



MONTGOMERY BOTANICAL CENTER

*Advancing Research, Conservation, and Education
through Scientific Plant Collections*

EXPEDITION REPORT

PREPARED FOR LILLIAN FESSENDEN
OCTOBER 16, 2009

PALMS OF ST. LUCIA AND MARTINIQUE

AUGUST 16, 2009-SEPTEMBER 2, 2009



EXPEDITION TEAM

Project Leader:

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Project Team:

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SUMMARY

Dr. Larry Noblick, Chris Sealy, Andy Peter, Pierre Olivier Albano, and Hubert Inimod performed palm conservation and research fieldwork in St. Lucia and Martinique from August 16, 2009-September 2, 2009. This project expanded documentation and understanding of St. Lucia and Martinique's palm flora, and brought four species of palms and one rare Juniper species into protective cultivation at Montgomery Botanical Center in Miami, Florida and at the forestry department in St. Lucia.

INTRODUCTION

To add to the diversity of MBC's collection Dr. Larry Noblick searched St. Lucia and Martinique for *Coccothrinax barbadensis*, *Prestoea acuminata*, *Syagrus amara*, *Acrocomia aculeata*, *Aiphanes minima*, *Geonoma interrupta*, *Euterpe broadwayi*, and *Geonoma undata*.

Special efforts were exerted in the search for *Syagrus amara*, a rare palm located in the lesser antillies. *Coccothrinax barbadensis* and *Euterpe broadwayi* are interestingly found in Trinidad and Tobago and the Lesser Antilles, but not found on the South American continent or in Central America (Comeau *et al.* 2003). *Coccothrinax barbadensis* was found in fruit while in St. Lucia and Martinique.

During this expedition, Dr. Noblick collected germplasm from five species that were known natives of the Lesser Antilles (Henderson *et al.* 1995): fruit from *Acrocomia aculeata*, *Aiphanes minima*, *Coccothrinax barbadensis*, and *Syagrus amara*; and cuttings from *Juniperus barbadensis*.

The 2009 St. Lucia and Martinique Palm Conservation project, funded by Lillian Fessenden, enabled fieldwork in support of *ex situ* conservation, and basic botanical research, focused around St. Lucia and Martinique's palm flora.

LARRY NOBLICK'S FIELD NOTES:

Sun 16 Aug

I left for St. Lucia but the plane was late departing and I missed the connecting flight to St. Lucia. I spent the night in San Juan, PR.

Mon 17 Aug

I spent most of the day at the airport waiting for the afternoon flight to St. Lucia. The day was very bad because Tropical Storm Ana was passing south of the island. I arrived in St. Lucia at 9:30 P.M. and took a taxi to the guesthouse owned by Henry and his friend, Roger Graveson, also a local botanist, in Gros Islet, about a half an hour ride from the airport.

Tues 18 Aug

Roger Graveson helped me to rent a car and then we went to Forestry to visit with the Directors, Mr. Andrew and Mr. Bob, and visit the herbarium. Purchased groceries for my meals at the guesthouse and prepared for the next day's trip.



Syagrus amara fruit and flowers, St. Lucia.

Wed 19 Aug

I spent the day with Melvin Smith, a local farmer from the Atlantic coast who works for Roger Graveson and is very knowledgeable about the island and its plants, and with Chris Sealy, a herbarium technician from Forestry, who I would be training during this collection trip. Since Melvin could only spend one day with us, we collected at one Caribbean site, but most of the time we drove around the island so that Melvin could point out to Chris and I where the best palm collecting sites were.

Thurs 20 Aug

After picking up Chris, we returned to the first collecting site along the Atlantic coast to search for more fruiting mother plants of *Syagrus amara*. Just south of Anse La Raye, we collected seed and a voucher from a local population of *Acrocomia aculeata*.

On the way back to the Atlantic coast, we stopped off in the Forest Preserve and hiked in to visit *Prestoea acuminata*, which were only flowering. We continued on to the Atlantic coast just south of Dennery and made a collection of a *S. amara* population on that side of the island. We then returned to Forestry so that I could train Chris to press the palm vouchers and to start drying them.

Fri 21 Aug

In the process of pressing the material from the day before, we discovered that we had left part of our collection near Dennery, but

we had to go to that side of the island to visit some plantings of the native *Coccothrinax barbadensis*, so it was not out of our way. *C. barbadensis* leaves are used extensively in broom making and the over collection of these leaves from the wild has severely damaged the local populations on the Atlantic coast. They have begun germinating and cultivating plants from the local populations for brooms and we were able to collect seed from some of these plantings, because the wild populations were struggling just to put on new leaves. On the way back we stopped to see the other form of *Prestoea acuminata* in the Forest Reserve. We returned to Forestry to put our plants in the dryer.

Sat 22 Aug

Left for Martinique today, arrived on the island, was met by Andy Peter, exchanged money, bought groceries, went to my bungalow, went to Andy's, then to a rendezvous point near Trois Ilets to meet up with some palm society members to look for *S. amara*. We then all drove to a population of *S. amara*, which I collected. That evening I gave a talk for Ti-Palm, the Palm Society of the Antilles and the Guyanas. When I got back to my place I pressed the plant material and got to bed by 1 A.M.

