

The Entomological Society of Manitoba *Newsletter*



Volume 35 Number 2

ISSN 0836-5830

Fall/2008

About the ESM Newsletter

The Entomological Society of Manitoba Newsletter is published three times per year. It is a forum whereby information can be disseminated to Society members. As such, all members are encouraged to contribute often. The Newsletter is interested in opinions, short articles, news of research projects, meeting announcements, workshops, courses and other events, requests for materials or information, news of personnel or visiting scientists, literature reviews or announcements and anything that may be of interest to ESM members.

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Editors' Comments

This, the second issue of Volume 35, comes to you as fall threatens to morph into winter, and for the vast majority of you, the field season is over. We're now well into the meeting season, with some of us just returned from



the Annual Meeting of the Entomological Society of Canada, held in Ottawa jointly with the Entomological Society of Ontario. We will report on that meeting in the next issue of the Newsletter. In this issue we are drawing your attention to **next year's meeting of the ESC**, which will be here in Manitoba. In addition, you will find in this issue, the last column of your now outgoing **President, Desiree Vanderwel**: next issue it will be Richard Westwood's turn to write the President's column. We also introduce you to a **new student member** of our Society, with more introductions to come in the next issue. Once again **Bob Wrigley** regales us with another of his insect collecting expeditions: in this issue you'll find Part 1 of 3 of his 2007 exploits. Included in this issue as usual are a list of **upcoming meetings**, and a list of the **officers of your Society**. We hope you enjoy this issue of the Newsletter, and we look forward to "talking" to you again in the depths of winter. Meanwhile, feel free to send us ideas for future items – Don't forget: this is your Newsletter!

Pat MacKay & Mahmood Iranpour

PRESIDENT'S REPORT

By Desiree Vanderwel
October, 2008

Autumn has arrived, and the members of the ESM have been actively conducting the society's business with little guidance "from the top". It never ceases to amaze me how hard-working and dedicated the entomologists of this province are to their discipline and to promoting their discipline to the general public. Carry on, folks!

Two groups of people have been busy organizing two upcoming conferences that I would like to highlight. Coming soon is the 64th Annual Meeting of the Entomological Society of Manitoba, to be held at the Freshwater Institute November 13 and 14. Mahmoud Iranpour and the other members of the Scientific Program Committee have planned an excellent two-day program with the theme "Insect Outbreaks". The program for Thursday includes the keynote address and submitted papers; that for Friday will include the symposium in the morning and the ESM Annual General Meeting in the afternoon. The organizing committee decided to forego the banquet this year, but we are going to have dinner with speakers on Thursday night. In addition, Bob Lamb and Pat MacKay have graciously agreed to host a mixer on Friday. It has been almost a year since my last cracker with mint-jalapeño jelly: I can hardly wait!



While you have your calendar out, you should also block off October 18-21, 2009 for the Joint Annual Meeting of the Entomological Societies of Canada and Manitoba, to be held right here in Winnipeg. Some of our members have been planning this meeting for some time now—including Brent Elliott, the Local Arrangements and Neil Holliday, the Scientific Program Chair—and it promises to be a real treat. The Plenary Symposium will be on "Climate Change: from Geology to Ecology" and includes both local and outside speakers. Don Dixon will give the Heritage Lecture on the "History of Beekeeping Research in Western Canada". Several Symposia are planned, with something for everyone. This promises to be an excellent conference right on our doorstep, it would be a real shame to miss it.

I hope to see you all at the upcoming meeting. Until then, bundle up and take care.

Entomological Societies of Canada & Manitoba

ES_CM_M2009

Winnipeg, 18-21 October

Fort Garry Hotel, Winnipeg, Manitoba
Noon Sunday 18 October – Noon Wednesday 21 October 2009

Plenary symposium:

Climate Change: from Geology to Ecology

James Teller, University of Manitoba

Camille Parmesan, University of Texas

Shelley Hunt, University of Guelph

Symposia:

Apiculture: Bee - Virus Interactions

Arthropod Host-symbiont Relationships: Diversity, Distribution and Ecology

Biological Survey of Canada Symposium

Entomological Issues in Potato Production

Extension Entomology

Graduate Student Symposium

Pollination Biology

Protecting Urban Forests and Structures from Insects

Wood to Soil: the Role of Arthropods in Forest Nutrient Cycling

Heritage lecture:

History of Beekeeping Research in Western Canada

Donald Dixon

For further information, see

<http://home.cc.umanitoba.ca/~fieldspg/ESC2009>.

