ONTARIO INSECTS

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Contents

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Volume 1, No. 1 September 1995

The Toronto Entomologists' Association is a non-profit educational and scientific organization which was formed to promote interest in insects, encourage co-operation among amateur and professional entomologists, educate and inform non-entomologists about insects, entomology and related fields, aid in the preservation of insects and their habitats and issue publications in support of these objectives.

Membership dues are: Individual, $20; Student, $10; Family, $25. Please remit dues to Alan J. Hanks, Treasurer, 34 Seaton Drive, Aurora, Ontario, Canada, L4G 2K1.

Ontario Insects is published tri-annually by the Toronto Entomologists' Association (TEA), 34 Seaton Drive, Aurora, Ontario, Canada, L4G 2K1.

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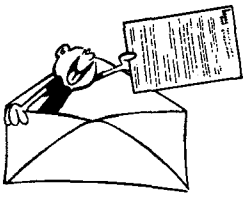
Welcome to the premier issue of Ontario Insects.

You are holding, and, if we've done our job correctly, will shortly be reading, the premier issue of the Toronto Entomologists' Association's new NewsJournal. Born out of the rising costs of producing, copying and mailing monthly minutes of meetings, and the desire of the current Executive and the Board of Directors to provide T.E.A. members and other insect lovers with a newsletter/journal of both style and substance, Ontario Insects will fill a vacant niche. There is a wealth of knowledge and talent in the community of amateur and professional entomologists in Ontario and the surrounding region -- and it's about time they had a regular vehicle in which to communicate, pontificate, educate, and inspire.

As you browse through this issue we hope that you will be both surprised and delighted at the mix of useful information, regular columns, activities, feature articles and research reports. We've tried hard to find entertaining ways to present information, make it accessible to all readers and create a newsjournal that will be eagerly anticipated, read and become an often used resource.

As you will see, our contributors have provided much in the way of good reading. Many thanks to all of the authors for being part of this premier issue. It is the beginning of great things for the T.E.A. You can and should be a part of it...

Phil & Pat Schappert, Editors



Letters

Changes at High Park

On July 2nd, I participated in a tour with 100+ walkers to the western edge of High Park. It was sponsered by the Toronto Historical Board and Sun Life of Canada. I led a TEA field trip to the park on July 9 (*see Field Trip report in this issue - Ed.*) and tagged along on another butterfly walk, led by Mel Tintpulver, on July 30th. Here are some of my observations and comments on the changes I've seen at High Park.

New Jersey Tea (*Ceanothus americaus*) was once common in the Park but was not found on these outings. It is a major nectar source for Hairstreaks, Blues and Skippers and the larval hostplant for Spring Azures and the Mottled Dusky Wing. The latter has not been seen in the park for many years.

There has also been a serious decline in Black Oak (*Quercus velutina*) saplings in the last decade. It is a mystery why they've practically disappeared in areas where they were once common. Without them the Edward's Hairstreak will not survive. I learned from the leader of the July 2nd walk (René Malagon) that the High Park Restoration Committee plan to take out some of the Sassafrass (*Sassafrass albidum*) in the park and replace it with other rarer plants of the Oak woodlands.

Remarkably few butterflies were seen on the July 9th and July 30th trips although it's interesting to note that many male Gypsy Moths (*Lymantria dispar*), in their typical erratic flight, were seen on July 30th. It appears that there are relatively few species now in High Park when compared to earlier records. In TEA seasonal summaries from 1969-79 there are, I believe, no records for the park. However, from 1980-88, nine collecting seasons, ten contributors recorded 22 species from the park. None of the species was new to the park.

I can easily recall when it was not unusual to see more than 20 species in a single afternoon. For example, I found 24 species on July 8, 1959! Six species of Hairstreaks accounted for more than 150 individuals. Two species recorded on that date, Silvery Checkerspot (*Charidryas nycteis*) and Meadow Fritillary (*Clossiana bellona*), are probably no longer to be found in High Park.

Bill Edmonds, Toronto

Letters received *before* the premier issue...

I would greatly appreciate receiving more information about "Ontario Insects"

D.F.J. Hilton, Bishop's University, Lennoxville, Quebec

I am interested in the newsletter/journal, Ontario Insects, that will be launched this year. Could you please send me information on the cost.

A. Robbie-Draward, Parks & Recreation Dept., City of Winnepeg, Manitoba

How do I get a copy of Ontario Insects? How does it compare to the ill-fated Ontario Insect Collector's News or its successor? I am only guessing (and hoping) that it fills this important vacant niche.

Steve Marshall, University of Guelph, Guelph, Ontario (via e-mail)

President's Message

Well, it's been an eventful year (this should qualify for the "understatement of the year" award)! As you can see, the executive and board have been busy. There have been some personnel changes to the Board of Directors, there's this new journal that you're holding, plus amendments to the constitution to be voted on (make sure you get your votes in), an upcoming meeting season that looks very entertaining (thanks, Paul) and a membership which is growing in leaps and bounds, or should I say, hops and flights.

There was also a Graduate Student Symposium in April, an abundance of butterfly counts in Ontario this summer, three TEA field trips, and quite a number of opportunities to interact with, and educate, John & Jane Q. Public - certainly a lot more of them than there've been in the past. My impression is that this reflects a genuine increase in interest of insects and entomology in this province. The launch of Ontario Insects could not have happened at a better time!

And there's never been a better time to get more involved with the TEA. Besides, if you do get more involved then I can stop bugging you about it.

Many thanks for your inquiries and the kind words. We hope the real thing lives up to your expectations. All of you will receive a complimentary copy of the premier issue to satisfy your curiousity. Subscribing to ***Ontario Insects*** *is easy - join the Toronto Entomologists' Association! See the membership information in the masthead on the inside of the front cover for further info.*

Phil & Pat, Editors

Treasurer's Report

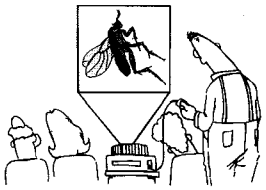
As of September, sales of the Ontario Butterfly Atlas have accumulated $7584.06, $6500.00 of which has been placed in a G.S.C. There are approximately 392 copies of the atlas remaining. The regular membership account is summarized below. Forty-four of 114 members had already remitted their dues as of September 1, 1995, raising the current bank balance to $1113.35. If you have not sent in your dues yet then please do so as soon as possible.

Balance Forward (July 6, 1994)		$108.47
Income:		
Membership	2172.79	
Sales	40.00	
Interest	3.08	
Net Income	$2215.87	
Expenses:		
Printing	1255.37	
Postage	424.92	
Misc.	196.51	
Supplies	58.62	
Phone/Fax	13.01	
Bank Charges	2.00	
Net Expenses	$1950.43	
Balance (July 25, 1995)		$373.91

Submissions to Annual Summaries:

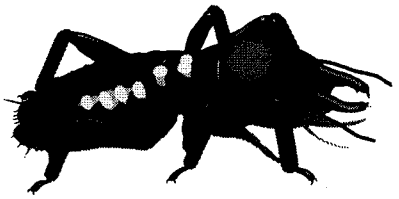
A reminder to please submit your records for the occasional publications "in format", that is in the same format in which the records are presented in the summaries. If possible, please submit your records on a 3½" disk, in any format, or legibly typed on clean 8½" x 11" paper so that they may be scanned into the computer. Many thanks,

Alan



Upcoming Programs

September



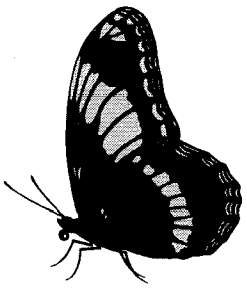
Saturday, September 23, 1995

Dr. Tim Myles

Director,. Urban Entomol. Program, Faculty of Forestry, University of Toronto

North American Termites: cuticular coatings for social insect control

Dr. Myles will introduce us to some of the 41 species of North American termites concentrating on tropical species from Mexico and *Reticulitermes flavipes* (Kollar), the pest termite of northeastern North America. As the title suggests, Dr. Myles has discovered that we can use their social grooming behaviour to control or even eradicate this voracious pest.



October

Saturday, October 21, 1995

Members Meeting

This is the annual "bring and brag" meeting. Come out and see what your colleagues have been up to this past summer! By the way, just what have you been up to anyway? Don't you think it's about time that you 'fessed up? They say confession is good for the soul... Besides, where else are you going to find a more sympathetic audience?

November

Saturday, November 25, 1995

Lorraine Johnson

Freelance Writer and Editor

Attracting Butterflies to Your Garden

It's called naturalistic gardening and best-selling author Lorraine Johnson has written the definitive guidebook to this landscaping trend. Ms. Johnson is the author of **The Ontario Naturalized Garden: the complete guide to using native plants** (*see review in this issue - Ed.*), the first-ever guide to gardening with native plants in Ontario. Whether you have a tiny urban plot or a large expanse, come and learn how to create a shady woodland, a sunny meadow or a rippling water garden using the native plants which are adapted to Ontario's conditions and are favourites of butterflies and insects.

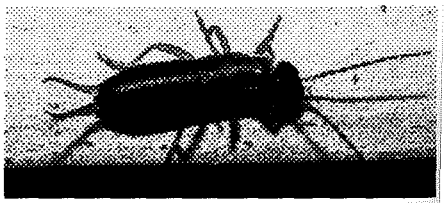
Notes on Behaviour of a European Earwig (*Forficula auricularia*)

Everyone knows earwigs. Most people don't have much use for them. Some are definite pests of small seedlings, but overall they tend not to be pests of crops or plants in general. In fact some species are predacious and play a role in controlling mites and aphids. I would say that it is the fact they just get into every nook and cranny that makes them irritating. It is probably this characteristic that initiated the belief that the earwig would climb into people's ears.

In July of 1994 I observed another little known defensive behaviour in the earwig. A mature earwig was observed carrying an adult house spider (*Acharanea tepidariorum*). The earwig was using its cerci and had caught the spider between the abdomen and its cephalothorax. As the spiders legs were facing upwards, it was unable to gain any purchase or grip and was thus defenceless.

I am unsure of the events that lead to this observation. I can only assume that the earwig had blundered into the spiders web. The spider had reacted by attacking the earwig. In this case the spider would have come down the web and then attempted to subdue the earwig by throwing silk at it to restrict the preys movement. The earwig in response would have lifted its abdomen over its head and closed its cerci around the spider. In the struggle that followed, the spider must have lost its grip allowing the earwig to escape. The result was the trapped spider.

I do not know how long the earwig would hold the spider in this manner, but it was certainly long enough for the spider to give up its attempt at prey capture. Although I had been pinched by earwigs, I had never seen or heard of these cerci being of any real use. The observation was therefore a surprise. In all references that I have subsequently looked up, I have only come across one other comment on a similar behaviour. Swan & Papp (1972) report the cerci were used against ants that attacked



A European Earwig - everyone's favourite insect

them. In this case the spider was definitely unable to protect itself when it was observed.

It would be interesting to note just how well developed this technique is in the various species of earwigs. It is behaviour such as this that could account for the earwigs tremendous success in establishing itself. I would be interested in hearing from anyone that has seen similar occurrences.

Reference:

Swan, L.A. and C.S. Papp, 1972. The Common Insects of North America.

Tom Mason
Metro Toronto Zoo

Rearing the Black Swallowtail (*Papilio polyxenes asterias*) in York County

The female of this common species seems to readily lay its eggs. Early in August 1994, one layed eggs on a carrot within two days of placing it on the plant under a plastic bag and coathanger tent to prevent escape. About six days later, approximately half of the eggs hatched.

