



# The Frederick Forster's Dragonfly Collection

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## Introduction

- The Forster dragonfly collection at the University of Michigan Museum of Zoology Insect Collection (UMMZ) contains a variety of dragonfly families including Lestidae and Libellulidae specimens collected North America, Gomphidae specimens collected in North Africa, and many more. Some of these dragonflies are now extinct, making the specimens Forster collected work invaluable.
- Each specimen that Forster deposited in the museum has a multitude of ecological data associated with it on a paper "data label". These specimens and their data labels can provide a significant source of information to modern-day researchers and scientists.

## Objective

- The purpose of working with the specimens in the Forster collection at the UMMZI is to capture the physical data associated with the specimens and make it into a usable format.
- Additionally, the goal was to learn about Forster and his life through the dragonflies he collected, how to conduct a literature review, and produce detailed digital data of his specimens.

## Methods

### Specimen & label imaging (Camera)

- Pre-made specimen and label stages are placed at the top of the label stage with QR barcode aligned under them. Image is then taken.

### Images Relabeling (Barcode)

- Images are opened with a default name and renamed as 'UMMZ-INS-#####', where the ##### is the number from the image by scanning the codes in the pictures using a barcode scanner.

### Data Entering (excel spreadsheet)

- The Data saved is then transcribed into a spreadsheet with the categories of family, genus, species, sex, determiner, country, state, coordinates and more to capture all the data Forster documented about the specimens.
- Google searches and maps are used to translate and decode some terms, making it easier to analyze the information about these specimens afterward.

## Results

- Forty-Five specimens are imaged and transcribed from eight different families spanning many different countries from around the world. The oldest specimen examined was from the year 1854.
- These include the families: **Gomphidae**, **Pseudostigmatidae**, **Libellulidae**, **Calopterygidae**, **Lestidae**, **Macromiidae**, **Chlorogomphidae**, and **Polythoridae**. However, some are **not yet identified** to the families they belong to.

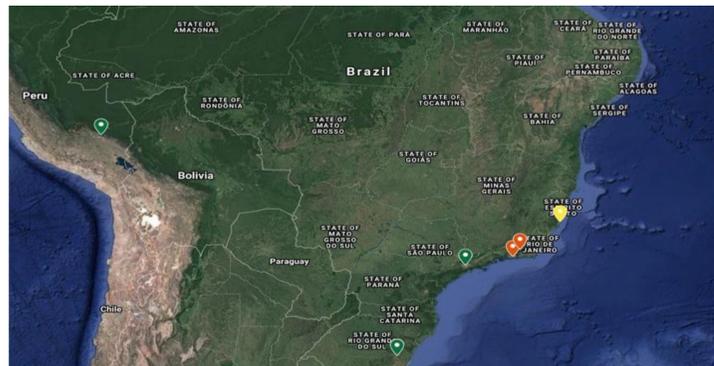


Figure 1: Location of Frederick specimens collection in North America.

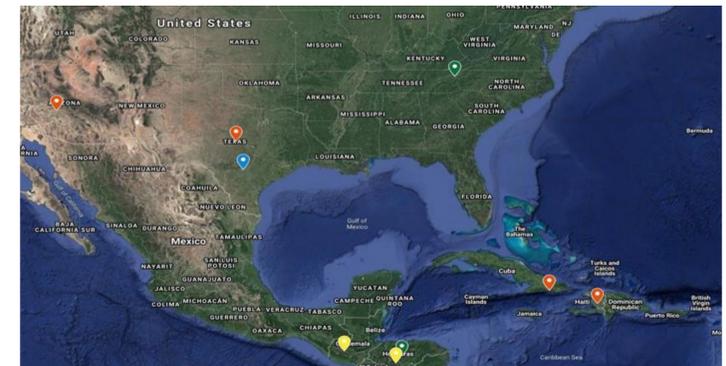


Figure 2: Location of Frederick specimens collection in South America.

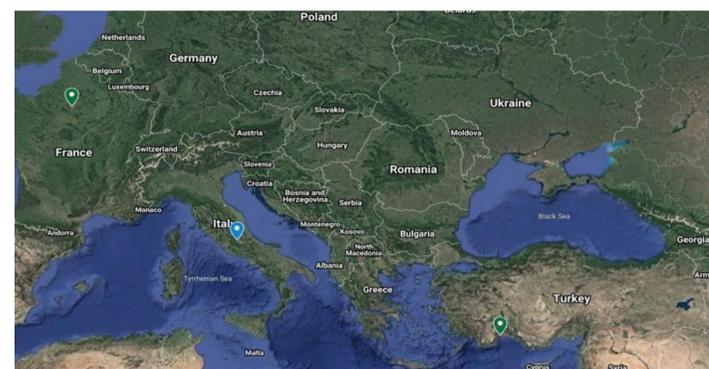


Figure 3: Location of Frederick specimens collection in Europe.

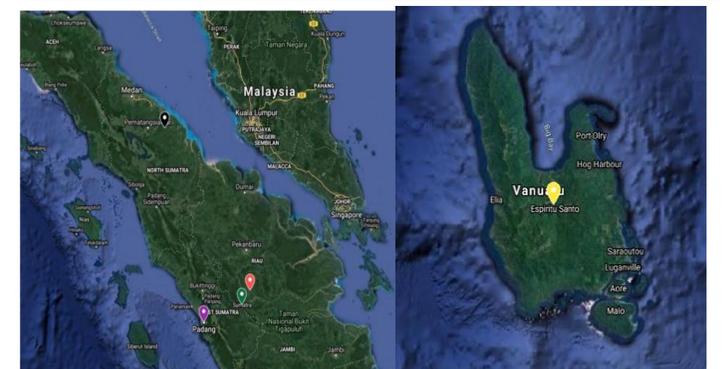


Figure 4: Location of Frederick specimens collection in Asia.



Figure 5: Pre-made specimen and labels arranged before image taking.

## Continuing Process

More specimens still need to be documented and transcribed in the future. This information may be used for species conservation or tracking population/distribution changes over time - current species distributions have likely changed in recent years due to climate change, habitat loss, etc. This is one of the few records documenting where these species were 100 years ago.

## Acknowledgement

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