NORTH CAROLINA BIODIVERSITY PROJECT

September 2020 Newsletter

UPDATES

The NC Biodiversity Project has continued to add checklists and websites for new taxa, as well as adding records and photographs to existing websites. The project is regularly adding new participants and contributors, but we always need more!

A website for the Bees of North Carolina has been added to the project**,** focusing initially on the 565 bee species that have been recorded in North Carolina.

Checklists have been added that list the 192 species of Plasmodial Slime Molds -- the Myxomycetes -- of North Carolina, and covering the 115 species of Collembola, Protura, and Diplura -- collectively the Entognatha -- occurring in North Carolina.

A checklist has also been added that lists the lichens known to occur in North Carolina, with highlights below.

Unfortunately, the COVID pandemic has forced us to postpone our annual meeting, as well as workshops and bioblitzes for this season. We will reschedule these as soon as it is feasible.

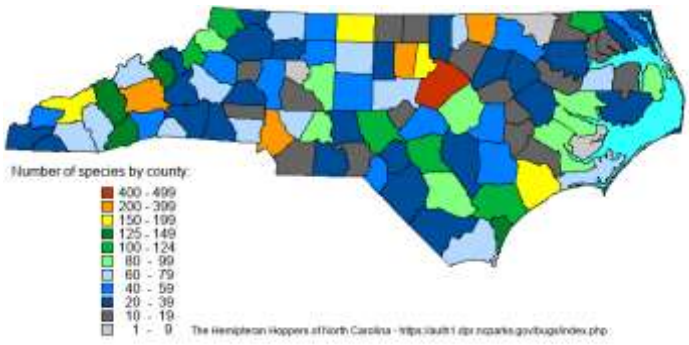
EQUIPMENT GRANT

NCBP has received an equipment grant from the Glass Foundation of Asheville. We greatly appreciate this support from a valuable partner!

theglassfoundation
HELPING WESTERN NC THRIVE AS A WHOLE COMMUNITY

WHAT'S UP WITH HOPPERS

Kyle Kittelberger reports that the Hopper website has recently added an interactive color coded map of the number of hopper species recorded in each county in North Carolina. Clicking any of the counties will bring up a full list of the various hopper species recorded in the county. This map is updated in real time as new species are added to a county. Currently we are at more than 800 hopper species for the state.



Evacanthus ustanucha from Mount Mitchell State Park in Yancey County
Recorded by Rob Van Epps

"WEB" BROWSING

The Arachnid website now has several regular contributors from across the state, and the site will soon be ready for public submission beta test.

Brian Bockhahn worked with US Fish and Wildlife Service biologists to survey for the endangered spruce fir moss spider (*Microhexura montivaga*) at Mount Mitchell State Park. The tiny spider was thought by some to be extirpated, as it had not been seen at Mount Mitchell for many years, but the team was able to find and photograph several.

Several new species have been added to the state checklist:

Theridula gonygaster - a tiny cobweb weaver known only from Florida and a few southern states, NC is now the farthest north they have been documented in the US, in Rockingham County no less.
Philodromus minutus - a running crab spider of the east, found in Burke County.
Coleosoma acutiventer - an ant-like cobweb weaver in Cumberland County.
Agroeca pratensis - a Liocranid sac spider in Wake County.
Lepthyphantes intricatus - a sheetweb spider of Canada, New York and Maine, found on the summit of Elk Knob in Watauga County.

Microhexura montivaga from Mount Mitchell State Park in Yancey County. Photo by Brian Bockhahn

Larinioides cornutus recorded in Transylvania County by Kevin Bischof

A LIVING CARPET

Look down almost anywhere and you will see the ubiquitous but underappreciated bryophytes –mosses, liverworts and hornworts. These plants have no true roots, flowers or seeds, and they occur in habitats throughout the state.

The Bryophytes of North Carolina project was started in October 2017 when David DuMond, retired botanist, and Blanka Aguero, Data Manager for the L. E. Anderson Bryophyte Herbarium at Duke University, began compiling a NC checklist of mosses, liverworts and hornworts based on available literature, taxonomic data available through TROPICOS (Missouri Botanical Garden) and collection records associated with the Consortium of North American Bryophyte Herbaria web page.