At first, the larvae didn't eat much and unfortunately, only one survived - it seems that the reason may be that some were midgets (maybe because some did not eat their eggshells). By August 18, when the larva was in about its third instar, I found a full grown *polyxenes* larva on dill, which I took home as a specimen to aid in a specimen diagram of the life cycle of the black swallowtail. I later found another, which I took into captivity, and reared to the pupal stage. It pupated on the 29th of August. I then

Larva of the Black Swallowtail

set it in my diagram, completing it. As for the surviving larva whose mother layed its egg on my carrot, it pupated on the 4th of September.

Black swallowtail larvae of the late brood (the one that will fly in spring) seem to come in two colour forms. If they hatch around late July, they are a deep green, with light yellow dots, and relatively thin black bands. Those hatching one or two weeks later have smaller dots going on orange, much wider black bands, and

continued on page 10...

Harvester (*Feniseca tarquinius*) larva feeding on Speckled Alder (*Alnus incana*)

On July 9, 1995, I observed 8-10 Harvester (*Feniseca tarquinius*) larvae on Speckled Alder (*Alnus incana*) shrub. The location was the south shore of Mary Lake at Port Sydney, 50 meters east of the Muskoka River. The shrub had number of half-eaten leaves and appeared that these caterpillars were responsible. Based on the presence of scattered cottony bits on the back of the larvae, I made a tentative identification *Feniseca tarquinius*. Knowing that the larvae are carnivorous and feed on woolly alder aphids, I made a cursory but unsuccessful search for the aphid. As I was then not certain of the correct

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T.E.A. Butterfly Counts - 1992-1995: a summary

by Tom Mason, Michael van der Poorten & Nancy van der Poorten

For the past four years, the T.E.A. has conducted butterfly counts under the direction of Tom Mason, Curator of Invertebrates at the Metro Toronto Zoo. The surveys include six sites within two larger areas, the Rouge River and Don River valleys. The following figure and tables provide a summary of each years count results and allow for some contrasts and comparisons to be made between years.

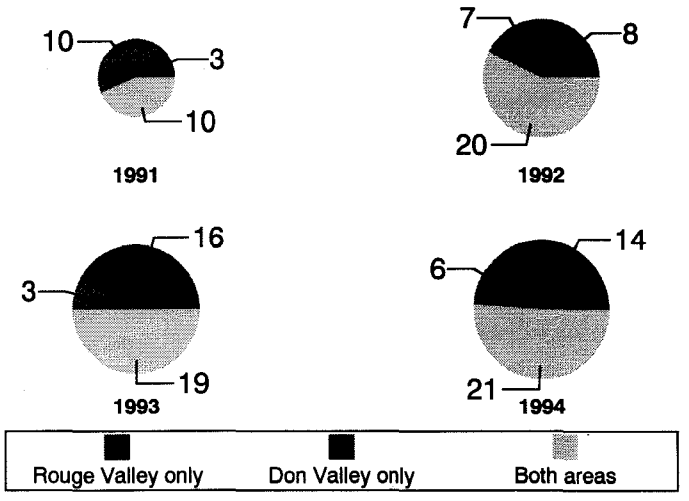
Personnel, Weather, and Highlight Summaries:

1992 Weather: Lightly overcast to dull. The year was extremely cool and damp. This lead to a delayed season and low numbers and fewer species than is normal.

1993 Present in Rouge: Nick Tsovolos, Marilyn Cole, Michael and Nancy van der Poorten, Jim Spottiswood, Tom Mason; Present in Don: Nick Tsovolos, Michael and Nancy van der Poorten, Tom Mason, Allan & Catherine Hanks, Jim Spottiswood; Highlights: Harvester was a first record for the Zoo.

1994 Present in Rouge: Tom Mason, Al Hanks, Jim Spottiswood, Bill & Irene McIlveen, Neb Lecic and Mr. Lecic, Michael and Nancy van der Poorten, Kevin Thompson, Kym Welstead, Jason Krogh; Present in Don: Tom Mason, Jim Spottiswood, Pat and Phil Schappert, Michael and Nancy van der Poorten, Kym Welstead, Jason Krogh; Weather: Perfect, sunny, warm, not too hot. After a long cold winter, the season has been fairly warm with a dry spell in late May/early June, but with adequate rain in the preceeding week; Highlights: Juvenal's Duskywing (Twyn Rivers) and the American Copper (Zoo) were new records for the Rouge Valley.

1995 Present in Rouge: Tom Mason, Carolyn King, Paul McGaw, Michael & Nancy van der Poorten; Present in Don: Site 1 & 2: Tom Mason, Carolyn King, Paul McGaw; Site 3: Michael & Nancy van der Poorten; Weather: Perfect. Sunny, warm, not too hot; after a fairly mild winter, a cold spring, and a dry, hot June. Of the past four years in which a count has been held, 1995 was the best year as a whole although we had the poorest attendance to date. We encountered more species than ever before, but fewer individuals. This was the second year in a row that the Silvery Checkerspot wasn't seen in the Don Valley. There were also fewer European skippers and Monarchs than usual. Look for an announcement of the 1996 count and come out to join us! We look forward to having more people to help out next year so that we can cover the areas in two groups and be able to spend more time enjoying the butterflies.



Four Years of Butterfly Counts: 1992-1995. The size of each pie chart is proportional to the total species recorded for that year. Note that only Twyn Rivers was surveyed in the Rouge Valley in 1992.

Area A: Rouge River - Site 1: Kingston Road at Rouge River

Species Name		1992	1993	1994	1995
European Skippers	*Thymelicus lineola*	33	15+	20	30
Tawny Edged Skipper	*Polites themistocles*		6		7
Crossline Skippers	*Polites origenes*				1
Long Dash Skippers	*Polites mystic*		3		10
Hobomok Skipper	*Poanes hobomok*	4	2	1	
Cabbage White	*Pieris rapae*		3		4
Orange Sulphur	*Colias eurytheme*		2		1
Pearl Crescent	*Phyciodes tharos*		1		1
Question Mark	*Polygonia interrogationis*			1	
Banded Purple	*Basilarchia a. arthemis*		1		1
Northern Pearly Eye	*Enodia anthedon*			1	
Little Wood Satyr	*Megisto cymela*	30	3	5	3
Inornate Ringlet	*Coenonympha inornata*		2	1	4
Monarch	*Danaus plexippus*		1		

Area A: Rouge River - Site 2: Twyn Rivers Drive at Rouge River

Species Name		1992	1993	1994	1995
Silver Spotted Skipper	*Epargyreus clarus*	1		4	1
Northern Cloudy Wing	*Thorybes pylades*	1			1
Dreamy Duskywing	*Erynnis icelus*				2
Juvenal's Duskywing	*Erynnis juvenalis*			1	
European Skippers	*Thymelicus lineola*	100	25+	100+	100+
Peck's Skipper	*Polites peckius*			2	1
Tawny Edged Skipper	*Polites themistocles*	16	15+	40	30
Crossline Skipper	*Polites origenes*				3
Long Dash Skippers	*Polites mystic*	12	10	40	20
Northern Broken Dash	*Wallengrenia egeremet*			3	8
Little Glassy Wing	*Pompeius verna*			3	4
Hobomok	*Poanes hobomok*	3	1	5	5
Dun Skipper	*Euphyes vestris*		1	1	9

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Tiger Swallowtail	*Pterourus glaucus*				3
Cabbage White	*Pieris rapae*	1	5		1
Common Sulphur	*Colias philodice*				1
Orange Sulphur	*Colias eurytheme*		2	1	2
Bronze Copper	*Hyllolycaena hyllus*			1	
Coral Hairstreak	*Harkenclenus titus*			1	1
Banded Hairstreak	*Satyrium calanus*			1	
Eastern Tailed Blue	*Everes comyntas*			3	
Spring Azure	*Celastrina ladon*			1	
Great Spang. Fritillary	*Speyeria cybele*	1	6	5	17
Pearl Crescent	*Phycoides tharos*	5	12	50	14
Orange Crescentspot	*Phyciodes t. pascoensis*	14	4		
Question Mark	*Polygonia interrogationis*			4	
Comma	*Polygonia comma*			1	
Mourning Cloak	*Nymphalis antiopa*			2	
Amer. Painted Lady	*Vanessa virginiensis*			1	2
Red Admiral	*Vanessa atalanta*			3	
Banded Purple	*Basilarchia a. arthemis*	4	1		3
Red Spotted Purple	*Basilarchia a. astyanax*			10	1
Viceroy	*Basilarchia archippus*			2	3
Northern Pearly Eye	*Enodia anthedon*			1	5
Little Wood Satyr	*Megisto cymela*	8	3	11	8
Inornate Ringlet	*Coenonympha inornata*	7	9	17	35
Wood Nymph	*Cercyonis pegala*			4	5
Monarch	*Danaus plexippus*		2	13	

Area A: Rouge River - Site 3: Metro Zoo at West Rouge River

Species Name		1992	1993	1994	1995
Silver Spotted Skipper	*Epargyreus clarus*			1	2
Northern Cloudy Wing	*Thorybes pylades*		1		2
Least Skippers	*Ancyloxypha numitor*		1		1
European Skippers	*Thymelicus lineola*		15+	100+	1
Peck's Skipper	*Polites peckius*		2	9	2
Tawny Edge Skipper	*Polites themistocles*		5	15	30
Crossline Skippers	*Polites origenes*		1	2	2
Long Dash Skippers	*Polites mystic*		8	7	12
Northern Broken Dash	*Wallengrenia egeremet*		1		2
Little Glassy Wing	*Pompeius verna*		2	1	
Delaware Skipper	*Atrytone logan*				1
Hobomok	*Poanes hobomok*		6	4	6
Dun Skipper	*Euphyes vestris*			1	5
Tiger Swallowtail	*Pterourus glaucus*		2	1	3
Cabbage White	*Pieris rapae*		12	4	9
Common Sulphur	*Colias philodice*				1
Alfalfa Sulphur	*Colias eurytheme*		4		
Harvester	*Feniseca tarquinius*		1		
American Copper	*Lycaena phlaeas*			1	
Bronze Copper	*Hyllolycaena hyllus*			3	1
Coral Hairstreak	*Harkenclenus titus*				1
Acadian Hairstreak	*Satyrium acadicum*		1	1	4
Banded Hairstreak	*Satyrium calanus*				1
Spring Azure	*Celastrina ladon*		2		1
Great Spang. Fritillary	*Speyeria cybele*		3	5	9
Meadow Fritillary	*Clossiana bellona*		1		
Pearl Crescent	*Phyciodes tharos*		15+	20	40
Question Mark	*Polygonia interogationnis*		1	4	
Comma	*Polygonia comma*		3	1	
Mourning Cloak	*Nymphalis antiopa*			2	3
Amer. Painted Lady	*Vanessa virginiensis*			1	
Red Admiral	*Vanessa atalanta*		1	3	2
Banded Purple	*Basilarchia a. arthemis*		3		8
Viceroy	*Basilarchia archippus*			5	10
Northern Pearly Eye	*Enodia anthedon*			1	
Little Wood Satyr	*Megisto cymela*		5	9	16
Ringlets	*Coenonympha inornata*		6	10	8
Wood Nymphs	*Cercyonis pegala*		4	2	1
Monarchs	*Danaus plexippus*		1	5	

