

# HUNTIA

A Journal of Botanical History



VOLUME 17 NUMBER 1  
2018

Hunt Institute for Botanical Documentation  
Carnegie Mellon University

Pittsburgh

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

*Huntia* publishes articles on all aspects of the history of botany, including exploration, art, literature, biography, iconography and bibliography. The journal is published irregularly in one or more numbers per volume of approximately 200 pages by the Hunt Institute for Botanical Documentation. Beginning with volume 17, the journal is published only online and in color. External contributions to *Huntia* are welcomed. Page charges have been eliminated. All manuscripts are subject to external peer review. Before submitting manuscripts for consideration, please review the "Guidelines for Contributors" on our Web site. Direct editorial correspondence to the Editor. Send books for announcement or review to the Book Reviews and Announcements Editor. All issues are available as PDFs on our Web site.

Hunt Institute for Botanical Documentation  
Carnegie Mellon University  
5th Floor, Hunt Library  
4909 Frew Street  
Pittsburgh, PA 15213-3890  
Telephone: 412-268-2434  
Email: [huntinst@andrew.cmu.edu](mailto:huntinst@andrew.cmu.edu)  
Web site: <http://www.huntbotanical.org>  
Facebook: <http://www.facebook.com/HuntBotanical/>  
Online gift shop: <http://www.cafepress.com/huntbotanical>

Editor and layout	Scarlett T. Townsend
Editor, Emeritus	Robert W. Kiger
Book Reviews and Announcements Editor	Charlotte A. Tancin
Associate Editors	Donald W. Brown Lugene B. Bruno T. D. Jacobsen J. Dustin Williams
Photographer	Frank A. Reynolds

© 2018 Hunt Institute for Botanical Documentation  
All Rights Reserved

ISSN 0073-4071

## **Contents**

David Fairchild's plant hunting expeditions in Haiti Javier Francisco-Ortega, Marianne Swan, William Cinea, Natacha Beaussejour, Nancy Korber, Janet Mosely Latham and Brett Jestrow	5–35
Richard Thomas Lowe's unfinished <i>A Manual Flora of Madeira</i> : The fate of the letterpress remaining after his untimely death R. B. Williams	37–48
Book Reviews and Announcements	49–51



## David Fairchild's plant hunting expeditions in Haiti

Javier Francisco-Ortega, Marianne Swan, William Cinea, Natacha Beaussejour, Nancy Korber, Janet Mosely Latham and Brett Jestrow

### Abstract

Between 1931 and 1933 David Fairchild (1869–1954) undertook two major plant hunting trips, which focused on the West Indies, on board the research yacht *Utowana*. Both trips included Haiti and were the first large expeditions ever undertaken, specifically aiming to collect germplasm, in this country. These two trips occurred when Haiti was under administration by the United States. Fairchild's first visit (26–28 March 1932) targeted northern Haiti (Cap Haitien and ruins of the Citadelle Laferrière fortress and Sans Souci palace). The second expedition (28 February–4 March 1933) was limited to southern Haiti (Port-au-Prince, Kenskoff and Jérémie). A total of 28 germplasm accessions (13 in the first visit and 15 in the second) and 13 herbarium collections (4 in the first visit and 9 in the second) were secured. Collections were made in the wild and at local markets and agriculture research stations. Fred C. Baker, a USDA agriculturist commissioned in Haiti, hosted expedition members during these two visits. We present unpublished photographs of *Utowana* housed at the Special Collections, USDA National Agricultural Library, and highlight the importance of the unpublished travelogue that Palemon H. Dorsett wrote during the second of these West Indies expeditions (housed at the US National Archives). We catalogued and documented a total of 78 photos, which are housed in the Archives and Library of Fairchild Tropical Botanic Garden; in the Special Collections, USDA National Agricultural Library; and in the US National Archives.

### Rezime

Ant 1931 ak 1933, David Fairchild (1869–1954) te fè de gran vwayaj de rechèch plant, nan gwo bato rechèch *Utowana*, rechèch sa te konsantrè nan antiy yo. Haïti te fè pati tou lè de rechèch sa yo, e se te premye gwo ekspedisyon rechèch plant ki te janm fèt pou kolekte jèrmoplasm nan peyi sa. De vwayaj sa yo ki te fèt lè Ayiti te anba okipasyon amerikèn. Premye vizit li (26 a 28 mas 1932) te vize nò peyi Dayiti (Cap Haitien ak depouy fò Sitadèl Laferyè ak Palè San Souci). Dezyèm vwayaj la (28 fevriye– 4 mas 1933) te limite sèlman nan sid peyi Dayiti (Pòtoprens, Kenskoff, ak Jeremi). Yon total de 28 echantyon jèrmoplasm (13 nan premye vizit la ak 15 nan dezyèm lan) ak 13 koleksyon specimen (4 nan premye vizit la ak 9 nan dezyèm lan) te konsève. Koleksyon yo te fèt nan bwa a, epi, nan mache lokal ak nan sant de rechèch agrikilti yo. Fred C. Baker, se yon agrikiltè USDA en misyon an Ayiti, li te resevwa manm ekspedisyon yo pandan de vizit sa yo. Nou prezante foto *Utowana* ke nou jwenn nan spesyal koleksyon librari Nasyonal Agrikilti Ozetazini ki pa te pibliye e nou mete aksan sou enpòtans eksplorasyon ke Palemon H. Dorsett te ekri pandan dezyèm ekspedisyon yo nan West Indies ki pat pliye (stoke nan Achiv Nasyonal Etazini). Nou repètorye ak dokimante yon total de 73 foto, yo nan Achiv ak Libreri Jaden Botanik TROPICAL Fairchild; nan spesyal koleksyon librari Nasyonal Agrikilti Ozetazini; ak nan Achiv Nasyonal Etazini.

---

International Center for Tropical Botany, Kimberly Green Latin American and Caribbean Center, Cuban Research Institute, and Department of Biological Sciences, Florida International University, Miami, FL 33199 USA; Kushlan Tropical Science Institute, Fairchild Tropical Botanic Garden, Miami, FL 33156 USA. Email: ortegaj@fiu.edu [J F-O]

Kushlan Tropical Science Institute, Fairchild Tropical Botanic Garden, Miami, FL 33156 USA [MS, NK, BJ]

Jardin Botanique des Cayes, Bergeaud, Route National 2, Les Cayes, Haiti [WC, NB]

Department of History, East Carolina University, Greenville, NC 27858 USA [JML]

Accordingly we started for Les Cayes in May, 1917. I still remember the vivid impression of exquisite loveliness the coast of the southern peninsula first made upon me, with its high mountains and many quaint little towns nestling in inviting nooks.

—Impressions of Leonard Ekman upon his first arrival on Haiti in 1917, from Ekman (1926)

## Introduction

David Fairchild (1869–1954) is considered one of the most important plant explorers in American history (Lee 2013; Harris 2015). His expeditions were primarily centered in germplasm collections and aimed to find new genetic stocks that could be utilized in plant breeding programs (Nelson 1950). He was the founder of the Section of Seed and Plant Introduction of the United States Department of Agriculture (USDA) in 1898 (Fairchild 1938, pp. 106–107; Hodge and Erlanson 1956).

In his search for genes that could improve crops and bring new plants into cultivation, Fairchild conducted many expeditions that targeted areas on all continents except Antarctica between 1896 (Indonesia) and 1948 (Venezuela and Colombia) (Todd 2009; Korber et al. 2016). These expeditions were primarily supported by the USDA and by wealthy research sponsors, such as Barbour Lathrop (1847–1927), Allison V. Armour (1863–1941) and Anne Archbold (1873–1968). Fairchild's collecting trips also were sponsored by foreign countries, such as Venezuela, and by the botanic garden that honors his legacy: Fairchild Tropical Botanic Garden (Korber et al. 2016). It is estimated that under his leadership 75,000 germplasm accessions were brought to the germplasm collections of the United States (Todd 2009).

Among the plant exploration endeavors performed by David Fairchild, those on board the research yacht *Utowana* stand out (Fairchild 1928, 1930). This vessel was owned by Armour

and between 1925 and 1933 carried Fairchild, USDA scientists, and biologists from national and foreign institutions to 50 countries or European colonies in Europe, Tropical Africa, North Africa, the Caribbean Islands and North, Central and South America to perform natural history expeditions (Francisco-Ortega et al. 2014). The boat was specifically designed as a floating laboratory and therefore provided a unique avenue for field-based zoological and botanical research. Very few images of this vessel are known, but during our visit to the Special Collections, USDA National Agricultural Library (see below) we located an unreported collection of eleven unpublished photos of this vessel (Creech Files, National Arboretum, Box 31J). Because of their historical significance, two of these *Utowana* photos are published in this contribution for the first time (Fig. 1).

In the last five years we have been performing research pertinent to the plant collecting activities of David Fairchild. These previous studies focused on the Canaries, Bahamas, Jamaica and Venezuela (Francisco-Ortega et al. 2012, 2014; Korber et al. 2016; Rose et al. 2017). In this contribution we undertake a study on the two expeditions that Fairchild made to Haiti in the 1930s. These expeditions happened within an unusual historical context as they took place during the 19-year period (between 1915 and 1934) that the United States occupied Haiti (Sommers 2015). Fairchild and his colleagues were USDA scientists, and they travelled to Haiti as official members of the United States government. Therefore, during these visits the expedition members received ample support from American authorities assigned to Haiti. This support facilitated the logistics of these two expeditions.

To conduct this study we have performed archival and herbarium research and revised the lists of plant germplasm that were collected during these trips. We also discuss the areas

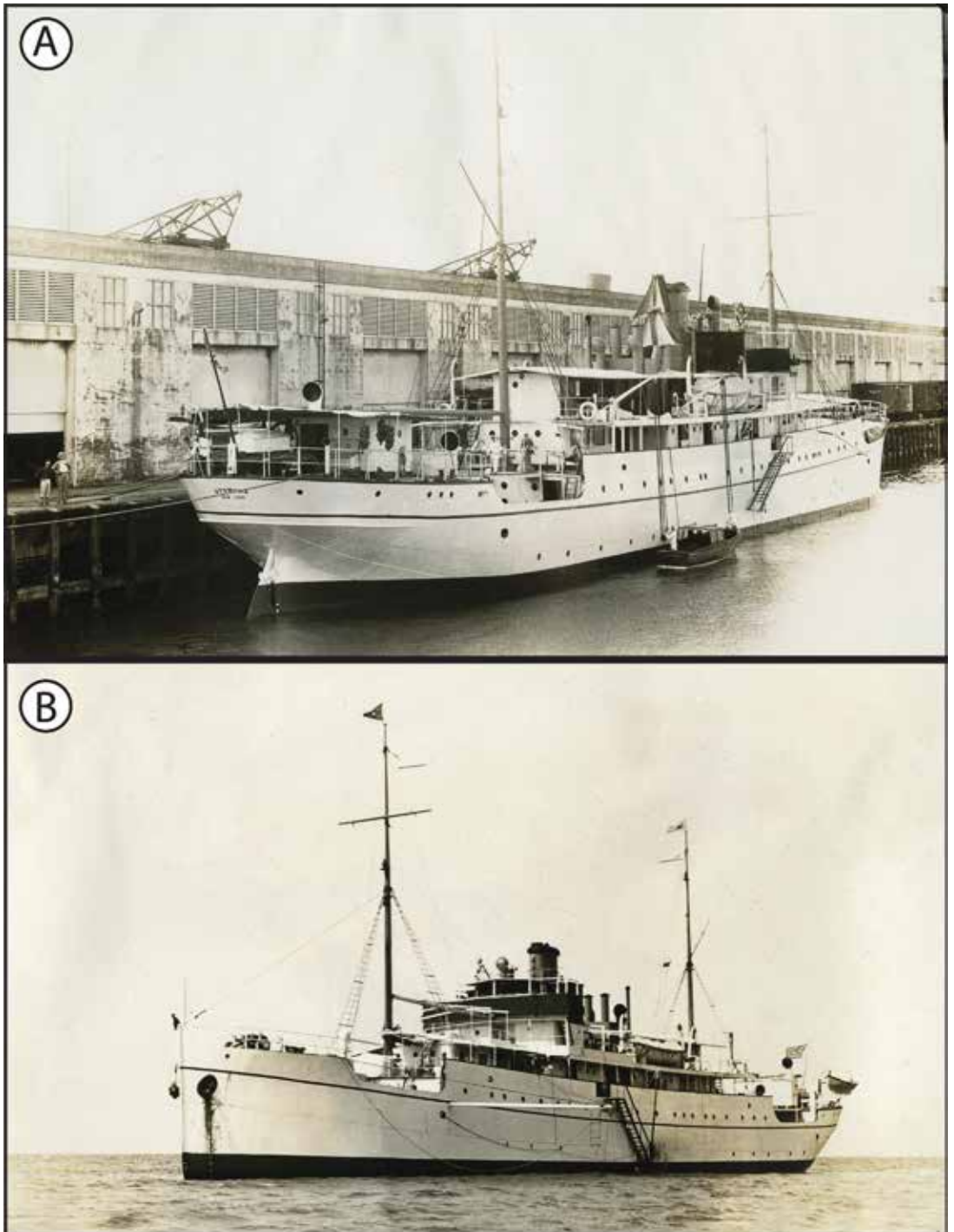


Figure 1. The research yacht *Utowana*. **A.** Puerto Colón, Panama, 3 March 1928. **B.** San Miguel, Yucatan, 30 January 1928. Courtesy of the Special Collections, USDA National Agricultural Library (Crech Files, National Arboretum, Box 31J). Photo credit: Palemon H. Dorsett.

that were visited and provide accounts pertinent to the colleagues who were met during these expeditions. As a working plant taxonomy we follow Anonymous (2011), Acevedo-Rodríguez and Strong (2012) and Grandtner and Chevrette (2013). Authors' abbreviations for plant names follow Brummitt and Powell (1992).

