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LIVING

Light it up and go mothing

More than 1,000 species of moths in Kawarathas . . . and they're easy to watch

In the realm of nature observation, pursuing birds or butterflies usually demands a certain amount of effort, unless, of course, you limit your viewing to the backyard feeder or garden. However, there is a another form of enjoying nature that might appeal to even the most sedentary of us. The increasingly popular pursuit of moth-watching (or mothing) often requires no more effort than leaving the porch light on in the evening and checking periodically to see what is clinging to the screen door!

Drew Monkman
OUR CHANGING SEASONS

With more than 10,000 species in North America and well over 1,000 just in the Kawarthas, moths offer endless options for study, photography, and fun. In fact, July 23 to 29 is the first ever National Moth Week. Moths can be found everywhere from inner cities and suburban backyards, to the most wild and remote places. The diversity of these insects is simply astounding. Their colours and patterns range from bright and dazzling to so cryptic that they are the very definition of the word camouflage. Moth shapes and sizes span the gamut, with some as small as a pinhead and others as large as a hand.

One highlight of the moth watcher's calendar in the Kawarthas is the appearance of the spectacular giant silk moths in late May. From the bright yellow of the male Io and the delicate green of the luna, to the bold eye-like markings of the polyphemus and the palm size wingspan of the cecropia, these moths are truly exceptional in their proportions, colour and patterning. Another much anticipated occurrence is when the underwing moths start flying in mid-summer. Unassuming at first glance, these moths of the genus Catocala are called underwings because of the incredible contrast between the nondescript forewings and the bright, usually colourful, under or hindwings. In many species, the underwings are boldly marked with black bands on an orange or yellow background. When the forewings close, however, the insect effectively "disappears."

WICKIMEDIA photos

Among the wide variety of species mothwatchers in the Kawarthas can expect to see are the cecropia (centre) and (clockwise from top left) rosy maple moth, catocala adultera and eastern tent caterpillar moth.

MOTH OR BUTTERFLY?

Distinguishing between moths and butterflies is fairly straightforward. Butterflies have club-like knobs on the ends of the antennae and usually perch with their wings held upwards. Moths, on the other hand, perch with their wings outspread and have antennae that closely resemble bird feathers. The male moth's antennae are much larger than those of the female. Unlike butteflies, most moths are nocturnal. Only a handful of moth species are active during the day. One species, the hummingbird clearwing moth, closely resembles a small hummingbird. It is most often seen nectaring at flowers.

In much the way that one's birdwatching experience is vastly improved by having a pair of binoculars, a minimum of equipment will add immensely to your enjoyment of moths. According to Seabrooke Leckie, author of the new Peterson Field Guide to Moths of Northeastern North America, you should purchase a lightbulb that projects light in the UV spectrum such as a black light CFL bulb. A more expensive but much more effective option is a sodium or mercury vapour bulb. They produce a very bright light and can attract a lot more moths. The light bulb should be set up in front of a smooth surface that reflects the light and provides a surface for the moths to land on. A white cotton sheet hung from a wall or suspended from a clothesline works well. A flashlight or headlamp is helpful when checking the sheet.

Some moths are nectar feeders and will come to a sugar bait such as overripe bananas. A slightly more complicated bait mixture calls for one overripe banana, a dollop of molasses, a scoop of brown sugar and a glug or two of beer. Mix the ingredients using a blender. Spread the concoction on a tree trunk, a hanging rope or even a suspended tennis ball. You will, of course, need to check the bait regularly to see what has been attracted. With any luck, underwing moths will show up.

PHOTO TIPS

A lot of the fun in mothing comes from photographing the moths and then identifying them using a website or a book such as the new Peterson guide. A camera often captures details that the human eye might miss and does away with the need to collect specimens. A basic point-and-shoot camera can produce good results but be aware that using the flash can sometimes create washed-out images. A way to get around the flash problem is to carefully catch the moth in a small container, put it in the fridge overnight and take a picture of it the following morning using natural light and a pleasing background such as a leaf, bark or even graph paper (a useful size reference). Use the macro setting on your camera. In order to reduce the vibration caused from pressing the shutter, you may wish to try using the two-second delay feature that most cameras have. Mounting your camera on a tripod will provide even crisper images.

