

MISSOULA BUTTERFLY HOUSE & INSECTARIUM

NEWS



The Buzz Time Flies

By Jen Marangelo, Executive Director

Winter 2021

INSIDE...

- Buzz Pollination
- Photo of the Year
- US Ants Project
- Construction Progress

Our Mission

The Missoula Butterfly House and Insectarium inspires an appreciation and understanding of insects and their relatives.

Join the Buzz!

We're moving closer to realizing our dream each day! For more information about our exciting future, go to jointhebuzzmissoula.org or give us a call at 406-317-1211.



Tabling at Marchie's Nursery in 2011.

If you've been keeping up to date on our efforts over the past year, it comes as no surprise that we've been a bit busy. Between school field trips, online education programs, community science research projects, and a capital campaign to build our future home, the past year has simply flown by.

The realization of how much we've grown often causes me to reflect upon our organizational evolution. To say, "We've come a long way," is an understatement.

I started this organization with three other founding board members in our "conference room" – whatever suitable table happened to be free at Break Espresso. From our first four years as an all-volunteer organization bringing carloads of terrariums to events all over town ... to opening and operating the Missoula Insectarium ... to now reaching for the dream that started all of this nearly 15 years ago (before the Missoula Butterfly House and Insectarium even existed). It's been an extraordinary journey.

As you might guess, the road was often bumpy and sometimes felt like a dead end. But thanks to the support we received from our community, the reach and impact of our work steadily grew over the years.

This quick trip down memory lane stems from the deep gratitude we've always felt and have hopefully expressed. The words of encouragement and shared enthusiasm that came when they were most needed. The donations that arrived when our budget was at its tightest. The true showing of community support that's elevated our efforts (and our spirits) in tirelessly working to make this dream a reality.

It's incredible to realize that we are entering what will be the last full year of operations before opening our new facility! And the year ahead could not be more important. In addition to maintaining the momentum we've created within our education programs, we've got a tremendous amount of work to accomplish before we can open our doors in mid-2023. But this is EXACTLY what we've worked toward for so long. No complaints here.

My sincere thanks to each and every person who's played a role in our success over the years. As the saying goes, "It takes a village." In this case, it's taken a swarm.

Warmest wishes for a happy and healthy holiday season! 🍂

The Buzz About Pollination

By Rebekah Brassfield

Pollen collecting is a tricky job. With some flowers, it often takes a special insect (or group of insects) to do it just right. Many plants have co-evolved along with specific insect species, hiding their pollen in the cleverest ways to be selective about who can gain access. If an insect needs to work really hard to collect pollen, the better job they do in transferring it from one flower to the next – a process that is the key to pollination success.

One of our favorite native plants has a very clever way of hiding pollen. Huckleberries have a special type of anther (the pollen-producing part of the plant) that looks like a salt shaker. The pollen needs to be shaken out in just the right way or it won't produce berries. This is where some of our best native pollinators get to show off their skills.

Bumble bees, along with some other native bee species, have figured out one of the best ways to pollinate. It's called buzz pollination ...and it's exactly what it sounds like. Grabbing onto the flower with their mandibles, the bees hold on and vibrate their wings, "buzzing" the pollen out of the flower and catching it on their body. This method works incredibly well with the salt shaker-like anthers of huckleberry flowers.

When huckleberries bloom in the spring, they need buzz pollination to produce the berries we love so much. The clever flowers have selectively chosen the best pollinators to be part of a process that benefits everyone in the forest. So, next summer when you're enjoying Montana's most prized fruit, be sure to thank our native pollinators for their skillful moves. 🐝

Rebekah Brassfield is a graduate student in the Systems Ecology Program at UM and a research assistant at Salish Kootenai College. She's currently researching how bumble bees acquire nutrients from the ecosystem.



Top: A bumblebee collecting pollen from a huckleberry bloom.
Bottom: Huckleberry flowers.

When a Photo Tells a Story



This past year our seasonal What's Buzzin' report shared over 370 photos of some amazing arthropods. While we received plenty of exceptional photos, one immediately stood out.

At first glance, this photo from Kyle Hartse (early July) may not look too extraordinary. But when you understand all you're seeing, an amazing story unfolds.

While we don't have a photo of the individual that constructed this nest, it was most likely a species of Mason Wasp (subfamily Eumeninae). These industrious wasps search for a pre-existing cavity (under a flower pot in this case) to build individual mud cells for each egg the female lays. Since she essentially entombs her offspring, she first needs to adequately provision each egg with enough food to fuel the emerging larva's development.