### **David Fairchild plant hunting trips to the West Indies: Background and archive material**

#### *Fairchild expeditions to the West Indies*

Two of Fairchild's expeditions on *Utowana* focused primarily on the Caribbean Islands (Burton 1932; Fairchild 1934; Yaffa 1971), and these expeditions included visits to Haiti (Figs. 2–3). The first of these voyages was undertaken between December 1931 and April 1932, and besides the Bahamas and the Greater and Lesser Antilles, it also reached the British and Dutch Guianas (Fig. 2). The second expedition extended to Panama and took place between January and April 1933 (Fig. 3). Fairchild wrote only one article regarding these plant exploration endeavors in the Caribbean Islands; however, this publication focused exclusively on the 1931–1932 expedition (Fairchild 1934). The only published brief account for the 1933 expedition was produced by Barbour (1945, p. 37).

The first of these West Indies expeditions included Allison V. Armour; Jordan C. Mott (a personal friend of Allison Armour); Harold Frederick Loomis (1896–1976, entomologist and botanist who worked in the USDA Research Station of Miami at Chapman Field, Florida); Marian Fairchild (1880–1962, wife of David Fairchild); Nancy Fairchild (1912–1976, daughter of David Fairchild); Leonard R. Toy (1900–1973, horticulturist who worked at Florida State Experimental Station, University

of Florida at Homestead, Florida); and Palemon H. Dorsett (1862–1943; Figs. 4–6). Jordan C. Mott was the grandson of Jordan L. Mott I, the founder of a prominent iron works company in New York. Unfortunately, Jordan C. Mott died unexpectedly on board the *Utowana* on 7 January 1932 in the Bahamas archipelago before the expedition reached Haiti. Palemon H. Dorsett was one of the most active USDA plant collectors, and he undertook several plant hunting expeditions with David Fairchild (Todd 2009). In recognition of his major contributions as a field botanist for the USDA Dorsett was awarded the prestigious Frank N. Meyer Memorial Medal in 1936 (Fairchild 1936).

The second expedition had David Fairchild and P. H. Dorsett from the USDA and also included two well-known zoologists from Harvard University: herpetologist Thomas Barbour (1884–1946) and ornithologist James C. Greenway (1903–1989; Fig. 6). Barbour was an important figure in the history of Cuban botany as he was the custodian of the Atkins Institution of the Arnold Arboretum at Soledad near Cienfuegos, Cuba (currently the Botanic Garden of Cienfuegos; Bigelow 1952, p. 17). The Atkins Institution was one of the main centers for plant introduction and horticulture of Cuba during the first half of the 20th century (Merril 1940).

#### *Archive resources*

The core of Fairchild's personal and professional documents, photographs and correspondence is housed in the archives of Fairchild Tropical Botanic Garden; however, for our research we also made visits to the Special Collections, USDA National Agricultural Library (Beltsville, Maryland) and the US National Archives (College Park, Maryland), as these institutions have documents and photographs relevant to the history of agricultural research in the United States.



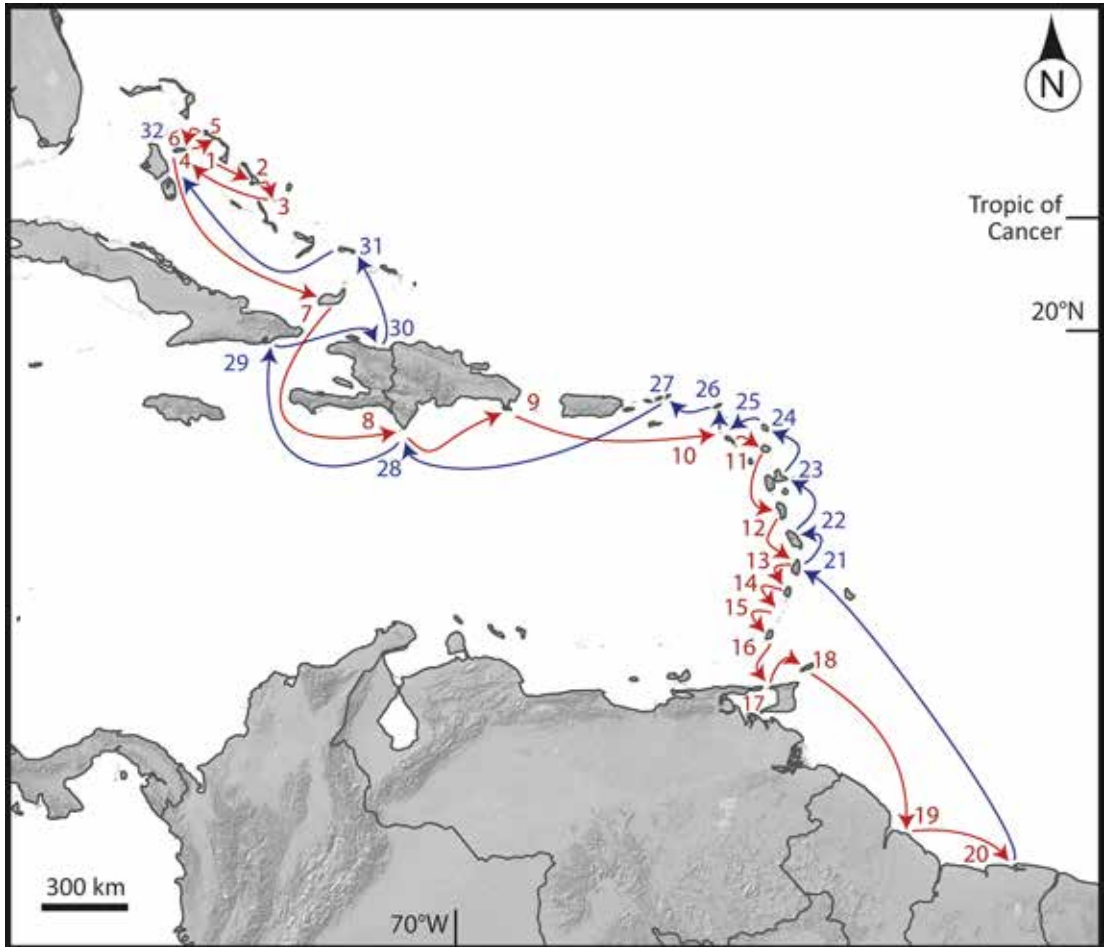


Figure 2. Itinerary followed by Fairchild on board *Utowana* during his first expedition to the West Indies (31 December 1931–1 April 1932). 1: Nassau; 2: Cat Island; 3: Conception and Rum Cay; 4: Nassau; 5: Eleuthera; 6: Nassau; 7: Great Inagua; 8: Beata Island; 9: Saona Island; 10: Saba, St. Eustatius and St. Kitts; 11: Antigua; 12: Dominica; 13: Santa Lucia; 14: St. Vincent; 15: Bequia, Cannouan and Carriacou; 16: Grenada; 17: Trinidad; 18: Tobago; 19: British Guiana; 20: Dutch Guiana; 21: Santa Lucia; 22: Martinique; 23: Guadeloupe; 24: Barbuda; 25: Saba; 26: Anguilla and St. Martin; 27: Tortola; 28: Beata Island; 29: Guantanamo; 30: Cap Haitien; 31: Mayaguana; 32: Nassau. Itinerary compiled from Dorsett (1931–1932).

During our archive research we located a two-volume unpublished travelogue written by Palemon H. Dorsett that has a full and detailed illustrated account (with many photographs) for the first of these two expeditions (Fig. 7). This document is housed at the US National Archives (Records of the Bureau of Plant Industry, Soils, and Agricultural Engineering Record Group 54, Volume 74 & Volume

75) and was the official expedition report submitted to the USDA (Dorsett 1931–1932). As far as we are aware, this travelogue has not been the subject of any historical studies, but it has unique insights regarding the collecting strategies followed by David Fairchild and his USDA colleagues and on the daily routines that were followed on board *Utowana* (Fig. 4). Many of the photographs found in this

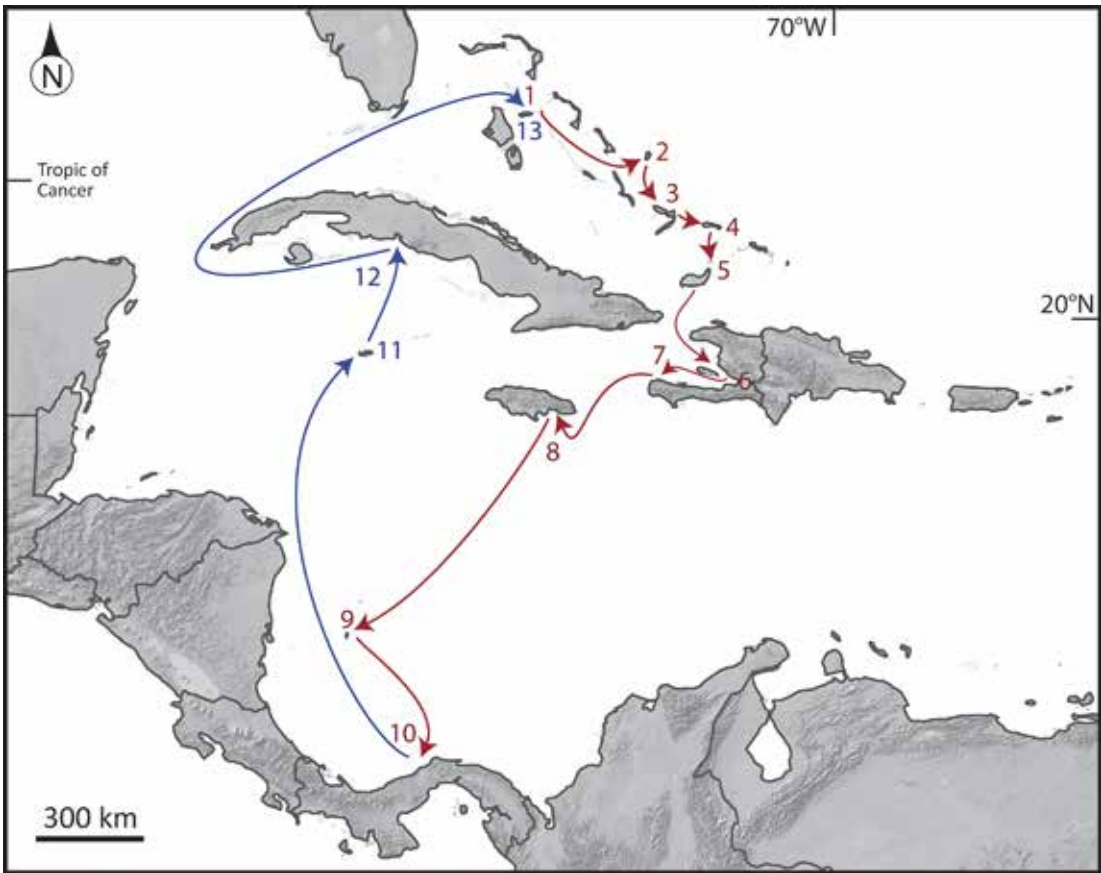
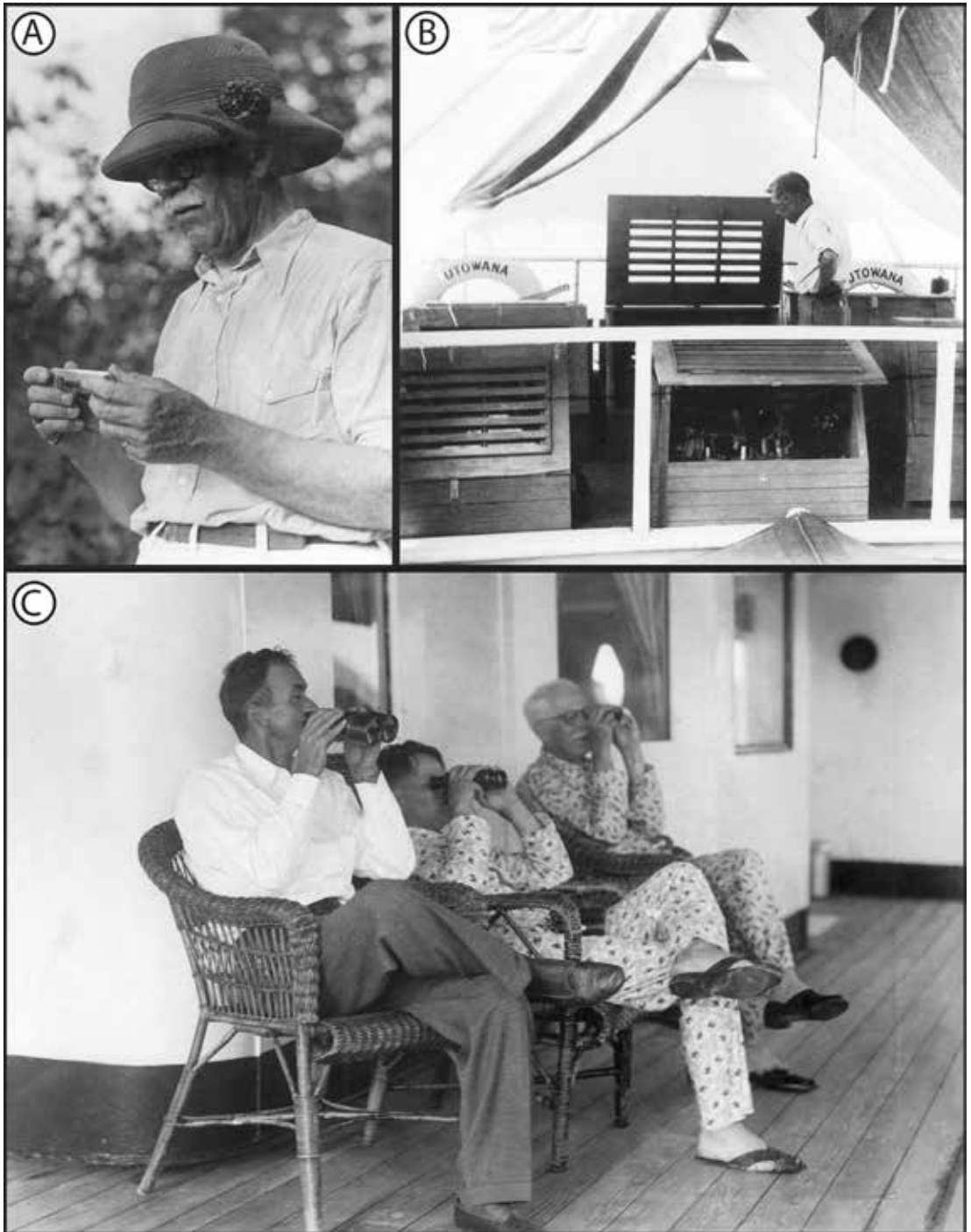


