

The Entomological Society of Manitoba

Newsletter



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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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Editor's Commentary

The United Nations declared 2003 the international year of freshwater. To mark the event, the Manitoba Clean Environment Commission, Fisheries and Oceans Canada and Manitoba Conservation sponsored the Manitoba Freshwater Forum at the Winnipeg Convention Centre on February 18th. Manitoban's got to hear the Premier of Manitoba, Gary Doer and the Minister of Conservation, Steve Ashton commit provincial and federal funds to maintaining the quality and quantity of our freshwater supply. For most, this was encouraging news considering that Canada houses the majority of freshwater.

The real treat though was getting to listen to Bob McDonald from CBC's Quirks and Quarks. Using a glass of water meant to represent the total supply of water on this planet, Bob put the question to the audience "*how much of the earth's water is fit to drink?*" After pouring off an initial 90% for the salty oceans and an additional 90% of the remaining 10% for freshwater found in glaciers, deep aquifers, plants, *insects* and clouds, there was only 0.01% available for human use. To put this in perspective: there was only one drop remaining in Bob McDonald's glass.

Feeling a little parched, I set off to one of the workshops entitled *Drinking Water-can we make it safer?* During the open discussion, a Brandon resident shared a story about a chironomid larva that managed to make its way through the water treatment facility, out through the kitchen faucet and straight into a glass of water. Although I'm sure this was an attempt to draw attention to the unsavory water treatment practices in Brandon, I couldn't help thinking what would have happened if that larva was found in Bob McDonald's glass.

I hope you have all managed to kick off the cobwebs of winter and are ready to enjoy another season of buggy adventures. All the best!

Nicole Lauro,
Newsletter Editor



Tales from the Head Bug

Perhaps the most difficult thing that a new President of the ESM has to do is to write about how they became what Nicole Lauro refers to as “Head Bug”. This Head Bug hatched in a small town sandwiched between the industrial



Neil Holliday: ESM President

Midlands of England and the rural region of the Welsh Border country. In my early years, I lived in “the last house” the sharply defined ecotone between urban subdivision and countryside, and I found my interests leading me westwards towards the latter. This head bug is not an urban insect. As a larva, I went through the usual phases of observational natural history that evolved into sampling, identifying, preserving and documenting. My earliest killing jars were stocked with cyanide-emitting leaves stolen from my neighbour’s laurel hedge. At this stage, my career goal was to drive a bulldozer.

By my early teens, under the influence of an enthusiastic high-school biology teacher, I realised that I wanted to be an ecologist. At that time, most people’s response to this information was, “What is an ecologist?” I explored the answer during my first degree at University College London. My first real research project caused me to spend much of my final undergraduate year in a 5EC room coaxing data on energetics of *Rhizopertha dominica* out of something called an electrolytic respirometer. This experience did not ignite a passion to work only with insects, as I next flirted with

energetics of enchytraeids as a Ph.D. topic. However funding did not materialize, and I worked instead on population dynamics of winter moth in apple orchards. From then I could be classified as *Ecologium entomologensis*. My Ph.D. mentor was Maurice Solomon — one of the most insightful thinkers in population dynamics, and a persistent asker of what many considered to be stupid questions. I came to realize that about one in five of his “stupid” questions sent a researcher off into new and previously unconsidered intellectual territory, and that such questions are the seeds of great ideas.

If completing one’s doctorate is the academic equivalent of the end of larval development, a post-doc might be analogous to a pupal stage. However, I exhibited dispersal before my post-doc, so I conclude I am hemimetabolous. My post-doctoral dispersal to Canada was the culmination of a (no-doubt hormonally regulated) process initiated by a chance encounter with a Canadian student in Windsor Great Park in the early months of my B.Sc.. By the end of my Ph.D I was married to that student, who then had a faculty position at University of Western Ontario. My westerly anemotactic dispersal was helped by NRC, which provided air-fare and a post-doc at Agriculture Canada in Vineland Station. From there, in 1977, I came to the University of Manitoba. Since arrival in Winnipeg, my flight muscles have degenerated, and my movements are typically pedestrian and appetential. Under long day conditions, I can be found actively moving in open spaces, and under short day conditions I am frequently found vocalising in a ritualised behaviour lasting 50 minutes and occurring in regular, but not truly circadian, cycles.

