



Lowell Elementary Flagship Program's After-school Bug Club



Girl Scout Troop #3568 (Lolo, MT)

The Buzz

Unlike much of the insect world here in western Montana, the past months have been anything but dormant for the Missoula Butterfly House and Insectarium. We've been conducting insect education programs with our bug ambassadors, beginning the exciting conceptualization process for the layout and design of our facility, building and strengthening partnerships, and focusing on our long-term plans.

With the days growing longer and winter's grip on the land beginning to weaken, insect activity is ready to shift into high gear. And so is the Butterfly House. In the months ahead, we will provide a host of opportunities for you to join us at events. We'll continue fleshing out the design vision for our facility. And we'll focus on what we hope will be the final stages

of our search for a location. Keep your eyes and ears open for details.

As expected, the process of moving our vision for a tropical butterfly house and insect museum forward has not been easy. It's obvious that it won't happen overnight. Much work remains ahead. But to see the expression of amazement on the face of someone that sees a giant millipede for the first time, holds a hissing cockroach, or is in awe of a scorpion's color transformation under a black light inspires us. These experiences open the door to an entirely new world that is largely misunderstood and overlooked. And the best part ... this is *barely* the tip of the iceberg. I look forward to exploring this fascinating world with you in the months and years ahead!

Donate Today!

Help us create the experience.
www.missoulabutterflyhouse.org

Connect Today!



Missoula Butterfly House

Seeing the Vision

"During my service as Missoula's mayor, I've come to believe that we have more dreamers per capita than any other place in the West. Interestingly enough, many of those dreamers turn out to be visionaries, folks who turn ideas into action all for the benefit of the community. Jen Marangelo's dream of a butterfly house in Missoula is becoming a vision and I have no doubt that vision will become a reality we'll all enjoy, another thread in the rich tapestry that is our place."

- Mayor John Engen, Missoula

Our Mission

The mission of the Missoula Butterfly House and Insectarium is to promote an appreciation and understanding of insects and their relatives in the Animal Kingdom through public education and the development of an invertebrate education facility.





Mourning Cloak Butterfly
(*Nymphalis antiopa*)

Insect In-Sight:

When you think of the many hardy wildlife species that endure Montana's long winters, you probably don't think of butterflies. While the majority of our butterflies spend winter in the egg stage, as a chrysalid, or by seeking warmer climes, a number of species overwinter as adults. The Mourning Cloak - Montana's state butterfly - is well known for this remarkable feat, but this strategy is also employed by other butterflies, including anglewings, commas, and tortoiseshells.

The Mourning Cloak over-winters in a semi-frozen state called "crypto preservation" by creating an antifreeze-like substance (such as glycerol or sorbitol) in its hemolymph (akin to our blood). They spend the winter sheltered under bark, in tree cavities, in log piles, and other places where they are protected from the elements.

Feeding primarily on sap, the adults emerge as soon as the sap begins to flow and are among the first butterflies to be seen on warm days in late winter and early spring. After mating, the female will lay clusters of eggs around twigs of their preferred food source, which includes willow, cottonwood, and rose. When the eggs hatch, the caterpillars will begin this 10-month lifecycle over again. That's a long life for a butterfly!

Kids Corner: Observing Spring. Spring into Action:



Indian Dead Leaf Butterfly
Future resident of the
Missoula Butterfly House.
(photo by Andy Wilson)

Ah, Spring! Time for the bulbs to start blooming and the bees to start buzzing! Once again we're reminded about the cycle of life - how and when plants and animals come back into our lives. Scientists actually study the timing of important life cycle events, such as flowering, leafing, reproduction, emergence, and migration. They investigate phenology - literally "the science of appearance." And you can be a scientist and investigate phenology, too!

Studying phenology requires time - lots of it. Pick a couple organisms you are interested in following. They can be anything - tulips, lilacs, butterflies, mason bees. Choose a location to study your organism. It can be your backyard, or anywhere you can go over and over - because you have to make observations every

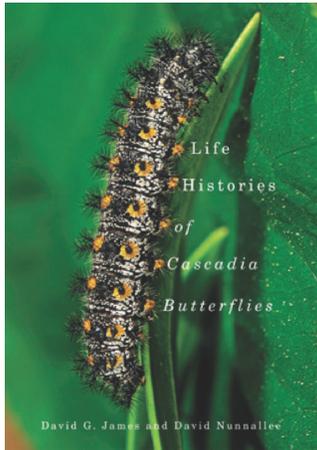
day. You'll also need data sheets - pieces of paper where you can write down when you are making your observations and everything you are observing.