Figure 3. *Above*, Itinerary followed by Fairchild on board *Utowana* during his second expedition to the West Indies (10 January–10 April 1933). 1: Nassau, 2: San Salvador, 3: Crooked Island and Long Cay, 4: Mayaguana and Planas Cay, 5: Great Inagua, 6: Port-au-Prince, 7: Jérémie, 8: Kingston, 9: Providencia and San Andrés, 10: Panama Canal Zone, 11: Grand Cayman, 12: Cienfuegos and 13: Nassau. Itinerary compiled from Fairchild (1932–1942) and Henderson and Powell (2003).

Figure 4. *Right*, Participants in the two expeditions of Fairchild to the West Indies and research scenes on *Utowana*. **A.** David Fairchild, Beata Island, 17 January 1932. Notice the sea snail as an ornament on his hat. Photo 12721, negative 57774 in Dorsett (1931–1932). Photo credit: Palemon H. Dorsett. **B.** Palemon H. Dorsett and portable greenhouses to transport living material, unknown location, unknown date. Photo 12720, Toy’s photo 971. Photo credit: Leonard R. Toy. **C.** Leonard R. Toy (*left*), Harold Loomis (*center*), and David Fairchild (*right*) scanning the sides of the mountain for plants, St. Kitts, 23 January 1932. Photo 12722, negative 57810 in Dorsett (1931–1932). Photo credit: Palemon H. Dorsett. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden.

two-volume travelogue are not housed in the Archives and Library of Fairchild Tropical Garden, and a study focusing on this two-volume report will be the subject of a future contribution.

Documents found in the Archives and Library of Fairchild Tropical Botanic Garden include Fairchild’s pocket notebooks in which he usually kept track of the photographs that were taken and wrote field observations,



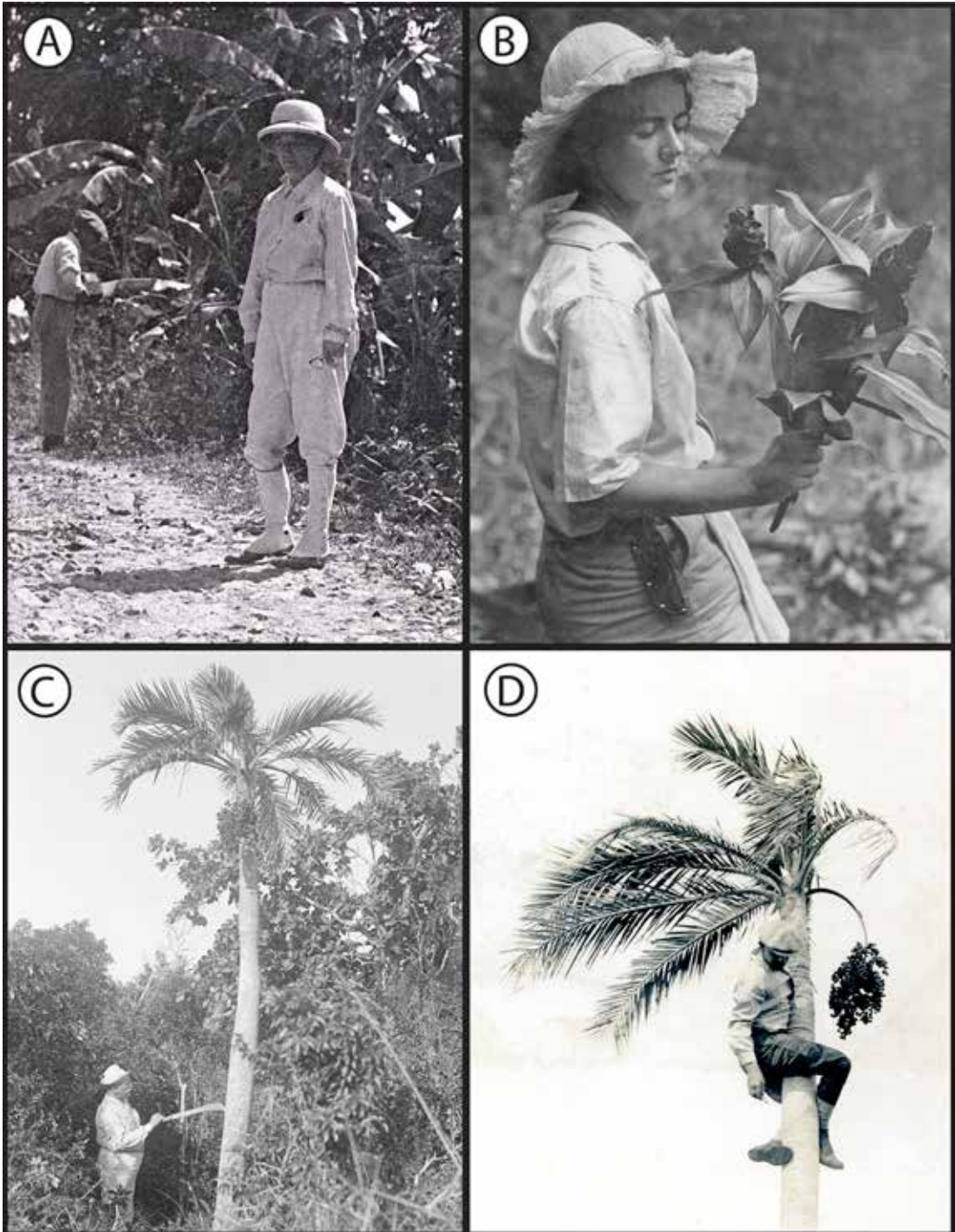


Figure 5. Participants in the two expeditions of Fairchild to the West Indies. **A.** Marian Fairchild (*foreground*) and Palemon H. Dorsett (*background*) along trail to the Citadelle, 27 March 1932. Photo 7301. Photo credit: David Fairchild. **B.** Nancy Fairchild holding a cluster of *Costus* sp. (Costaceae) flowers in the forests of Tobago, 21 February 1932. Photo 12713, negative 58064 in Dorsett (1931–1932). Photo credit: Palemon H. Dorsett. **C.** Allison V. Armour pointing to an individual of *Pseudophoenix saonae* O. F. Cook (accepted name *P. sargentii* H. Wendl. ex Sarg., Areaceae) in the scrubland of Saona Island, 20 January 1932. Photo 574. Photo credit: David Fairchild. **D.** Harold Loomis collecting germplasm of *P. saonae* in the scrubland of Saona Island, 20 January 1932. Photo 12711, negative 57788 in Dorsett (1931–1932). Photo credit: Palemon H. Dorsett. Nancy Fairchild and H. Loomis did not join the second expedition. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden.

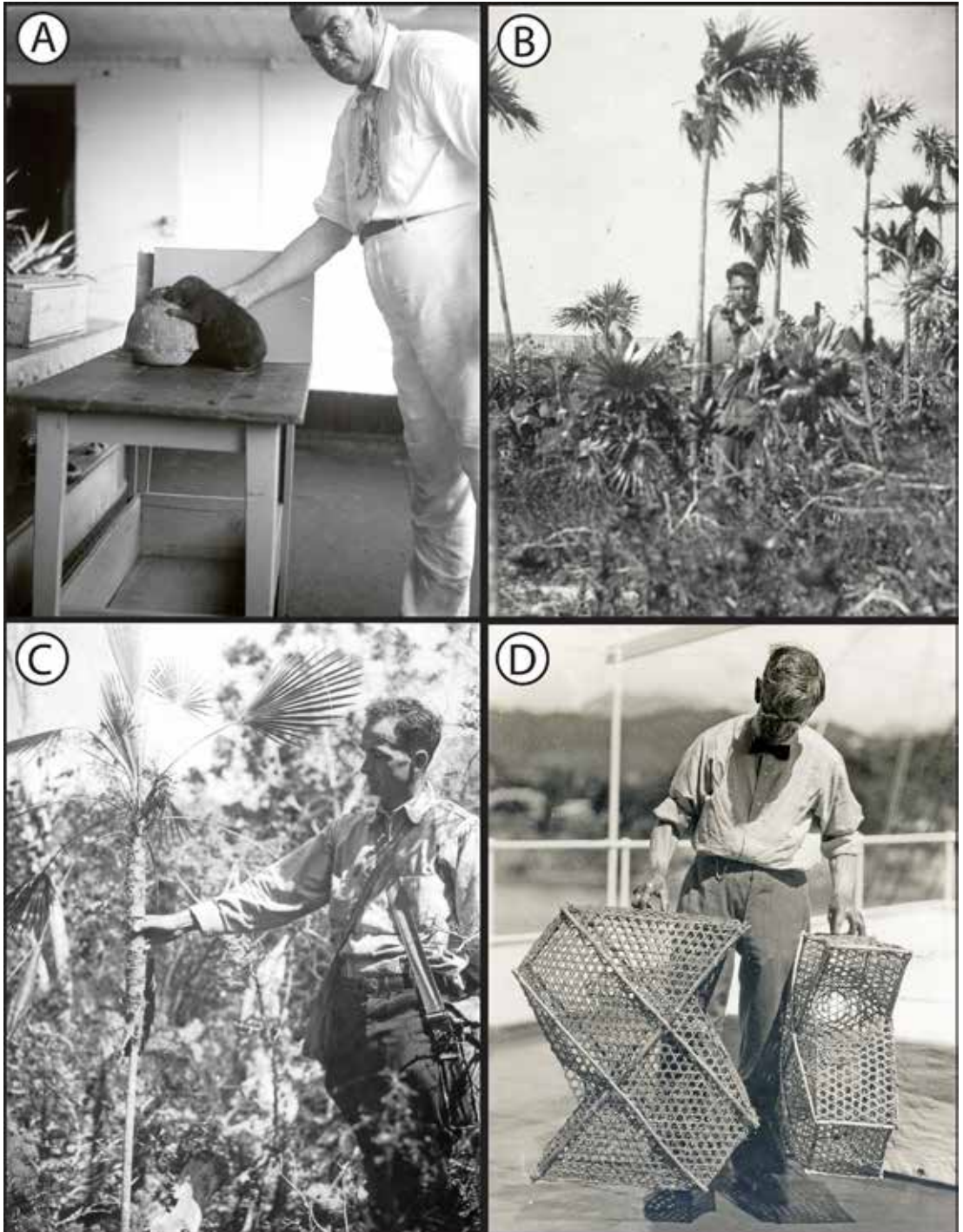


Figure 6. Participants in the expeditions of Fairchild to the West Indies. **A.** Thomas Barbour with an individual of the Jamaican Hutia (*Geocapromys brownie* J. Fischer, 1829. Capromyidae, Rodentia), Kingston, Jamaica, 10 March 1933. Photo 7411. Photo credit: David Fairchild. **B.** James C. Greenway in the scrubland of Watlings Islands, Bahamas, 18 February 1934. Photo 7953. Photo credit: David Fairchild. **C.** Leonard R. Toy with an individual of *Coccothrinax* sp. (Arecaceae), Beata Island, 17 January 1932. Photo 2833. Photo credit: David Fairchild. **D.** Palemon H. Dorsett with fish traps made of bamboo, Dominica, 31 January 1932. Photo 12714, negative 54930 in Dorsett (1931–1932). Photo credit: Unknown photographer. Thomas Barbour and J. Greenway did not join the first expedition whereas L. Toy did participate in the second one. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden.

