

A typical day at HL on 3/15 included 1,000+ Pelicans, 50 Cormorants, 8 Black-crowned Night Herons, 7 Great Egrets, 20 Green-winged Teal, 20 Wood Ducks, 30 Red-breasted Mergansers, 20 Hooded Mergansers, 20 Golden Plovers, 20 Snipe, 2 Harriers, a Merlin, Fish Crow, 35 Song Sparrows, 10 Am. Tree, a Rusty Blackbird (FH, JZ). A typical day at CBCA on 3/15 included Harlan's Hawk, Sharp-shinned Hawk, Greater Scaup, 16 White-fronted Geese, 2 Western Meadowlarks, Tree Swallow (MT). A typical day at Blue Grosbeak Trail on 3/15 included E. Phoebe, N. Shrike, Harris's Sparrow, and Fox Sparrow (MT).



Harris's Sparrow

Photo by Bob Hines, USFWS, in *Migration of Birds*, USFWS 1979.

Backyard Birds: Linda Virga reported 2 White-crowned Sparrows and a Hairy Woodpecker at her Affton home on 3/1. On 3/29, she saw a Chipping Sparrow, the first sighting in her yard since 1997. Dennis Bozzay reported Pine Siskins at his Crestwood yard on 3/6 and they were still present as of 4/13. Connie Alwood also reported a Pine Siskin on 3/10. On 3/14, Sherry McCowan saw a male E. Towhee, 2 Song Sparrows, and 3 Red-winged Blackbirds in her Soulard yard. A Field Sparrow was present on 3/21. Les Jenkins had a flyover Red-shouldered Hawk on 3/25. Clarence Zacher reported that a Yellow-bellied Sapsucker spent the winter in his yard. Margy Terpstra reported Brown Creeper on 3/24, a Phoebe and a Barred Owl on 3/25, and Winter Wren and Chipping Sparrow on 3/27.

Contributors: Gail Ahumada, Connie Alwood, David Becher, Torrey Berger, Rose Ann Bodman, Tom Bormann, Mike Brady, Jackie Chain, Shawn Clubb, Steve Faintich, Chris Ferree, Frank Holmes, Les Jenkins, Dan

Kassebaum, Ann Kirkpatrick, Chris Kirmaier, Pat Lueders, Marc Lund, Charlene & Jim Malone, David Marjamaa, Anne McCormack, Sherry McCowan, Jeannie Moe, Kraig Paradise, David Rogles, Bill Rudden, John Solodar, Mike Thelen, Josh Uffman, Clarence Zacher, Jim Ziebol.

Abbreviations: BCA, Busch Conservation Area; CBCA, Columbia Bottom Conservation Area; CC, Clarence Cannon NWR; CL, Carlyle Lake; CSP, Castlewood State Park; FP, Forest Park; HL, Horseshoe Lake; LCCL, Little Creve Coeur Lake; MBG, Missouri Botanical Garden; MTC, Marais Temps Clair; RMBS, Riverlands Migratory Bird Sanctuary; SNR, Shaw Nature Reserve; TGP, Tower Grove Park.

***CICINDELA CURSITANS* IN MISSOURI** **Ted C. MacRae**

Last summer, my colleagues Chris Brown, Kent Fothergill and I conducted additional surveys for selected tiger beetle species in Missouri. We placed 50 pitfall traps in western Missouri and 75 in the southeastern lowlands in mid-June and checked them weekly for several weeks. It was a frenetic schedule for all of us - working regular jobs all week and covering two different parts of the state during weekends. Add to that spouses, children, and the desire to watch television coverage of two little sporting events called Wimbledon and the Tour de France, and you have the makings of a severe case of sleep deprivation.

Even with such a focused, dedicated effort success is not assured. Our previous work over the past several years has generated copious data on the more common, widespread species of tiger beetles occurring in the state. The distributions and habitats of these species are well documented now - the low hanging fruit has been picked. We're now focusing on the last few, rare species - the critically imperiled *Cicindela circumpecta johnsonii*, found in the equally critically imperiled saline spring habitats of central Missouri; *Cicindela pruinina* in western Missouri, normally associated with grasslands habitats further west; and the enigmatic *Cicindela cursitans*, until last year known in Missouri from just a single specimen

collected somewhere “nr. Portageville” in the Mississippi lowlands of extreme southeast Missouri.