As pictured here, the preferred prey is moth larvae (caterpillars). To ensure the food stash stays fresh, instead of killing, she paralyzes them with her sting, places them into a mostly finished mud cell, lays a single egg, and then seals off the chamber. Upon emerging, her offspring will have fresh, living food waiting for them.

Looking closely at this photo, you can presume that the mud cells on top were created first – the larvae are well-developed and have completely consumed their food. As you inspect the cells toward the bottom of the photo, the wasp larvae are in earlier stages of development with the cell on the bottom right filled with fresh caterpillars, but yet to be sealed.

All of this from a single photo. Simply amazing. Thank you, Kyle!

US Ants - Community Science Project

Keep an eye out for Community Days!

2021 marked our second year of participation in US Ants – a nationwide research project led by the Cold Spring Harbor Laboratory DNA Learning Center. The purpose of the study is to map the distribution of various ant species across the US, giving scientists a better understanding of species health and response to climate change and habitat loss.

In addition to the project's conservation importance, the research provides a unique opportunity to engage students and community members in a scientific study that takes them from collecting field samples to processing and preparing the samples and extracting DNA for analysis – a hands-on and impactful way to engage the next generation of scientists and advocates in field research and data analysis.

While COVID decreased the level of student participation in our 2021 research efforts to four students, our plans for 2022 will engage more students and volunteers. We also hope to begin piloting this program on a classroom scale and convene a community "family day" to introduce and engage adults and their children / grandchildren in a unique and impactful learning experience for all.

If you'd like to provide a powerful learning experience for your family or are a middle or high school teacher interested in working with us on a unique program, keep your eyes open for more information in early 2023. 🐜



Construction & Campaign Progress!



Concrete has never been so exciting! While we encountered some initial delays, we're thrilled to announce that construction on our future home got underway this past August. With the foundation, footings, and stem walls completed, and work on the underground utilities underway, construction will "go vertical" any day. With an expected completion date of late March 2023, we hope to open in May or June. We have a lot to do between now and then!

Thanks to the incredible generosity and shared vision of over 80 donors, we're currently 93% of the way to our capital campaign goal. And while we still have a lot of work ahead of us, we're almost there!

If you have any questions, would like more information, or would like to make a gift, please contact Glenn at 406-317-1211, glenn@missoulabutterflyhouse.org, or go to www.jointhebuzzmissoula.org.



Follow us on Facebook
& Instagram!



Missoula Butterfly House &
Insectarium

MISSOULA BUTTERFLY HOUSE & INSECTARIUM STAFF

Jen Marangelo
Executive Director

Brenna Shea
Lead Animal Keeper

Sam McFarland
Animal Keeper

Carolyn Taber
Museum Educator

Briana Wentworth
Admin Assistant

Glenn Marangelo
Development Director

Nicole Emlen & Hallee Olsen
Animal Care Interns

Karen Weaver
Interpretive Content Creator



NON-PROFIT ORG.
U.S. POSTAGE
PAID
MISSOULA, MT 59801
PERMIT NO. 569

COME LEARN ABOUT THE LITTLE
THINGS THAT RUN THE WORLD!

It's That Giving Time of Year!

What an extraordinary year! Despite the challenges we've all continued to face, this year we conducted a record number of school field trips; continued to strengthen the reach and impact of our online / remote education opportunities; broke ground on our dream facility; and made exciting progress in our capital campaign. We're over 90% of the way there! There could not be a more impactful time to consider making a donation. Make your gift today! Online at www.missoulabutterflyhouse.org.

If you have questions about our programs, making a donation of stock, or considering a gift to our capital campaign, please contact Glenn at 406-317-1211 or glenn@missoulabutterflyhouse.org.



Jagged Ambush Bug
(Phymata americana)

Missoula Butterfly House and Insectarium Board of Directors

Marcy Allen, President
Executive Director, Missoula
Community Foundation

Lisa Verlanic Fowler, Vice-President
Teacher, Florence-Carlton School

Megan Robson, Treasurer
Realtor, Sotheby's International Realty

Michael Carter, Secretary
Wildlife Biologist/Fundraiser

Dr. Douglas J. Emlen
Montana Regents Professor of
Evolutionary Biology, University of
Montana

Kathryn Herman
Benefit Calculation Analyst

Jen Marangelo
Executive Director, Missoula
Butterfly House and Insectarium

Glenn Marangelo
Development Director, Missoula
Butterfly House and Insectarium

Morgan McNeill
Digital Media Coordinator,
Clearwater Credit Union