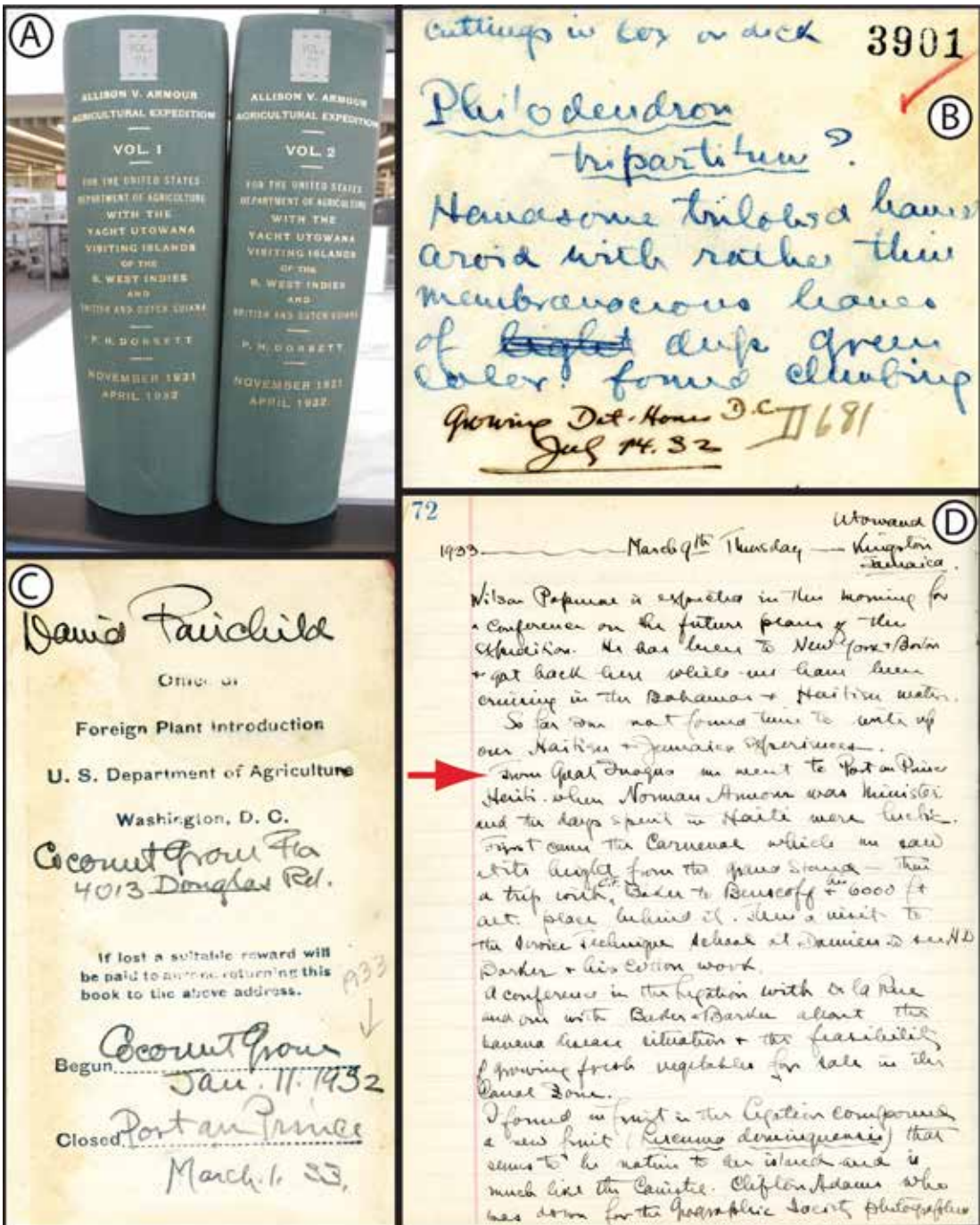


Figure 7. Relevant archival documents. **A**. Two volumes of the unpublished travelogue of Palemon H. Dorsett with his account for the first expedition of David Fairchild to the Caribbean Islands (Dorsett 1931–1932). **B**. Sample page of one of Fairchild's collection books with an entry for the germplasm accession of *Philodendron tripartitum* (Jacq.) Schott (Araceae) – USDA accession number 99619 (Fairchild 3901), collected during the first trip of Fairchild to Haiti. **C**. Cover page of one of Fairchild's pocket notebooks that includes records for his second visit to Haiti. **D**. Sample page of Fairchild's large notebook where he wrote a diary for his second Caribbean Island expedition. Arrow points to the first line of text devoted to Haiti. Courtesy of the US National Archives (document shown in A: reference E 135-K Expeditions Vols. 74–75). Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden (documents shown in B–D).

contact addresses of colleagues and relevant field logistic information (Fig. 7). These pocket notebooks usually contain loose papers that were gathered during his expeditions, including, among others, newspaper clippings, post office invoices and sketches of maps or plants. However, details pertinent to the actual collected material were kept in separate collection books, which are also housed in the Archives and Library of Fairchild Tropical Botanic Garden (Fig. 7). In them Fairchild entered field accession numbers and ethnobotanical, taxonomic or ecological information. Fairchild was also an avid photographer, and the Archives and Library of Fairchild Tropical Botanic Garden have photos from his expeditions. They were kept mounted in albums or organized in envelopes and boxes with references to his plant hunting trips. In addition, during his second Caribbean Island expedition, Fairchild carried a large notebook in which he sporadically made notes with dates of his activities (Fig. 7). This “diary” has records running from 10 December 1932 to 11 July 1942 and also is part of the holdings of the Archives and Library of Fairchild Tropical Botanic Garden (Fairchild 1932–1942). Sixty-five pages of this large notebook are devoted to the 1933 Caribbean Island expedition, and they represent a travelogue with many details pertinent to the material collected and the people he met. Finally, the Archives and Library of Fairchild Tropical Botanic Garden has three undated, unpublished manuscripts by David Fairchild focusing on his trips along the Caribbean Basin. One of these manuscripts does not have a title. The other two were titled “Through the West Indies for Plants” and “With the Research Boat *Utowana* in the West Indies and Guianas.” We believe that these manuscripts are early drafts of the only article that Fairchild (1934) published on his Caribbean Island expeditions.

Regarding our research at the Special Collections, USDA National Agricultural

Library, we found only photographs [made by Dorsett and also found in Dorsett's travelogue (1932–1933)] relevant to the second expedition of David Fairchild to the Caribbean islands. They are located in the Creech Files from the National Arboretum.

Tables 1–2 provide catalogues of all of the photographs available from the two expeditions that David Fairchild undertook to Haiti. The 56 photographs found in the Archives and Library of Fairchild Tropical Botanic Garden [51 photos taken by Fairchild (Tab. 1) and 5 made by Dorsett (Tab. 2)] and in the Special Collections, USDA National Agricultural Library (3 photos taken by Dorsett, Tab. 2) can be downloaded online from links found in Tables 1–2. The 27 photos that Dorsett took in Haiti (Tab. 2) and that were published in his travelogue can be seen in a copy of the 20 pages of this diary that focused on Haiti (available online: <http://www.fairchildgarden.org/about-fairchild/mission-history/online-supplementary-data-for-research-publications>). A transcription of the two pages of Fairchild's original travelogue that described the activities that he performed during his second trip to Haiti is presented in the Appendix.

## David Fairchild in Haiti

### *The 1932 expedition*

David Fairchild's first *Utowana* expedition to Haiti took place during the last portion of his 1931–1932 Caribbean Island expedition. It is worth mentioning that this was not his first visit to Haiti. Previously, Fairchild and Lathrop briefly visited Port-au-Prince in February 1899 (A. Harris, pers. comm.).

The 1932 expedition targeted northern Haiti where *Utowana* made a call at Cap Haitien between 26 and 28 March (Fig. 8). Fairchild's publication (1934) for this plant hunting expedition does not make

Table 1. Photographs from Haiti that were taken by David Fairchild and are housed at the Fairchild Tropical Botanic Garden Library and Archives.

Photograph number	Description / date when photo was taken	Notes
<a href="#">2636</a>	Norman Armour on Jérémie pier / 3 March 1933	
<a href="#">6961</a>	Fruits of <i>Lucuma domingensis</i> [accepted name <i>Pouteria domingensis</i> ] at the American Legation compound	
<a href="#">7297</a>	Doorway in Christophe's Bellowing Hall, the Citadelle / 27 March 1932	
<a href="#">7298</a>	View from the Citadelle window / 27 March 1932	
<a href="#">7299</a>	Old French cannons in the Citadelle courtyard / 27 March 1932	
<a href="#">7300</a>	View over Haiti from the Citadelle / 27 March 1932	
<a href="#">7301</a>	Marian Fairchild and Howard Dorsett on trail to the Citadelle / 27 March 1932	
<a href="#">7302</a>	Sans Souci Palace entrance / 27 March 1932	
<a href="#">7303</a>	<i>Heckeria peltata</i> [accepted name <i>Piper peltatum</i> , Piperaceae] growing as weed in the Citadelle / 27 March 1932	
<a href="#">7304</a>	Nancy Bell Fairchild on horseback, Sans Souci Palace / 27 March 1932	
<a href="#">7305</a>	Hedge of <i>Bromelia pinguin</i> on Cap Haitien–Milot road / 27 March 1932	USDA germplasm accession number 98807
<a href="#">7306</a>	Mother Wasp [Haitian vernacular name as reported by Liogier (1996): Mamam Guêpes] plant on trail to the Citadelle / 27 March 1932 [based on the photo details and the common name reported by David Fairchild this photo is for <i>Ureca baccifera</i> (L.) Gaudich. ex Wedd., Urticaceae]	Photo of this species was also taken by Palemon H. Dorsett, see negatives 58289 and 58290 in Table 2. Fig. 10
<a href="#">7307</a>	People gathered under the great trees of Sans Souci Palace / 27 March 1932	
<a href="#">7308</a>	Haitian man holding branch of <i>Elsota virgata</i> [accepted name <i>Securidaca virgata</i> ] on route to the Citadelle / 27 March 1932	USDA germplasm accession number 99634. <i>Fairchild 3891</i> (US). Fig. 9
<a href="#">7309</a>	Hedge of <i>Bromelia pinguin</i> on Cap Haitien–Milot road / 27 March 1932	USDA germplasm accession number 98807
<a href="#">7310</a>	Party on horseback approaching Sans Souci Palace / 27 March 1932	
<a href="#">7311</a>	Ruins of Sans Souci Palace and surrounding village / 27 March 1932	
<a href="#">7312</a>	Entrance at ruins of Sans Souci Palace with Howard Dorsett standing / 27 March 1932	
<a href="#">7313</a>	Hills denuded of virgin forest on route to the Citadelle / 27 March 1932	
<a href="#">7375</a>	Ernest Riebe holding a heart of palm on board <i>Utowana</i> , Port-au-Prince / 1932	
<a href="#">7381</a>	People on horseback on trail near Jérémie / 4 March 1933	
<a href="#">7382</a>	Jérémie market / 4 March 1933	
<a href="#">7383</a>	Man holding large tropical yam in Jérémie market / 4 March 1933	



