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Magnolia Chapter of the Florida Native Plant Society

Dear Grant Committee Member,

It is my pleasure to provide a letter in support of **Brendan Scherer's application** for a Student Panhandle Research Grant. Brendan's proposed work would use mangroves and their microbiomes in the Florida Panhandle to produce valuable insights into an emerging area of importance in biology—the applicability of the hologenome theory of evolution. Furthermore, it would help us to understand the origins of the red mangroves establishing on our panhandle shoreline and whether or not the microbiomes that they harbor are locally sourced or rafting with the mangrove propagules (with potential implications for the local microbiome communities).

Brendan is in the middle of his fifth year in graduate school and is making great progress. He has taken all required courses, passed prelims, and successfully presented his doctoral research proposal to his committee. He recognized this topic as an area where he can contribute in fundamental and innovative ways to the fields of evolution and ecology after carefully considering the strengths/weaknesses of several alternatives in his first two years in grad school. He is now in the stage of pulling together the resources (including, we hope, this research grant) to make his plans a success. The timing of the first FNPS award to Brendan last year was ideal, enabling him to establish a pipeline for data gathering and to produce a preliminary dataset about which he presented at the Botany. A FNPS award this year would enable Brendan to create a more complete dataset with which to decisively address his hypotheses.

Brendan is likely to make the investment go far—he's highly motivated and smart, with a peer-reviewed publication under his belt, a 3.9 FSU GPA, and 93rd percentile Verbal Reasoning, 72nd percentile Quantitative Reasoning, and 78th percentile Analytical Writing GRE scores. He is also a careful organizer and clear communicator. He was invited to develop a Plants & People section for our Non-majors Biology course and has taught it repeatedly at the invitation of the faculty organizer. It is a distinction reserved for our most mature, dynamic, and respected grad students.

Brendan's creativity and enthusiasm for trailblazing is clear from his research design. He's chosen to test basic tenets of a new paradigm that considers microbiomes as part of the genetic diversity (with that of the multicellular hosts) upon which evolution acts. Brendan has further chosen to frame his study in the context of a mangrove invasion front driven by global change, combining the biogeography of the macro- and micro-biomes. Very little research has been done on the evolutionary and ecological importance of the microbiome in fruits, though it has potentially considerable importance for the dispersal and establishment of plants (in the marine and estuarine environments in this case, but certainly elsewhere too), as well as the palatability and safety of those fruits that we eat.

I hope that you will extend this funding to Brendan—the timing is perfect, and he will make it go far. Brendan has a great likelihood of success with his graduate research and with a productive academic career that changes the way that we view the world.

Sincerely,

Austin R. Mast