Cicindela cursitans

I am happy to report that robust populations of *Cicindela cursitans* were located at several spots along the Mississippi River. Many dozens of individuals were observed at two locations in Mississippi County, and another new population was located further south in New Madrid County. Combined with the sites discovered the previous year, this gives five confirmed sites for the species within the state. All of these sites share similar features - bottomland forest immediately adjacent to the Mississippi River, with an open understory dominated by poison ivy (*Toxicodendron radicans*) and trumpet creeper (*Campsis radicans*) (a ‘radical’ understory to say the least) on a ridge and swale topography of sandy loam soil. The beetles favor the relatively drier, more openly vegetated ridges but avoid areas of excessive sand. None were seen in the wetter sand beach areas leading down to the water’s edge, nor were any observed on the relatively sand-free soils found further away from the river. Unusual for tiger beetles, adults were never found in open sunny areas, being entirely restricted to forest habitats where they darted through the open understory from one poison ivy plant to another. This is in distinct contrast to the wet meadow habitats reported by [Brust et al. \(2005\)](#) for populations of this species in Nebraska. Their small size and rapid running capabilities made them quite difficult to capture or even to notice at first - appearing more like ants or small spiders.

Of equal interest are the sites where the species was not observed, which include sites along the St. Francois River (western side of the Mississippi lowlands) and along the Arkansas border in between the two river systems. All of these sites offered similar bottomland forest, open understory, and ridge and swale soil topography, but they differ from the sites along the Mississippi River where the species was observed in that the soils are a heavy clay and contain no sand. It’s difficult to say conclusively that the species does not occur in these habitats, but the abundance with which we have observed it in the Mississippi River habitats is strongly suggestive.

The Mississippi Lowlands of Missouri, once a vast assemblage of bald cypress (*Taxodium distichum*) and tupelo gum (*Nyssa aquatica*) swamps and mixed deciduous bottomland forest, have been almost completely drained, cleared, and converted to agriculture. Only small remnants of natural forest and swamp remain amongst the fields of soybean, wheat, corn, rice and cotton. Despite this, the ribbons of forest that occupy the narrow corridor between the Mississippi River and the levees that confine it seem to offer much potential habitat for *Cicindela cursitans*. Combined with their confirmed occurrence and abundance at several sites within this habitat, it appears that this species is secure within the state and will not require any special conservation measures to assure its continued presence. In celebration, I share with you some photographs of the adults, taken in their natural habitat at one of the Mississippi County sites, along with a few additional photos of some other tiger beetle species I observed on the wet sand beaches closer to the river’s edge. These latter three species are common in Missouri along the Mississippi and Missouri Rivers: *Cicindela repanda* (bronzed tiger beetle, pictured below),



Cicindela cuprascens (coppery tiger beetle, below),



and *Cicindela hirticollis shelfordi* (hairy-necked tiger beetle, photo below). After taking pictures



of these latter three species along the river bank amidst puzzled looks from a few of the locals, I had an amusing conversation with one of the more ‘colorful’ of them, who had come to the baffling conclusion that I could only have been taking pictures of rocks. I cleared up the confusion and showed him a few of the beetles, and we both returned to doing what we both love - drinking beer and looking for beetles (respectively, that is!).

REFERENCE:

Brust, M., W. Hoback, and C. B. Knisley. 2005. Biology, habitat preference, and larval description of *Cicindela cursitans* LeConte (Coleoptera: Carabidae: Cicindelinae). *The Coleopterists Bulletin* 59(3):379–390.

Read more of Ted’s insect musings on his blog: <http://beetlesinthebush.wordpress.com/>

2009 MICKEY SCUDDER AND MENKE SCHOLARSHIP WINNERS

Rich Thoma

Congratulations to the following students who have been chosen as this year’s recipients of the Menke and Mickey Scudder scholarships:

2009 Menke Scholarship recipient:

Kyra Krakos (Washington University, St. Louis) “Specialization of Pollination Systems in *Oenothera*”

The goal of my research is to elucidate the pollination biology, the degree of specialization in pollination systems, and the importance of that specialization to the success of Missouri *Oenothera* species. This study focuses on carefully defining the pollination biology of 7 species of *Oenothera* (in sections *Gaura* and *Kneffia*) found in Missouri, specifically: *Oenothera linifolia*, *O. macrocarpa*, *O. fruticosa*, *O. filiformis* (syn: *Gaura longiflora*), *O. curtiflora* (syn: *Gaura parviflora*), *O. pilosella*, and *O. glaucifolia* (syn: *Gaura linifolia* or *Stenisiphon*). I will address the following questions: 1. Is visitation rate alone sufficient to accurately define a pollination system? 2. Are the pollination systems of *Oenothera* highly specialized? 3. Do species with specialized pollination systems have higher reproductive success? I predict that when both visitation rate and pollen load are taken into account, the pollination systems of these flowering plants have a higher degree of specialization than previously recognized. In addition, I predict that highly specialized species have a higher degree of reproductive success. This grant will support fieldwork in Spring/Summer 2009 to collect ecological data on plant-pollinator interactions for 7 species of *Oenothera* at 5 sites in Missouri.

I have conducted research using a broad range of pollination biology techniques in a variety of species and systems for over four years. I have been the lead researcher on studies in pollination biology at Point Reyes National Park and the National Tropical Botanical Garden on Kauai. Currently, through the Missouri Botanical Garden, I oversee continuing research in plant reproductive biology in *Oenothera*