A common response of all Head Bugs is to aggregate with similar bugs when photoperiods diminish to about 11 hours. In 2002, this response was observed on a grand scale with about 200 bugs aggregating in a downtown Winnipeg location. That aggregation was a great success both socially and scientifically,



and now we learn also financially: almost \$7000 of profit will be shared between ESC and ESM. On behalf of the Entomological Society of Manitoba, the Head Bug wishes to thank all those who contributed to the joint aggregation, and in particular to Don Dixon, that most efficient general chair bug. Our next aggregation will be smaller, and will occur on 24 and 25 October 2003. Elsewhere in this newsletter, you will find information about the aggregation site and the types of aggregation lures that will be offered. I hope you will plan to aggregate.

In addition to emitting aggregation lures, the Entomological Society of Manitoba produces other stimuli for its membership. The Proceedings involves a complex of carbon-based molecules that are carefully assembled in a specific arrangements by editor bugs. Our last editor bug, Désirée Vanderwel, has just been replaced by Terry Galloway, and to Désirée, the Society extends its sincere thanks for her efforts over several years. Terry assures me that

everything is up-to-date, that the next issue of the Proceedings will be distributed at the fall aggregation, and that new manuscripts to communicate are always welcome. The other communication of the Society, this newsletter, is available both in carbon-based form, and for the more arachnophilic, on the web. The costs of production and distribution of the carbon-based form are high relative to the web form, and so the Society is eager to hear of members who are willing to receive their newsletter via the web. If you send an email to Nicole Lauro, the editor bug of the newsletter, she can arrange for you to receive email notification of each newsletter as soon as it becomes entangled in the web. The savings that result from switching to the web newsletter help the Society to maintain its current level of membership dues for longer.

In conclusion, I thank the membership for electing me president. I will try to do my best in the position of Head Bug, if only to avoid my title being changed to that of head louse!

Review: Insects in the Garden

For those of you who don't subscribe to or regularly read *The Prairie Garden*, you might want to have a look. In the last two issues there has been a decided increase in articles featuring prairie insects. Bill Turnock, retired research scientist from Agriculture and Agri-Food Canada, has taken up his pen in the interest of drawing the attention of local gardeners to insects. In the 2002 publication, Bill prepared a piece on oak galls. The timing for this article was perfect, because as you may recall, the oak trees of Winnipeg were festooned with "oak breast galls" in 2001. You will have to read the article to find out how this interesting gall gets its name. Bill also prepared two articles, on swallowtail butterflies and lady beetles, for the 2003 edition. Both of these articles were accompanied by a series of colour plates to illustrate the different life stages of the more common species likely to be encountered by prairie gardeners. In 2003, there was also an article by Linda Stilkowski and Bill Turnock on slugs in the garden, including an interesting discussion on factors, which affect the local abundance of slugs. I know slugs aren't insects, but there is information in the article about insects that prey on slugs, so there you have it. According to Bill, we can expect more features on insects in *The 2004 Prairie Garden*, so watch your newsstands. **Terry Galloway** is a professor with the department of entomology at the University of Manitoba and is the ESM Proceedings Editor.



photo by M. Alperyn

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The Prairie Garden is soliciting for articles on common garden insects, beautiful, beneficial, conspicuous, or pest. I urge you to put together an article, with pictures, on one or more species. For further information including a copy of the current issue and "Instructions to Authors" contact **Bill Turnock**: ph. (204) 269 4229 or email wturnock@agr.gc.ca



Featured Article: Gavloski's Trails

Editor's Note: the ESM hosted a luncheon where John Gavloski treated us to a presentation about his travels to Southeast Asia. This is the second of a three part series on Gavloski's trails.

Chapter 2: Silk Production in Thailand

The following is based on a trip I took through Thailand, Cambodia, and Vietnam in February and March, 2001. While in Thailand I had the opportunity to see various aspects of silk production from silkworm rearing to silk extraction to silk products being produced on looms. In Chiang Mai, in the northern part of Thailand, it is possible to tour through shops that



are involved in everything from rearing silkworm larvae to producing silk garments. Individuals in Thailand may be involved in silk production to varying degrees. Some grow mulberry trees and only raise and sell cocoons; others purchase the yarn, dye it and weave silk to sell. A few take part in the entire process, from raising the worms to the production of fabric.