Photograph number	Description / date when photo was taken	Notes
<a href="#">7384</a>	Grand Riviere at Jérémie / 4 March 1933	
<a href="#">7385</a>	Palms along route near Jérémie / 4 March 1933	
<a href="#">7386</a>	Scene behind wall of immense French reservoir / 4 March 1933	
<a href="#">7387</a>	Woman selling bonavist beans at Port-au-Prince market / 4 March 1933	
<a href="#">7388</a>	Women selling pine woods for fagots at Port-au-Prince market / 4 March 1933	
<a href="#">7389</a>	Bonavist beans for sale at Port-au-Prince market / 4 March 1933	
<a href="#">7390</a>	Women selling pine woods for fagots at Port-au-Prince market / 4 March 1933	
<a href="#">7391</a>	Women selling Pigeons Peas at Port-au-Prince market / 4 March 1933	
<a href="#">7392</a>	Port-au-Prince market, selling pig peas and bu beans, two legumes of Haiti / 4 March 1933	
<a href="#">7393</a>	F. C. Baker posing with a plant of <i>Agave brevispina</i> on Decouverte Point / 3 March 1933	USDA germplasm accession numbers 102342, 102586 and 102648. <i>Fairchild 3023</i> (US). Fig. 12
<a href="#">7394</a>	Port-au-Prince market, selling Calabash / 3 March 1933	Fig. 13
<a href="#">7395</a>	Port-au-Prince market / 3 March 1933	
<a href="#">7396</a>	Furcy Valley from Decouverte Point / 3 March 1933	
<a href="#">7397</a>	Furcy Valley from Decouverte Point / 3 March 1933	
<a href="#">7398</a>	Port-au-Prince market, selling yams and sweet potatoes / 3 March 1933	
<a href="#">7399</a>	Port-au-Prince market / 3 March 1933	
<a href="#">7400</a>	Port-au-Prince market / 3 March 1933	
<a href="#">7401</a>	Port-au-Prince Carnival seen from grandstand / 28 February 1933	
<a href="#">7402</a>	Port-au-Prince Carnival seen from grandstand / 28 February 1933	
<a href="#">7403</a>	Port-au-Prince Carnival seen from grandstand / 28 February 1933	
<a href="#">7404</a>	Ecole rurale, Kenscoff, terracing by F. C. Baker / 1 March 1933	
<a href="#">7405</a>	Ecole rurale, Kenscoff, terracing by F. C. Baker / 1 March 1933	
<a href="#">7406</a>	Valley of Kenscoff / 3 March 1933	
<a href="#">7407</a>	Large lychee tree, Catholic Brothers School, Petionville / 1 March 1933	
<a href="#">12705</a>	Market scene Port-au-Prince / 4 March 1933	
<a href="#">12706</a>	Ruins of Sans Souci Palace / 27 March 1932	
<a href="#">12707</a>	Wall of the Citadelle / 27 March 1932	
<a href="#">12708</a>	Arches of the Citadelle / 27 March 1932	

Table 2. Photographs taken by Palemon H. Dorsett during the first visit that David Fairchild made to Haiti. Photographs are part of Dorsett's travelogue housed at the US National Archives (Dorsett 1931–1932).

Negative number	Description / date when photo was taken	Notes
58282	View of Cap Haitien from the deck of <i>Utowana</i> / unknown date	
58283	Village of Milot with ruins of Sans Souci Palace / 27 March 1932	Photo <a href="#">8543</a> in the Archives and Library Fairchild Tropical Botanic Garden
58284	Village of Milot with ruins of Sans Souci Palace / 27 March 1932	
58285	Portion of the ruins of Sans Souci Palace / 27 March 1932	
58286	One side of the ruins of Sans Souci Palace / 27 March 1932	Photo <a href="#">58286001</a> in the Special Collections, USDA National Agricultural Library (USDA Office of Plant Exploration Collection of Expedition Photographs)
582870	Ruins of Sans Souci Palace, royal driveway and portion of the village of Milot / 27 March 1932	Photo <a href="#">58287001</a> in the Special Collections, USDA National Agricultural Library (USDA Office of Plant Exploration Collection of Expedition Photographs)
58288	Landscape / 27 March 1932	
58289	Undetermined flowering plant locally known as “Mother Wasp” [Haitian vernacular name as reported by Liogier (1996): Mamam Guêpes] plant on trail to the Citadelle / 27 March 1932 [based on the photo details and the common name reported by David Fairchild this photo is for <i>Urena baccifera</i> (L.) Gaudich. ex Wedd., Urticaceae] / 27 March 1932	Photo of this species was also taken by David Fairchild, see photo <a href="#">7306</a> in Table 1
58290	Undetermined flowering plant locally known as “Mother Wasp” [Haitian vernacular name as reported by Liogier (1996): Mamam Guêpes] plant on trail to the Citadelle / 27 March 1932 [based on the photo details and the common name reported by David Fairchild this photo is for <i>Urena baccifera</i> (L.) Gaudich. ex Wedd., Urticaceae] / 27 March 1932	Photo <a href="#">12710</a> in the Archives and Library Fairchild Tropical Botanic Garden. Photo of this species was also taken by David Fairchild, see photo <a href="#">7306</a> in Table 1
58291	Native home among the bananas along trail to the Citadelle / 27 March 1932	
58292	Distant view of the Citadelle / 27 March 1932	

Negative number	Description / date when photo was taken	Notes
58293	Trail to the Citadelle / 27 March 1932	
58294	View of the Citadelle / 27 March 1932	Photo <a href="#">8542</a> in the Archives and Library Fairchild Tropical Botanic Garden. Photo <a href="#">58287001</a> in the Special Collections, USDA National Agricultural Library (USDA Office of Plant Exploration Collection of Expedition Photographs)
58295	Orchid collected on roof of the Citadelle [based on the photo details and the herbarium specimen this photo is for <i>Bletia patula</i> ] / 27 March 1932	USDA germplasm accession number 99045. <i>Fairchild 3897</i> (A, US)
58296	View over the mountains from top of the Citadelle / 27 March 1932	
58297	One side of the ruins of the Citadelle / 27 March 1932	
58298	Tomb of Christophe / 27 March 1932	Photo <a href="#">58298001</a> in the Special Collections, USDA National Agricultural Library (USDA Office of Plant Exploration Collection of Expedition Photographs)
58299	View along a portion of one of the sides of the ruins of the Citadelle / 27 March 1932	
58300	Portion of the ruins of the Citadelle / 27 March 1932	
58301	View of inner walls of the Citadelle / 27 March 1932	
58302	<i>Heckeria peltata</i> [accepted name <i>Piper peltatum</i> ] growing inside the ruins of the Citadelle / 27 March 1932	Photo <a href="#">12709</a> in the Archives and Library Fairchild Tropical Botanic Garden
58303	Corner of the higher wall of the Citadelle with Mr. L. R. Toy / 27 March 1932	Photo <a href="#">8541</a> in the Archives and Library Fairchild Tropical Botanic Garden. Fig. 11
58304	Eastern side of the Citadelle ruins with Mr. L. R. Toy standing on a bridge near the entrance / 27 March 1932	
58305	Easterly and southeasterly sides of the Citadelle / 27 March 1932	
58306	Cannon and mortar balls, the Citadelle / 27 March 1932	
58307	Native Haitians along trail with oranges and bananas for sale / 27 March 1932	
58308	<i>Philodendron tripartitum</i> plants reaching a large fig tree. Track to the Citadel / 27 March 1932	USDA germplasm accession number 99619

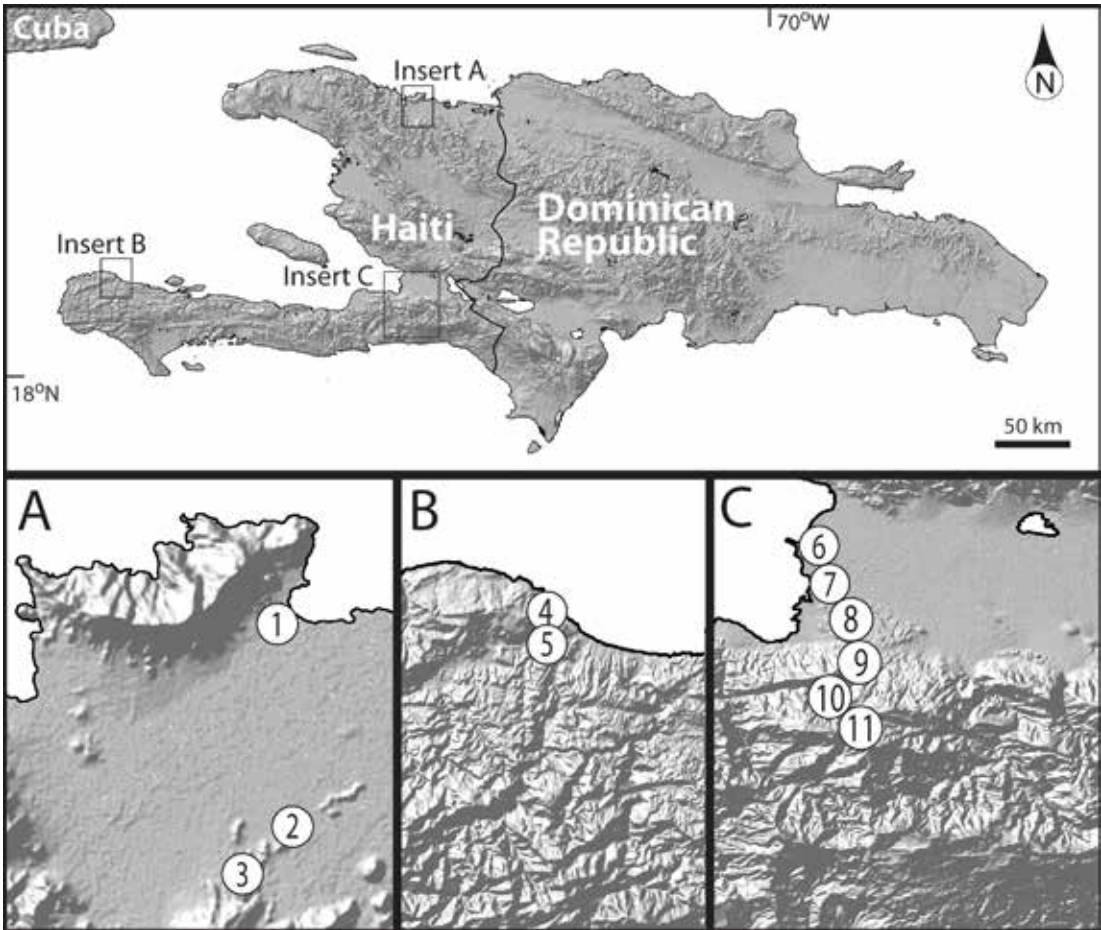


Figure 8. Areas of Haiti that were explored during the first (Insert A) and second (Inserts B and C) plant hunting trips to Haiti by Fairchild. Visited sites are coded as 1: Cap Haitien, 2: Milot and Sans Souci Palace, 3: The Citadelle, 4: Jérémie, 5: Grand Riviere, 6: Damien, 7: Port-au-Prince, 8: Petionville, 9: Kenscoff, 10: Furcy Valley, 11: Point Decouverte.

any mention of this visit to Haiti. His three unpublished manuscripts (see above) for this West Indies voyage do not have any remarks on Haiti either. Our only references for the first stay of Fairchild in Haiti come from the photos and notes that were taken by him (housed at the Archives and Library of Fairchild Tropical Botanic Garden) and from 20 pages of Dorsett’s unpublished travelogue (1931–1932). From Dorsett’s diary it seems that the calling of *Utowana* at Cap Haitien

was arranged at the last minute and mainly aimed to give the expeditions participants an opportunity to visit the ruins of two of the most important buildings made by the Haitian leader King Henri Christophe (1767–1820): the palace of Sans Souci and the fortress of the Citadelle Laferrière (Dorsett 1931–1932, p. 648). Currently both constructions have received international recognition as UNESCO World Heritage Sites. They were erected in the early 19th century when Haiti

proclaimed its independence from France and shortly after Haiti was split into two different countries (Bellegarde 1953). Most of the plant material collected during this trip came from these two historical sites and their surrounding areas (Fig. 8).

A total of 13 germplasm accessions (for a total of 13 species) and 4 herbarium collections [housed at A and US; herbarium codes follow Thiers (continuously updated)] were obtained during this short expedition, with all of the accessions collected in the wild (Tab. 3). Among the material collected there were four Hispaniola non-endemic native species and two species endemic to the Greater Antilles. Among the 48 photographs available from this expedition (21 taken by Fairchild and 27 taken by Dorsett, Tab. 1–2) 10 of them are of plants, including 2 for the Hispaniola non-endemic native *Bromelia pinguin* that was found as an edge plant along sugar cane plantations, 1 for the Greater Antillean endemic *Securidaca virgata* (Fig. 9), 1 for the Hispaniola non-endemic native *Bletia patula*, 1 for the Hispaniola non-endemic native *Philodendron tripartitum*, 2 for the non-endemic native *Piper peltatum*, and 3 for the Hispaniola non-endemic native *Urera baccifera* (Fig. 10). All material was wild collected except for one accession of the gardening plant *Plumeria rubra* (presented by the American Vice Consul Corey T. Wood) and another one for the latex-producing tree *Manilkara bidentata*. Material for the latter came originally from a plantation located in West Central Haiti, but it appears it was presented to Fairchild by USDA colleagues working at the Cap Haitien Rubber Experiment Station (see below). The vast majority of the photos for this expedition were of Haitian landscapes and of the Sans Souci and the Citadelle ruins (Fig. 11).