MEMBER NEWS: A New Student Member

Tharshinidevy Nagalingam

I graduated from the University of Jaffna, Sri Lanka, obtaining a B.Sc. degree in Agriculture in October 2001. My undergraduate research project was carried out at the Tea Research Institute of Sri Lanka situated at Talawakele on some aspects of management of a devastating tea pest, Shot hole borer, *Xyleborus fornicates* (Coleoptera: Scolytidae). After the completion of my undergraduate degree I worked as a demonstrator and assistant lecturer at the department of Agricultural Biology for a two year period. During this period I was actively involved in volunteer programs carried out by the Dept. of Agric. Biology. Particularly the school science program, the major objective of this program was to disseminate knowledge among the school students of the district. The other program which I was actively involved was the campaign for the control of an exotic weed species *Parthenium hysterophorus* which was spreading in Sri Lanka during that time.



In 2003 I became a business development coordinator, in a Non-Governmental Organization, FORUT and served there for one year. The major responsibility of the job was to plan and implement training programs for youths who were affected by the war in Sri Lanka. Apart from that I was a working-group member of UNHCR, which conducts advocacy programs on sexual and gender based violence in the Northern region of Sri Lanka. In this connection I visited Nepal on an exposure visit to CWIN (Child Workers in Nepal Concerned Centre).

In April 2004 I joined the lecturing staff at the School of Agriculture, a government organization where Diploma in Agriculture courses are offered. I worked here for a period of one and a half years in this institution, conducting lectures and demonstrations in the field of plant protection. Having an interest in research entomology I joined the entomology division of the research station, Department of Export Agriculture, Matale, in 2006 and continued working there until my departure for my PhD studies to the University of Manitoba, Canada. At the Department of Export agriculture Sri Lanka my major research interests were to explore the potential of natural enemies of export agricultural crop pests and the control of cardamom thrips *Sciothrips cardamomi*, a recent outbreak in Sri Lanka.

I obtained my Master of Philosophy degree from Peradeniya University, Sri Lanka in 2008. The title of my thesis was “Diversity of parasitoids of major vegetable insect pests in the mid country region of Sri Lanka”. The study was funded by the Council for Agricultural Research Policy, Sri Lanka.

I was a member of St. Johns Ambulance Brigade (1991-1994), Board of Prefects Jaffna Hindu Ladies College (1992-1994), Treasurer of the Science Union (1992-1994), Jaffna Science Association and Sri Lanka Association for the Advancement of Science.

I heard about the friendly environment of University of Manitoba, Canada, from my friends who urged me to apply for graduate studies at U. of M. At present I have been working in the Pest Management Laboratory of Dr. N. J. Holliday on Lygus bugs of dried beans. I am really thrilled to work with these beautiful creatures of Manitoba and it is also a challenge for me to face the upcoming winter season of Manitoba.

INSECT COLLECTING IN MID-WESTERN USA, July 2007

By Robert E. Wrigley

Part 1 of 3 parts:

Editors' Note: For **Parts 2 & 3** see the next two issues of the ESM Newsletter, due out in December2008/January2009, and April/May2009

From July 7-25, 2007, Bob Wrigley* and Tim Arendse* went on an insect-collecting trip to the central United States, with the intent of re-visiting several favorite localities as well as finding some new ones. This was Tim's first collecting trip to the USA, so he was keen for an adventure and to see new territory. After years of reading about various species like the Giant Stag Beetle (*Lucanus elaphus*), Eastern Hercules Beetle (*Dynastes tityus*), and Carolina Preying Mantis (*Stagmomantis carolina*), Tim wanted to see the living specimens in action. From Winnipeg, Manitoba, our collecting route took us through the following 15 states, covering both prairie and forest communities: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Louisiana, Mississippi, Arkansas, Tennessee, Kentucky, Illinois, Missouri, Iowa, and Minnesota. Although our main interest was beetles, we couldn't resist observing and collecting the many other interesting taxa we came across each day, so we papered many hundreds of specimens of butterflies, moths, dragonflies, true bugs, grasshoppers, flies, wasps, and spiders (in alcohol). Hopefully we can add a chapter to this story to cover these groups.