MOTH IDENTIFICATION

Unfortunately, moth identification is not always easy. It can take several years before most moth enthusiasts feel comfortable with even the local species. Don't let this discourage you, however. Start by focusing your efforts on the larger moths, the species you see the most of on a given night and those that stand out from the rest because of their distinctive colours or markings (e.g., silk moths). Time spent simply flipping through your field guide is helpful, too.

The following steps in identification may be useful for someone like myself who is just getting started in mothing:

1. Make sure that the moth-like insect is indeed a moth and not a butterfly (see above).

2. How large is it? Size is very important in identification

3. How does it hold its wings when at rest? Are they spread out to the side or tent-like over its back? The former is probably a moth in the family Geometridae while the latter likely belongs to the family Noctuidae.

4. Once you have a rough idea of what family the moth might belong to, look more closely at the patterns on the wings and try to compare these to the photographs on a website or in a field guide. All of the markings actually have names, based on where they occur on the wings. Try to eventually learn these names.

5. Consider the time of year. Like butterflies, the moths you see change, given the season. Some species fly only in the spring, some are encountered in summer while others are most common in the fall. Knowing the flight period will help to further narrow down what species or genus you are dealing with.

6. If you have a field guide such as the new Peterson guide, look at the range maps and make sure the species does occur in your area. Be aware, however, that these maps are "guesstimates" in some cases, given the lack of information on the range of some species.

7. Check the type of host plant (larval food plant) the moth requires. If, for example, the species lays its eggs on tamarack trees and there are none in your area, you might be able to discount it.

8. The last important factor to consider is the species' abundance. Common species are encountered more often than rare ones!

Don't expect to be able to identify every moth you see. Some species show considerable variation between individuals; some have multiple colour patterns; some show a huge difference between males and females; and in others, the wings may be so badly worn that identification becomes impossible.

CONSERVATION

Unlike birds and mammals, science knows relatively little about moths, or insects in general for that matter. Much about them awaits discovery, including undescribed species new to science. This makes moths an exciting group of organisms to study. Part of the reason for the present lack of knowledge is that there are relatively few moth monitoring programs in Canada and the U.S. A popular citizen science moth project called the National Moth Recording Scheme does exist in the United Kingdom, however. This project, along with the availability of several excellent field guides, has made mothing a popular activity in the U.K. and provided over eight million site records. In Canada, however, we know very little about the distribution of many moth species. This is also true of the Kawarthas. By photographing and identifying the moths that come to your yard, you could potentially be contributing new information to science. It may be a new species to Peterborough County or a record-early date for a given species. The more we know, the better able we are to conserve moths. There is already concern that some species may be in decline, as are many species of flying insects in general. Why this is happening is poorly understood, but the steep drop in the number of birds that feed on flying insects tells us that something is seriously wrong.

SUBMIT YOUR PHOTOS

A website called Discover Life at http://www.discoverlife.org/sc/201207nmw/ is inviting people to submit photos of moths. According to the website, "Discover Life is providing photographic albums to participants in National Moth Week so that we can easily share observations and compare findings across sites. We invite everyone to help scientists survey moths around the world. Participants can use digital cameras and follow a simple research protocol to collect high-quality data. We will integrate our collective results with other data and then compare the diversity and seasonality of species across sites." This website also provides a great deal of information on mothing in general.

Two other excellent moth websites for identification purposes are BugGuide at www.bugguide.net and the Moth Photographers Group at http://mothphotographersgroup.msstate.edu/ You can also get a quick idea of how attracting moths to a light and sheet works by going to "mothing at the cabin" on YouTube.

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