Fred C. Baker, an agriculturist working for the USDA in Haiti (Fig. 12), flew from Port-au-Prince to Cap Haitien to host Fairchild

and members of this expedition. Baker also accompanied them during the field trips. We have not found any biographical account for Baker; however, it seems that when Fairchild arrived in Haiti he had already been working in this country for 19 years (Dorsett 1931–1932). Baker had an assignment with the USDA Division of Cotton, Rubber, and Other Tropical Plants, at Port-au-Prince (Anonymous 1931). It appears that he was working on rubber tree agricultural research (Polhamus 1928). During this visit, Baker showed Fairchild and his expedition fellows the USDA Rubber Experiment Station located a few miles from Cap Haitien. During their visit the station was not in good condition but still maintained a germplasm collection of over 200 rubber trees. These facilities were originally operated by the well-known palm taxonomist and distinguished USDA botanist Orator F. Cook (1867–1949), who was one of the pioneers for rubber tree research at the USDA and a strong proponent for developing this crop in Haiti (Finlay 2009, pp. 64–65). Cook was a remarkable scientist and the first one to coin the term “speciation” in evolutionary biology (Mishra 2009). He also worked in West Africa, where he was president of Liberia College between 1895 and 1899 (Dunn et al. 2001, p. 348). He and David Fairchild shared an early research interest in fungus gardens of termites and together delivered a presentation on this topic at the meeting of the American Association for the Advancement of Science that took place in Boston in 1898 (Anonymous 1898). Cook headed the USDA Section of Seed and Plant Introduction between 1898 and 1903 when Fairchild received the official appointment of “plant explorer” while primarily traveling with Barbour Lathrop to collect germplasm for USDA (Hodge and Erlanson 1956; Hodge and Todd 2009).

Table 3. Plant germplasm and herbarium specimens collected during the two visits that David Fairchild made to Haiti. Herbaria are coded as indicated in Thiers (continuously updated).

Name reported by David Fairchild	Family	Collecting site / USDA accession number / date of collection	Reference	Notes and herbarium collections
<i>Agave brevispina</i> Trel.	Asparagaceae	Point Decouverte, above Kenscoff / 102342 / 2 March 1933 <sup>2</sup>	Morrison 1934	Hispaniola endemic. <a href="#">Fairchild_3023</a> (US). Photo <a href="#">7393</a> <sup>4</sup> . Fig. 12
<i>Agave brevispina</i>		Point Decouverte, above Kenscoff / 102586 / 2 March 1933 <sup>2</sup>	Morrison 1935	Hispaniola endemic. <a href="#">Fairchild_3023</a> (US). Photo <a href="#">7393</a> <sup>4</sup> . Fig. 12
<i>Agave brevispina</i>		Point Decouverte, above Kenscoff / 102648 / 2 March 1933 <sup>2</sup>	Morrison 1935	Hispaniola endemic. <a href="#">Fairchild_3023</a> (US). Photo <a href="#">7393</a> <sup>4</sup> . Fig. 12
<i>Begonia</i> sp.	Begoniaceae	Walls of the Citadelle / 99522 / 27 March 1932 <sup>1</sup>	Ryerson 1934	
<i>Begonia</i> sp. [identified as <i>B. abottii</i> Urb., based on herbarium voucher at US]		Near Kenscoff / 102344 / 2 March 1933 <sup>2</sup>	Morrison 1934	Hispaniola endemic. <a href="#">Fairchild_3024</a> (US)
<i>Bromelia pinguin</i> L.	Bromeliaceae	Back of Cape Haitien / 98807 / 27 March 1932 <sup>1</sup>	Ryerson 1934	Hispaniola non-endemic native. Photos <a href="#">7305</a> <sup>4</sup> and <a href="#">7309</a> <sup>4</sup>
<i>Bromelia</i> sp.		Battlements of the Citadelle of Haiti / 99030 / 27 March 1932 <sup>1</sup>	Ryerson 1934	
<i>Caesalpinia sepiaria</i> Roxb. [accepted name <i>C. decapetala</i> (Roth) Alston]	Fabaceae	Near Kenscoff / 102345 / 3 March 1933 <sup>2</sup>	Morrison 1934	Introduced but native in Asia and Malaysia. <a href="#">Fairchild_3027</a> (NY, US)
<i>Citrus grandis</i> (L.) Osbeck	Rutaceae	Market at Port-au-Prince / 102460 / 3 March 1933 <sup>2</sup>	Morrison 1935	
<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Port-au-Prince / 102662 / 3 March 1933 <sup>2</sup>	Morrison 1935	
<i>Dolichos lablab</i> L. [accepted name <i>Lablab purpureus</i> (L.) Sweet]	Fabaceae	Port-au-Prince / 3030 <sup>3</sup> / 3 March 1933 <sup>2</sup>	David Fairchild's collection book	
<i>Elsota virgata</i> (Sw.) Kuntze [accepted name <i>Securidaca virgata</i> Sw.]	Polygalaceae	Hillside on the route up the Citadelle / 99634 / 27 March 1932 <sup>1</sup>	Ryerson 1934	Greater Antillean endemic. <a href="#">Fairchild_3891</a> (US). Photo <a href="#">7308</a> <sup>4</sup> . Fig. 9

Name reported by David Fairchild	Family	Collecting site / USDA accession number / date of collection	Reference	Notes and herbarium collections
<i>Ficus</i> sp.	Moraceae	Back of Cape Haitien / 98851 / 27 March 1932 <sup>1</sup>	Ryerson 1934	
<i>Hippocastanum</i> sp. [identified as <i>Hippocastanum puniceum</i> (Lam.) Kuntze, based on herbarium voucher at US]	Amaryllidaceae	Road to Kenscoff from Port-au-Prince / 102667 / 2 March 1933 <sup>2</sup>	Morrison 1935	<a href="#">Fairchild_3023</a> (NY)
<i>Licuma domingensis</i> C. F. Gaertn. [Accepted name <i>Pouteria domingensis</i> (C. F. Gaertn.) Baehni subsp. <i>domingensis</i> ]	Sapotaceae	American Legation compound, Port-au-Prince / 102351 / 1 March 1933 <sup>2</sup>	Morrison 1934	Hispaniola non-endemic native. <a href="#">Fairchild 3021</a> (NY, US)
<i>Licuma domingensis</i> [Accepted name <i>P. domingensis</i> ssp. <i>domingensis</i> ]		Presented by a student in the School of Agriculture, Damien / 102352 / 3 March 1933 <sup>2</sup>	Morrison 1934	
<i>Mammea americana</i> L.	Clusiaceae	Near the Citadelle of Christophe / 98868 / 27 March 1932 <sup>1</sup>	Ryerson 1934	
<i>Mimusops globosa</i> C. F. Gaertn. [accepted name <i>Manilkara bidentata</i> (A. DC.) A. Chev. ssp. <i>bidentata</i> ]	Sapotaceae	Beyluzé Plantation, West Central Haiti / 3895 <sup>3</sup> / 27 March 1932 <sup>1</sup>	David Fairchild's collection book	It appears that the material was presented at the Rubber Experiment Station located near Cap Haitien
<i>Peperomia</i> sp.	Piperaceae	Trail to the Citadelle / 3903 <sup>3</sup> / 27 March 1932 <sup>1</sup>	David Fairchild's collection book	
<i>Phaseolus calcaratus</i> Roxb. [accepted name <i>Vigna umbellata</i> (Thunb.) Ohwi & H. Ohashi]	Fabaceae	Market at Port-au-Prince / 102672 / 3 March 1933 <sup>2</sup>	Morrison 1935	
<i>Philodendron tripartitum</i> (Jacq.) Schott	Araceae	Trail to the Citadelle / 99619 / 27 March 1932 <sup>1</sup>	Ryerson 1934	Hispaniola non-endemic native. Negative 58308 <sup>5</sup>
<i>Pinus occidentalis</i> Sw. 10	Pinaceae	Near Kenscoff / 102615 / 2 March 1933 <sup>2</sup>	Morrison 1935	Hispaniola endemic. <a href="#">Fairchild_3026</a> (US)
<i>Plumeria acutifolia</i> Poir. [accepted name <i>P. rubra</i> L.]	Apocynaceae	Presented by C. F. Wood, American vice consul, Cap-Haitien / 99623 / 26 March 1932 <sup>1</sup>	Ryerson 1934	

Name reported by David Fairchild	Family	Collecting site / USDA accession number / date of collection	Reference	Notes and herbarium collections
<i>Raphanus sativus</i> L.	Brassicaceae	Above Kenscoff / 3025 <sup>3</sup> / 2 March 1933 <sup>2</sup>	David Fairchild's collection book	Cultivated species. <a href="#">Fairchild 3025</a> (US)
<i>Sanyda dodécandra</i> Jacq.	Salicaceae	Cap Haïtien / s.n. <sup>3</sup> / 27 March 1932 <sup>1</sup>	US herbarium	Hispaniola non-endemic native. <a href="#">Fairchild s.n.</a>
<i>Solanum tuberosum</i> L.	Solanaceae	Market at Port-au-Prince / 102272 / 3 March 1933 <sup>2</sup>	Morrison 1934	(US)
<i>Syngonium auritum</i> (L.) Schott	Araceae	Trail between Milot to the Citadelle / s.n. <sup>3</sup> / 27 March 1932 <sup>1</sup>	US herbarium	Greater Antillean endemic. <a href="#">Fairchild s.n.</a> (US) <sup>6</sup>
Undetermined [identified as <i>Bletia patula</i> Graham, based on herbarium voucher at US]	Orchidaceae	Walls of the Citadelle / 99045 / 27 March 1932 <sup>1</sup>	Ryerson 1934	Hispaniola non-endemic native. <a href="#">Fairchild 3897</a> (A, <a href="#">US</a> )
Undetermined	Orchidaceae	The Citadelle / 99046 / 27 March 1932 <sup>1</sup>	Ryerson 1934	
Undetermined	Orchidaceae	Walls of the Citadelle / 99056 / 27 March 1932 <sup>1</sup>	Ryerson 1934	

<sup>1</sup>Material collected during the first visit of David Fairchild to Haiti.

<sup>2</sup>Material collected during the second visit of David Fairchild to Haiti.

<sup>3</sup>Material not recorded in USDA plant germplasm introduction reports. Collection number in David Fairchild's collection book is provided.

<sup>4</sup>Photograph housed in the Archives and Library of Fairchild Tropical Botanic Garden.

<sup>5</sup>Photograph housed in the US National Archives (Dorsett 1932–1933).

<sup>6</sup>This specimen could not be located in the herbarium US but is recorded in the US online database.





Figure 9. The Greater Antillean endemic *Securidaca virgata* Sw. (Polygalaceae). **A.** Individual in habitat in Massif de la Selle, Haiti. Copyright by the L. H. Bailey Herbarium. **B.** Haitian native holding plant material during the first expedition of David Fairchild to Haiti, collection made *en route* to the Citadelle, 27 March 1932 [USDA germplasm accession number 99634, *Fairchild 3891* (US)]. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden (photo 7308). Photo credit: David Fairchild.



Figure 10. The Hispaniola native *Urena baccifera* (L.) Gaudich. ex Wedd. (Urticaceae). **A.** Individual in habitat in El Limonar, Juanillo, Higüey, Province of La Altagracia, Dominican Republic. Photo credit: Brígido Peguero. **B** and **C.** Plants growing on trail to the Citadelle, 27 March 1932. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden. Photo credits: David Fairchild (B, photo 7306), Palemon H. Dorsett [C, photo 12710, negative 58290 in Dorsett (1931–1932)].