For example, if you are watching tulips, note when you can first see the leaves emerging from the soil. Then record when the first flower opens. You also can record how long the flowers are available to pollinators. You can track when your lilac starts to bloom, when you see the first leaves emerge from an apple tree, when you see your first Mourning Cloak. Mason bees can be particularly fun to observe because you can see so much of their life cycle in your own backyard.

To really find patterns in all of these observations, you have to record information every spring. But, you *will* see things change from year to year! Remember Spring 2011? It was so cool and wet. This spring may be very different. How do you think the timing of life cycle events might change? What information could you record on your data sheets to track spring weather, too? High temperature? Low temperature? Precipitation? What time it rains or snows? You may be surprised at just what you can learn from watching spring spring into action!

Book Review:

Life Histories of Cascadia Butterflies. David G. James and David Nunnallee. Corvallis, OR: Oregon State University Press, 2011. 446 pp.



Butterfly field guides have been available for many years. They range from the very specific, concentrating on a very narrow geographic region like a national park, to the very general, pointing out the differences between butterflies and moths and highlighting a few of the most common species. This publication is nothing like those. In David James and David Nunnallee's *Life Histories of Cascadia Butterflies*, a whole new world opens up for those who love butterflies. This is not a butterfly field guide, but it answers all those other questions we "crawlyologists" are always asking.

The eminent lepidopterist Robert Michael Pyle writes that he cannot say enough great things about the authors, which he refers to as "The Daves". David James is an associate professor of Entomology at Washington State University, Prosser, in the Yakima Valley. David Nunnallee, co-founder of the Washington Butterfly Association, has been

studying and photographing butterflies in Washington State for 15 years. Although Cascadia, defined as Washington State, northern Oregon, southern British Columbia and northern Idaho, may seem small compared to the entire western US or the US, many of the species occur in adjacent regions. Because of our proximity here in western Montana, I believe this will be a valuable reference for us.

The main goal of this book is to stimulate interest in "the rest" of a butterfly's life stages: egg, larva, pupae. The authors wrap up their introduction saying "We hope that scientists and butterfly enthusiasts alike will be stimulated to conduct additional research and investigation of our fascinating butterfly fauna, or at least to record and share their observations, not only to satisfy individual curiosity and learn more about natural history but also to help fill the many large gaps in our knowledge". Without going into detail about how "The Daves" describe things like variation in bristle length between the same instar larvae from different habitats or why one habitat is different from another, sustaining one species but not another, I can attest that few questions are left unanswered. Their goal has been reached with gusto!

I have few suggestions to improve this work. All scientific terms are clearly explained in the various segments of opening chapters of the book, before individual species accounts are discussed. However, as a forgetful scientist myself, I really like

glossaries and would want one included. The index does bold the page numbers for the main entry for a subject, something I've seen overlooked in many scientific texts.

I have to admit that butterflies, in and of themselves, don't excite me that much, they're beautiful but maybe too common and cutesy for me. I like snakeflies, dung beetles, robber flies, water scorpions and giant toe biters better, but I have always really liked caterpillars. Over the years I have come to know a little bit about the common butterflies, but this book covers so many of those strange looking little caterpillars that you can't find in any book. That's why this book is going to be great fun for me and all the other folks out there that love insects and are always asking what's that, how does it overwinter, what does it's eggs look like, what does it eat?

By Dennis Vander Meer



Board of Directors

Bryce Christiaens
Lisa Verlanic Fowler
Jennifer Marangelo
Glenn Marangelo
Eleanor Morris
Alison Perkins
John Wells



Tell a Friend

Strong community support will be essential in making this vision a reality. Please help by sharing our mission with your friends, colleagues, and family. Consider *recycling* this newsletter by passing it along to someone else.



Follow us on Facebook to learn about a host of insects (local and exotic) as well as keep on top of the latest Butterfly House news. Share our page with your friends to help us get our message out!

Help Us Take Flight!

BECOME A MEMBER!

For a donation of \$35 or more, you can become a member of the Missoula Butterfly House and Insectarium. As a supporter of this exciting effort, we'll keep you up to date on our accomplishments. You can make your tax-deductible donation online using PayPal. Simply go to our website (www.missoulabutterflyhouse.org) and click on "Please Donate Now!"

WEBSITE

We're online at www.missoulabutterflyhouse.org! Our website has all kinds of useful information, including current activities, gardening tips, and copies of our newsletters. You can even join the Butterfly House and keep the buzz going with PayPal.

Upcoming Events Kettlehouse Community U-night!

Please join us on **Wednesday, May 16**, at the Northside Kettlehouse (313 N. 1st St. W.). Between 5-8pm, Kettlehouse will donate \$0.50 to the Missoula Butterfly House and Insectarium for every pint sold!