The domestically raised silkworm moth *Bombyx mori* (L.) is the most common source of cultured silk. Although silk can also be produced from some wild silkworms in the family Saturniidae, this is not common. Although more robust than *Bombyx mori*, the Saturniidae produce a tougher, coarser silk which is shorter in length, with colors that vary from off-white to beige or yellow.

Bombyx mori is classified in the family Bombycidae. This is a small family of about 300 species, mostly confined to the oriental region. *Bombyx mori* has been domesticated for so long

that it probably no longer survives in the wild. Although silk in Thailand is produced almost exclusively from *Bombyx mori*, it is interesting to note that another member of the Bombycidae the Indian silkworm moth, *Theophila religiosae*, has also been bred commercially for its silk in some parts of southern Asia.

There are two predominant varieties of *Bombyx mori* raised in Thailand. The bivoltine variety produces a fine white yarn suitable for power-loom weaving. The traditional, and hardy, multivoltine variety produces an irregular yellow thread suited to hand-loom weaving. Bivoltine silkworms produce 2 harvests a year, and multivoltine an unlimited number of harvests. From what I could see, the multivoltine variety seemed to be the more predominant in Thailand.

Larvae of *Bombyx mori* are monophagous and feed only on mulberry plants (see picture opposite page). They begin feeding the moment they hatch. Initially they require three servings a day of mulberry leaves. After about 28 days the larvae will be about three inches long. Silkworms pass through five instars before producing cocoons. Before spinning the cocoon, the larva secretes a pale yellow gum from two salivary glands, one on either side of its head. From this it creates a web on which it anchors its cocoon. Once anchored, the larvae eject liquid silk from these two glands. Upon exposure to air, the secretion becomes a fiber. Silk is a continuous filament fiber consisting of fibroin protein and a gum called sericin, which cements the two filaments together. The amount of sericin ranges from 19 to 28 percent according to the type of cocoon. The process of spinning the cocoon around itself will take two to three days.

When spinning is complete, the cocoons are placed in a pot of boiling water, which softens the sericin and kills the pupae. A long handled



wooden paddle with a notch in the center is used to submerge and stir them. The notch in the center of the paddle prevents the cocoons from becoming entangled. When the cocoons are pressed under the water, the silk threads float. The silk filament is a continuous thread of great strength measuring from 500 to 1,500 meters in length. Single filaments are too thin for utilization. For production purposes, several filaments are combined with a slight twist into one strand. This process is known as “silk reeling or filature”. Silk threads are reeled onto a wheel or frame 10-20 filaments at a time. In Thailand, reeling or unwinding the silk filament from the cocoon is traditionally done by hand. As the reeling of the filament from each cocoon nears completion, the filament from a new cocoon is attached to it. The sericin acts as an adhesive and assists in its binding. To produce 100 grams of silk thread, over 1,000 cocoons are required. Over 500 cocoons are needed to weave a single necktie, around 4,000 for a blouse and 8,000 for an evening dress.

After reeling, the raw silk yarn must be soaked in hot water to remove the remainder of the sericin before dyeing and weaving. Improper degumming will mean the dyes will not fully penetrate the fibers and the color will soon wash out of the cloth. A few specialized and dedicated farmer groups use natural dyes, but chemical dyes are used more commonly.

The high sericin content of Southeast Asian silk results in thread that is a little bit uneven. The irregularity creates a beautiful natural character and also means the threads must be hand-woven; they cannot be used in power looms.

Various types of traditional looms are used in Thailand. They are usually made from hardwood or bamboo. The most common loom is known as the “flying shuttle”, popular because it is both fast and simple.

The silkworms of Thailand are raised primarily on the Korat Plateau in the northeastern region (Nakhon Ratchasima), although the majority of silk production takes place in the Chiang Mai



Pictures from Top to Bottom: Larvae of *Bombyx mori*; silk reeling and; the flying shuttle loom. All photos by J. Gavloski.