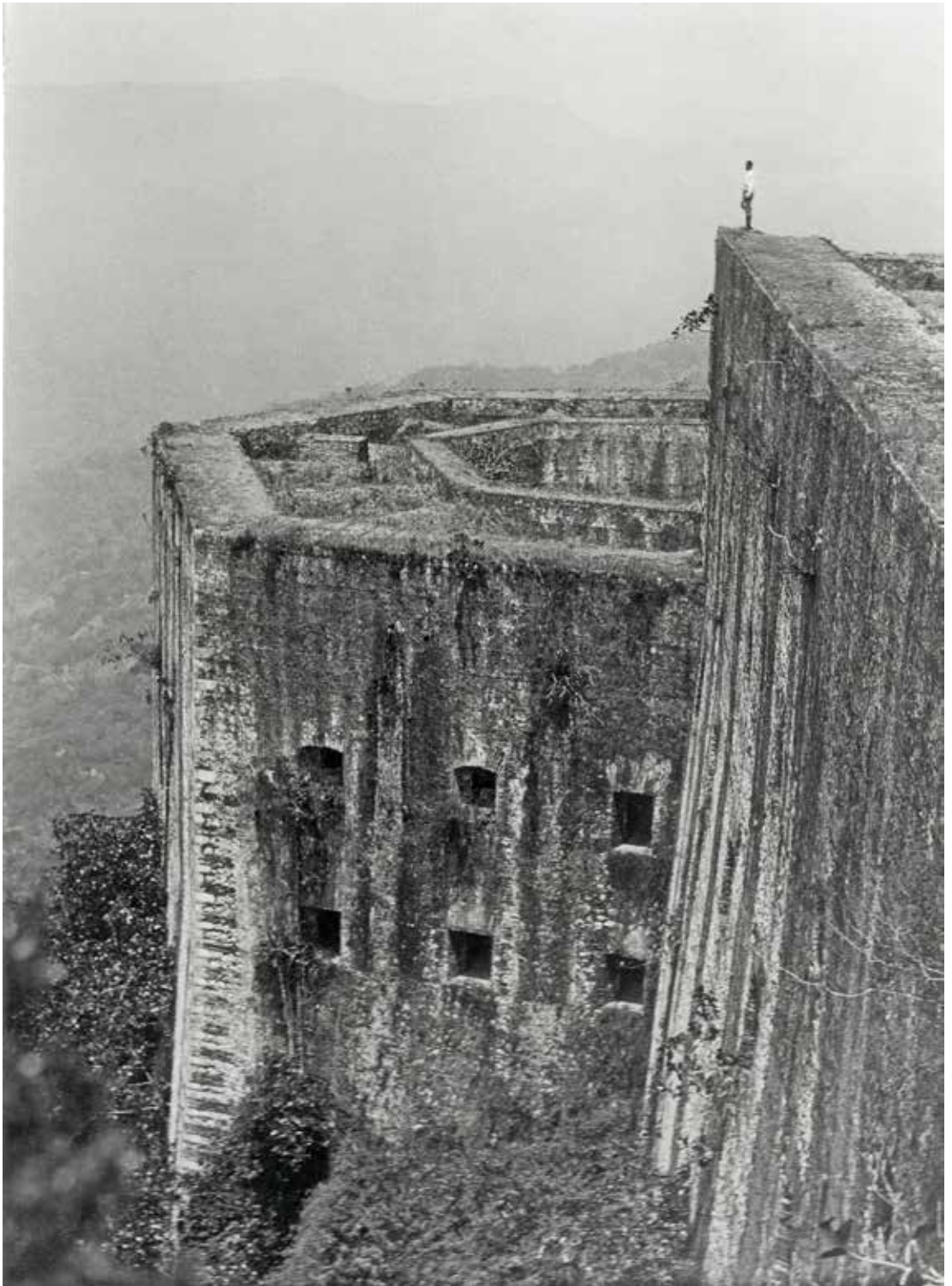


Figure 11. View of the ruins of the Citadelle with Leonard R. Toy standing on top of one of the fortress walls, 27 March 1972. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden [photo 8541, negative 58303 in Dorsett (1931–1932)]. Photo credit: Palemon H. Dorsett.

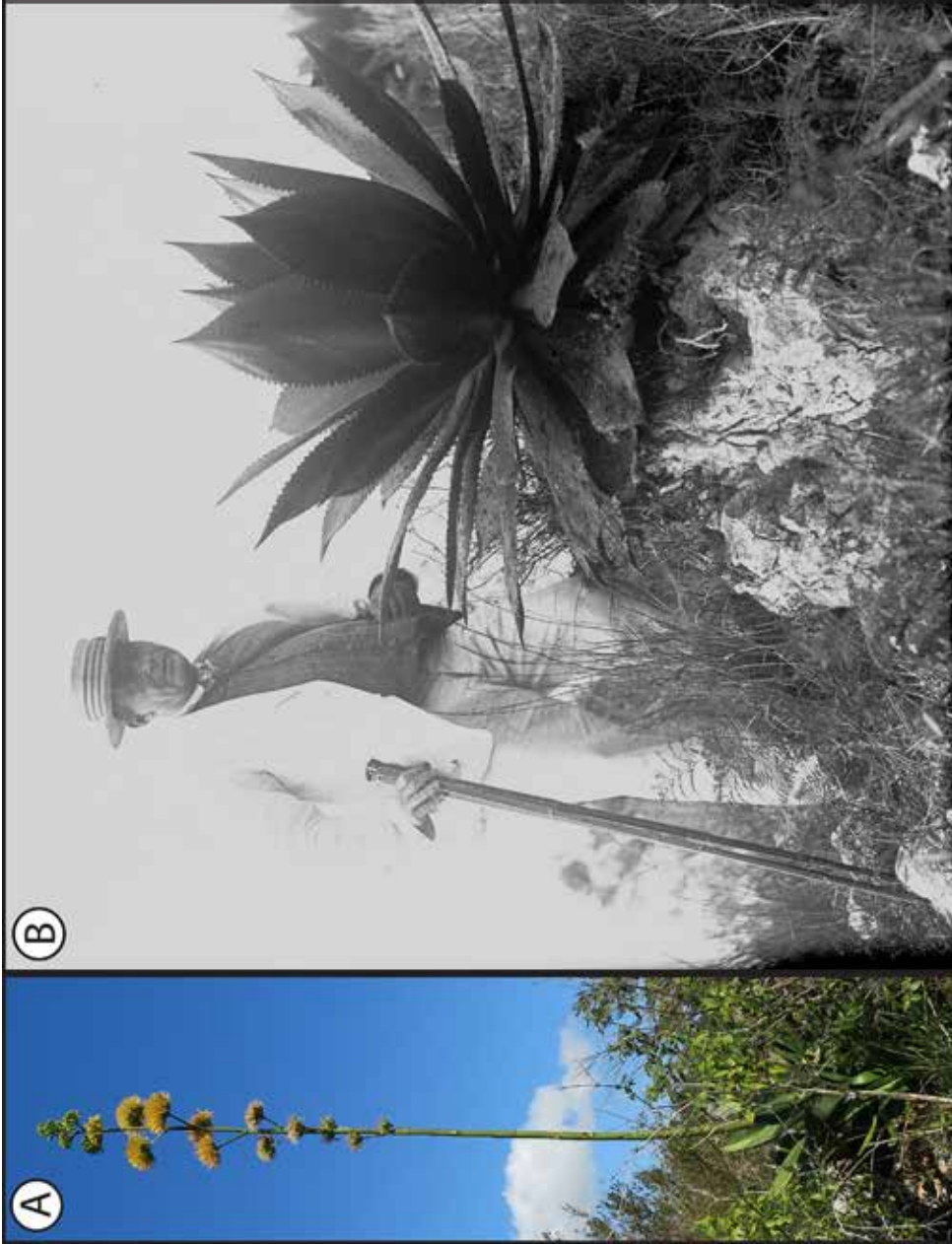


Figure 12. The Hispaniola endemic *Agave brevispinia* Trel. (Asparagaceae). **A.** Individual in habitat near the town of Bonne Fin, Department Sud, Haiti. **B.** Fred C. Baker posing with an individual on road to Keskoff, 2 March 1933 [USDA germplasm accession numbers 102342, 102586 and 102648, *Fairchild* 3023 (US)]. Photo 7393. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden. Photo credits: A: Brett Jestrow, B: David Fairchild.

Dorsett's diary (1931–1932) and Fairchild's pocket notebook have additional details pertinent to the history, landscapes and traditions of this region. For instance it is mentioned that during their trip to the USDA Rubber Experiment Station they stopped in a small village and witnessed cock fighting, a popular entertainment in Haiti that they particularly did not enjoy (page 650 in Dorsett's travelogue). Brief observations were recorded also in Fairchild's pocket notebook on the severe deforestation occurring near the Sans Souci ruins and the fact that ample areas of the lowlands were cultivated with cashew to be exported.

#### *The 1933 expedition*

The second visit of Fairchild to Haiti took place during his trip from the Bahamas to other Caribbean Islands and Panama. *Utowana* called at two ports: Port-au-Prince (28 February–3 March) and Jérémie (3–4 March). In Port-au-Prince Fairchild and expedition members were once again hosted by Fred C. Baker (Fig. 12), who accompanied them in the field. Plant material was primarily collected between Port-au-Prince and the mountains located near the village of Kenscoff (Fig. 8). Unfortunately there are few documents that describe the activities developed during this second stay of Fairchild in Haiti. Therefore, we had to rely on the scattered information found in the two pages of the travelogue that Fairchild (1932–1942) devoted to Haiti, in Fairchild's pocket notebooks and collection books and in the few photographs that were taken during this trip.

This was a botanical–zoological endeavor, which could explain why Fairchild collected not only plant germplasm and herbarium material but also specimens for four species of invertebrates. These are deposited in the Harvard University Museum of Comparative

Zoology, where specimens are searchable online (<http://mczbase.mcz.harvard.edu/SpecimenSearch.cfm>). Regarding his botanical collections, the located herbarium material (nine species) is housed in NY and US. Furthermore, there were a total of 15 germplasm collections for a total of 12 species (Tab. 3). All plant material was wild collected except for three species (*Citrus grandis*, *Phaseolus calcaratus* and *Solanum tuberosum*) that were obtained from Port-au-Prince markets (Fig. 13); three species (*Dioscorea bulbifera*, *Dolichos lablab* and *Raphanus sativus*) that apparently came from gardens or orchards; and two accessions of the Hispaniola non-endemic native *Pouteria domingensis* that were presented to him by staff/students from the American Legation compound (Port-au-Prince) or from the School of Agriculture (Damien). He was particularly interested in the latter as it resembled the canistel [*P. campechiana* (Kunth) Baehni] suggesting that potential crosses between these two species should be performed in Florida. Among the wild collected accessions only one of them (*Caesalpinia decapetala*) was for non-native species and three for Hispaniola endemics (*Agave brevispina*, *Begonia abbottii* and *Pinus occidentalis*).

A total of 30 photographs were taken, 3 of them were of plants [an individual of *Agave brevispina* (Fig. 12), fruits of *Pouteria domingensis*, and a large lychee tree (*Litchi chinensis* Sonn., Sapindaceae) found in the Catholic Brothers School in Petionville], 9 were for landscapes, 3 for people [Norman Armour, Fred C. Baker (Fig. 12) and Ernest Riebe, who was Allison Armour's Head Steward], 3 for the Carnival festival, and 13 for markets of Port-au-Prince (Fig. 12) or Jérémie.

During this stay Fairchild also met Norman Armour (1887–1982) and his wife Mira Armour. Norman Armour was a nephew of Allison Armour and a well-respected diplomat



Figure 13. View of a market in Port-au-Prince with fruits of *Crescentia ajete* L. (Bignoniaceae) for sale, 4 March 1933. Courtesy of the Archives and Library of Fairchild Tropical Botanic Garden (photo 7394). Photo credit: David Fairchild.

who was the United States Ambassador to Haiti during Fairchild's visit. Among his accomplishments, he mastered negotiations to return the government of the country to Haitian authorities and therefore to end the American occupation (Krebs 1982). In Port-au-Prince Norman and Mira Armour joined the rest of the *Utowana* expedition to Jamaica as they needed to seek medical attention due to illness (Barbour 1945, p. 37).

During this second visit to Haiti Fairchild visited the American Legation compound and the School of Agriculture at Damien where he met with USDA agriculturists. In the latter Fairchild met Henry D. Barker (1893–1993), who was one of the authors of the first flora of Haiti (Anonymous 1993; Barker and Dardeau 1930). Barker was an American botanist who also worked for the USDA and specialized in cotton (Barker and Berkley 1946; Anonymous 1950). He was head of the Department of Botany of the Ecole Centrale d'Agriculture since its establishment in 1924, and he joined the USDA in 1917 but worked in Haiti between 1924 and 1936 (Barker and Dardeau 1930, p. iv; Anonymous 1950; Jiménez 1985, p. 40). During these meetings there were discussions pertinent to overcoming crop issues in Haiti, such as banana diseases and their lack of adaptation to alkaline soils; the feasibility of growing fresh vegetables for sale in the Panama Canal Zone; the lack of profitability for cacao cultivation; cotton production strategies; and the fact that the area of Jérémie was a major exporter of coffee since this was the best region for this crop in Haiti. In the American Legation he also had a conference with Sydney de la Rue, who was the financial adviser and general receiver of Haiti (Schreadley 1971, p. 282; Munro 1974, p. 96). This was a position nominated by the president of Haiti upon recommendation by the president of the United States (Anonymous 1916).

