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

When it comes to the news, summer is a very bad time to be an insect. We hear about yield loss, forest infestations, biting flies. And now to this unfortunate list, insect vectors of foreign and potentially fatal viruses can be added. Early this summer while the health minister battled over semantics on whether West Nile Virus (WNV) was a health concern or a health hazard, the public watched as report after report came in of birds testing positive for the virus. What ensued next were the darker images that often come from misinformed government officials and fear mongering from the media (classic example is Mad Cow Disease): communities divided, threats were uttered, and police stood guard as governments mislead a sleeping public. Fear flew into Manitoba and the public was ill equipped to smack back.

Ah but this news is so gloomy for an editorial (for a more positive take on WNV see page 4!).

On the lighter side of entomology, insect field guides seem to be popping up across the country. More exciting is that the field guides have advanced beyond that intimidating, though often deficient format of "Field Guide to the Insects of the World" or "Field Guide to the Insects of some Continent." Every entomologist can appreciate what a daunting task it is to describe 95% of the animal kingdom, let alone to try and cram it all into a field guide. Those kinds of field guides are for the birds, so to speak, but just not practicable for bugs. Instead, insect field guides have adopted a minimalist philosophy, focusing on what is reasonable rather than what is everything. Thus continents are broken down into countries, provinces and localities while Insecta is divided into orders, suborders and families. When these two features are combined, the result is a useable guide that won't break one's back in the field. Sources tell me that we can expect to see a field guide to the Dragonflies of Manitoba sometime in the year 2005. Now that is good bug news!

Nicole Lauro,
Newsletter Editor

Tales from the Head Bug

One of the main events of the ESM is the scientific meeting held each fall. This year it was our pleasure to hold our meeting jointly with the ESC. There were over 200 attendees, presenting 51 invited presentations, 57 submitted papers and 33 posters.

Paul Fields: ESM President

The social events of the meeting were well attended. The banquet was a great success, with two local comedians, Al Rae and Dean Jenkinson, providing the entertainment. The insect art show added another dimension to the poster sessions, and it was highlighted in the Winnipeg Free Press. It is no surprise to me that the winner of the art show chose the mighty rusty grain beetle as her subject. I had several people at the meeting compliment me on how we handled the meetings. I thank all the people that put in hundreds of hours to make the meeting a great success.

A New Species!

One of the greater honours bestowed in entomology is to have a species *holderi* your name. Dr. Terry Galloway showed thanks to Dave Holder for his extraordinary work by naming a new species of feather mite in his honour. *Metanalges holderi* (Acari: Analgoidea) was found on a species of Rail, a small shorebird related to the coots and cranes (Gruiformes). Together, Dave and Terry have examined “well over 3000” different species of birds in search of associated ectoparasites. When asked how he felt about being named after a feather mite Dave modestly replied he was “tickled”.

Several of our members were honored at the national level (see page 3 opposite): K.S. Hemachander (Hema) received an ESC Graduate Student Travel Award; Bob Lamb was this year’s recipient of the ESC Gold Medal, the ESC's highest honor; Robyn Underwood received the Criddle Award for her work with the Youth Encouragement Committee and Christie Borkowsky was one of the three winners of the President's Prize for best student presentation. Congratulations to all of you!

Neil Holliday was asked if the Department of Entomology would be interested in hosting the North Central Branch of the Entomological Society of America meetings in March 2007. For those of you that haven't attended a NCB meeting, it attracts 200 to 300 delegates from across the American Midwest. As Neil didn't feel the Department could organize the meeting due its size and the time of year, he approached the ESM, with the result that Brent Elliott and I have been given the task of investigating the possibility of having a joint NCB-ESM meeting in 2007. I will have more details at the Annual General Meeting.

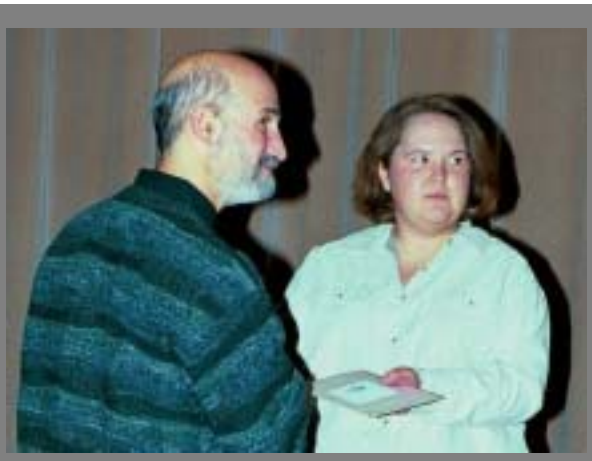
Finally, I hope to see many of you at this year's Annual General Meeting, which will be held on November 29, 2002 at the Canad Inn on Pembina Highway. Before the meeting we will have a luncheon and Pat McKay and Bob Lamb will be regaling us with stories and slides from their latest trip to Australia.

photo by Michael Alperyn

And the Winner is….