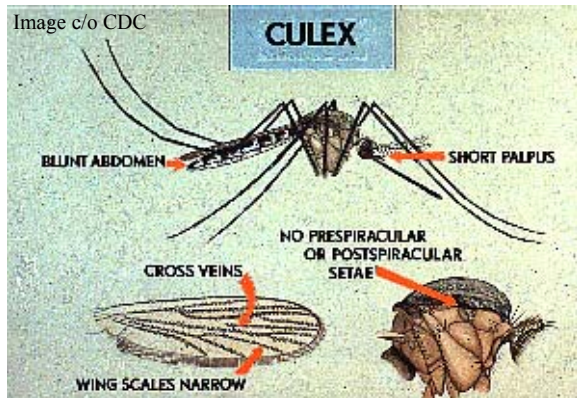
area. The night markets at Chiang Mai are a popular place to view or buy silk products, as well as just about anything else. From an entomologist’s perspective, the silk products displayed there are a good example of one of the many ways that insects have been incorporated into the lives of the people of Southeast Asia.

John Gavloski is a research scientist with Manitoba Agriculture and is the *ESM President Elect*.



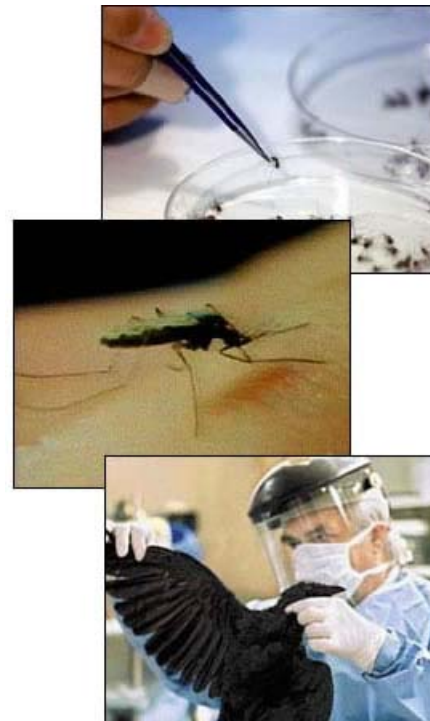
West Nile Virus: Go West, Young Virus

Unless you have been stranded on a desert island, you will be well aware that in the fall of 1999, an exotic mosquito-transmitted virus, closely related to the North American virus, St. Louis encephalitis (SLE) virus, arrived in the Western hemisphere. West Nile (WN) virus was first reported in New York City where it caused morbidity and mortality in birds (especially



crows, blue jays, ravens, and magpies), humans and horses. Bird-feeding *Culex* species of mosquitoes appear to drive a cycle of bird-mosquito-bird transmission that can, under the right conditions, result in “spill-over” of the virus to other mosquito species which likely transmit infection to horses and people. Since the 1999 incursion, WN virus has steadily increased its geographic range and its impact on human and animal health in North America. Geographic spread of the virus has undoubtedly been facilitated, at least in part, by the movement of infected birds (e.g., during spring migration and local short-range movements during the mosquito season). From 1999 to 2001, there was a moderate number (between 20 to 66) of human cases of WN virus infection in the US (with 10% mortality rate). A similar trend in mortality was observed in horse populations in the US though with more cases of infection. The situation changed in 2002 when the number of cases increased dramatically to 4,161 in humans (7% mortality) and 14,717 in horses (30% mortality). In 2002 WN virus entered geographic areas that historically have supported intense activity of other arboviruses, like SLE. This movement may explain the phenomenal increase in human and horse cases.

In Canada, we experienced a similar pattern of virus incursion and subsequent spread. WN virus was first reported in dead birds and mosquitoes in August 2001 and virus activity was restricted to the most southerly health units in Ontario. Human infections with WN virus were not reported in 2001. In 2002, WN virus was again documented in southern Ontario, this time a full 11 weeks earlier than in 2001. WN virus-infected birds were subsequently reported throughout southern Quebec, Manitoba, Saskatchewan, Nova Scotia, and throughout the remainder of Ontario. Surveillance detected WN virus in a total of 10 different mosquito species though the majority of the positives were from *Culex* species mosquitoes. About 360 horse cases were reported in Saskatchewan, Manitoba, Ontario and Quebec. Humans infected with WN virus were also reported with over 500 probable cases and 17 deaths in Ontario. In Quebec the numbers were much lower with only 8 cases of infection and 1 death. Interestingly, the majority of the human cases in Ontario occurred in the same area where WN virus was reported during 2001, and this is the same geographic area where an incursion of SLE virus occurred in 1975-1976.