Area B: Don River - Site 1: East Don River at Leslie & Sheppard

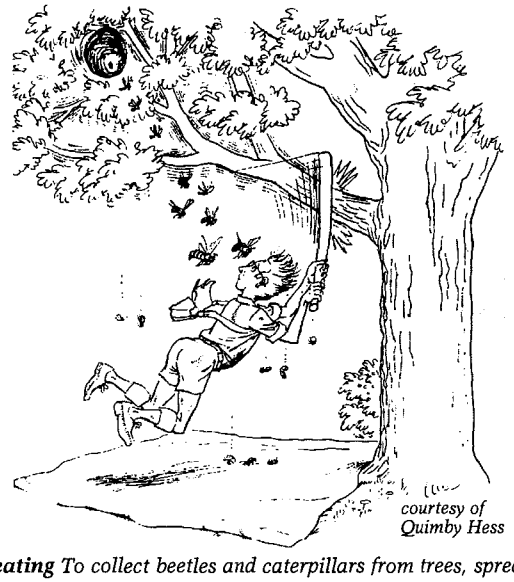
Species Name		1992	1993	1994	1995
European Skippers	*Thymelicus lineola*	95	20+	100	100+
Tawny Edge Skipper	*Polites themistocles*			1	
Long Dash Skippers	*Polites mystic*	2		9	3
Hobomok	*Poanes hobomok*		1	3	2
Black Swallowtail	*Papilio polyxenes*				1
Tiger Swallowtail	*Pterourus glaucus*		1		1
Cabbage White	*Pieris rapae*	3	6	14	25
Common Sulphur	*Colias philodice*		1	1	1
Alfalfa Sulphur	*Colias eurytheme*		2		
Acadian Hairstreak	*Satyrium acadicum*				15
Spring Azure	*Celastrina ladon*	1	4		
Orange Crescentspot	*Phyciodes t. pascoensis*	3			
Question Mark	*Polygonia interogationnis*			1	
Comma	*Polygonia comma*		1		
Mourning Cloak	*Nymphalis antiopa*			1	
Painted Lady	*Vanessa cardui*	6			
Red Admiral	*Vanessa atalanta*	2		3	
Viceroy	*Basilarchia archippus*				2
Eyed Brown	*Satyrodes eurydice*	18	15+	25	25
Little Wood Satyr	*Megisto cymela*	12	10+	6	10
Monarchs	*Danaus plexippus*	1	1	2	

Area B: Don River - Site 2: Charles Sauriol Conserv. Reserve

Species Name		1992	1993	1994	1995
European skippers	*Thymelicus lineola*	33	8	100	100+
Peck's skipper	*Polites peckius*		1		
Tawny Edge skipper	*Polites themistocles*	25	6	10	10
Long Dash skippers	*Polites mystic*	9	2	3	4
Hobomok	*Poanes hobomok*	4	2	3	4
Dun Skipper	*Euphyes vestris*	1			
Tiger Swallowtail	*Pterourus glaucus*		1	1	4
Cabbage White	*Pieris rapae*	2	1	1	3
Common Sulphur	*Colias philodice*				5
Orange Sulphur	*Colias eurytheme*		5		
Coral Hairstreak	*Harkenclenus titus*		3		
Acadian Hairstreak	*Satyrium acadicum*			1	2
Striped Hairstreak	*Satyrium liparops*		1		
Spring Azure	*Celastrina ladon*	1	2		
Pearl Crescent	Phyciodes tharos	3	3	4	5
Orange Crescentspot	*Phyciodes t. pascoensis*	5			
Baltimore	*Euphydryas phaeton*	2	8	3	5
Question Mark	*Polygonia interogationnis*			1	
Comma	*Polygonia comma*	1		3	2
Red Admiral	*Vanessa atalanta*	3	1	1	
Banded Purple	*Basilarchia a. arthemis*	7	1		4
Red Spotted Purple	*Basilarchia a. astyanax*	3	2	1	3
Banded/Red-Spotted Purple Hybrid	*Basilarchia arthemis x astyanax*				1
Eyed Brown	*Satyrodes eurydice*			2	
Little Wood Satyr	*Megisto cymela*	30	4	10	8
Ringlets	*Coenonympha inornata*		1	2	
Monarch	*Danaus plexippus*		1	1	1

Area B: Don River - Site 3: Taylor Creek Park

Species Name		1992	1993	1994	1995
Silver Spotted Skipper	*Epargyreus clarus*	2			1
Northern Cloudy Wing	*Thorybes pylades*	6	3	7	6
Least Skipper	*Ancyloxypha numitor*				1
European Skippers	*Thymelicus lineola*	43	15+	100+	1
Tawny Edge Skipper	*Polites themistocles*	2	4	2	8
Long Dash Skippers	*Polites mystic*	4	2	3	3
Little Glassy Wing	*Pompeius verna*		1		
Hobomok	*Poanes hobomok*	12	15+	30	12
Dun Skipper	*Euphyes vestris*	1	2	1	
Tiger Swallowtail	*Pterourus glaucus*		1		1
Cabbage White	*Pieris rapae*	12	15+	18	15
Common Sulphur	*Colias philodice*		1		2
Orange Sulphur	*Colias eurytheme*		9		
Coral Hairstreak	*Harkenclenus titus*	4	1		1
Acadian Hairstreak	*Satyrium acadicum*				1
Banded Hairstreak	*Satyrium calanus*		1		
Spring Azure	*Celastrina ladon*	1			
Silvery Checkerspot	*Charidryas nycteis*	11	1		
Pearl Crescent	*Phyciodes tharos*		3	12	3
Orange Cresentspot	*Phyciodes t. pascoensis*	3	1		
Baltimore	*Euphydryas phaeton*	9	2		1
Question Mark	*Polygonia interogationnis*			3	1
Comma	*Polygonia comma*			3	
Mourning Cloak	*Nymphalis antiopa*			2	1
Amer. Painted Lady	*Vanessa virginiensis*			1	
Painted Lady	*Vanessa cardui*	8			
Red Admiral	*Vanessa atalanta*		1	1	
Red Spotted Purple	*Basilarchia a. astyanax*		1		
Viceroy	*Basilarchia archippus*				1
Pearly Eye	*Enodia anthedon*				1
Eyed Brown	*Satyrodes eurydice*	12	1	6	8
Little Wood Satyr	*Megisto cymela*	25	9	11	10
Monarchs	*Danaus plexippus*	2	1	7	3
Total species (over all sites)		**23**	**35**	**38**	**41**



courtesy of Quimby Hess

Beating *To collect beetles and caterpillars from trees, spread a bedsheet under a selected tree. Now, with a stout stick, give a branch a sharp tap. This dislodges the insects so that they drop onto the sheet. Incidentally, this is also an excellent way to familiarize yourself with the wasp population of the area...*

Entomophilia

The Mourning Cloak (Butterfly)

Where snow lies cold upon the ground,
And leaves of brown in carpet show,
A stillness in the woods around,
Still in the hemlocks breezes blow.

Now booms the grouse from mossed log,
Breaking the silence of its range,
And slanting rays across the bog,
It's time for nature's guard to change.

All through the days of dark and cold,
The northern grip held fast,
But now it's April and the old
Signs of its strength are past.

Now from the tiny pool some "quacks"
Where willow catkins droop and long,
And pulsing are the wood frogs' sacs,
in unrestrained joy of song.

Across the open glade aflight,
And all attired in sombre hue,
Its mourning cloak with edges light,
And speckles of the finest blue.

What joy again this sight does make
Appearing yet for Easter day.
And signaling the final break,
To user in a lighter way.

How long you slept, oh butterfly,
Dreaming in some ancient log,
While winter's bitter storms did try
To freeze and bury all the bog.

But now the winter ways are gone,
And only remnants link the past.
A brighter season moves along
A gentle calm is holding fast.

And next your offspring will appear
To greet the coming seasons warm.
And then with winter growing near
Will go to sleep before the storm.

And once again when seasons round,
A loosened grip for which we yearn.
I will be waiting on your ground,
For your awakened glad return.

Barry Harrison

Durham Region Butterfly Counts: results from three years

by James Kamstra

A butterfly count has been conducted in the south central portion of the Regional Municipality of Durham for the past three years. Following the protocols set out by the North American Butterfly Association (NABA), a somewhat unrealistic attempt is made to count all of the individual butterflies within a 15 mile (24 km) diameter circle. The Durham count is centered on the village of Raglan, extending from north Oshawa in the south to Port Perry in the north and from Enniskillen in the east to Glen Major in the west. The circle straddles the Oak Ridges Moraine, an area of sandy soils, but also includes large wetlands associated with Lake Scugog and the Nonquon River floodplain. The results of the counts are shown in the table below. Count dates for the three years are July 11, 1993; June 26, 1994 and June 25, 1994.

Butterflies	Species	1993	1994	1995
Tiger Swallowtail	*P. glaucus canadensis*	13	21	29
Black Swallowtail	*Papilio polyxenes*	2	1	6
Orange Sulphur	*Colias eurytheme*	31	4	
Common Sulphur	*Colias philodice*	63	36	8
Mustard White	*Pieris napi*	30	8	7
Cabbage White	*Pieris rapae*	1405	11	49
Bronze Copper	*Hyllolycaena hyllus*	1	5	12
Little Copper	*Lycaena phlaeas*		27	8
Acadian Hairstreak	*Satyrium acadicum*	3		
Coral Hairstreak	*Harkenclenus titus*	9	1	
Spring Azure	*Celastrina ladon*	19	1	3
Eastern Tailed Blue	*Everes comyntas*	4	2	1
Meadow Fritillary	*Clossiana bellona*	25		4
Silver-bordered Frit.	*Clossiana selene*	1		3
Aphrodite Fritillary	*Speyeria aphrodite*	8	1	1
Great Spang. Fritillary	*Speyeria cybele*	37	12	19
Viceroy	*Basilarchia archippus*	7	18	25
White Admiral	*Basilarchia a. arthemis*	31	123	106
Red Spotted Purple	*Basilarchia a. astyanax*	1	11	10
Mourning Cloak	*Nymphalis antiopa*	2	14	7
Silvery Checkerspot	*Charidryas nycteis*			1
N. Pearl Crescent	*Phyciodes selenis*	79	339	468
Pearl Crescent	*Phycoides tharos*	2		1
Hop Merchant	*Polygonia comma*	1	3	
Question Mark	*Polygonia interrogationis*		2	2
Red Admiral	*Vanessa atalanta*	21	27	3
Amer. Painted Lady	*Vanessa virginiensis*	1	13	3
Wood Nymph	*Cercyonis pegala*	137	11	3
Inornate Ringlet	*Coenonympha inornata*	3	443	655
Northern Pearly Eye	*Enodia anthedon*	18	15	24
Little Wood Satyr	*Megisto cymela*	26	160	164
Appal. Eyed Brown	*Satyrodes appalachia*		12	7
N. Eyed Brown	*Satyrodes eurydice*	25	32	147
Monarch	*Danaus plexippus*	63	123	13
Silver Spotted Skipper	*Epargyreus clarus*	3	18	35
Dreamy Duskywing	*Erynnis icelus*		6	12
Juvenal's Duskywing	*Erynnis juvenalis*	1		1
Northern Cloudy Wing	*Thorybes pylades*		23	2
Roadside Skipper	*Amblyscirtes vialis*			1
Least Skipper	*Ancyloxpha numitor*		13	45
Arctic Skipper	*Carterocephalus palaemon*		3	12
Dun Skipper	*Euphyes vestris*	26	2	1
Hobomok	*Poanes hobomok*	7	95	93
Long Dash Skippers	*Polites mystic*	32	174	162
Peck's Skipper	*Polites peckius*	4	2	16
Tawny Edged Skipper	*Polites themistocles*	11	52	101
European Skippers	*Thymelicus lineola*	987	4287	2454
Northern Broken Dash	*Wallengrenia egeremet*	1		1
Total Species (48)		**39**	**40**	**44**
Total Indiviuals		**3140**	**6152**	**4718**
Number of Participants (Parties)		12 (5)	19 (6)	15 (6)
Total Hours (on foot)		32 (27)	39 (30)	45 (34)
Total km (on foot)		272 (56)	315 (45)	313 (43)
Temperature (°C)		22°-30°	17°-25°	22°-29°

A rougly similar amount of field effort was conducted each year. Note that the 1994 and 1995 counts were held about two weeks earlier than in 1993. This is significant, for many species show substantially greater numbers in the latter two years (e.g. Wood Satyr, Ringlet, most Skippers). Conversely a few species showed higher populations in 1993 (e.g. Wood Nymph, Dun Skipper, Hairstreaks). Cabbage Whites seemed to experience a population crash in 1994, although populations increased substantially by mid-summer 1995. Migrant species such as the Monarch and Red Admiral were noticeably less numerous in 1995 than in 1994.