ESC Gold Medal Award
Bob Lamb

ESC Norman Criddle Award
Robyn Underwood



ESC President's Prize
Christie Borkowsky

ESM Graduate Scholarship & ESC Graduate Student Travel Award
K.S. Hemachandra

ESM Student Achievement Award
Daniel Eiler

ESM Swat Award
Jacqueline LeGal

Letters to the Editor

Mites, Maggots and Moths


www.mts.net

The most recent issue, (Winter/Spring, 2002) contained an article referring to an item in a 1997 issue of Canadian Geographic magazine about entomological place names in Canada. A comment that caught my eye was that there is no place in Manitoba named after mosquitoes. In fact there is such a place but it would not be recognized unless one is familiar with the Ukrainian language.

The small village of Komarno in the Interlake region north of Teulon and about half-way between Inwood and Winnipeg Beach is named after the mosquito. The word *komar* means mosquito in Ukrainian and the two words *komar* and *no* are loosely translated as many or full of mosquitoes. The low-lying swampy Interlake region is noted as a breeding ground for mosquitoes which plagued early Ukrainian and other settlers. About 1984, and with old country humour the people of Komarno raised a huge statue or sculpture of the world's largest mosquito in the village where it stands as a tourist attraction. I picked up this tidbit of information two years ago while on a field trip with the Manitoba Historical Society.

Sam Loschiavo
Retired Research Scientist

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Six Legs Good, Eight Legs Awesome!!

I was disheartened to read the editor's anti-spyder commentary in the last issue of the ESM newsletter. The editor expressed her anti-spiderr views quite clearly in the opening paragraph when she stated that her favourite childhood slogan was "Six legs good, Eight legs bad!" I think it would be best if the editor kept her anti-ssspider opinions to herself. The editor apologized to spidear enthusiasts for any biased editing in future newsletters but I feel the editor should remain unbiased towards all types of arthropods as her comments might influence others to hate spyders. Schpiders are not bad. They are awesome arthropods that just happen to feed primarily on insects. I hope that the other entomologists can look past this issue and not hate spitters just because they eat insects. In future issues of the newsletter, I hope that the anti-schpydder commentary is kept to a minimum. We araneologists are a small group but we can become quite vocal. So if the anti-sperder comments continue, the next issue of the newsletter will contain more than just a letter to the editor about spiders.

www.garfield.com

David Wade
Schpider Enthusiast

Visiting Scientist from Belarus

Dr. Helena Shaverdo has flown all the way from Minsk, Belarus to study aquatic beetles here in Canada. With a NATO Science Fellowship for support, her dream of studying the Holarctic genus, *Hydroporus* (Coleoptera: Dytiscidae) is becoming a reality. Her post-doctorial project involves a revision of all species of *Hydroporus*, and examination of material from North America is crucial to this purpose. Helena arrived in Winnipeg in June of 2002 and will be working here with Dr. Rob Roughley for one year. Helena has enjoyed Manitoba so far and we wish to welcome her.

Tonya Mousseau

photo by Lisa Babey

Mosquito-Borne Viruses in Manitoba: A Growing Research Area?

By now, we have all heard a great deal about the latest arbovirus introduced to Manitoba: the West Nile Virus (WNV). While it is never good when a new pathogen is introduced to a human population, the virus' arrival is especially exciting for those interested in a career in Medical Entomology.

With the media frenzy generated this past summer, and with the Chief Medical Officer for Manitoba on record saying he expects to see WNV related deaths in the near future, the provincial public health authorities are spending a great deal of their time on WNV related issues. What public health officials (and funding agencies) need to recognize is the importance of vector related research, principally mosquito research in Manitoba. There has already been some money paid out to local researchers, but as always, more would be better.

In the next few years there may be even more reasons to study mosquito vectors. In an article by Reeves et al. (1994), researchers concluded that with the general trend towards increasing global temperatures (whether you like the term global warming or not) we can expect a slow shift of more southerly arboviruses up towards the northern U.S. and Canada, while the southern U.S. would become more receptive to tropical vectors and diseases.