Images c/o CDC



The WN virus outbreak in 2002 marked the largest mosquito-borne epidemic ever documented in North America. In addition, novel or rarely reported modes of WN virus transmission were demonstrated (i.e., transmission via organ transplantation, blood transfusion, breast milk, and intrauterine). In 2002 there was continued documentation that WN virus can cause disease in a wide range of animals (especially birds) which may have significant implications for some wildlife populations, especially captive and/or endangered species.

The \$64,000 question is will WN virus continue to expand its range in North America? Probably. Will it have a similar impact on human or animal health as 2002? This is much less clear. In Manitoba, human cases were not reported in 2002 despite relatively intense virus activity in birds and horses. So can human cases be anticipated in 2003? Again the answer to this is unclear but the response from provincial public health authorities is not. Manitoba Health has been coordinating a comprehensive WN virus surveillance and response program and several members of the ESM are playing central roles in

this program including Rob Anderson, Randy Gadawski, Terry Galloway and Wendy Ralley. The overall objectives of the surveillance and response program are to detect WN virus early enough in the transmission cycle so that suitable preventive measures can be implemented to minimize the impact of this virus on human health. Preventive measures will cover the full spectrum from public education, source reduction, and application of insecticides to control larval or adult mosquitoes. WN virus will likely continue to expand its range in Canada and it may become a risk to human health in Manitoba but you should feel confident that members of your society are working to clearly define this risk and are helping to guide appropriate intervention strategies. WN virus is further proof that winter in Manitoba is not so bad since you will never see a mosquito flying around when it's -40°C .

Robbin Lindsey is a research scientist at the Canadian Science Centre of Human and Animal Health, National Microbiology Laboratory at Health Canada.

Dragonflies of Manitoba

A project that has been in the works for several years informally, is poised to head into formal work. Jim Duncan of Manitoba Conservation has informally been leading a group over the past several years in preparation to publish a field guide to the Odonata of Manitoba. Participants have been varied and activities have included field collecting, a publicly assisted survey and preparations for formatting. In February of this year, Jim handed the reins over to me. Since then I have gathered a crew of people to assist in the project. They include Jim Duncan, Bill Preston, Terry Galloway and Marjorie Hughes. Marjorie has been what could be considered the backbone of the project for several years. She has been responsible for doing the identifications of publicly submitted specimens and has taken the time to verify the collection in the J.B. Wallis Museum of Entomology. In addition to these individuals, numerous volunteers have been participating in various stages of the work. More are always welcome! It is estimated that publication of the field guide could occur between 2007-2008. This will of course depend on how work progresses and funding issues, but it is a reasonable target. Gaps in data have now been identified and the arduous task of writing will begin shortly.



Brent Elliot is an Entomologist at Manitoba Agriculture and is the ESM Membership Committee Chair.



Pura Vida en Costa Rica

Editor's Note: Ask a professor what their favourite number is and every time they'll tell you the number seven. Why? Every seven years professors get to break away from their normal routine and embark upon a year of rest, research and travel, otherwise known as the sabbatical. Currently Dr. Rob Roughley, from the University of Manitoba, is enjoying his sabbatical at INBio in Costa Rica and is living the Pura Vida (a Costa Rican greeting meaning the good life).

INBio and Biodiversity Projects. My headquarters at the Instituto Nacional de Biodiversidad (INBio) here in Costa Rica are truly a wonderful place for biologists and particularly for systematists to work. The station is situated in Santo Domingo in the Province of Heredia and it is quite close to the capital city of San José. Situated across the street from INBio is INBio Parque, which has many of the typical plants and habitat types of Costa Rica. The park was created only three years ago and it is already a significant place for locals looking for a good Sunday outing. It has an excellent bookstore and gift shop as well as a restaurant and it is an excellent place to get a feel for the kinds of habitats that there are found in Costa Rica.

Through funding provided by the World Bank, INBio is working on creating a web page for every species in Costa Rica of which I am working on the water beetles. For an interesting example of the kind of work that is being done at INBio (especially John Berger's site on tabanids) check out <http://www.inbio.ac.cr>. You will see a whole list of species with thumbnail images. When you click on a species name, it will open up a whole page of information about the species including a distribution map within Costa Rica.

The collection at INBio is large and very amazing. The collection of beetles alone is larger than the entire J.B. Wallis Museum at the University of Manitoba. This feat has been accomplished in just over ten years by having professional collectors, called parataxonomists, work in about 20 different areas within the country. They collect specimens and bring them back to INBio each month where the specimens are labeled, bar coded and added to the collection. There are parataxonomists for Coleoptera, Diptera, Lepidoptera, plants and

fungi. Scientists then work on the accumulated collections through their projects with INBio. Over the years that I have visited INBio, I have met an enormous number of scientists from around the world. It is an energetic and exciting place to work.

