

A Photographic Field Guide to the Millipedes of Dominica by Order

Lorilyn Seyler
Texas A&M University
Dominica Study Abroad 2012
Dr. James Woolley, Dr. Thomas Lacher

Abstract

Fifteen millipede specimens representing five species from three orders were collected from around the island of Dominica. Each individual was photographed and identified to order. A representative picture for each of the five species is presented, with a brief description of its physical appearance.

Introduction

Dominica is an island located in the Lesser Antilles, along the edge of the Caribbean tectonic plate. This small island, measuring about thirty miles north to south and fifteen miles east to west, is home to many different kinds of environments including rainforest, montane forest, dry scrub forest, and “elfin” forest. Such a wide selection of habitats allows for a large variety of life to flourish on the island. However, of all the creatures that have been studied here, the millipedes of the island have been largely overlooked.

Millipedes belong to the order Diplopoda, and are often confused with centipedes. One can distinguish the two by looking at how many leg pairs per body segment the specimen has. A millipede will have two pairs per segment, with the exception of the first few leg pairs near the head. A centipede will have only one. Millipedes are detritivores and are important members of the nutrient cycle, especially in tropical areas where the soil is typically very nutrient-poor.

This guide seeks to expand on a project done by a previous study abroad student, “MILLIPEDES: An Examination of the Different Orders on the Island of Dominica” by Anjelica Peredo in 2007, by adding a photographic element to the orders she found here.

Materials & Methods

Specimens were found by searching under rocks and picking through piles of detritus, rotting logs, or other damp, dark places along and around trails. In each location, the millipedes that were found were placed into a single vial or plastic bag. Back at the Archbold Tropical Research and Education Centre, the specimens were photographed, labeled with the date, location, and jar number, and then identified to order using the *MILLI-PEET; Illustrated Key to Order* (Sierwald 2007). Occasionally, another student would bring in a specimen, which would be given the same treatment.

The specimens were collected from the following locations: Cabrits National Park, the Archbold Tropical Research and Education Centre, Princess Margaret Hospital, Goodwill, Emerald Pool, and Mount Joy.

A Canon Powershot SD1100 IS was used to photograph the millipedes, as the macro photography set-up was in high demand by other students. The camera's macro setting was deemed sufficient for this purpose. Once all specimens were photographed, one representative picture was chosen for each species.

Results

Specimens were collected from May 29, 2012 to June 1, 2012. Fifteen specimens in total were captured and were found to be of the orders Spirobolida, Spirostreptida, and Glomeridesmida. Seven specimens of both Spirobolida and Spirostreptida were found, but only a single Glomeridesmida. Spirobolida seemed to have the largest range, as one was picked up in every location but one.

Order Spirobolida

Members of this order may be identified by a suture line running vertically up from the labrum on their heads.



Species A

This species can easily be identified by its reddish color. The specimen also had a distinctive gait unlike any other millipede collected, with multiple obvious waves of leg movement in tight clusters. The specimen was 6 cm in length, and the species was only found around Princess Margaret Hospital.



Species B

One of the more common millipedes found, this species has an entirely black-brown carapace and an average length of 5.5 cm. Specimens were found in Cabrits National Park, Archbold Tropical Research and Education Centre, Emerald Pool, and Mount Joy.

Order Glomeridesmida



Species C

Members of this species may be identified by their smaller number of body segments - around twenty-two. Other millipedes on the island have more than fifty. The species was only found around Mount Joy and measured 4 cm.

Order Spirostreptida

Members of this order lack the vertical suture that can be seen on Spirobolida's head.



Species D

This millipede species can be distinguished by its lighter dorsal line, which is more red-brown than the rest of its black exterior. The specimens had an average length of 5.5 cm and were found in Cabrits National Park, Archbold Tropical Research and Education Centre, and Mount Joy.



Species E

The most striking difference between this millipede and all others previously mentioned is its size. It looks very similar to *Species B*, but it is much larger. The largest specimen collected was 16 cm, about three times as large as any individual of *Species B*. Specimens were collected from the town of Goodwill. This species is also an invasive, from the neighboring island of Guadalupe (Clem James, 2012).

Discussion

This field guide expands on Anjelica Peredo's previous project, and hopefully could be a helpful tool in future projects studying millipedes. The findings agreed with Peredo's survey in that a total of three orders were found on the island. Furthermore, the only Glomeridesmida specimen found was picked up on Mount Joy, close to where she found her only specimen, on the "Bee House Mango Trail" that leads up that same mountain (Peredo 2007).

A total of five species were found. However, there were areas the author was unable to get to in order to search for millipedes, and time available to spend looking for them was short due to originally attempting a different project before this one. Another issue is the extreme lack

of information on Diplopoda. Without further keys or information it is impossible to identify the specimens down to family, and certainly not to genus or species. Future projects would do well to search more areas more thoroughly, and perhaps attempt to contact other millipede researchers for any information about millipedes in the area that might be helpful.

Acknowledgements

I'd like to thank Dr. James Woolley and Dr. Thomas Lacher for the opportunity to conduct this project. Their enthusiasm, experience, and encouragement helped make this research trip a wonderful experience. Secondly, I'd like to thank the staff at the Archbold Tropical Research and Education Center for providing us with exceptional hospitality and delicious home-cooked meals. I'd also like to thank my roommates for putting up with me for the duration of the trip, especially near the end when stress and sickness wore patience thin. Finally, I'd like to thank Clem James for providing safe transportation, witty commentary and insight, and a jar full of gigantic millipedes for use in my project.

Works Cited

James, Clem. Personal Communication. 31 May 2012.

Peredo, Anjelica. *MILLIPEDES: An Examination of the Different Orders on the Island of Dominica*. 2007. <http://dominica.tamu.edu/student%20projects/Dominica%20Projects%20pdf%20copy/Peredo_Angie.pdf>

Sierwald, Petra. "Milli-PEET: Millipedes Made Easy." *Illustrated Key to Order*. Chicago: The Field Museum, 2007. Web. 3 Jun 2012. <http://archive.fieldmuseum.org/millipeet/milli_key.html>.