Dr. Reinhard Brust, and a host of other Manitoban scientists, clearly demonstrated during the Western Equine Encephalitis outbreak of 1975, the extreme importance of entomologists in managing arbovirus outbreaks. The value of long-term studies of species composition and population density, along with the maintenance of surveillance programs was, for a brief time, understood and better funded than it is right now. Unfortunately, this understanding may have to be re-learned in the face of this new outbreak.

Reeves, W.C., J.L. Hardy, W.K. Riesen & M.M. Milby. 1994. Potential effect of global warming on mosquito-borne arboviruses. *Journal of Medical Entomology*. 31(3): 323-332.

Lisa Baspaly

Bioinformatics at the J.B. Wallis Museum

There is a buzz around the Entomology Department at the University of Manitoba and it has nothing to do with the recent chocolate sales. In 2000, the department was awarded a substantial, Canada Foundation for Innovation (CFI) Grant, to improve the infrastructure of the J.B. Wallis Museum of Entomology (JBWM). The JBWM is the 3rd largest insect collection in Canada, with approximately 1 million specimens representing agriculture, grassland, aquatic, ectoparasitic and boreal forest habitats.

photo by Michael Alperyn

The CFI funding has been allocated in several different ways including: renovations to the existing museum; the purchase of new cabinets and insect drawers; costs associated with curation; the purchase of a network database system, Biota; and the purchase of a new computer, barcode printer and code reader. The master plan is to attach a unique barcode label to

each specimen housed in the museum. That is correct, every single specimen, from fleas on slides to dragonflies in envelopes, will each receive their own unique barcode. Specimen information will then be entered into Biota, which is linked to the barcode. This high-tech system will enable speedy retrieval of specimen data and will also allow for very specific queries of the database. This system is revolutionary in terms of acquiring specimen data based on any field entered into Biota for information queries. For example, to find out which species have been recorded from Churchill Manitoba, you simply type in a locality query and a corresponding species list is generated. It can also be used for host plant associations and host information. For example, if you want to know all the species that serve as hosts for a species of parasitic wasp then the host field is used to search the database and a host-species list is generated. The information linked to each specimen by its barcode will enable a variety of biological and ecological information to be retrieved from the collection without ever looking at a specimen!

To date, all of the renovations have been completed. The JBWM, once a one room museum, now spans two rooms (where dry specimens are housed) and also includes a storage vault, where specimens kept in alcohol can safely be stored. The rooms are furnished with new floor to ceiling cabinets and handcrafted insect drawers have been purchased to fill the cabinets. There is also a lovely new computer workstation where Ariel, the JBWM database manager is located. The infamous barcode machine is also located here and is the location where all specimen data is entered into Biota with the corresponding barcode. Please stop by to check out the new museum.

The JBWM is now fully equipped and ready to transfer the insect collection onto the World Wide Web. Look for upcoming species lists to be posted on the JBWM website as they become available. You can access the website through the Entomology Department's Homepage or at the following address:
www.umanitoba.ca/afs/entomology/jbwallis.html

Heather White

Feature Article: Identifying with the Internet

The Internet is our latest communication medium. With its advent we cannot help wondering what direction the new wave will take us. Canadian media theorist, Marshall McLuhan coined the ever-popular phrase "the medium is the message". He believed that the mode of transmission is ultimately more influential in our society than the content that is being conveyed. As an aside, this maybe a small comfort when considering the Internet and the majority of its content. So if the medium is the message, how is our new medium, the Internet, influencing our society?

First, the Internet allows us to obtain information at a much greater rate of speed than was ever possible before. From office emails delivering deadlines☹ to world news, the Internet has influenced the speed at which we obtain and process information.

Secondly, the Internet is much more decentralized than either its radio or television counterparts. This means that the user can obtain information in a non-linear fashion. For example if consuming information were like eating a meal, then in a linear world you would start with the appetizer move to the main course and finish with a dessert. In a non-linear world you could start with dessert and end up sipping Dom Perignon and discussing insider trading with Martha Stewart. It is really this characteristic of the Internet that is thought to have the greatest impact on the way we think. The implication is that young 'websters' will be less linear in their thought process than their offline predecessors. Signs of our depreciating dependence on linearity are spanning from surfing online to other mediums, particularly film[1].

