ABSTRACT

Morphological Studies Of The Millipede

Anadenobolus excisus (Diplopoda: Rhinocricidae), In Clade Zones Of Jamaica

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Anadenobolus excisus, presently regarded as one species, comprises a complex of three very divergent mtDNA lineages. The three divergent mtDNA lineages show no discrete morphological differences except for a body size disparity in sympatry. The three lineages, or clades, have a size disparity in which clade II individuals appear to be smaller in sympatry than in allopatry, whereas sympatric clade III individuals are much larger than their counterparts in allopatry. Clade I is allopatric.

The focus of this project is to examine the relationship between millipede body size and mouthpart size and structure. We address the simple but untested question, does change in millipede size result in a direct and proportional change in mouthpart size. Body size, mouthpart size, the surface area and morphology are suitable parameters for testing ecological displacement, since differences in mouthpart may indicate that these millipedes are eating different things.

An analysis of null hypotheses and morphological studies highlighted that *A. excisus* shows differences in the mouthparts: pectinate lamellae and molar plate. These differences suggest that the species/clades are in fact using different resources and follows a distinct pattern for ecological character displacement. *Anadenobolus excisus* is a species example of ecological character displacement.

Keywords: Debbie Diana Devonish; Character displacement; *Andenobolus excisus*; Diplopoda; Rhinocricidae.