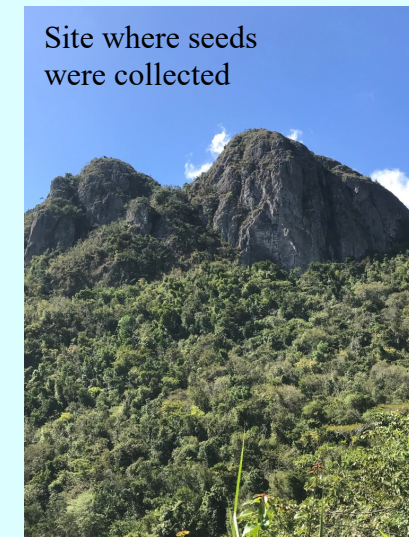


Ex situ conservation of *Solanum ensifolium*

Department of Biology, Eastern Connecticut State University
Amanda Blejewski and Dr. Bryan A. Connolly



Site where seeds were collected



Objective

Ex situ conservation of *Solanum ensifolium* Erubia via seed banking.



References

Strickland-Constable, S., Schneider, H., Ansell, S., Russel, S., and Knapp, S. 2010. Species identity in the *Solanum bahamense* species group (Solanaceae, *Solanum* subgenus *Leptostemonum*). *Taxon*, 59 (1):209-226.

Introduction

- The Solanaceae is an economically important, cosmopolitan family with approximately 3000 species in 90 genera.
- The *Solanum bahamense* L. group is a small monophyletic clade of 5 spiny species restricted to the West Indies.
- *S. ensifolium* is listed under the U.S. Endangered Species Act.
- Endemic to Puerto Rico.
- Highly endangered and few wild populations known.
- Range has been severely reduced due to deforestation, land clearing and deliberate eradication.
- Morphology of the *S. bahamense* Clade: attenuate, tapering anthers with small, terminal pores, prickles on the epidermis of stems and leaves; plants covered with stellate trichomes.

Methods

- *Solanum ensifolium* seeds were collected and cleaned from plants of known and unknown paternity and sent to the Atlanta Botanical Gardens for seed banking.
- Seeds were given to Para la Naturaleza a Puerto Rican conservation non-profit for propagation.
- Three clones, A, B, and Utah were cross pollinated to test for self-incompatibility.
- To test if seeds could be frozen in a seed bank, 10 petri dishes containing 20 seeds each were frozen at Eastern Connecticut State University in the -80°C freezer for three days and then planted in 3” pots with Pro Mix growing medium.
- A control group of 10 pots each with 20 seeds were planted in 3” pots with Pro Mix growing medium.
- Number of seeds germinated for each treatment will be counted, recorded and analyzed.

Future Directions

- Continue to conserve and protect *S. ensifolium ex situ* and *in situ*.
- Pollinate different individuals with one another to create more variety and to obtain more seeds.