As a derivative of its non-linearity, the Internet is an interactive medium in which users can choose among a variety of destinations to obtain information: "Where do you want to go today?"[2]. Unlike television or radio which is continuously streaming information at you, the Internet allows you to decide what information you want to receive and at what pace. Illustrating with an example, if this newsletter was a website you could have arrived at this article by choosing from a variety of links, from the ESC or ESM web page or by searching with key words, like "McLuhan" or "taxonomy".

This brings us to the central premise of this article. Having hopefully opened you up to the possibility that the Internet is changing the way we think, and thus the way we identify with ourselves, how is this new medium changing the way we identify insects or any other taxa for that matter?

The World Wide Web has made online taxonomic keys all the rage, some of which boast enhanced digital images www.bio.gasou.edu/bio-home/Harvey/dragonkey.html[3]. However, the majority of keys available are merely digitally transcribed homologues of their printed ancestors, complete with often horribly scanned images. Commonly the web designers uploading taxonomic keys have the boldness to call the keys "interactive"; as though publishing information on the web inadvertently makes the information itself interactive. Though the Internet itself is interactive, it is the process of obtaining information through this medium that makes it so, not necessarily the content itself. Now back to taxonomic keys…

Essentially all keys are formulated from the same mold: a matrix of characters, from which taxa are assigned a character state. Taxa that share character states group together. The more character states taxa share the tighter they group together. Dichotomous keys are formed by taking this matrix and transforming it into a

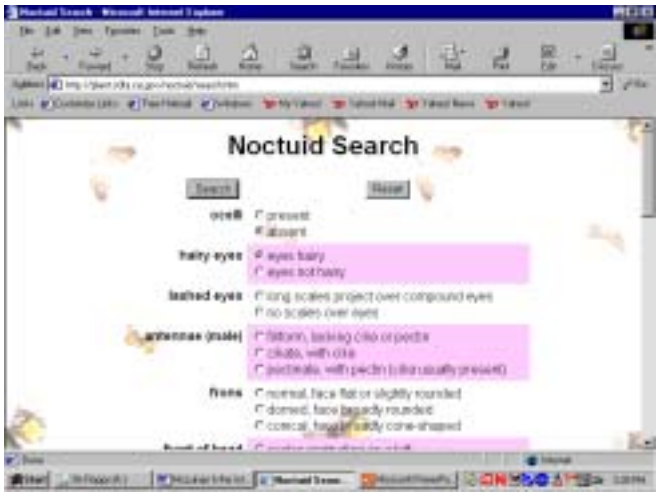
[1] For non-linear film examples see "Pulp Fiction", "Memento", or "Vanilla Sky".

[2] Microsoft ad campaign for Windows 95 operating system, the campaign was prematurely dropped after thousands of people sent in letters, faxes, and emails with their destination requests.

[3] A superb key for identifying North American dragonflies and damselflies to genus.

series of two part choices (couplets) until an identification is reached. The problems with dichotomous keys are mainly due to this inherit linearity. How many times have you tried to identify a specimen for which the particular character crucial for identification is damaged? Came to a couplet in which you are unfamiliar with the discriminating character? Or, labored through fifty couplets only to find that your specimen is as common as dirt?

With that said there are a number of truly interactive keys available online that embrace the essence of the Internet: fast, interactive, and non-linear. What I am taking about is non-dichotomous keys in which users choose the number and type of characters to segregate their individual from a list of taxa. The main advantage to such an interactive key over



traditional dichotomous keys is in the flexibility and speed of use.

An example of such a key is available for Noctuidae (Lepidoptera) of North America. Say you want to key out a noctuid specimen that lacked ocelli and had hairy eyes. Selecting only these two character states with this key (see figure above) would narrow the identification of your specimen down to three species. Not sure whether your specimen has hairy eyes or not? No problem, just try using another character. The program then spits out the number of taxa that match the selection. I should mention that interactive keys, as with any key, still abide by the same policy: GIGO (garbage in - garbage out). The design of an Interactive key still requires a skillful taxonomist to choose the most appropriate characters that will efficiently seperate taxa.

Now some of you are aware that the advent of interactive keys and the advent of the Internet were not simultaneous events. In fact, interactive keys have been available since the early onset of computer technology. Why then is this article not entitled “Identifying with interactive keys”? Although interactive keys precede the origins of the Internet, it is my contention that such keys owe their growing popularity to the Internet. I argue that it is not only the accessibility of the Interactive keys on the web that has led to their popularity, but also a fundamental change in the way information is obtained.