Climate. Mountains run northwest to southeast through the country of Costa Rica. They divide the country into a Caribbean side which is much more wet than the drier Pacific side. San José and Santo Domingo (where INBio is located) are on the Pacific side. Generally the dry season runs from November or December until June. This is of course the time of major influxes of tourists and spring-breakers seeking the beaches and hotels particularly along the Nicoya Peninsula. The fauna on the Pacific and Atlantic side are quite different and usually there are similar but different species on the Pacific and Atlantic sides of the divide.

Biodiversity. The bird fauna exemplifies the biodiversity or species richness of Costa Rica. About 830 to 850 species can occur within an area about the same size as West Virginia or New Brunswick. This is more species than in Canada and the US combined. This remarkable richness is because of the topographic and habitat differences; there are more kinds of forests in Costa Rica than in Canada and the US. The purpose of MINAE (Ministry of the Environment and INBio) is to protect this kind of richness through knowledge, information and building systems of protected areas throughout the country. Already a large part of Costa Rica is protected within National Parks but other kinds of protected areas are continuously being evaluated based on biological databases such as that available through INBio.

Collecting. One of my missions in Costa Rica is to collect water beetles so that we can have an



idea about habitat preferences and seasonal occurrence of adults. I have had good collecting trips, generally, because most of the water beetles aggregate into small pools during the dry season. I also spent some time collecting on hilltops with a biologist named Monty Wood. He used a concoction of Coca Cola and honey to aggregate tachinids on hilltops. There were lots of groups (particularly carabids, coccinellids true bugs and flies) aggregating on these hilltops. The experience of hilltopping though made me love the flatlands since it is not necessary to climb 1000 m to get to a good collecting spot. Down is where the water goes, down is good.

General Life. Whereas in North America the main unit of social structure is the individual here it is the family. Family life is more important than professional life. To most Costa Ricans a job is a means to support your family not an end in itself. Almost everyone here is friendly and helpful – it is a part of their national character and one reason that it is a great place to visit or work. ¡Pura Vida! is a way of life. Basically in most of Costa Rica you do not need to worry about heating at any time of year. This means that by our standards most houses are small and loosely constructed. Usually the problem is how to get more ventilation into your house.

Crime and other social problems are an issue in Costa Rica. Everything is fenced off, gated and locked and bars are on all of the windows and doors. I would love to have had the commission

A New Class!

Not just one, but two new classes of arthropods have invaded the ESM live insect collection. You can now expect to find the likes of *Scorpions* and *Spiders* creeping about the insect rearing room at the department of entomology, University of Manitoba. Thanks to the efforts of my co-editor, the ESM received a generous donation of arthropods from Tom Mason at the Metro Toronto Zoo. We then proceeded to transport the new additions to Winnipeg via our (t)rusty Chevy truck. Following proper shipping protocol, the package of crawlies was secured safely beneath my feet for the entire journey. Thirty-six hours later, with frequent bouts of heebie jeebies in between, I admit, eight legs are not so bad after all. The ESM officially welcomes the following creepy crawlies: Florida Tailless Whip Scorpion, Honduras Scorpion (as seen in picture), Chilean Rose Hair Tarantula, Honduras Curly-Haired Tarantula, Goliath Baboon Spider, Banana Spider. Drop by for a visit!

on razor wire here in Costa Rica because it is used so extensively. Presumably this is so that *villains* cannot get into your house over the top of the fence. I house sat for a couple of weeks at a colleague's place and it would take me 10 minutes or more to get through the 5 padlocks, various doorlocks and then an additional 30 seconds to get to the alarm inside the house. Many times I have wondered, though, if this is a form of "keeping up with the Joneses"? Most of the crime in Costa Rica is usually blamed on the Nicaraguans. Itinerant workers from Nicaragua are brought into the country to pick coffee, bananas, melons, mangoes, etc. or to cut sugar cane and some of them want to stay and live off the land.

