The Mating and Breeding Systems of Woolly Corchorus

Author: Erin Richardson

Project Advisor: Carol Landry

The purpose of this study is to understand and examine the mating and breeding systems of Woolly Corchorus (*Corchorus hirsutus* L. Tiliaceae). In a much larger picture this study will contribute to the establishment of effective conservation programs within coastal areas. Islands are extremely vulnerable to human induced disturbances, storms, and sea-level rise due to global warming. The investigation of the mating and breeding systems of plant species reveal how other plant populations and the pollinator networks that depend on them can be affected by disturbances. Two plant populations on the northern and southern ends of San Salvador Island, Bahamas were used for this experiment. Three different hand-pollination treatments; self-pollination, out-cross pollination, and a combination of self and out-cross pollination were used. These pollination treatments helped determine woolly chorchorus' ability to be self-fertilized. Seeds produced from these treatments were germinated to test for viability. Through this experiment it had been determined that woolly corchorus has the ability to be fertilized and set seed with self-produced pollen. It was also found that inbreeding depression within woolly corchorus populations was weak due to no difference in seed set among treatments. Germination was found to occur within self-pollinated seeds. Further studies will need to be done to determine if germination rates are dependent upon the percentage of selfed or outcrossed pollen received. Pollinator observations and collections were conducted in correlation to this research to determine which pollinators visited most often.