Canada's Naturium Site Selected

After 14 years of planning and research, John G. Powers of Cambridge is proceeding with his plans to build a world class facility dedicated to the appreciation, education, and preservation of the world's natural environment.

Canada's Naturium will operate year-round and will feature hundreds of free-flying butterflies showcased in an ecological and educational manner along with a host of other exhibits and services.

John has acquired a 116 acre site with a 50 acre woodlot at 3500 Kossuth Road (between Fountain St. and Speedsville Rd.) just minutes from Hwy. 401. An official unveiling of the Naturium sign took place at this site on July 5th, 1995. It is hoped that ground will be broken this fall after all zoning applications, final design criteria, building permits and financial arrangements are in place.

For further information, contact:

Canada's Naturium
Butterfly Observatory & Tropical Garden,
Box 1995,
Cambridge, Ontario,
N1R 5S8,
519-653-1234.

Don Davis

Lambton County Butterfly Counts: results from two years

by Quimby F. Hess, Jeff Skevington and Les Kobayashi

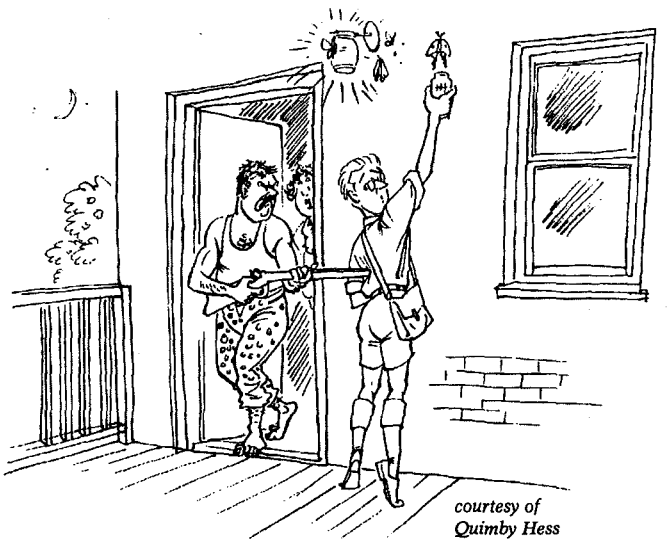
The first known butterfly count in Lambton County, north of Sarnia, Ontario, was made on July 3rd, 1994 with a second count occuring on July 2nd of this year. Both counts have been organized by Jeff Skevington, Park Naturalist at Pinery Provincial Park located a few kilometers south of Grand Bend. There were 21 participants in 1994 and a superb showing of 66 participants for the 1995 count.

The count center is Port Franks and the 15 mile circle includes Thedford Sewage Lagoons, Kettle Point, Ravenswood, Kinnard, Ipperwash Prov. Pk., Ipperwash or Stony Pt. Military Reserve, Port Franks and Pinery Prov. Park. This years highlights included the discovery of several late Dusted Skippers, a previously unknown colony of Little Glassy Wings, Appalachian Eyed Browns (new for Pinery) and incredible numbers of Silvery Checkerspots, Little Wood Satyrs and Red Admirals. Next year's count is scheduled for Sunday, June 30th, 1996 with a rain date of July 1st.

Butterflies	Species	1994	1995
Silver Spotted Skipper	*Epargyreus clarus*	4	13
Northern Cloudy Wing	*Thorybes pylades*	10	33
Dreamy Dusky Wing	*Erynnis icelus*	1	
Juvenal's Dusky Wing	*Erynnis juvenalis*	1	5
Columbine Dusky Wing	*Erynnis lucilius*	3	1
Common Sooty Wing	*Pholisora catullus*		3
Least Skipper	*Ancyloxpha numitor*	9	18
European Skippers	*Thymelicus lineola*	15	3833
Peck's Skipper	*Polites peckius*	7	4
Tawny Edged Skipper	*Polites themistocles*	1	12
Crossline Skipper	*Polites origenes*	2	2
Long Dash Skippers	*Polites mystic*	3	21
Northern Broken Dash	*Wallengrenia egeremet*	11	31
Delaware Skipper	*Atrytone logan*		5
Little Glassy Wing	*Pompeius verna*	1	5
Hobomok	*Poanes hobomok*	54	175
Dun Skipper	*Euphyes vestris*		4
Dusted Skipper	*Atryonopsis hianna*	1	5
Roadside Skipper	*Amblyscirtes vialis*	5	18
Black Swallowtail	*Papilio polyxenes*	4	7
Giant Swallowtail	*Heraclides cresphontes*		1
Tiger Swallowtail	*P. glaucus canadensis*[1]	18	71
Spicebush Swallowtail	*Pterourus troilus*	4	11
Orange Sulphur	*Colias eurytheme*		4
Common Sulphur	*Colias philodice*	1	9
Cabbage White	*Pieris rapae*	37	1883
Bronze Copper	*Hyllolycaena hyllus*	15	16
Coral Hairstreak	*Harkenclenus titus*	28	9
Acadian Hairstreak	*Satyrium acadicum*		23
Edward's Hairstreak	*Satyrium edwardsii*		1
Banded Hairstreak	*Satyrium calanus*	4	41
Hickory Hairstreak	*Satyrium caryaevorum*	1	
Striped Hairstreak	*Satyrium lipaprops*		1
Pine Elfin	*Incisalia niphon*	1	
Eastern Tailed Blue	*Everes comyntas*	2	
Spring Azure	*Celastrina ladon*	28	7
Great Spang. Fritillary	*Speyeria cybele*	31	62
Meadow Fritillary	*Clossiana bellona*		1
Silvery Checkerspot	*Charidryas nycteis*	1252	5082
Pearl Crescent	*Phycoides tharos*	3	
N. Pearl Crescent	*Phyciodes selenis*		29
Tawny Crescent	*Phyciodes batesii*	46	2
Question Mark	*Polygonia interrogationis*	8	7
Hop Merchant	*Polygonia comma*	6	3
Mourning Cloak	*Nymphalis antiopa*	20	10
Milbert's Tortoiseshell	*Aglais milberti*		5
Amer. Painted Lady	*Vanessa virginiensis*	17	4
Painted Lady	*Vanessa cardui*		10
Red Admiral	*Vanessa atalanta*	38	236
White Admiral	*Basilarchia a. arthemis*	3	3
Red Spotted Purple	*Basilarchia a. astyanax*	206	171
Viceroy	*Basilarchia archippus*	5	36
Tawny Emperor	*Asterocampa clyton*	8	8
Northern Pearly Eye	*Enodia anthedon*		39
Eyed Brown	*Satyrodes eurydice*		2
Appal. Eyed Brown	*Satyrodes appalachia*		4
Little Wood Satyr	*Megisto cymela*	295	1828
Inornate Ringlet	*Coenonympha inornata*		20
Wood Nymph	*Cercyonis pegala*	3	79
Monarch	*Danaus plexippus*	24	55
Total Species (60)		**44**	**55**
Total Indiviuals		**2381**	**13967**
Number of Participants		21	66
Total Hours (on foot)		110 (104)	139 (125)
Total km (on foot)		155 (46)	333 (84)

[1] *Pterourous glaucus* in Pinery Provincial Park in 1994 was single-brooded, thus in this year was the Canadian Tiger Swallowtail (QFH)

The Hazards of Night Collecting:



courtesy of Quimby Hess

Many a fine specimen of moth has been collected at the common porch light. The experienced collector, however, wisely sticks to his own porch.

The Lepidopterist in Winter

"It sounds like a wonderful hobby, but what do you do in the winter?"

Such a question has often been put to me when I mention my interest in bugs and photography. In fact there are many ways of keeping busy with one's hobby during the winter without having to buzz off with net and camera to warmer climes where butterflies and moths are still flying.

So, herewith a few tips to prevent the budding lepidopterist from getting bored in winter. Firstly, if you have a collection, and I still believe that acquiring a small representative collection is the best way to begin learning about lepidoptera and indeed insects, then properly maintaining such a collection takes up a lot of time which is available during the winter. When I was younger and building up such a collection, I used to spend the winters relaxing and spreading specimens which had been collected during the summer and stored in paper triangles in air-tight containers. Some collections may have to be respread as wings can droop and so on; also data labels have to be checked for legibility and some rewritten when, for instance, a geographical name changes.

Here is a short list of other ways that one can keep busy:

Repair nets. I always keep a spare net in the car as my net once had an argument with a Prickly Ash shrub. In my opinion, nets are still necessary equipment for lepidopterists because you cannot identify many insects without catching them first.

Check, clean and repair entomological equipment. Check and clean camera and photographic equipment. Clean camera and slide projector lenses.

Sort photographic slides. Put aside duplicates of, get duplicates made of one's best photos, especially for the T.E.A.'s resource collection.

Obtain maps for next season's expeditions. It pays to plan such activities well ahead as one doesn't want to waste time on a nice sunny day searching for a locality or even searching for a place to park one's car or bicycle.

There are **outdoor activities** too that one can indulge in. For instance one can search for Saturnid cocoons, and before the ground freezes, one can dig for moth pupae; this used to be a very popular activity when I was growing up in England, where of course the ground is wet for most of the winter rather than frozen solid as it is in Ontario. We used to dig around the bases of Poplar and Oak trees, both trees very popular with moth larvae. Digging for pupae can be done in Ontario in October and November before the ground freezes; however I must confess I have not had much success here.

The ova of some Lycaenids, particular the hairstreaks can, in theory, be found in winter by searching twigs of the foodplants, e.g. choke cherry and oak saplings (*H. titus* and *S. liparops* lay eggs on the former plant and *S. calanus* on the latter). I have never had any success in finding these eggs in Ontario but younger eyes could well be more successful, especially if one is searching in an area where adult butterflies are known to occur.

Authors of older butterfly books used to recommend searching for hibernating nymphalids in the winter, by peering into hollows in trees and fallen logs. Again I have never had any success with such searches in Ontario, but occasionally hibernating butterflies can be found in attics and garden sheds; *N. antiopa* seems to like hibernating in piles of logs and I have found *N. vau-album* hibernating in an old hut in the middle of a wood.

Catch up on your entomological reading!

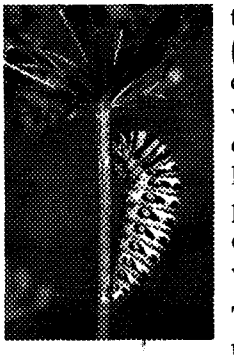
Attend local Field Naturalists' Society meetings and propagate the importance of insects and their conservation. If possible, get invited to speak at such meetings; I am sure that every member of the T.E.A. will find that he knows a lot more about insects than other members of field naturalist groups.

Finally, **write articles**, notes etc. for Ontario Insects!

