Center for Systematic Entomology (CSE) Travel Grant Report
Florida State Collection of Arthropods
Solomon V. Hendrix

From January 6-17, 2024, I visited the Florida State Collection of Arthropods (FSCA) in Gainesville. My visitation was funded by a travel grant awarded by the Center for Systematic Entomology (CSE).

My primary objective for my visit was to review the materials of Dr. Frank Mead regarding his research on the cixiid planthopper genus *Melanoliarus* in North America north of Mexico to aid my own studies on the group. I planned to review authoritatively identified specimens of *Melanoliarus* as well as to locate Dr. Mead's notes and other written materials and photographs. My second objective was to identify Auchenorrhyncha specimens in the FSCA, especially a few specimens brought to my attention by Dr. Susan Halbert as potentially new records for the state of Florida.

While here, I was able to locate Dr. Mead's unpublished manuscripts, notes, and correspondence as well as authoritatively identified specimens used in his work. I made scans of the most pertinent of these documents and photographed cixiid planthopper specimens of interest; assembling a loan of specimens that will aid in future descriptive work and hopefully allow me to continue several projects he left unfinished. In total, I took high-resolution photographs of 168 specimens in the collection and made identifications for and placed approximately 604 specimens, primarily in the Cixiidae.

A number of notable discoveries were made in my time at FSCA. First, a leafhopper (Cicadellidae) specimen collected in sweep samples in southern Florida I was able to confirm the identity of with Dr. Susan Halbert. This species, *Gyponana germari* (Stål), is new to the continent. I have drafted a manuscript with Dr. Halbert regarding this new record which will also review the other members of this genus found in Florida for comparison. An additional leafhopper, new to Florida and likely a continental record, was examined for identification. This species, a member of the genus *Hamana*, did not immediately appear to match any of the described species in the genus.

I collected Auchenorrhyncha taxa in the UF Natural Area Teaching Laboratory (UF-NATL) directly behind FSCA in the mornings and evenings. During these collection trips, the species *Balclutha rubrostriata* (Melichar) was collected in numbers on *Bothriochloa bladhii*; this species, native to Asia, had only previously been collected in the state in the Florida Keys in 1990. It is a pest of sugarcane and is an established pest in Texas. A manuscript accounting these records has begun to be drafted, spearheaded by Dr. De-fen Mou. Also found in UF-NATL was the leafhopper species *Haldorus furcatus* (Caldwell), a species previously reported only from suction trap samples in southern Florida. The original *H. furcatus* find, similar to that of *G. germari*, was a Continental USA record. *H. furcatus* is native to the Neotropics and has been in Puerto Rico since the 1950s. This find in Alachua County greatly expands its geographic range in Florida. Lastly, a delphacid planthopper was found in numbers on what may be a species of *Saccharum*; this delphacid did not match any described species and appears to be an undescribed species near the native *Delphacodes shermani* (confirmed by Dr. Charles Bartlett); this species

will be described in the near future and placed in a new genus. These three species were all photographed *in vivo* in addition to a number of other Auchenorrhyncha species collected in UF-NATL.

The results of this trip have informed the drafting of the three aforementioned manuscripts as well as a number of potential projects directly related to findings within the unpublished work of Dr. Frank Mead. Within his materials were unpublished illustrations of diagnostic features of a number of cixiid holotypes, which he had received on loan, and which would be very difficult and risky to obtain now. This will allow for future redescriptions of these taxa that will stabilize the generic concepts of the cixiid tribe Pentastirini in the New World (my primary project). Also in his notes was at least one nearly finished publishable manuscript. It solved a problem species, based on type specimens and material determined by Dr. Mead. This manuscript can be re-worked and published in a current journal.

Discussion with Mark Rothschild during my stay at the FSCA resulted in the exchanging of a number of ideas regarding treehopper taxonomy in Florida, which is a continuous long-term project. Preliminary work was begun for morphological comparison of the nymphs of the *Enchenopa binotata*-complex throughout its range in the United States based on the meticulously curated collection of nymphs and adults present at FSCA.

All photographs and scans obtained during my visit will be processed and sent to the Susan Halbert and the FSCA.

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