In the afternoon, we visited a population of *Coccothrinax barbadensis*, then Dr. George Pastel's palm collections near Riviere Pilote, which contain over 300 palm species. George guided us to another *S. amara* population near Petit Bourg, where I collected fruit.



Hubert Inimod and Andy Peter collecting *Syagrus amara*



Pierre-Olivier Albano with a member of Ti-Palm-Martinique traveling by boat to Cap St. Martin (in background).

Sun 23 Aug

We drove to the north side of the island near Grand Riviere and paid a fisherman to take us to Cap St. Martin to visit a population of *S. amara*. The seas were rough and I had to jump off into the surf and carry my equipment, food and water to shore. It was a healthy population, but we found very few seed and collected a voucher. The fisherman picked us up at 5:30 P.M. On the way home and just before night fall we collected a few fruit of a low-land form of *Aiphanes minima* growing in a deep ravine just east of Grand Riviere.

Mon 24 Aug

Andy and I drove to Marin on the SE corner of the island and collected *S. amara* from a steep hillside on the property of Hubert Inimod.

Tues 25 Aug

We drove to Morne Rouge and hiked 3 hours with Hubert Inimod and his friend to see *Euterpe broadwayi*, but it was not flowering or fruiting. In this same forest we saw the upland form of *Aiphanes minima*, which is quite different and *Prestoea acuminata*. Next we drove to the base of Montagne Pelee, a volcano which last erupted in 1902 and we hiked a heavily eroded dirt road to see *Geonoma interrupta*, but none had ripe fruit.

Wed 26 Aug

I cleaned seed until 11 A.M, then Andy and I drove back to Petit Bourg to collect a voucher collection for the fruit that we had collected there with George. We then drove near St. Esprit, where we collected *Acrocomia aculeata* seed. Finally, we went to Marin to collect seed and a voucher specimen from the *Coccothrinax barbadensis* population that we had seen a few days before. The whole steep hillside was covered with a stinging vine that caused both of us considerable discomfort for several hours. We had dinner at Pierre-Olivier Albano's that evening.

Thurs 27 Aug

Cleaned seed the whole day and in the evening had dinner at Andy's with Pierre-Olivier.

Fri 28 Aug

Returned to St. Lucia, rented a car and drove to Forestry to get my plants in the dryers and to get a key to the herbarium, so I could monitor my plants in the dryer over the weekend.

Sat 29 Aug

Cleaned seed all day and visited Forestry twice to check on the dryer.

Sun 30 Aug

Cleaned seed until 3 P.M. and went to Forestry twice to check on the dryer.

Mon 31 Aug

Went to Forestry and started reassembling my dry palm parts into bundles by collecting number. Trained Chris on proper herbarium techniques for palms and we were able to economize some herbarium space. By noon, I returned to the guesthouse and worked more on my seed and protecting the already germinated seed in sphagnum moss. I donated several of the germinated ones collected from St. Lucia to Forestry. I went back to Forestry just before 4 P.M. to check on the dryer.



Juniperus barbadensis cones

Tues 1 Sep

I packed up all of the palm seed, the dried palm specimens, and the 15 cuttings from three specimens of *Juniperus barbadensis*. We took all of this material to Agriculture to get a phytosanitary certificate. The seed and dried material was okay, but the *Juniperus* cuttings had to be dipped in insecticide, which I picked up in the afternoon.

Wed 2 Sep

I spent the day returning to Miami via San Juan, PR.

OUTCOMES/FUTURE OUTCOMES

The new additions to our collection will add great diversity to the populations grown at MBC. Six new populations of *Syagrus amara* were added to our collection. MBC now houses plants from four of the five islands in the Lesser Antilles. In the future, MBC would like to collect from the island of Montserrat to have a collection representing the total genetic diversity of *Syagrus amara*.

Species	seed collected	specimens collected
<i>Acrocomia aculeata</i>	102	1
<i>Aiphanes minima</i>	6	0
<i>Coccothrinax barbadensis</i>	341	1
<i>Juniperus barbadensis</i>	0	15
<i>Syagrus amara</i>	246	6

Also, the addition of 15 cuttings of *Juniperus barbadensis* is very substantial. It is a very rare tropical conifer and is a great addition to our tropical conifer collection here at MBC.

MBC was also able to invest in capacity building with our local collaborators, with regard to techniques for making palm herbarium specimens. Dr. Larry Noblick shared his techniques (developed over 20 years) for this specialized botanical work with the rest of the Project Team.

ACKNOWLEDGEMENTS

Lillian Fessenden provided generous funding for the current work. Montgomery Botanical is grateful for the collaboration of the project team: Chris Sealy, Andy Peters, and Pierre-Olivier Albano.

We are grateful to the St. Lucia Forest Department's G. Michael Andrew-Chief Forest Officer for granting permission for this project (Phytosanitary Certificate #58062) and also for the USDA for permission to import conservation material (USDA Import Permit 37-77491).

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