W. J. D. Eberlie

Swallowtail...*continued from page 4*

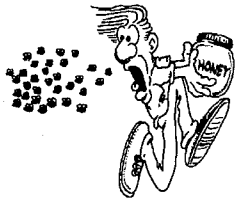
green going on white! While rearing, I tried an experiment: I had the older larva pupate on green paper, and the younger on bark. The one on bark turned mot-tled brown, just like the bark. The other had some green, as the paper, but not as much as in some pictures I have seen. This, and that later larvae had more black, may be evidence that colder weather (August was quite cool, though July was warm, and excellent for painted ladies!) had an impact on the bright colours of the larvae and pupae.



Pre-pupal stadium of Black Swallowtail

The process of pupation in polyxenes appears to take about 48 hours, starting with the habitual pre-moult unwillingness to eat. Around mid-day, it starts defecating until it suddenly lets out a thin wet waste mass. By morning, it is in its pupation position (a silk belt holds it more or less upright, and a silk pad at the tail attaches it to the surface it is on). By next morning, it is a pupa.

Neb Lecic



Meeting & Field Trip Reports

March

Steven Price (WWF)

Insect Conservation: a view from the WWF

There were 27 members and 8 visitors present on March 25, 1995. After a short welcome, the President introduced the speaker, Steven Price of World Wildlife Fund (Canada). Steven completed his BSc and MSc at the University of Toronto and is currently Vice-President of International Programs for the WWF.

Steven introduced and discussed a number of conservation projects relating to insects that the WWF has been or is involved with, specifically Monarch migration monitoring, the Karner Blue and the Maritime Ringlet. As Steven discussed, the problem in many projects such as these is not knowing the full natural history of the insect - in most cases all of the factors are not known. The approach now being taken is to preserve the habitat in which the insect resides rather than concentrating on saving the insect *per se*. Often the insect is interdependent with the plants and other wildlife in its particular habitat so that is what should be preserved.

The larger goal of the WWF is to protect a network of complete representative habitat samples in Canada by the year 2000. Some of these habitats include short grass prairie, tall grass prairie, temperate rainforest, coastal dunes, etc. We now have a wealth of information regarding both endangered species and their endangered spaces and we must look at the root causes of these endangerments such as the underlying geological or meteorological considerations. Steven's intriguing and thought provoking presentation was followed by a brisk question period. In thanks, Steven was presented with a copy of the Ontario Butterfly Atlas.

April

Graduate Student Research in Entomology: a symposium

Twenty-two members, the presenters and four guests were present for this symposium. Not as good a turnout as had been hoped for but it was a worthwhile effort. If another such symposium is held in the future it is suggested that it be held earlier in the meeting season (before the university teach year ends!) and that some consideration is given to including the Entomological Society of Ontario in the organization and planning. The abstracts of the six contributed papers, presented by students from four Ontario universities, are printed elsewhere in this issue of Ontario Insects.

Field Trip

Twin Lakes, May 13, 1995

A bewildering spring...talk about running hot and cold! But trip day was lovely, especially for mid-May. The rarely intrepid leader, with spouse and father in tow, was late getting to the meeting site in Havelock. Thankfully, there were enough members present who'd been there before so we didn't hold anyone up. All told a total of 15 members and friends met at Twin Lakes: Mike Bransfield, Carol Brotman, Malcolm Campbell, John Eberlie, Alan and Barbara Hanks, Tom Ikeda, Jim Lane, Phil and Pat Schappert, Reuben Schappert, Jim Spottiswood, Don Sutherland, and Michael and Nancy van der Poorten.

We encountered a total of 11 sp. of Leps. (see below) including all four Elfins. Surprises were in store. The weather was so odd that Olympia Marblewings appeared to be just getting started - very few of their *Arabis* hosts were in evidence. Careful searches finally turned up a number of pre-blooming plants but most had no eggs - but there were good numbers of Arctics already on the wing. Columbine Duskywings were surprisingly common, as were Hoary Elfins, and a single Snowberry Clearwing was an early delight. Some excitement was generated when Don Sutherland thought that he'd caught *Cicindela patruela* - a rare tiger beetle, but it turned out to be *C. purpurea* a far more commonly seen species. I think it's safe to say that a good time was had by all...

Here's a list of everything seen: Columbine Duskywing, *Erynnis lucilius* (7); Cabbage White, *Pieris rapae* (1); Olympia Marblewing, *Euchloe olympia* (8); Pine Elfin, *Incisalia niphon* (1); Brown Elfin, *I. augustinus* (3); Henry's Elfin, *I. henrici* (1); Hoary Elfin, *I. polia* (15+); Spring Azure, *Celastrina ladon* (100+); Mourning Cloak, *Nymphalis antiopa* (3); Chryxus Arctic, *Oeneis chryxus* (8); Snowberry Clearwing; *Hemaris diffinis* (1)

Phil Schappert

More! Continued on page 13...

Monarch Watch

by Don Davis

Monarch numbers in eastern North America may be the lowest they've been in years. There are fewer Monarchs being recorded in the north midwest than at any time in the past decade, according to Monarch expert Lincoln Brower. Recent butterfly counts and observations from the recent migration confirm a sharp drop in numbers. The Durham Region Butterfly Count *(reported elsewhere in this issue - Ed.)* found only 12 Monarchs during the June 25th count, compared to 123 found on June 26, 1994. Reasons suggested for the decline include harsh spring storms and abnormal freezing temperatures that may have killed many Monarchs as they migrated to the U.S. from Mexico in March and April.

It's interesting to note that there was a similar situation in California, where the numbers of western Monarchs along the coast this past winter were the lowest ever recorded. Now, summer breeding populations appear to be recovering at an astouding pace from what seemed like a hopeless situation only a few short months ago. Dr. Fred Urquhart noted that about every seven years, the Monarch population would drop dramatically and then rebound in subsequent years. He postulated that the Monarchs were devastated by a virus and that the population would rebound until the virus mutated, causing another crash in the population.

Migrating Monarchs are often subjected to sub-zero temperatures, heavy dews and frosts in late September and October. Kirk Larsen and Richard Lee, Jr. (J. Insect Physiol. 40) demonstrate that this generation has the capacity to rapidly increase their cold-hardiness. A chilling period of 1 hour at 4°C before exposure to -4°C for 24 hours significantly improved their survival over those with no chilling period prior to the exposure (>80% *vs.* <40%). The authors suggest that the capacity to cold-harden may protect Monarchs against cold injury during diurnal changes in temperature. As has been noted in Mexico, external moisture on the exoskeleton significantly reduces the survival rate of the butterflies.

The September 1995 issue of "BioScience" will include a special article entitled "On the dangers of interpopulational transfers of Monarch butterflies". The paper, authored by 14 biologists from the U.S., England, and Australia who are all actively engaged in research on various aspects of the biology of butterflies, concludes that it is highly inadvisable to transfer and release living Monarchs (in any life history stage) between populations that are naturally separated from each other. Reasons cited include the spreading of disease and the mixing of genetically different populations.

Critics state that these concerns are not valid and that at a number of geographical locations the eastern and western populations do, in fact, meet. Such transfer experiments are useful in evaluating whether or not the direction of migration is innate (*ie.* genetically fixed) or determined by the butterflies from stimuli perceived in the external environment (terrestrial or extraterrestrial parameters). Further to this the critics state that this is simply another attempt by certain professional scientists to control investigations by amateurs.

Of note is that this writer participated in one of Dr. Urquhart's transfer experiments, shipping 900 pre-tagged Monarchs from Colborne, Ontario to Gibsons Landing, B.C. in 1972. Released individuals were later recovered in Washington, Oregon and California indicating that these particular butterflies had migrated from north to south.

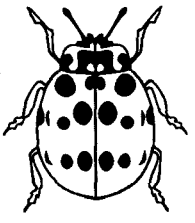
C.N.F. Ladybug Survey Ends

As part of the Canadian Nature Federation's Endangered Plants and Invertebrates in Canada Program (EPIC), the CNF Ladybug survey ends October 1, 1995. Those who took part in the survey are automatically entered into a draw for Peterson's Field Guides. The spring 1995 issue of "Nature Canada" contained the details, including a sample reporting card and colour illustrations of the various lady beetle species.

As members of the invertebrates, ladybugs belong to the "silent majority" - the 95% of all Canadian species that are not considered under current national conservation programs. The CNF has initiated several projects to conserve EPIC species, restore their habitat, and educate Canadian about their importance.

Steve Marshall, from the Department of Environmental Biology at the University of Guelph, and who contributed to this program, also wrote an article entitled "Ladybird, Fly Away Home" for the spring 1995 issue of "Seasons" magazine, which also included coloured photos of different ladybug species.

Don Davis



Harvester...*continued from page 4*

ness of my identification, I placed one larva along with a fresh alder leaf in a screened container and took it back to my cottage near Gravenhurst. The next morning I compared the larva to the various field guides and was satisfied with my original identification. To my surprise, the alder leaf was half consumed. The larva was then released on a convenient Speckled Alder shrub.

It would seen that, at least on some occasions, these larvae are not 100% carnivorous - perhaps the word "omnivorous" might be more appropriate in describing their diet.

George Bryant

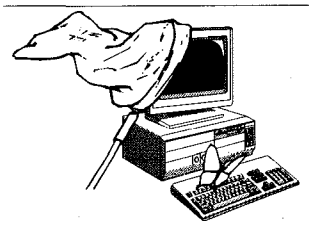
More Trips...*continued from pg. 11*

Field Trip
High Park, Toronto, July 9, 1995

Intermittent light showers with brief periods of sunshine, temperature about 18°C, 17 members and friends in attendance (I learned later that a half dozen waited in vain at the corner of High Park Ave. and Bloor St. and never did join the group). A total of nine butterflies species were seen:

Northern Cloudy Wing (*Thorybes pylades*), a few; European Skipper (*Thymelicus lineola*), a few; Northern Broken Dash (*Wallengrenia egeremet*), 1; Dun Skipper (*Euphyes vestris*), 1; Cabbage White (*Pieris rapae*), a few; Striped Hairstreak (*Satyrium lipaprops*), 1 very fresh (three other Hairstreaks were sighted but not netted for positive I.D. - they appeared to be *S. calanus* or *S. edwardsii*); Eastern Tailed Blue (*Everes comyntas*), 1; Little Wood Satyr (*Megisto cymela*), a few; Monarch (*Danaus plexippus*), no adults but 6 or 7 mature larvae were found on Common Milkweed (*Asclepias syriaca*). Four species of moths were also seen (list from Paul

continued on page 14...



The Insect NET

by Phil Schappert

No, it's not about catching insects! This is a regular column about the interesting places and information resources that are available for bug people on the Internet -- and there are more being created all the time. In future columns I'll discuss basics like obtaining an e-mail address, equipment needs, levels of access, and offer pointers to the most interesting places but in this inaugural column I'll simply list all of the available mail-lists which are specific to those with entomological interests.

Mail-lists are the easiest part of the 'Net. Subscribing to a mail-list brings the individual messages directly to your e-mail box where you can read 'em, reply or not (as the bug bites), save 'em for future reference, or discard them. The best description I can offer of a mail-list is that it's like being at a party - there are numerous conversations ("threads" in net-speak) all happening at once and you can choose to enter into any of them. The biggest difference is that you can "hear" all of the conversations, not just the one you're involved in, so if something else takes your fancy you can respond to it too. You can carry on multiple conversations at the same time! Or you can just listen ("lurk" in net-speak)...

If you have an e-mail address you can subscribe to any (or all!)of these mail-lists. Many thanks to L. B. Bjostad (Colorado State University) and J. K. VanDyk (Iowa State University) who compiled this list of lists.

