The Light Trap

Newsletter of the
Frost Entomological Museum
Winter 2022

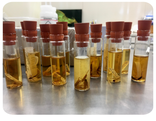
Wasp ID course recap

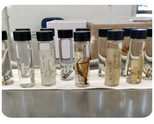
Remember in our last newsletter we had mentioned that PhD student Louis Nastasi was organizing a wasp identification workshop? Well, it was a GREAT success. The course had 326 virtual participants from over 20 countries, and students learned how to identify all extant wasp families (over 80)! There is a chance that this workshop will be offered again in the future, and if it is, we'll be sure to let you all know.

Above: A subset of the wasp diversity covered in the course. Photo credit: Sloan Tomlinson.

Aquatic specimens

Last year the Frost received funding to rehouse and digitize our ethanol-preserved aquatic arthropod collection. Collections specialist Julie Rockwell has been working on this project since last March and has really been an asset to the team. Almost all of our "at risk" specimens (specimens where the ethanol was at risk of evaporating) have been imaged and rehoused, and we are now beginning to work through transcribing so we can share the data with iDigBio and GBIF to make the specimen information available on the web. This work will fill chronological and geographical gaps in historical datasets, especially for important bioindicator groups like benthic macroinvertebrates.





Top: Julie Rockwell imaging specimens during the rehousing process for subsequent transcription. Photo credit: Patrick Mansell, Penn State. **Bottom left:** Example of our at risk specimens before processing. **Bottom right:** The same specimens after processing.

Students joining the Frost

Tara Presnall is majoring in Engineering and minoring in Entomology. She has joined the Frost to help us continue scanning and transcribing the amazing collection of sucking lice that our previous curator, KC Kim, built over the course of his career. This is one of the best sucking lice collections in the world, and it will be a real achievement to see the data publicly available.

Celia Graef is majoring in Agricultural and Extension Education and also minoring in Entomology. She volunteered with the Frost last semester helping with various curatorial tasks, and will now be focusing on organizing and digitizing a collection of ticks from PSU surveillance programs conducted by Bob Snetsinger in the 60's and Steven Jacobs in the 90's.

Testing properties of insect pins

Millions of insect pins are used annually in our field, and dozens of different brands and styles are available. Which ones are most resilient? Undergraduate student in Muhammad Ishak in the Department of Materials Science and Engineering is leading a project, under the guidance of Dr. Darren Pagan, to determine what pins are best. Muhammad is developing methods to test the strength and corrosion rates of commonly used insect pins. Data collection is underway, and we can't wait to see his results.

***Figure 5.** The design evolution of the lower fixture*

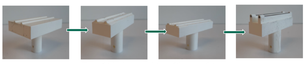
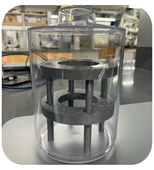


***Figure 6.** The design evolution of the upper fixture*



Top: Design development for the tools used for insect pin mechanical testing. **Bottom left:** Example of a pinned specimen with a weak pin that has bent and corroded over time. **Bottom right:** Pin holder designed for salt water immersion and corrosion testing.

Insects in poetry

Dr. Andrew Deans recently developed a new lecture for ENT 532 on what we know about insect declines – i.e., the declines in insect diversity and biomass, as reported recently in multiple science articles and in the press. Can we also see evidence of insect (or biodiversity more generally) declines in our collective cultural output? For example, are insects showing up less and less in poetry, song, and art? We are dipping our toes in the field of linguistics to find out. We'll report back with more in our next newsletter. In the meantime, enjoy this classic haiku by Issa, as translated by David G. Lanoue (http://haikuguy.com/issa/):

.蜻蛉や二尺飛ては又二尺
tombô ya ni shaku tonde wa mata ni shaku

dragonfly--
flying two feet
then two feet more

Keep an eye out for the next ***The Light Trap*** this spring

If you are interested in hearing about specific topics or activities, please let us know!

Become a Friend of the Frost

By becoming a Friend, you equip the museum with the tools needed for *collections care*, provide resources for *student engagement*, and helps fund the *rotation of new exhibits* into the museum. Visit our website to learn more.

Your support helps us better engage the public, grow and maintain the collection, and provide opportunities to undergraduate students at Penn State

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