While obviously the insects of an area cannot be sampled adequately in a period of a few days, our aim was to visit interesting habitats (e.g., Bald Cypress Swamp, old-growth Deciduous Forest, Pine Barrens), landscapes (salt flats, rock outcrops), historic and nature museums, parks and trails, and to enjoy talking to townspeople and sampling local foods. It was a hectic pace, from 7:30 in the morning to 1:30 at night, but we enjoyed greatly each day's activities. Our routine on arising each morning consisted of papering and labeling specimens and completing field notes from the previous day and night, and then driving and stopping at suitable sites to search for day-active insects (e.g., dragonflies, butterflies, grasshoppers, beetles) and spiders during the daylight hours. In the evening, after finding an inexpensive motel and eating dinner, we spent a number of hours in and around the edges of towns, searching for invertebrate life under mercury-vapor lights. Towns of about 9,000 people again proved best, offering plenty of

car washes (source of moisture), gas stations, and box stores (all with powerful lights) backing onto native habitats or agricultural fields. Arriving in town in the early evening, we could anticipate good collecting that night by finding dead *Harpalus* ground beetles on the sidewalks – a new use of the words “indicator species.” Weather conditions and GPS readings were recorded at most locations. The following observations and anecdotes are the most notable from over 56 sites sampled.

One of our first destinations was the Angostura Reservoir area of southwestern South Dakota to find the elusive and arguably North America’s most impressive insect -- the 36-mm Great Plains Tiger Beetle (*Amblycheila cylindriformis*), here at its most northerly edge of its range. While our colleague Todd Lawton has taken over four dozen specimens here over the years in this arid prairie-shrub habitat, I had only succeeded in collecting one specimen in two previous visits (timing is everything with cicindelids). We were shocked then to find the highway leading to the two proven sites barricaded by police due to a major forest fire burning in the hills south of Hot Springs. The sky was filled with billowing black smoke, and sadly a number of homes had already been lost. I wondered how the wild horses were coping at the Wild Horse Refuge in that area.

Driving all that way, only to be blocked a few kilometers from our destination, was really frustrating, but we later managed to reach the opposite side of the Reservoir via an alternative route. We thought we identified suitable habitat just as it turned pitch dark. A few minutes later, descending over an embankment near the shore, Tim spotted a beautiful specimen of this giant tiger beetle just emerging from its sandy burrow for its nightly prowl. Since this stocky, cylindrical insect moves so slowly, it is easily picked up, but it is advisable to avoid the impressive mandibles. Over the next hour we found 9 specimens in an 80-metre stretch of the bank, supporting open grass-shrub habitat. We also picked up 33 large (35-mm) darkling beetles (*Eleodes suturalis*) characterized by an attractive reddish elytral stripe. These seemed to be concentrated under shrubs, likely where they had emerged from tunnels. These tenebrionids attempted to ramble away, or demonstrated their typical family response of freezing and head-standing, ready to spray their defensive benzoquinones and several other hydrocarbons. The similarity of these two species in size, shape and coloration (both black with a red stripe) is most evident – *Amblycheila* an insectivore feeding on ants and grasshoppers with its large mandibles; *Eleodes* eating plant debris. Could this be described as a case of Mullerian mimicry? Discovering these two species was an outstanding way to start the trip.

Then the unexpected happened. Ten-lined June Beetles (*Polyphylla decemlineata*) suddenly began careening into us, attracted by our headlamp and flashlights. Two-dozen specimens whirred past and disappeared into the night, but we managed to grab several and add them to our alcohol jars. Back up on the paved road, we stopped at a nearby building with security lights, and were astounded to find these attractive, 31mm beetles laying everywhere on the ground. They must have just emerged, perhaps from under the shoreline Cottonwood trees on whose roots the larvae feed (3- or 4-year life cycle), for we counted over 150 specimens, and more kept arriving every few minutes. Each made a grinding sound when handled. We had never witnessed such a breeding congregation of this species, although major outbreaks of May Beetles or Cockchafers (all members of the subfamily Melolonthinae) have been regular occurrences over the centuries, especially in Europe. Interesting that its close relative *P. hammondi* is so rare

in southern Manitoba. We were still so excited the following morning that we completely forgot our plan to visit the famous Mammoth Museum on our way back to the Reservoir, to collect along the muddy shore and in Sandbar Willow/Tamarisk Shrubs. Here we took numbers of 3 species of tiger beetles (*Cicindela hirticollis*, *C. repanda* and *C. punctulata*), cicadas, bees, and velvet ants and other wasps, attracted to flowers.

The Nebraska Sandhills and sites in Kansas provided collecting opportunities in blowouts, roadcuts, and gravel pits, where we found species of darkling and dung beetles (*Aphodeus* spp and a 19mm, purple-bronze *Canthon chalcites*) under dry and wet cow pats (respectively), grasshoppers, treehoppers, and the reddish Big Sand Tiger beetle (*Cicindela f. formosa*). On rolling hills of arid mixed-grass prairie and yuccas we found hundreds of the Checkered Beetle (*Enoclerus zonatus*, Cleridae) (15-mm) hunting and mating on yucca leaves and fruiting heads. We were able to catch these alert and attractively colored beetles (red with large black spots) before they took flight by shaking the metre-long fruiting spikes and sword-like leaves over our nets. This was the first time I had observed this species, although I had examined hundreds of yuccas (for weevils and the Yucca Moth) in past years. Such abundance of the larger checkered beetles is unusual, and has been linked to simultaneous emergence, abundance of insect prey, or climatic factors. Before departing, I captured a 36mm, red and black wasp, which on closer examination turned out to be a robber fly – a perfect wasp mimic. Tim took a nasty penetration in his hand from a dagger-like yucca leaf, but it healed up quickly.