ACAROLOGY: This list pertains to the Acari (mites and ticks). Subscribe by sending SUBSCRIBE ACAROLOGY (in the text part of the message) to listserver@nhm.ac.uk. This command must NOT be sent to the list address, acarology@nhm.ac.uk. Please remember NOT to add a signature to your message. Leave the list by sending UNSUBSCRIBE ACAROLOGY to listserver@nhm.ac.uk. Send a HELP command to listserver@nhm.ac.uk for information on listserver commands. The contact person for the list is Dr. Zhi-Qiang Zhang (Z.Zhang@nhm.ac.uk).

ARACHNID: To subscribe, send a message to majordomo@bga.com where Jane Doe is your real name and jdoe @anyplace.edu is your e-mail address. The first line of your message should read SUBSCRIBE ARACHNID JANE DOE JDOE@ANYPLACE.EDU and the last line of your message should contain the single word END.

ARACHNOLOGY: To subscribe, send a message to majordomo@ufsia.ac.be with SUBSCRIBE ARACHNOLOGY on one line and END on the next line.

BEE-L: This list provides a format for discussion of bee research and biology. Subjects include sociobiology, behavior, ecology, genetics, taxonomy, physiology, pollination, and many others. The contact person for the list is Mary Jo Orzech (mjo@brock1p.bitnet). To subscribe, send an e-mail message to listserv@uacsc2.albany.edu with body text consisting of SUBSCRIBE BEE-L JANE DOE where Jane Doe is your real name. You will receive further instructions from the listserver.

BOMBUS: is dedicated to bumblebees. To subscribe, send a message to bombus-request@csi.uottawa.ca. To send a message to everyone on the list, mail it to bombus@csi.uottawa.ca. The Bombus list is maintained by Chris Plowright (plowright@csi.uottawa.ca).

continued on next page...

The Net...*continued from previous page*

BUGNET: has been formed to meet the need for a "non-professional" entomology mailing list, i.e. to serve as a resource for teachers and bug enthusiasts to ask questions to professional entomologists. To subscribe, send an email message to listproc@listproc.wsu.edu with a blank subject line and body text consisting of SUBSCRIBE BUGNET JOHN DOE where John Doe is your real name. For messages to the subscribers, send to bugnet@listproc.wsu.edu.

DPLEX-L: is for use by teachers, researchers, students and others interested in the Monarch Watch and/or monarch biology. Contact Julie Ellis at jellis @kuhub.cc.ukans.edu for more information.

ENTNET: is maintained by the Entomological Society of America, and automatically provides weekly updates of the upcoming ESA Annual Meeting, complete texts of the table of contents of ESA journals that won't be published until three months later, listings of articles tentatively scheduled for journals that will not be printed for another five or six months, weekly electronic versions of the ESA Newsletter, and more. To subscribe, send a message to listmgr @entsoc.org with the single line SUBSCRIBE ENTNET YOUR-REAL-NAME YOUR-EMAIL-ADDRESS.

ENTOMO-L: is maintained at the University of Guelph in Canada, and pertains to entomology in general. To join the list, send an e-mail message with a blank subject line to listserv@uoguelph.ca with the text as follows: SUBSCRIBE ENTOMO-L YOUR-NAME (where your-name is your real name). You will then receive regular messages on entomological topics (usually about 5-10 per day) from other members in the group.

MOSQUITO-L: is for the discussion of topics related to mosquitoes (Diptera: Culicidae). Send an e-mail message to mosquito-l-request@iastate.edu with the word SUBSCRIBE in the body of the message (subject field will be ignored). If your e-mail program automatically adds your signature to the end of your message, put the word END on a separate line after the word subscribe. Once you are subscribed to Mosquito-L, sending a message to mosquito-l@iastate.edu will send your message to all the subscribers. If you prefer a digest version, send a message to mosquito-l-digest-request@iastate.edu in lieu of the above. The list is maintained by John VanDyk (jvandyk@iastate.edu) at Iowa State University.

MOTH@GYPSY: is a listserver that is dedicated to exchange of information about the gypsy moth world-wide. You can

continued on page 19...

More Trips...*continued from page 13*

McGaw): Sharp-lined Yellow (*Sicy macularia*); Chickweed Geometer (*Haematopsis grataria*); Large Lace-border (*Scopula limboundata*); Grape Leaffolder (*Desmia funeralis*).

Bill Edmonds

Field Trip
Branchton, July 23, 1995

We woke up Sunday morning to pouring rain in Toronto. We quickly turned on the weather channel to try to determine what the weather was like in Cambridge. Rain and thunderstorms were forecast. What should we do? Those who were coming that day started to phone us to find out if the trip was on or not. We hemmed and hawed and then decided to go on with the trip but to change the starting time to 11:30 instead of our intended 9:30. When we left Toronto it was raining, but as we neared Cambridge the rain stopped. By the time we all met at Tim Horton's, it seemed that the rain was gone, and by 4 pm the sky was a perfect blue.

There were 9 of us -- Nancy and myself, Paul McGaw, Caroline King, Quimby Hess, Jim Spottiswood, John Prideaux, Chris Rickard, and Charles Heller. We saw 34 species between 12 and 5 (much less than the 44 species that we saw last year), but the season had been a bit odd. Branchton is an old railway line. The ties were removed some years ago, and the pathway left goes through some different habitats, though not much forest. There are a few patches of boggy area that are home to many species, including the sedge skippers. Paul and Caroline pursued the moths and identified 10 of them. The following is a list of what we saw:

Alfalfa Sulphur (4); Cabbage Whites (10); Mustard White (6); Pearl Crescent (10); Question Mark (1); Great Spangled Fritillary (9); Bronze Copper (1); Acadian Hairstreak (11 including 2 mating pairs); Coral Hairstreak (1); Banded Hairstreak (3); Striped Hairstreak (1); Broadwing Skipper (37); Black Dash (21); Northern Broken Dash (1); Tawny Edged Skipper (2); Crossline Skipper (1); Silver Spotted Skipper (1); Peck's Skipper (1); Dun Skipper(3); Delaware Skipper (8); European Skipper (1); Dion Skipper (1 female); Common Sooty Wing (1); Northern Pearly Eye (2); Wood Nymph (4); Eyed Brown (10 including one mating pair); Spring Azure (4); Eastern Tailed Blue (4); Viceroy (2); Monarch (5); American Painted Lady (1); Baltimore (4); Eastern Black Swallowtail (3 + 1 larva on wild carrot); Tiger Swallowtail (2)

Hummingbird Clearwing; Forage Looper; Large Lace Border; European Corn Borer; Slant lined Owlet; Confused Eusarca; *Helvibotys helvialis*; Celery Looper; Reversed Haploa; Grape Leaffolder moth (*Desmia funeralis*)

Michael van der Poorten

The Bookworm

The Ontario Naturalized Garden: the complete guide to using native plants

by Lorraine Johnson (218pp.,B & W illustrations, 7½ x 9¼, Whitecap Books, (Toronto) Ltd. 1995, ISBN 1-55110-305-2, softcover, $18.95)

For anyone gardening with native plants or naturalizing their lawn or garden to attract birds, butterflies and other wildlife, this book is essential! If you are contemplating the creation of a natural woodland, meadow, prairie, wetland or pond habitat, Ms. Johnson will guide you there in a highly readable fashion.

I particularly enjoyed the chapter on the history of our changing attitudes towards "weeds" and the following chapter about that most dominant of North American weeds, lawn grass!

The most important section of the book may be the 75+ native plant listings with information on each species, its appearance, height, soil and light requirements, flower colour, habitat preference and even seed germination procedures for everything from Beardtongue to Woodland Sunflower.

For those who are primarily interested in attracting butterflies, moths or other insects I shall quote from the chapter on Attracting Wildlife: "...native plants are ideal for this purpose as they have evolved over thousands of years in association with butterflies - the symbiotic fit of butterfly mouth parts and corresponding nectar parts is truly incredible - and they have the perfumed nectar that has been bred out of many faintly scented hybrids..."

There is a useful list of nectar-producing native wildflowers and those which attract specific butterfly species for egg-laying, such as Turtlehead for the Baltimore Checkerspot. The author has also compiled one of the most comprehensive and useful resource sections I've seen - more than 35 pages of books, magazines and organizations related to ecology, naturalization, conservation, threatened species, plant propagation and, most importantly, a list of almost 50 native plant sources to begin **your** Ontario naturalized garden!

As an experienced native plant gardener of over a decade, I can highly recommend this book!

Paul McGaw

(Please note that Ms. Johnson will be our speaker for the November 25th meeting and that she will have copies of her book for sale at that time - Ed.)

Alberta Butterflies

by C.D. Bird, G.J. Hilchie, N.G. Kondla, E.M. Pike and F.A.H. Sperling (347pp., numerous colour photographs and illustrations, 8½ x 11, The Provincial Museum of Alberta, Edmonton, Alberta. 1995, ISBN 0-7732-1672, hardcover, $44.95 + $4.36 shipping in Canada + G.S.T. Available from Federation of Alberta Naturalists, Box 1472, Edmonton, Alberta, T5J 2N5, 403-453-8629, fax: 403-453-8553)

This is a finely crafted publication which is packaged in an attractive jacket illustrated by a colour plate of a Spring Azure as photographed by John Acorn, a well-known Alberta Naturalist and TV nature show producer and star, who is the author of the field guide, The Butterflies of Alberta, published in 1993 by Lone Pine Publishing of Edmonton, Alberta.

Alberta Butterflies has eight chapters. Chapter 1 has eight sections which cover Butterfly Study in Alberta, Biographical History of Butterfly Study in Alberta, Butterfly Habitat in Alberta, Evolution, Life History, Ecology, Behaviour, and Butterfly Gardening in Alberta. Chapters 2 through 8 are dedicated to each butterfly family that occurs in Alberta. There is also a checklist of Alberta Butterflies.

I was particularly impressed with the photographic identification keys provided for each of the families. In my opinion these break new ground in the way that keys are presented. Each of the 176 species of butterflies recorded in the province is given complete and thorough coverage including colour illustrations of the adults, the hostplants, an occurrence map and a North American range map.

The authors impress me as being more up-to-date in their nomenclature than any other similar publication that I am aware of. For example, they show the Northern Pearl Crescent as *Phyciodes cocyta* (Cramer)(1777) and clarified the differences between it and *P. tharos*. This book is recommended.

Quimby F. Hess

More Book Reviews on page 18...

Graduate Student Research in Entomology: April 22, 1995 Symposium Abstracts

FEMALE QUALITY AND MATE CHOICE IN THE FIELD CRICKET, *GRYLLUS INTEGER*. Allen D. MacDougall*, Anne-Marie Murray, and William H. Cade (Dept. of Biology, Brock University).

Female crickets respond selectively to variations in species-specific male calling songs. This selectivity has been shown to be age-dependent; older females are less choosy. However, female quality should also affect female selectivity. The effect of female quality on mate choice was examined in *Gryllus integer* by comparing the phonotactic responses of females on different diets and with different parasite loads to various synthetic models of conspecific calling song. Test females were virgin, 11-14 days old, and had been maintained on one of five diets varying in protein and fat content. Phonotaxis was quantified using a non-compensating Kugel treadmill which generates vector scores incorporating the speed and direction of movement of each female. Test females were presented with four calling song models which differed in pulse rate but were still within the natural range of the species for the experimental temperature. After testing, females were dissected and the number of gregarine parasites within the digestive tract counted.

Females discriminated among song types preferring lower to higher pulse rates. This selectivity was apparent in all dietary groups and did not differ significantly among groups. Highly parasitized females preferred the extreme lower pulse rate over the extreme higher pulse rate, irrespective of diet treatment. However, there was no significant relationship between selectivity and the interaction between diet and parasite load on female phonotaxis. These results are discussed in terms of sexual selection and female mate choice.