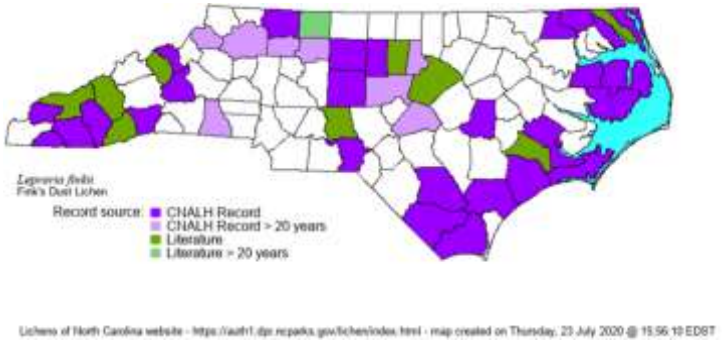
Blanka Aguero made further important and necessary refinements to the list by reviewing current and changing bryophyte synonymy, and selecting the most acceptable taxonomic

synonyms for use in the NC Biodiversity Project website. The importance of selecting the most appropriate synonyms cannot be understated since the aim was to make the contents of the website usable by people from a wide diversity of geographic and taxonomic backgrounds. Jame Amoroso, Conservation Information Specialist for the NC Natural Heritage Program, saw the list as an opportunity to share enthusiasm and information about bryophytes with biologists, educators, and the general public through the NC Biodiversity Project. Currently the list and other basic information regarding bryophytes is available on the NCBP website. Future additions to the website will include county maps and specific accounts of taxa.

SPOTLIGHT ON LICHENS

Gary Perlmutter, a lichen specialist at the UNC-Chapel Hill Herbarium, added a lichen checklist to the NCBP in 2019 to include this fascinating yet often overlooked group of organisms to the project. Gary is currently working to refine the checklist and build the accompanying website. The checklist is the latest iteration of a statewide documentation of North Carolina's lichen biota, first published 15 years ago (Perlmutter 2005). That initial checklist documented only 600 species from the state; now it has doubled in size based on several surveys and herbarium studies conducted in intervening years and their results published in the scientific literature.

Since April 2020, Gary has been updating and adding county records of lichen taxa alphabetically, adding record dates, specifying record type, and adding images where available. As of this writing, he has processed about half the checklist at the genus *Lepraria*, a group of dust lichens. The most common and widespread species of this genus is Fink's Dust Lichen, *Lepraria finkii,* with 43 county records across the state, from Dare County along the coast to Graham County in the mountains. So far the largest families in North Carolina are Arthoniaceae (34 spp.), Caliciaceae (38 spp.), Cladoniaceae (94 spp.), Graphidaceae (32 spp.), Lecanoraceae (61 spp.), Parmeliaceae (75 spp.), and Ramalinaceae (36 spp.).



Lepraria finkii, collected in Randolph County in 2011 (CNALH record).

NCBP DATA SUMMARY
August 2020

Group	Records	Species for NC	Photos
Arachnids - Spiders [617], Harvestmen [35], Pseudoscorpions [30], Scorpions [3]	3,688	685	2,345
Bees	4,364	595	
Birds		485	
Butterflies	196,995	177	
Crayfishes		48	
Damselflies [53], Dragonflies [134]	53,865	187	4,018
Entognatha: Collembola [Springtails and Snow Fleas: 141], Protura [Coneheads: 7], Diplura [Two-pronged Bristletails: 7]		155	
Freshwater Bivalves		91	
Freshwater Fishes		251	
Fungi		8,290	
Grasshoppers, Crickets, Katydids	3,786	241	1,255
Habitat/Species Associates	57,134		
Hemipteran Hoppers	16,312	972	8,697
Herps - Amphibians [95], Reptiles [74]	46,274	169	
Lichens	12,429	1,378	324
Mammals	5,583	123	522
Marine Fishes		552	
Mosses, Liverworts, Hornworts		691	
Moths	123,982	2,657	32,292
Myxomycetes		192	
Tiger Beetles	1,025	23	240
Vascular Plants - Native [2906], Exotic [965]	128,467	3,871	
TOTALS	**653,904**	**21,678**	**49,693**

https://nc-biodiversity.com/