At Dodge City, Kansas, we encountered the first flush of the big (25-36 mm) *Calosoma* ground beetles – in this case the all-black *C. marginale*. We saw over 150 specimens sitting patiently in the dark for the approach of prey. Many were attracted to lights, where they tended to remain to feed on all sorts of exhausted insects falling to the ground. Scarab beetles included Hide Beetles (*Trox* and *Omorgus*), the gold-colored Grapevine Beetle (*Pelidnota punctata*), 3 species of May Beetles (*Phyllophaga*), and numerous chafers (*Cyclocephala* spp), including the Northern Masked Chafer (*C. borealis*); at least six species of chafers are known from the state. At Paris, Tennessee, we picked up several Rose Chafers (*Macrodactylus subspinosus*). I had anticipated seeing more of these 11mm, long-legged, tan-colored scarabs in our travels, since a few weeks earlier, I had seen thousands of mating individuals congregated on ferns and other roadside plants in only a 10-sq-metre area at Muskoka, Ontario. A single fern plant hosted over 50 specimens.

West of Medicine Lodge, Kansas, was one of my favorite collecting sites – an orangy-red butte littered with layers of clear gypsum crystals -- shown to me by Todd Lawton, and known to harbor the attractive (red) and rare Beautiful Tiger Beetle (*Cicindela pulchra*) in April. Tim was ecstatic to find his first Walking Sticks (*Manomera blatchleyi*), from tiny nymphs to adults, and was surprised to see how quickly these gangly-legged, 110mm insects could run up his arm while attempting to escape. It took a keen eye, or multiple sweeps of the net, to find these exquisitely camouflaged insects. Few Manitobans realize that another species – the Northern Walking Stick (*Diapheromera femorata*) -- occurs in the Pembina Hills in Burr Oak Forest. Dung beetles (*Canthon pilularius*) were on the wing, searching for fresh cow pats, and I pointed out to Tim a mated pair busily rolling a 15mm, perfectly round cow-dung ball over the ground (The pair and food ball were collected).

A nearby arid pasture produced a fine series of Velvet Ants (*Dasymutilla* spp), ranging in size from 15-26 mm. Were the big ones the infamous Cow Killer, *D. occidentalis*? These specimens were a pale reddish-orange (not the usual bright red), and blended remarkably with the hard-packed soil on which they were found on this warm, sunny day. Pearson, D.L. et al (2006. A field guide to the tiger beetles of North America) mention that the Beautiful Tiger Beetle is a mimic of this Velvet Ant, and even stridulates at a similar sound frequency as the Velvet Ant. These wasps, hairy with long setae, are always exciting to collect, since the flightless females are rapid and agile runners, and are capable of delivering a powerful sting if mis-handled. I used a film canister to safely corral them. The males are more challenging to find, and must be netted as they fly past in search of the females' pheromones.

Returning to dung beetles, we picked up three specimens of the large (to 30mm), black Carolina Dung Beetle (*Dichotomius carolinus*) in Texas, Arkansas and Illinois. Although widespread in eastern United States, it never seems to be common at lights. In one study, Linquist calculated that these beetles buried 10 kg of dried cow dung, and excavated 57 kg of soil per acre in their brief adult life time, revealing the contribution of this native species in releasing nutrients from dung and mixing the soil. Apparently the dozens of North American dung beetle species could not keep up with the enormous output of cattle (and subsequent outbreak of flies), so the Afro-Asian Brown Dung Beetle (*Onthophagus gazella*) was introduced to Texas in 1972 (and Australia in 1968). This 10-13mm beetle now occurs in staggering numbers across the south, and we picked up specimens at almost all localities in Texas, Oklahoma and Arkansas. It was not unusual to see many hundreds, live and dead, under each light.

