

The Maryland Biodiversity Project: A Maryland Based Community Science Non-Profit

By JIM BRIGHTON

Photos by Jim Brighton

On June 6, 2012, Bill Hubick and I were walking around a small wetland in Severn Run Natural Environmental Area in Anne Arundel County. We came upon a beautiful plant with bright yellow flowers. The leaves of the plant were arranged in whorls of four. Neither Bill nor I knew this species, and we both took photos hoping to identify the plant when we got home. What transpired that evening, while trying to identify our photos, is how the Maryland Biodiversity Project was created.

We quickly deduced that we had photographed a plant in the genus *Lysimachia*. We were both using *Wildflowers in the Field and Forest* by Clematis and Carol as our field guide of choice as the internet was not yet up to the task. There were five options of yellow flowered loosestrifes pictured, but I knew that the field guide wasn't complete. After a deep dive on the internet to search for Maryland *Lysimachia* species, I realized that Maryland was one of the few states that did not have an online comprehensive plant checklist. This realization was unsettling to us, but also triggered a quick discussion about how awesome it would be to have a website that showed complete as possible checklists of all the living things in Maryland. To have these lists in one centralized location would be a useful tool. That evening, after spending WAY too much time trying to identify Whorled Loosestrife (*Lysimachia quadrifolia*), the Maryland Biodiversity Project was born.

MBP Goes Live

On July 2, 2012, the Maryland Biodiversity Project, or MBP, went live. Here is what I wrote in my blog Mid-Atlantic Nature when we announced that the MBP was now live: "The main goal of the project is to have a repository of species checklists where each organism will have photos and information on range, habitat, and identification. We already have over 3,000 species listed including all the mammals, birds, reptiles, amphibians, and freshwater fishes. Invertebrates listed include all of the butterflies, dragonflies, damselflies, and crayfish. Other groups represented include the Silk, Sphinx, and Tiger Moths, all the ladybug species, the robber flies, and all the Tiger Beetles. Also included are all of Maryland's freshwater bivalves. We have roughly over 50% of all of Maryland's wild plants already listed with groups like orchids, violets, and the 246 species of sedges in checklist form.

Partnerships

In the years that followed the launch of MBP, many new partnerships were created. Wesley Knapp soon reached out to



Southern Blue Monkshood (*Aconitum uncinatum*).

ask how we were assembling our plant list. Our discussions with Wes led us to adopt the *Vascular Plants of Maryland* (Knapp and Naczi 2021). MBP was also one of the founding members of the Maryland Plant Atlas, along with the Natural Heritage Program, and the Norton-Brown Herbarium at the University of Maryland. Many people may not realize that the Maryland Plant Atlas shares the same database as the Maryland Biodiversity Project. MBP also works closely with the MD Natural Heritage Program—the arm of Maryland DNR tasked with protecting the state's rare, threatened, and endangered plants and animals. MBP supplies data to the Natural Heritage Program that helps determine more precise methods of conservation. We also do targeted data collection. Last year we had paid interns collecting data on various species of rare butterflies, lightning bugs, odonata, and plants.

How You Can Contribute to MBP

One of the questions Bill and I often get asked is how can people submit data to MBP? The easiest way is through iNaturalist which, along with eBird, is one of the most successful community science databases on the internet. iNaturalist allows users to upload photos of plants, animals, fungi, and other organisms, and connect with nature enthusiasts across the globe. Bill Hubick and the MBP development team have created a tool that allows ingestion of data from iNaturalist directly into the MBP database. Hopefully, this last sentence triggers red flags and alarms. We all know that the data on iNaturalist is not infallible and that serious errors can occur with identifications, especially when relying on the iNaturalist AI tool.

Quality Control

First, iNaturalist's "Research Grade" designation has zero bearing on a record getting accepted by MBP. We rely on experts.

A Sampler of Maryland Native Plants from the MBP



Miami Mist (*Phacelia purshii*)



Large Cranberry (*Vaccinium macrocarpon*)



Ipecac Spurge (*Euphorbia ipecacuanhae*)



Slender Bunchflower (*Veratrum hybridum*)

MBP maintains a list of people who are experts in their fields. If one of our designated experts makes a determination on a record you posted, it most likely will go into a queue for acceptance into the MBP database. If the record is marked as cultivated, or if the locality data is too large, it will be rejected. Bill developed an ingestor tool that allows us to set certain parameters for all records, plus it allows us to ingest iNaturalist tags. For example, if you have a record of a Painted Trillium and used the "In bloom" tag, that data will be used in the phylogeny tables on the Painted Trillium species page on MBP. But there is one final step in quality control. Once a record is accepted by the iNaturalist ingestor, it goes into a final review queue at MBP, which is manned by Bill, myself, and Dr. John Hall. We do our very best to make sure the integrity of the MBP data is top notch and conduct a final review on all records before they are accepted into the MBP database.

MBP Today

The Maryland Biodiversity Project has evolved significantly since its inception in 2012. We now have over 21,000 species in checklists, over 950,000 photos, and over a million records in the MBP database. We run two annual morning flight counts during fall bird migration at Turkey Point and Dans Rock. We have an active volunteer base, and Bill oversees a group of dedicated web developers who keep the website updated, together they create new and exciting ways to present MBP data. We lead frequent field trips that are always free and inclusive to whoever wants to join in exploring our state's rich biodiversity. Twelve years on, it is delightful to pause and recognize that the Maryland Biodiversity Project is thriving and increasing the realization of its mission statement of "*building a vibrant nature study community throughout Maryland.*"

REFERENCES

- Knapp, W. and R.F.C. Naczi. 2021. *Vascular Plants of Maryland, USA: A Comprehensive Account of the State's Botanical Diversity*. Smithsonian Scholarly Press, Smithsonian Contributions to Botany, Number 113:163 pp
- Maryland Biodiversity Project, www.marylandbiodiversity.com