OLD GROWTH WHITE PINE -- ANT ASSOCIATIONS. Leigh Ann Walton* and Sandy Smith (Faculty of Forestry, University of Toronto)

The ecology of ants in white pine (*Pinus strobus*) forests is currently being studied. The purpose of this study is to answer three basic questions concerning the ecology of ants: (1) Is there a difference in ants between different regions in Ontario? (2) If the forest is old, are ants associated with white pine different than those associated with other forest types? (3) Are there differences in ants between mature and over-mature white pine stands?

A preliminary survey took place in July and August of 1994, using pitfall traps and baitboards as methods of sampling. Forty-five plots in three site regions of Ontario were selected, with approximately one third of the plots being over-mature ("old-growth") white pine, one third being mature white pine, and the remaining third being mature forests of other species composition. Pitfall catches have been tabulated, and significant results have been found between location and/or type of forest, for various ant species.

Using the preliminary study as a foundation, a more intensive study will take place during the summer of 1995. Ants will be looked at from an ecological slant. Ant colonies, and foraging patterns, in addition to species abundance and diversity, will be looked at.

GENERALISTS VS. SPECIALISTS: THE EFFECT OF AGRICULTURAL VS. BOREAL FOREST ENVIRONMENTS ON THE ABUNDANCE AND DIVERSITY OF SPRUCE BUDWORM (*CHORISTONEURA FUMIFERA* CLEMENS) PARASITOIDS. Brad Henry* (Department of Environmental Biology, University of Guelph)

Studies in New Brunswick, the Gaspe-Ste. Lawrence region of Quebec, Maine and Northern Ontario have delineated the parasitoid complex which attacks the spruce budworm in a boreal forest environment. To date, no study has examined the parasitoid complex in white spruce, *Picea glauca* (Moench) Voss., plantations in southern Ontario, or plantations in agricultural landscapes. Several differences were found in the relative abundance of parasitoids collected. Specific parasitoids, *Apanteles fumiferanae* (Viers) and *Glypta fumiferanae* (Vier.), which accounted for 15-30% and 10-15% of larval mortality, respectively, in other regions, accounted for a combined rate of less than 10% in the plantations. *Itoplectis conquisitor* (Say.), which attacks a variety of Lepidopteran hosts and accounts for 1-8% of pupal mortality in other regions, accounted for 23% of pupal mortality in the plantations. The concept of "generalist" parasitoids being more dominant than specific parasitoids will be discussed.

POPULATION STRUCTURE OF A NON-RAINFOREST NEOTROPICAL BUTTERFLY, *EUPTOIETA HEGESIA* (NYMPHALIDAE): HOSTPLANTS OR PREDATORS? Phil Schappert* and Joel Shore (Department of Biology, York University, North York)

Population studies of non-rainforest tropical butterflies are unusually rare. A study of *Euptoieta hegesia* L. (Nymphalidae), a coastal lowland species which utilizes a hostplant with discrete populations, was undertaken to address two questions: 1) How vagile is the butterfly population with respect to the discrete nature of its primary hostplant populations? and 2) What factors limit the size of the butterfly population? Mark-release-recapture (MRR) studies, using a modified Bailey's Triple Catch design, were conducted at one large and two small hostplant populations on the north coast of Jamaica.

Additional data collected at the time of marking included sex, age (*ie.* wing wear), forewing length, and wing damage and damage symmetry. A survey of available hostplants at the large study site revealed that hosts were extremely under-utilized. Subsequent analysis of the MRR data showed that females suffered significantly more damage than males and that the damage sustained tended to be symmetrical suggesting that ground-based predation of females may be a factor limiting this species' population size. This suggestion is at odds with findings of studies on rainforest species showing that host availability and aerial predators are important factors controlling butterfly population size.

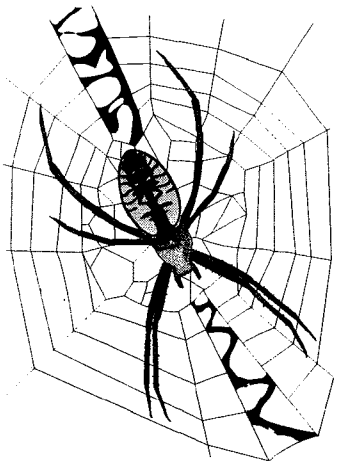
THE USE OF TERMITES FOR THE BIOCONVERSION OF LIGNOCELLULOSE AND AGRICULTURAL WASTES TO ANIMAL BIOMASS. Ralph Toninger* (Urban Entomology, Faculty of Forestry, University of Toronto)

As our population continues to grow two important considerations arise: the increase in the amount of waste produced, and the increased demand on our food production systems. The utilization of termites for the bioconversion of waste lignocellulose is able to address both these problems. Therefore the objective of the proposed research, is to assess the feasibility, and develop a protocol for termite mediated bioconversion of lignocellulosic wastes to animal biomass. The proposal is centered around five points: 1. humanity produces huge amounts of lignocellulosic waste, 2. termites are able to efficiently convert lignocellulosic material to animal biomass, 3. a termite production system can potentially reduce the amount of lignocellulosic wastes needing disposal, 4. the production system may generate useful byproducts, and 5. the resulting termite biomass can potentially be utilized as a food source for aquiculture.

SPERMATHECAL CHAMBER AND COLONY SIZE VARIATION IN HALICTID BEES. Noel Pabalan* and Laurence Packer (Department of Biology, York University, North York)

Spermathecal chamber size, expressed as CVI, and colony size were compared among halictine bees ranging from solitary to primitively eusocial species using phylogenetic independent contrasts. The hypothesis that chamber size increases with eusociality was tested. Extant phylogeneis based on allozyme data, social behaviour and nest architecture were used to map data of the two characters. Comparison of 14 species in two genera and five subgenera of halictine bees resulted in seven independent contrasts, three for *Halictus* and four for *Lasioglossum*, the latter genus showing a greater range in CVI and colony size than the former. There was a significant tendency for elevation in CVI to be associated with increases in colony size, and vice versa. This positive correlation rejects the hypothesis that the species level correlation is wholly due to phylogenetic similarity in these two characters.

Spiders! At the R.O.M.



An exhibition about spiders spins through the Royal Ontario Museum from October 22, 1995 through January 14, 1996. Live spiders, freeze-dried spiders in simulated settings, models, videos, interactive games and photographs set the facts straight about these often misunderstood creatures. Organized by the Smithsonian Institution's National Museum of Natural History, this traveling exhibition makes its only Canadian stop at the ROM.

Spiders! addresses a web-full of topics such as how these creatures protect themselves through camouflage, reproduce the next generation of spiderlings, use poison to capture prey, and develop different web-weaving strategies. The show also explores the many ways spiders have influenced humans through myths and popular culture and how they benefit the environment.

Visitors will enjoy weaving their way through the section on complex courtship rituals. A series of interactive displays help children experience for themselves what *life on the line* is like. One display uses a system of vibratory cords to duplicate what a spider feels when an insect lands on its web. The cords duplicate the hairs spiders use as sensory organs instead of their generally nearsighted eyes. An interactive computer game allows kids to weave their own webs.

The show also reveals how spiders have been portrayed in different cultures such as Navajo legends, Korean myths, Afro-American folktales and The Holy Scriptures according to the Masoretic Text.

"In addition to the sheer awe and wonder of the remarkable lives of spiders, visitors will also leave the exhibition with a much better appreciation of the important roles spiders play in all terrestrial ecosystems," says ROM Entomologist Dr. Chris Darling. "Most spiders are predators -- feeding on insects and other arthropods -- and they in turn are the food for larger insects, lizards, frogs, birds and mammals. But because they are generally small and secretive, spiders essential roles in structuring food chains often goes unnoticed."

Spiders! is included with Museum admission which is $8 for adults; $4 for seniors, students, and children; and $16 for family groups. For 24-hour information in English and French, call (416) 586-8000.

Book Reviews...*continued from page 15*

Broadsides from the Other Orders: a book of bugs

by Sue Hubbell. 1993. Random House of Canada Limited, Toronto. xx + 276 pages with black & white illustrations by Dimitry Schidlovsky. Hardbound. ISBN 0-679-40062-1. ($29.00 in Canada).

The author was a bookstore manager and librarian before becoming a beekeeper, which she has called "farming for intellectuals", and has written two previous volumes entitled "A Country Year" and "A Book of Bees". The chapters in the current work each deal with one or more members of a particular insect order, for example, the chapter on the order Coleoptera deals with Ladybugs. Each chapter is a mixture of scientific fact and anecdotes on the subject. The ladybug chapter, for instance, contains a great deal of information on the "ladybug business" in the United States - ladybug hunting and harvesting, processing and marketing across the country. The chapter ends with a waitress in a Sacramento restaurant asking the author what she was doing in town. On being told she was taking in the ladybug harvest in the mountains, the waitress said "Oooh, Ladybugs, I just love to see 'em in my garden. What are they supposed to do anyway?"

Alan J. Hanks

Bugs in the System: insects and their impact on human affairs

by May R. Berenbaum. 1995. Addison-Wesley Publishing Company. xiii + 377 pages with a few black & white illustrations. Hardbound. ISBN 0-201-62499-0. ($31.95 in Canada).

The author is currently Head of the Entomology Department at the University of Illinois and was elected in 1994 to the National Academy of Sciences, the highest honour that the U.S. can bestow on an American scientist. She has written an extremely interesting book covering many aspects of the insect world and the impact of insects on humanity. There are chapters on classification, physiology, behaviour, social lives, eating insects, parasites, insects and people and appreciating insects. The latter chapter contains sections on "bugs on the big screen" and "collecting insects for fun and profit". Most of the chapters and subsections are prefaced by quotes from literature which I found most enlightening. There is a great deal of historical information and each chapter has a list of references, which are extremely useful for anyone wishing to pursue a particular aspect of insect behaviour.

Alan J. Hanks

Upcoming Issues of Ontario Insects

Common Names: how common are they?

More Butterfly Count reports

Karner Blue Recovery Team: status reports

Regional Checklists

more columns, more puzzles, more book reviews, in fact, more of everything!

The Entomological Society of Ontario

132nd Annual General Meeting:

Biotechnology, Biodiversity and Biocontrol

September 22-24, 1995

Holiday Inn

Market Square

350 Dalhousie Street

Ottawa, Ontario

Contact Dr. Jean Hollebone (Chair) at 613-952-8000, ext. 4316 for further info.

Why not consider joining the E.S.O. , it's free for amateurs, $10 for students and $20 for professionals. For an application and more information, contact:

D. Barry Lyons, Secretary, E.S.O.,
P.O. Box 490, 1219 Queen St. E.,
Natural Resources Canada, Canadian Forest Service - Ontario Region,
Sault Ste. Marie, Ont.,
P6A 5M7,
705-949-9461, Fax: 705-759-5700.

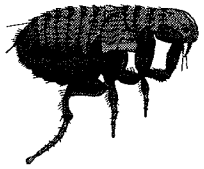
Are you an Odonata watcher? If you've got records for Odonata in Ontario for the past year (or before even!) then please send them to Bob Bowles at: 374 Grenville Ave., Orillia, Ontario, L3V 7P7, phone/fax: 705-325-3149

What's the best way to prevent infections caused by biting insects?

Don't bite any insects!

We need your artwork!

Submission deadlines for the coming January and May issues of Ontario Insects are Dec. 15, 1995 and April 15, 1996 respectively.



The Flea Market

The Net...*continued from page 14*

subscribe by sending a message to listserv@gypsy.fsl.wvnet.edu with SUBSCRIBE MOTH YOUR NAME in the body of the message. Alternatively, if your WWW browser has forms support, you can subscribe at http://gypsy.fsl.wvnet.edu/~sandy/subscribe.html.