So to return back to the philosophy of Marshall McLuhan, if the Internet is our new medium then what is its message? The message is that more and more Internet users are demanding information instantly, in a non-linear manner, and above all else, with choice. Entomologists are no exception to this. Gradually more entomologists are in search of these same qualities and for our most fundamental of tasks: insect identification. With this we are likely to see a movement away from old-school keys as interactive keys become more available, accessible and reliable. We are not there yet-but the message is loud and clear.

Interactive key examples

http://plant.cdfa.ca.gov/noctuid
An interactive key to Noctuidae (Lepidoptera) species of North America north of Mexico.

http://web8.si.edu/nmnh/cephs/cephkey.html
Interactive key to decapodiform Cephalopoda (Mollusca) families.

http://sis.agr.gc.ca/brd/fusarium/home1.html
Interactive, key to species of *Fusarium* (Fungi).

Interactive key software solutions

http://www.lucidcentral.com
Dr. Roughley has purchased this software and I would be more than happy to give demonstrations to those interested (email: malperyn@hotmail.com). Or visit lucid central for informative on constructing interactive online/offline keys, software etc.

http://www.rbge.org.uk/pankey.html
More software to construct interactive keys.

Michael Alperyn

Youth Encouragement

Over their many years of dedication, Youth Encouragement has managed to amass a modest sum of money from the donations they have received. The money will go towards replenishing the slides used in class presentations. If any member is interested in either loaning or donating their bug pictures for slide reproduction please contact Christie Borkowsky (see page 10). Pictures can be sent in all forms (as slides, negatives, JPEG's, etc.).

Publish or Perish

Galloway, T.D. 2002. Getting to know your ticks. Blue Jay. 60: 107-112

Mironov, S.V. and T.D. Galloway. 2002. *Nymphicilichus perezae* gen. nov., sp. nov., a new feather mite (Astigmata: Pterolichidae) from the cockatiel, *Nymphicus hollandicus* (Psittaciformes: Cacatuidae). Journal of the Royal Society of New Zealand. 32: 1-6.

Mironov, S.V. and T.D. Galloway. 2002. Four new species of feather mites (Acari: Analgoidea). The Canadian Entomologist. 134: 605-618.

Mironov, S.V. and T.D. Galloway**.** 2002. New feather mite taxa (Acari: Analgoidea) and mites collected from native and introduced birds of New Zealand. Acarologia. 1:185-201.

Meetings of Interest

Prairie Universities Biological Symposium (PUBS). February 20-22, 2003. Students only. Hosted by the Department of Zoology, University of Manitoba. Phone: 204-474-9245, Fax: 204-474-7588, Email: pubs_2003@hotmail.com

Department of Entomology (University of Manitoba) Seminar Series - Fall Term.

Tuesday, 12 November. **Jacques Tardiff**, Dept. of Entomology, University of Winnipeg. Tree Ring Analysis and Reconstruction of Insect Outbreaks.

Tuesday, 19 November. **Michael Alperyn**, Dept. of Entomology, University of Manitoba. M.Sc. Factors affecting community ecology of predacious water beetles (Coleoptera: Dytiscidae) in lentic habitats across southern Manitoba. Research Seminar.

Tuesday, 26 November. **Lisa Capar**. Dept. of Entomology, University of Manitoba. Effect of regeneration techniques on ecological diversity of carabids (Coleoptera: Carabidae) from black spruce (*Picea marina*) forests. Literature Review.

Membership Dues

This is a gentle reminder that it is time to pay your annual dues for the Entomological Society of Manitoba. We will be happy to accept your annual dues at the Annual General Meeting, being held at 12:00 p.m. on November 29, 2002 at the Canad Inn at 1824 Pembina Highway. Before the meeting we will have a luncheon and Pat McKay and Bob Lamb will be regaling us with stories and slides from their latest trip to Australia. If you are unable to attend the meeting, could you please send your dues, $10 for students or $25 for regular members to:

Ian Wise
Cereal Research Centre
Agriculture and Agri-Food Canada
195 Dafoe Rd.
Winnipeg, MB R3T 2M9

General Information

If you are interested in becoming a member contact Tannis Mayert at Cereal Research Centre, Agriculture and Agri-Food Canada, 195 Dafoe Rd, Winnipeg, Manitoba, R3T 2M9, Telephone: 204-984-6494, Fax: 204-983-4604, tmayert@em.agr.ca. Annual dues are $10 for students and $25 for regular members. Please notify us of any changes in address by contacting Tannis Mayert at the above address.

ESM EXECUTIVE 2002

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