



DNA-barcoding nemerteans of Bocas del Toro, Panama

The majority of species on Earth remain undescribed, which hampers conservation and sustainable use of biodiversity. The vast amount of undescribed diversity, vanishing taxonomic expertise, and the slow pace of traditional morphology-based taxonomy necessitates an alternative approach to biodiversity assessments and species descriptions. Application of molecular methods to biodiversity and systematics promises to expedite species discovery and description. One current research project in the Maslakova lab focuses on assessing and describing the diversity of ribbon worms (nemerteans) of Bocas del Toro, Panama using DNA-barcoding. Nemertea, a phylum of marine predatory worms with ~ 1300 described species, is a diverse, ubiquitous and biologically important, but understudied taxon. The nemertean fauna of Bocas del Toro region, and Panama, as a whole, is very poorly known. Some thirty six species are reported in the literature, but recent DNA-barcoding efforts by Maslakova and colleagues suggests that the actual diversity is at least five times that number, and that most of these species are undescribed. REU interns in the Maslakova lab will have the opportunity to help characterize the nemertean species diversity of Bocas del Toro, learn about modern practices in systematics and biodiversity research, and get hands-on experience with universally applicable molecular techniques such as DNA extraction, PCR, gel electrophoresis, and DNA sequence analysis. To learn more about these beautiful and fascinating worms watch these videos: <http://bocasarts.weebly.com/nemertean-tools.html>