

**Center for Plant Conservation
and
Fairchild Tropical Botanic Garden
Portion of work on National Park Service Task Order No. 03-02
Under Cooperative Agreement H262303W060**

Progress Report
November 2006

Kristie Wendelberger and Joyce Maschinski

Seed collection has begun on four of the eight species listed under cooperative agreement H262303W060: *Argythamnia blodgettii*, *Chamaesyce deltoidea* subsp. *pinetorum*, *Chamaesyce garberi*, and *Digitaria pauciflora* (Table 1). Latitude and longitude coordinates of each population were taken using GPS technology. We are awaiting aerial photographs from Everglades National Park (ENP) in order to generate maps of each population's location.

Argythamnia blodgettii

Argythamnia blodgettii seedpod with three ripe seeds



Argythamnia blodgettii dehisced seeds



We have collected 405 seeds from 84 maternal lines and one of two locations in Everglades National Park. More collections need to be made from the uncollected location as well as the one location where collection has started. This species fruits year round peaking in the fall (Table 1).

Chamaesyce deltoidea* subsp. *pinetorum

Chamaesyce deltoidea subsp. *pinetorum* in fruit



Fairchild conservation intern, Alex Ramos collecting *C. d.* subsp. *pinetorum* fruits



We have collected 130 seeds from 35 maternal lines at 2 of 7 locations from Everglades National Park. More collections need to be made from the uncollected locations as well as the two collected sites. This species is known to fruit year round. We have found a peak in fruiting in the fall and stimulation after fire. All the seeds collected to date have been sent to the National Center for Genetic Resources Preservation (NCGRP) for storage (Table 1).

Chamaesyce garberi

Chamaesyce garberi growing in shale on a dune



Pine rockland habitat that also supports *C. garberi*



We have collected from 360 maternal lines within all four locations at Everglades National Park. We are still cleaning and preparing the seed for shipment to the NCGRP. We feel that enough seed has been collected from all but one of the locations. We will continue collecting from that final location (Table 1).

This species exists in two different habitat types, in a beach/dune shale and a pine rockland limestone. We have collected from both habitat types. We found that Hurricane Wilma negatively impacted some of the beach habitat in 2005. Much of the dune system was altered with sand either deposited in large quantities or removed causing washouts. We were unable to locate one of the documented beach locations after the storms. We will note on the NCGRP accession sheets which habitat type the seeds were derived from.

Digitaria pauciflora

Digitaria pauciflora growing in clumps



Fairchild field botanist, Kristie Wendelberger collecting *D. pauciflora* seeds



We have collected from 248 maternal lines from 3 of the 5 locations at Everglades National Park. We are still cleaning and preparing the seeds for shipment to the NCGRP. Collections need to be made in the remaining 2 uncollected locations. This species fruits in the fall. Attempts will be made to complete collections this fall (Table 1).

Chromolaena frustrata

We performed surveys looking for *Chromolaena frustrata* in previously documented areas in ENP; we were unable to locate the populations. This species' habitat was greatly impacted during the 2005 hurricane season by tidal surges and sand deposits. It is probable that *C. frustrata* will recover in ENP in the coming years. We will continue monitoring for the species' recovery and possible seed collection through the end of the Agreement in September 2008.

Three species to be exchanged in the Agreement

Three of the species in the Agreement either no longer exist in ENP, *Dalea carthagenensis* var. *floridana* and *Harrisia floridana*, or were documented in error and never thought to have existed in the park, *Chamaesyce deltoidea* subsp. *deltoidea*. We are suggesting exchanging these three species for three other species of conservation concern that are known to exist in the park, *Alvaradoa amorphoides*, *Bouyeria cassinifolia*, and *Colubrina cubensis* var. *floridana*. These species are all considered critically imperiled in Florida by the Florida Natural Areas Inventory (FNAI) while *Bouyeria cassinifolia* is considered globally rare by FNAI and *Colubrina cubensis* var. *floridana* is considered globally critically imperiled.

Species	Date	# ENP Locations Collected/Extant	# Maternal Lines	# Seeds	Sent to NCFGRP
<i>Argythamnia blodgettii</i>	September 2006	1/2	84	405	No
<i>Chamaesyce deltoidea</i> subsp. <i>pinetorum</i>	July 2006	2/7	35	130	Yes
<i>Chamaesyce garberi</i>	September and October 2006	4/4	360	Still processing	N/A
<i>Digitaria pauciflora</i>	October and November 2006	3/5	248	Still processing	N/A