migrating raptors were seen mid morning, but the real spectacle didn't come until early afternoon when two large kettles passed directly overhead. The vast majority of the 500+ raptors in the kettles were broad-winged hawks with a few Swainson's and turkey vultures mixed in. About the same time 20+ Mississippi kites appeared flying low just above the treetops displaying their impressive acrobatic abilities when they occasion-

ally chased each other. Chris could have hardly been more content after witnessing a migration event of such magnitude that, until now, he had only known from written accounts. The Singing Chaparral Nature Trail is where, nearly 20 years earlier, I had found the beautiful little *Agrilus toxotes* on the leaves of Barbados cherry (*Malpighia glabra*). These beetles are extremely colorful compared to most species of *Agrilus*, with the prothorax ("neck") of the beetle brilliant blue (females) or red (males) and both sexes with white spots on their jet-black elytra. I wasn't aware of it at the time, but when I first found the species it was known only from a single specimen collected further south in Mexico. Thus, the find represented a new addition to the U.S. fauna. I had found the beetle again on another visit, but not this time since the adults are apparently active only during the fall. I suspect that, like a few other species in the genus, the larvae breed in living rather than dead plant tissues—most likely the lower stem, making the likelihood of successfully rearing the beetle remote. Nevertheless, several promising batches of dead wood were obtained, and we now looked forward to exploring some upland chaparral habitats further up the river.

To be continued... ❁

## New! Improved! Checklist!

Randy Korotev

The new, improved WGNSS "Seasonal Checklist of Birds of the Saint Louis Area" is now available. This list differs from past lists in listing the relative abundance of each species for each of the four seasons. They cost \$0.50 each and two of the lists weigh an ounce, so if you want to obtain some by mail, send \$1.37 for two, \$2.60 for four, \$3.83 for six, etc. Contact Randy Korotev at <rikorote@artsci.wustl.edu> or 993-0055. ❁