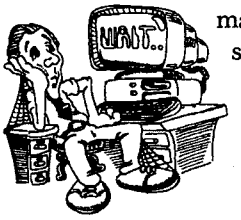
NEUROPTERA-L: is a list server for lacewings, alder flies, snake flies, mantis flies, ant-lions, and their kin. To subscribe, contact majordomo@cardiff.ac.uk and send the message SUBSCRIBE NEUROPTERA-L. The list is maintained by Peter McEwen (sabpkm1@cardiff.ac.uk).

PARAHYM: is dedicated to all aspects of the study of parasitic Hymenoptera. Subscribe by sending SUBSCRIBE PARAHYM (in the text part of the message) to listserver@nhm.ac.uk. This command must not be sent to the list address parahym@nhm.ac.uk. Please remember not to add a signature to your message. Leave the list by sending UNSUBSCRIBE PARAHYM to listserver@nhm.ac.uk. Send a HELP command to listserver@nhm.ac.uk for information on listserver commands. For more information on this list, contact John Noyes (jsn@nhm.ac.uk) or John LaSalle (jl@nhm.ac.uk).

SIMULIIDAE: is maintained by the British Simuliid Group (BSG). Join by sending email to mailbase@mailbase.ac.uk, with the message JOIN SIMULIIDAE YOUR-FIRSTNAME(S) LASTNAME STOP. You can email T.R. Williams at sp36@liv.ac.uk for more information.

SOCINSCT: is available for discussion about social insects. Computerized administrator: listserv@uacsc2.albany.edu, Human administrator: socinsct-request@uacsc2.albany.edu, To send mail to the group write to: socinsct@uacsc2.albany.edu.

I'd like to hear your comments, ideas, suggestions, complaints, questions, etc. about this column, the internet in general and how it can be of use to you, so send them on in. My addresses, both surface and electronic, are listed in the masthead on the inside cover.



See you online!

TEA Public Relations and Education Activities Report '95

Over the past season the TEA has taken advantage of a number of opportunities to educate members of the general public about, and to generally promote, insects. Of course, doing so not only serves to promote entomology to those who are most in need of a change in viewpoint, it also publicizes the club, gets our name out there so that people know that the organization exists (you might be surprised how often I meet people with a professed love of insects who have never heard of the TEA) and allows us to recruit new members. I'd especially like to thank the volunteers who participated in these activities on behalf of the TEA - without them our Association would be much poorer - Don Davis, John Eberlie, Alan & Barbara Hanks, Quimby Hess, Tony Holmes (who built display boards for the club in time for the FON Conference), Carolyn King, Paul McGaw, Michael & Nancy van der Poorten, Pat Schappert, and Richard Tanner. Thank you, all!

Wildlife: Yours to Recover

Kortright Centre, April 9, 1995

Pat & I manned the table at this one. Kortright loaned us a self-contained slide projector on which we showed various and sundry insects from the collections of Alan Hanks and myself. Half of my entomology library and my one and only drawer of insects made the trip - the specimens and slides were a big hit with the kids.

National Wildlife Week at the Royal Ontario Museum

R.O.M., Toronto, April 14-16, 1995

The whole crew managed this one since it covered an entire weekend, Good Friday through Easter Sunday. Our table was upstairs with the Flying Colours exhibit and the other wildlife groups (Herps., Birds and Bats, respectively). Part of Alan's educational collection (matched specimens of Ontario butterflies which show the upper and under side of the wings) was on show, along with the slide show we'd used the previous weekend (Thanks to the ROM for providing a self-contained slide projector). Once again the kids made the whole thing worthwhile - there's nothing like the look on the face of a child when they see insects (it's a pity, for the most part, that they have parents).

Federation of Ontario Naturalists Annual General Meeting and Conference

Trent University, Peterborough, May 26-28, 1995

Don Davis picked up, transported, and set-up the display panels that had been made by Tony Holmes. Both Don and then John Eberlie manned the table for awhile, John complete with live summer breeding stock. Don also dismantled and transported the display back from Peterborough. Thanks guys!

The History of Butterflies and Moths

Bramalea City Centre, Brampton, May 29 - june24, 1995

This was a "travelling" exhibit of specimens from the John Powers "Flying Jewels" collection together with poster boards from the Eyewitness Book "Butterfly and Moth". Sponsored by the Bramalea City Centre Merchants' Association and Stoddart Publishing, Alan and I were hired to act as "experts" on weekends during the exhibit. It was a massive display - eight display cabinets of beautiful specimens (each with 2 to 4 display drawers of specimens) and 18 large display panels - spread out along the main mall. I even got to appear on "Breakfast Television" with CITY-TV's lovely (and talented) Ann Rohmer! This was a paying gig (I guess this makes us professionals, eh?!), and Alan and I have donated $109.00 from our earnings to the TEA. Thanks to Dan Stuckey at Kortright for passing along the information about this exhibit.

Bugs are Beautiful

Bronte Creek Provincial Park, Oakville, July 22-23, 1995

We were contacted by the naturalist at Bronte Ck. Prov. Pk. about this weekend while Alan was away on holidays. Thanks to Cathy Hanks, I found out about it, however, it was too late to arrange a display. In lieu of a display, the TEA donated a copy of The Ontario Butterfly Atlas, as well as the past two years' Summaries, to the Park. Maybe next year...

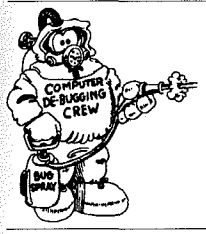
Phil Schappert

Beautiful Butterflies at Scanlon Creek

Scanlon Creek Conservation Area, Aug. 11, 1995

On August 11th, Richard Tanner and I gave a combined field walk and slide show on the butterflies of Ontario at the Scanlon Creek Conservation Area just north of Bradford. Unfortunately, the program was scheduled to begin at 7 p.m. and only one butterfly, an Inornate Ringlet, was caught by Alan to show to the participants. However, the slides and commentary which Richard had prepared were well received by the audience. The building was not air conditioned, and it was *very* hot, despite this, many of the audience stayed after the slides and posed questions to the two "experts". Refreshments were provided by local volunteers, and the cool soft drinks were very popular. This rewarding experience might benefit from some publicity to encourage other conservation areas to put on similar programs.

Alan Hanks



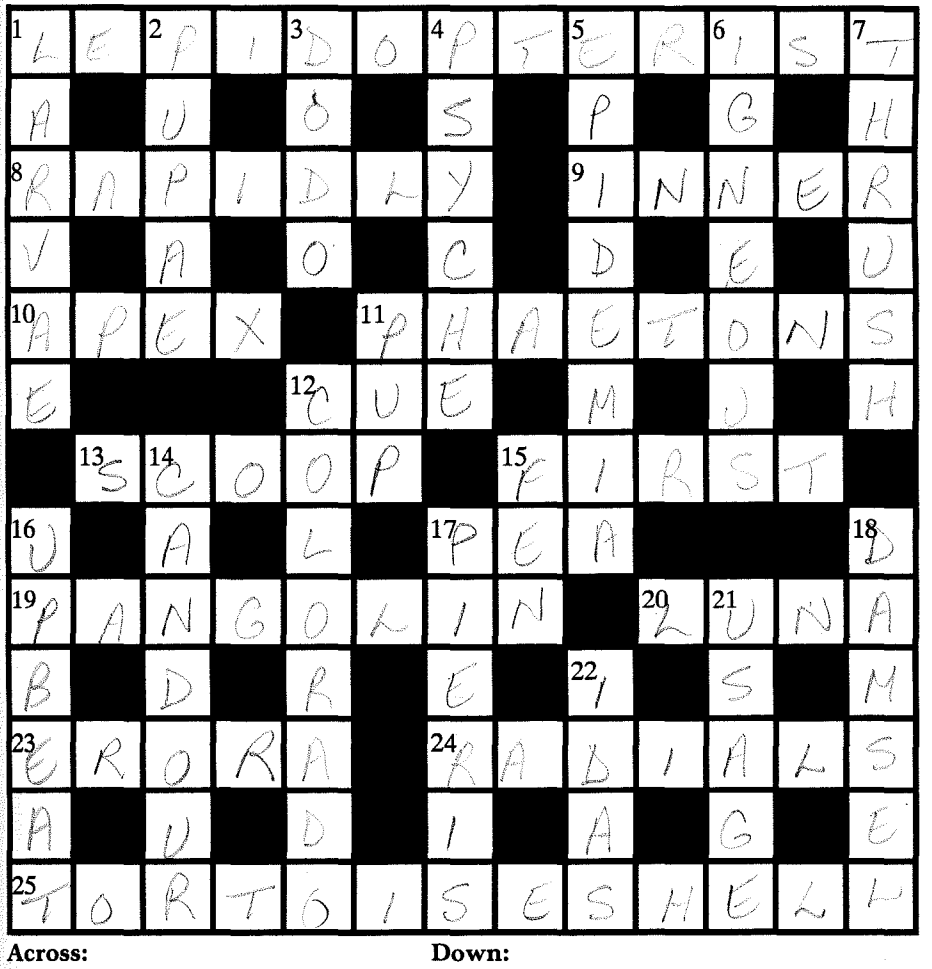
Don't Bug Me!

Puzzles, etc.

This month by John Eberlie

An Entomological Crossword

(Answer next issue)



Across:

1. The compiler is one.
8. How skippers fly.
9. A margin of butterfly's hindwing.
10. Part of a moth's forewing.
11. Ancient carriages or *Euphydryas* in plural.
12. Actor's tip or billiard ___.
13. A digger in the kitchen.
15. This instar may provide useful evolutionary information.
17. Legumes eaten by many larvae.
19. A South American mammal.
20. Species of showy Ontario moth.
23. 1 sp. butterfly genus in Ontario.
24. Certain lepidopteran wing veins.
25. Nymph. common name...or cats.

Down:

1. Immature lepidoptera.
2. Ditto.
3. An extinct bird.
4. The soul (Gr.) or symbol of the butterfly
5. Genus of coppers.
6. Descriptive of volcanic rock.
7. Type of bird that eats larvae.
11. Young of 19 across.
12. State of notorious beetle fame.
14. Openness.
15. A wetland habitat.
16. Cheerful.
17. Old name of butterfly genus.
18. ____fly, Odonata.
21. Customary practice.
22. Species of holarctic blue.

Notice to Contributors

Instructions to Authors

Contributions to **Ontario Insects** may address any subject or aspect related to entomological study. Research papers, feature articles, notes or short communications, book reviews, original artwork, puzzles, guest columns, opinions and miscellaneous notes are acceptable. Research papers may include original research or scholarly reviews that follow the acceptable format of a similar content journal (eg: Introduction, Materials and Methods, Results, Discussion, Summary). Feature articles should be both informative & entertaining, thus format is left up to the author. Notes or short communications may be observational, historical, review or experimental studies which do not fall under the purvue of research papers. Book reviews should be of titles published within the last three years. Puzzles should be original. Guest columns for Entomophilia may encompass any subject related to the love of insects. Opinions may take the form of letters to the editor, feature articles, or short communications. Miscellaneous notes encompass any other submission. Original artwork should be line drawings in pen and ink or a good photocopy of colour works.

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Any submissions are encouraged, however, submissions of articles and/or artwork on disk (any format) would be welcome. Submissions *via* e-mail are also welcome. Please forward all submissions and questions to the editors (see inside cover for addresses). There are no page charges, however, submissions from non-members will require a membership purchase prior to publication. Offprints are available at cost + 10% + postage.