NORTH CAROLINA BIODIVERSITY PROJECT

Fall 2021 Newsletter

NEW HOPE CREEK BIOLOGICAL INVENTORY

A generous grant from The Burt's Bees Foundation to Durham County's Open Space Program has enabled Durham to partner with the NC Biodiversity Project and New Hope Audubon to conduct a biological inventory of the New Hope Creek corridor. The New Hope Creek corridor supports rare animal and plant communities and connects Orange, Durham, and Chatham County. The corridor provides an urban refuge connecting protected natural lands in Orange County, Duke Forest and Jordan Lake and is an important catchment for protecting Jordan Lake's water quality.

The biological inventory will include field and laboratory identification of animal and plant species to provide a snapshot of the area's biodiversity. The last comprehensive inventory of species in the New Hope corridor was done in 1995 and, with the area's significant changes, is out of date. Records will be entered into the NCBP websites.

The inventory fieldwork will span the course of a year, from August 2021 to August 2022, to provide observations during all four seasons. The final report is expected by late 2022.

DURHAM COUNTY DCO NC 1881

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NEW HOPE AUDUBON

INTERESTING PUBLICATION ON CITIZEN SCIENCE

A paper co-authored by NCBP member Kyle Kittelberger was recently published in the journal "Frontiers in Environmental Science". The paper focuses on the value of Citizen Science in increasing our knowledge of hoppers, with a particular focus on the NCBP website "Hoppers of NC".

Sibovia occatoria by Margarita Lankford

LICHENS OF MITCHELL MILL STATE NATURAL AREA

By Gary B. Perlmutter, UNC Herbarium (NCU)

Mitchell Mill State Natural Area is a 105-acre tract in eastern Wake County along the Fall Line transition area between Coastal Plan and Piedmont physiographic provinces. The area includes exposed areas of Granitic Flatrock and Granitic Flatrock Border Woodland characterized by Pinus, Juniperus, Quercus and other hardwood species. The Little River flows through the site, over flatrock, making a unique environment. The river is dammed, creating Mitchell Millpond.

Mitchell Mill has a rich and long-studied lichen biota, with collections from the early 20th century to present, spanning ~90 yrs. From recent collections as well as historical reports in the literature and collection records in the Consortium of North American Lichen Herbaria (CNALH; www.lichenportal.org), a total or 108 species of lichens has been recorded for Mitchell Mill. Lichens are found growing on any available stable substrate including rocks, moss, bark. Characteristic species of open flatrock include the rock olive, *Peltula cylindrica*, and peppered rock shield lichen, Xanthoparmelia conspersa and popcorn lichen, *Cladonia caroliniana*. Lichens described from Mitchell Mill include *Gomphillus americana, Lichina willeyi* and *Peltula zahlbrucknneri*.

Figure 1. Granitic flatrock with Xanthoparmelia and mosses

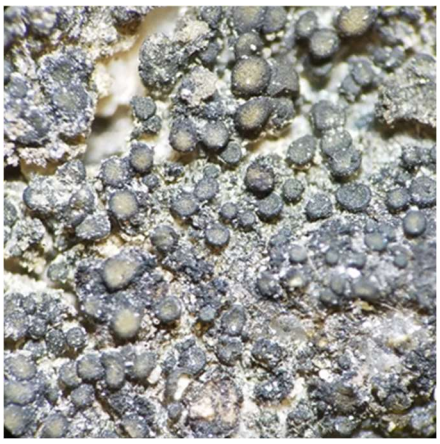

Figure 2. Peltula zahlbruchneri

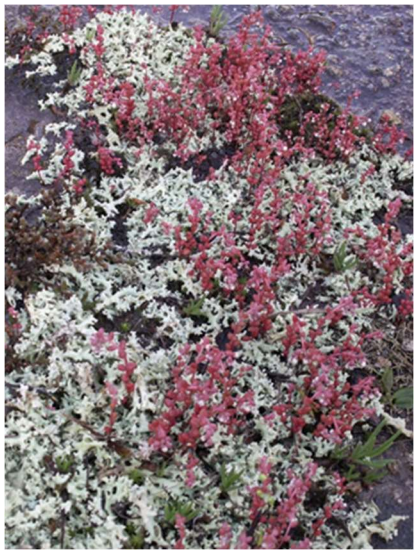

Figure 3. *Cladonia caroliniana*

Figure 4. *Gomphillus americana*

VASCULAR PLANTS OF NC WEBSITE UPDATES

In recent weeks. one of the website editors (Bruce Sorrie) has been uploading many of his numerous photos to the species accounts, to portray what a species looks like in the field. He has started with the rarest species, such as those on several Endangered species lists, then Threatened, then Special Concern, then Significantly Rare, and then Watch List -- before moving on to various non-rare species. In some cases the photos were taken out of state, but the priority is for in-state photos. Bruce and Harry LeGrand continue to add photos to species accounts sent to them by other botanists and biologists, mostly those needed to document a new county record. At some point soon, the editors will make public requests for photos by experts or others believed reliable in the field, not for new county records but to eventually have each species account with a minimum of one photo. Although an original idea was to have a public photo entry feature, the editors feel that such photo entry would be overwhelming and yield numerous misidentifications or uncertain photos.

While no new plant species have been documented in NC recently, there have been several highly significant re-discoveries of species formerly considered "historical" (SH state rank). Two sedges -- Barratt's Sedge (*Carex barrattii*) and Velvet Sedge (*C. vestita)* -- were found by UNC grad student Eric Ungberg, both at a streamhead seepage area in the Uwharrie National Forest, Montgomery County. *C. barrattii* had been known from only 2 prior NC specimens, while *C. vestita* had been known from only one. Both new populations are substantial and both have benefitted from recent burn management.

NEW BUTTERFLY FOR NC

On June 20, 2021, Bob Cavanaugh -- a long-time lepidopterist living in Newport, Carteret County -- noticed a tiny brown butterfly in his yard, a day after Tropical Storm Claudette came ashore along the Gulf Coast. He noticed it was an Eastern Pygmy-Blue (*Brephidium pseudofea*), a salt marsh species that occurs from South Carolina to the Gulf Coast. As he knew it had never been found in NC before, he collected it for a specimen, and took photographs, one of which now appears on the Butterflies of North Carolina website. You can read more about this discovery -- considered likely a storm-blown stray rather than a local breeder -- here: Butterflies of North Carolina (ncparks.gov) Note that a number of butterfliers have looked in NC salt marshes, mainly in Brunswick County, for it over several decades, but to no avail; however, it does breed as far north as SC's Horry County. The NC state butterfly list now has 178 species.

Eastern Pygmy-Blue (*Brephidium pseudofea*)

Blue-eyed Darner (*Rhionaeschna multicolor*)

NEW DRAGONFLY FOR NC

Brian Bockhahn, an NC State Park biologist, was conducting field work at Stones Creek Game Land in Onslow County on December 10, 2020, when he noticed a striking dragonfly. Any dragonfly seen in NC in December is a major find, but he photographed this colorful individual, and after some study later by consulting references and getting outside opinions, determined it to be a Blue-eyed Darner (*Rhionaeschna multicolor*), a Western US species that ranges east only to Wisconsin and Texas! Here is the information from the Dragonflies and Damselflies of North Carolina website: NC Odonate Website (ncparks.gov). Most of us had never even heard of this species! Needless to say, this record is of a stray, and it becomes NC odonate (dragonflies and damselflies) species #188.