In small towns there are a lot of small stores or *tiendas* (translation: to have), which for their size, seem to have almost everything for daily life. When you run out of coffee in the morning you can just go to the tienda down the street. Large supermarkets and chain stores are not as common here although they are continuously making inroads. Fast food stores like McDonalds, Burger King and Pizza Hut are only found in major cities and along highways in moderately sized towns and cities. Your average tico (translation: Costa Rican) family avoids them; generally they are populated by "Norte Americanos" and more well to do families with kids.

Rob Roughley is a professor with the Department of Entomology at the University of Manitoba & the ESM Archive Committee Chair.



photo by M. Alperyn



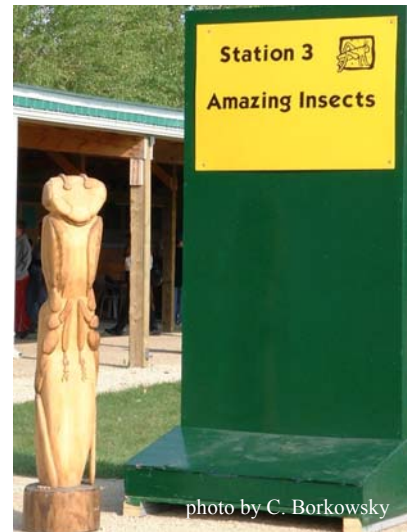
Students: Save your Stipend

Student members of the ESM can attend the Annual Meeting for only \$5. However, if you have not paid your \$10 ESM membership fees for 2003, registration will cost \$45. Not only that, student members can gorge themselves at the ESM banquet for only \$12, but will have to fork out \$25 as a non-member.

Ian Wise ESM Treasurer

Youth Encouragement

The ESM Youth Encouragement program (YE) is in great demand among Winnipeg schools and youth groups. In the past, our program was involved in presentations to individual classes or groups such as Scouts Canada; however, in the last 3 years we have also actively participated in Amazing Grains, an event organized by Agriculture in the Classroom-MB, Inc. This 3-day event provides hands-on demonstrations to urban elementary students in areas relating to agriculture. The core areas are soils, crops, animals and of course insects. Our station, known as the Amazing Insects, operates with five substations that illustrate general anatomy, beekeeping, predator-prey relations, stored crop pests and a relay race that reinforces the life stages of insect development. We could not participate in this event without the efforts of many of the graduate students from the Department of Entomology and staff from the Cereal Research Center in Winnipeg and Agriculture Manitoba.



In 2003, the Amazing Grains event will take place in Brandon (June 10-12) and Winnipeg (September 16-18). This is where you, a member of the ESM, can get involved with the YE program and see first hand the excitement this event creates among elementary students. Not comfortable with handling live Madagascar hissing cockroaches or Australian prickly stick insects? No problem, there are many other ways in which you can provide assistance at our station (and not all of them have live insects!). We require 10 volunteers per day. If you could help out for a few hours or a few days, we would really appreciate hearing from you, so contact me at borkowskyc@hotmail.com or at the Entomology office. It's never too early to sign up! *Christie Borkowsky ~ Youth Encouragement Committee*

Meetings of Interest

ESM New Members Social: The Entomological Society of Manitoba is hosting a new members social on May 2nd, 2003 6:00 p.m. at the home of Mark Lowdon (119 Woodchester Bay). There will be a potluck dinner, so ESM members are asked to bring a dinner item to share. The theme of the get-together is "Insects in Film" in which, ESM members will watch clips featuring their favourite six-legged stars and try to answer related trivia questions. Prizes will be awarded to accomplished 'entomocinematologists'. It will be an enjoyable evening and members are encouraged to attend. The fee for the event is \$5 for ESM members and \$3 for students. For more information see the accompanying flyer. *Michael Alperyn ~ Social Committee*

ESM Annual Meeting: ESM will hold its 59th annual meeting on Friday and Saturday Oct. 24 and 25 of 2003 at the Fresh Water Institute and Canadian Science Centre for Human and Animal Health. This year, the scientific program committee has decided to focus on West Nile Virus and theme will be "Mosquitoes and West Nile Virus: Present Situation and Perspective". *Mahmood Iranpour ~ Scientific Program Committee*



General Information

If you are interested in becoming a member contact Brent Elliot at Telephone: (204) 745-5669 or email BElliott@gov.mb.ca. Annual dues are \$10 for students and \$25 for regular members.

ESM EXECUTIVE 2003

POSITION	PERSON	EMAIL ADDRESS
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