Enid and Waurika, Oklahoma, both produced some of the largest samples of insects (over 60 species each) for the entire trip, including totals of 27 *Calosoma scrutator*, 204 *C. marginale*, 224 *C. sayi*, and 37 *C. externum*, and possibly *C. macrum*. It was interesting that such remarkable numbers of 4 or 5 species of *Calosoma* were present, but not a single species of *Carabus* (apparently not attracted to lights). Other interesting carabids were the Pan American (*Tetracha carolina*) and Virginia (*T. virginica*) Big-headed Tiger Beetles, red-and-purple *Galerita janus*, *Chlaenius tricolor*, blue-edged *Pasimachus elongatus*, two *Scarites* species, *Harpalus pensylvanicus* (thousands seen), *Pterostichus*, and hundreds of small carabids (some coppery or shiny green) of about 7 species ranging in size from 8-18 mm. As the evening darkened, numerous carabids began to emerge from curbside grass and from foundation edges, but were quick to retreat to safety as we approached. By mid-night, most were out foraging. Occasionally we found a stump that was literally covered in carabids of half-a-dozen species up to the size of *Calosoma*, and the darkling beetle *Alobates pennsylvanica*. Crickets were so numerous (many hundreds under a couple of lights) ahead of us at some locations such as Waurika that they continually distracted our attention from other insect life. When fleeing, they occasionally struck our faces and bodies, but mainly they hopped and scurried off in all directions.

The 25-33mm Fiery Searcher Ground Beetle (*Calosoma scrutator*) must be one of North America's most beautiful beetles, with bright-green flaring elytra edged in red, and a blue pronotum edged in yellow. At Paris, Tennessee, we found 37 specimens of this uncommon species, with a single car wash producing 18 in one evening; we could have taken double this number had we continued to check this site into the early morning hours. Why this particular

spot was so attractive to this species we were not sure (perhaps moisture from the wash operation, and close proximity to mature deciduous-forest habitat). Such unexplainable situations are one of the reasons bug hunting is so intriguing and enjoyable – there are always surprises, exciting or frustrating. Good detective work, regarding range, timing, and habitat identification, takes one only so far. With many factors interacting, the same place may be productive of choice species one year and be totally lacking the next. An example was at the extensive salt flats east of Ingersoll, Oklahoma. Two years ago (about the same date) we collected numerous specimens of three tiger beetles (*Cicindela circumpecta*, *cuprascens*, *nevadica*) on a hot (38 C) day in July, but this time we could only find a few individuals. Who knows why?

The grass sod under lights in towns was often alive with beetles (mostly carabids), working their way through the mini-jungle of densely packed stems. The presence of water (e.g., from a watering system or air conditioner) and a night-light really attracted the numbers, especially if the region was experiencing a drought. The larger species of *Scarites* (28mm) we believe is the widespread Pedunculate Ground Beetle (*S. subterraneus*), but we also commonly found a smaller species (20 mm), which might be *S. quadriceps* or *lissopterus*, both of which occur in this region. I noticed that these thin-waisted predatory beetles were most-frequently encountered in the 2cm-wide space between a parking lot curb and the grass sod. The beetle positioned itself here to ambush other arthropods running along this somewhat protected and easily traveled highway. Each *Scarites* was simply sitting motionlessly on its territory, but when grasped, it either played dead (bending backwards with legs held out), or actively attempted to bite with its considerable mandibles.

To be continued in ESM Newsletter, Volume 35 Number 3

- * Dr. Bob Wrigley is an animal ecologist (and former Director of the Manitoba Museum, and Oak Hammock Marsh Interpretive Centre) and currently the Curator at the Assiniboine Park Zoo in Winnipeg. Tim Arendse is a keen amateur coleopterist and member of a successful farming business near Portage La Prairie. He has just started a new website called The Bug Hunter.

MEETING ANNOUNCEMENTS*

Annual Meeting of the Entomological Society of Manitoba

Winnipeg, MB, 13 & 14 November 2008

Contact: Mahmood Iranpour, iranpour@cc.umanitoba.ca

Joint Annual Meeting of the Entomological Societies of Canada and Manitoba

Winnipeg, MB, 18-21 October 2009

Contact: Brent Elliott, Brent.Elliott@gov.mb.ca

Annual Meeting of the Entomological Society of America

Reno, Nevada, 16-19 November 2008

<http://www.entsoc.org>

3rd International Symposium on Biological Control of Arthropods

Christchurch New Zealand, 8-13 February 2009

<http://www.isbca09.com/>

Joint Annual Meeting of the Entomological Societies of Canada and B.C.

Vancouver, B.C., 2010

Joint Annual Meeting of the Canadian and Acadian Entomological Societies

Halifax, N.S., 2011

*If you have a meeting you would like listed in the next ESM Newsletter, contact the editors with the details by December 2008

ESM EXECUTIVE 2007

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