## Discussion

Between 1900 and 1933 a few plant hunters traveled to Haiti to collect herbarium specimens mostly for taxonomic research (Moscoso 1943, pp. xxxvi–xliiii; Jiménez 1985; Hoppe 2001). The most important ones were Wilhelm Buch (1862–1943), a German pharmacist who resided in Haiti and collected in many areas of the country between 1900 and 1924 (Jiménez 1985, pp. 46–47); George V. Nash (1864–1921) from the New York Botanical Garden, who explored southern and northern Haiti in 1903 and 1905, respectively (Britton 1921; Zanoni 1984); the aforementioned Orator F. Cook, who collected primarily palms in 1914, 1923, 1926, 1927, 1929 and 1931 (Jiménez 1985, p. 55); William L. Abbott (1860–1936), a famous American naturalist associated with the Smithsonian Institution's National Museum of Natural History who botanized in northern Haiti in 1917 and in the southern area of this country in 1917–1918 (Zanoni 1986); Leonard Ekman (1883–1931) from the Swedish Museum of Natural History, who collected extensively all over the country in 1917 and between 1924 and 1928 (Dubé 2008; Mejía et al. 2001); and Emery C. Leonard (1892–1968) from the Smithsonian Institution's National Museum of Natural History, who made plant exploration expeditions throughout Haiti in 1920 (with W. L. Abbott), 1925–1926 and 1928–1929 (Zanoni 1986). These collections were instrumental in developing floristic studies for Hispaniola, such as those by the German botanist Ignatz Urban (1848–1931), who between 1898 and 1929 published a seminal nine-volume flora for the Caribbean Islands titled *Symbolae Antillanae* (Howard 1996). Volume 8 of this work was devoted to Hispaniola, and it was greatly influenced by the collections that Ekman made in this island between 1917 and 1931 (in the Dominican Republic between 1928 and 1931). During the

occupation of Haiti by the United States, the American administration not only established priority guidelines regarding agriculture research but also promoted the first in-country comprehensive floristic study for Haiti (Barker and Dardeau 1930). Unfortunately full biographical accounts for these two pioneers of the Haitian flora, Henry D. Barker and William S. Dardeau, have not yet been made; therefore, we lack full details for their itineraries and collections in Haiti. Ekman (1926, 1928) indicated that Barker collected with him at least between 1924 and 1926.

The two brief expeditions that David Fairchild made to Haiti on board *Utowana* had a different collecting perspective as they were not focused on floristic studies. As far as we are aware these were the first expeditions visiting Haiti that aimed to collect material for germplasm collections. These two trips were part of larger endeavors as the plant material collected in Haiti was obtained during two major expeditions that also targeted the Bahamas and the Greater and Lesser Antilles (Figs. 2–3). Using issues of the *Inventory, United States Department of Agriculture* journal as a reference, we conducted searches for Haitian germplasm introduced in the United States before these two expeditions of Fairchild, therefore between 1900 and 1933. During this period only 40 Haitian germplasm accessions for a total of 25 species were processed by the Division of Foreign Plant Introduction of USDA from scattered sources. Most of these samples were collected by USDA officers and researchers already established in Haiti. All of these accessions were for cultivated plants and 18 (9 species) of them concerned latex-producing species.

From his works we know that the expeditions of David Fairchild had an ethnobotanical perspective with an interest in the history and traditions of the regions that were visited. Fairchild's plant hunting reports and

publications include extensive details on how plants influenced the various aspects of people's lives. They also often discussed the historical setting behind plant conservation and traditional usages. Haiti was not an exception, and from the scattered available documents and photographs it is clear that these components were also important for Fairchild and his team during these two visits.

Members of these two expeditions were hosted primarily by USDA colleagues assigned to work in Haiti. The development of rubber tree and other plant species as sources of latex [mostly *Cryptostegia grandiflora* R.Br., Apocynaceae (Fennel 1944)] for industrial usage was an important priority for the USDA activities in Haiti (Finlay 2009, pp. 64–65, 207–211; Smith 2009, pp. 43–47). Therefore, it is not surprising that visited research stations focusing on rubber trees provided a few accessions of germplasm to Fairchild. This also explains why issues pertinent to improvement of Haitian crops and to the plant genetic resources of latex-producing plants were discussed with these USDA researchers. However, this did not prevent Fairchild from collecting mostly in the wild and targeting particularly non-endemic and endemic native species. The brief plant hunting activities of Fairchild in Haiti showed that as a collector he had a broad botanical scope and was focused not only on land-races and plant breeding lines to enrich the USDA germplasm collections. Clearly during these two short visits Fairchild was aware of the rich history of the second country to achieve independence in the New World and of the potential of its unique flora for botanical research, gardening, horticulture and crop development.

#### Acknowledgments

We dedicate this paper to our colleague Brígido Peguero (National Botanic Garden, Dominican Republic) in recognition for his contributions to the



flora of Hispaniola. Our gratitude also goes to Lynn Stanko, Diana Wunsch and Amy Morgan from Special Collections, USDA National Agricultural Library. Carol Dietrick helped with the transcription of relevant documents found in the Archives and Library of Fairchild Tropical Botanic Garden. Meghann Toner (United States National Herbarium (US), National Museum of Natural History, Smithsonian Institution) provided high resolution images of herbarium specimens. Research funds from Fairchild Tropical Botanic Garden supported this project. Walter Judd and T. Zanoni provided relevant biographical information for Henry D. Barker. This is contribution number 339 from the Tropical Biology Program of Florida International University. Alan Meerow and Lourdes Rico helped with the taxonomic identification of specimens. Alan Franck, Amanda Harris and David Lee critically reviewed the manuscript.

**Appendix. Transcription of pages 72 and 73 of David Fairchild's travelogue covering activities during his second visit to Haiti, 1933.**

1933-----March 9<sup>th</sup>  
 Thursday-----Utowana /  
 Kingston / Jamaica

Wilson Popenoe is expected in this morning for a conference on the future plans of the Expedition. He has been to New York & Boston & got back here while we have been cruising in the Bahamas & Haitian water.

So far I've not found time to write up our Haitian & Jamaican experiences. From Great Inagua we went to Port au Prince Haiti when Norman Armour was Minister and the days spent in Haiti were hectic. First came the Carnival which we saw at its height from the grandstand – then a trip with C. F. [F. C.] Baker to Kenscoff & his 6000 ft. alt. place behind it. Then a visit to the Service Technique School at Damien to see H. D. Barker & his cotton work. A conference in the Legation with De la Rue and one with Baker & Barker about the banana disease situation & the feasibility of growing fresh vegetables for sale in the Canal Zone.

I found in fruit in the Legation compound a new fruit (*Lucuma domingensis*) that seems to be native to the island and is much like the Canistel. Clifton Adams who was down for the Geographic Society photographed it for me. It may cross with the Canistel & add to a new winter fruit for Florida. I collected a pretty *Agave* that has yellow flowers & long flower stem *A. brevispina* [underlined] on the way back from Kenscoff with Baker. I found that the radish had gone wild in the high mountain valleys back of Kenscoff at 6000 ft. altitude. It may be an escape. A pretty wild begonia was there along the trail too. On March 3 we left Port au Prince for Jeremie, a port in the lower peninsula of Haiti & in the morning Norman, Mira & I went ashore. It gave me a good idea of the untouched Haiti, for Jeremie has little contact with Port au Prince. It was richer with a well watered valley that once had irrigation reservoirs along it that have now gone to pieces.

From Jeremie we came through to Kingston, arriving Sunday morning March 5<sup>th</sup> with Norman & Mira on board. Tom & I visited Hope Gardens alone. I had not recalled how dry it is here in winter. Only 50 inches of rainfall.

**References**

- Acevedo-Rodríguez, P. and M. T. Strong. 2012. Catalogue of seed plants of the West Indies. *Smithsonian Contr. Bot.* 98: 1–1192.
- Anonymous. 1898. A synopsis of the proceedings of the botanical organizations meeting in Boston, August 19–27, 1898. *Bull. Torrey Bot. Club* 25: 550–556.
- Anonymous. 1916. Treaty between Haiti and the United States regarding the finances, economic development and tranquility of Haiti. *The American Journal of International Law* 10: 234–238.
- Anonymous. 1931. Directory of field activities of the Bureau of Plant Industry. *Misc. Publ. Bur. Pl. Industr. U.S.D.A.* 129: 1–120.

- Anonymous. 1950. Dr. Henry D. Barker. USDA Employee News Bulletin 16 August, p. 3.
- Anonymous. 1993. Henry D. Barker. The Washington Post 19 July. [https://www.washingtonpost.com/archive/local/1993/06/19/former-bank-chairman-jean-pierre-bernard-dies/314e54fb-b35b-4b3b-9da4-0fd097e7110f/?utm\\_term=.4bc8ac4c08a3](https://www.washingtonpost.com/archive/local/1993/06/19/former-bank-chairman-jean-pierre-bernard-dies/314e54fb-b35b-4b3b-9da4-0fd097e7110f/?utm_term=.4bc8ac4c08a3).
- Anonymous. 2011. Apocynaceae of North America Update, Database (Version 2011). Updated for Integrated Taxonomic Information System (ITIS) by the Flora of North America Expertise Network, in Connection with an Update for USDA PLANTS (2007–2010). [https://www.itis.gov/servlet/SingleRpt/RefRpt?search\\_type=source&search\\_id=source\\_id&search\\_id\\_value=789](https://www.itis.gov/servlet/SingleRpt/RefRpt?search_type=source&search_id=source_id&search_id_value=789).
- Barbour, T. 1945. Allison Armour and the *Utowana*. Cambridge, Massachusetts: Privately printed.
- Barker, H. D. and W. S. Dardeau. 1930. Flore d'Haïti. Port-au-Prince: Service Technique du Département de l'Agriculture et de l'Enseignement Professionnel.
- Barker, H. D. and E. E. Berkley. 1946. Fiber and spinning properties of cotton, with special reference to varietal and environmental effects. Techn. Bull. U.S.D.A. 931: 1–36.
- Bellegarde, D. 1953. Alexandre Petion: The founder of rural democracy in Haiti. Caribbean Quarterly 3: 167–173.
- Bigelow, H. B. 1952. Thomas Barbour, 1884–1946: A Biographical Memoir. Washington, D.C.: National Academy of Sciences.
- Britton, N. L. 1921. George Valentine Nash. J. New York Bot. Gard. 21: 145–147.
- Brummitt, R. K and C. E. Powell. 1992. Authors of Plant Names. Kew: Royal Botanic Gardens.
- Burton, W. E. 1932. Treasure hunters comb Earth for priceless plants. Popular Sci. Monthly 121(2): 33–35, 112.
- Dorsett, P. H. [1931–1932.] Allison V. Armour Agricultural Expedition for the U.S. Department of Agriculture with the Yacht *Utowana*, Visiting Islands of the British West Indies and British and Dutch Guiana, Nov. 1931–Apr. 1932. Unpublished report. Depository: Volumes 74 and 75 of Expedition Reports of the Office of Foreign Seed and Plant Introduction of the Department of Agriculture 1900–1938, US National Archives, College Park, Maryland.
- Dubé, M. 2008. A brief description of the E. L. Ekman herbarium, Haiti. Moscosoa 16: 202–216.
- Dunn, D. E., A. J. Beyan and C. P. Burrowes. 2001. Historical Dictionary of Liberia, ed. 2. Lanham, Maryland, and London: The Scarecrow Press.
- Ekman, E. L. 1926. Botanizing in Haiti. U.S. Naval Med. Bull. 24: 483–497.
- Ekman, E. L. 1928. A botanical excursion in La Hotte, Haiti. Svensk Bot. Tidskr. 22: 200–219.
- Fairchild, D. 1928. Two expeditions after living plants: The Allison V. Armour expeditions of 1925–27, including two voyages in the especially equipped yacht *Utowana*. Sci. Monthly 26(2): 97–127.
- Fairchild, D. 1930. Exploring for Plants: From Notes of the Allison Vincent Armour Expeditions for the United States Department of Agriculture, 1925, 1926, and 1927. New York: Charles Scribner's Sons.
- Fairchild, D. [1932–1942.] Note Book of David Fairchild. Agricultural Explorer of the U.S. Department of Agriculture Washington. Begun in the Kampong 4013 Douglas Road. Coconut Grove Fla. Dec. 10 1932. Unpublished manuscript. Depository: Archives and Library of Fairchild Tropical Botanic Garden, Miami, Florida.
- Fairchild, D. 1934. Hunting useful plants in the Caribbean. Natl. Geogr. Mag. 66: 705–737.
- Fairchild, D. 1936. Award of Meyer Medal to P. H. Dorsett. J. Heredity 27: 307–310.
- Fairchild, D. 1938. The World Was My Garden: Travels of a Plant Explorer. New York: Charles Scribner's Sons.
- Fennel, T. A. 1944. *Cryptostegia* rubber—Its rebirth and development. Rubber Age 54: 329–332
- Finlay, M. R. 2009. Growing American Rubber: Strategic Plants and the Politics of National Security. New Brunswick: Rutgers University Press.
- Francisco-Ortega, J., A. Santos-Guerra, J. L. Mosely, N. Korber and M. Swan. 2012. David Fairchild expeditions to the Canary Islands: Plant collections and research outcomes. Brittonia 64: 421–437.
- Francisco-Ortega, J., N. Korber, M. Swan, J. Mosely, E. Freid and B. Jestrow. 2014. Plant hunting expeditions of David Fairchild to The Bahamas. Bot. Rev. (Lancaster) 80: 164–183.
- Grandtner, M. M. and J. Chevrette. 2013. Dictionary of Trees: Volume 2, South America, Nomenclature, Taxonomy and Ecology. Amsterdam: Academic Press.
- Harris, A. 2015. Fruits of Eden: David Fairchild and America's Plant Hunters. Gainesville: University Press of Florida.
- Henderson, R. W and R. Powell. 2003. Thomas Barbour and the *Utowana* voyages (1929–1934). Bonner Zoologische Beiträge 52: 297–309.
- Hodge, W. H. and C. O. Erlanson. 1956. Federal plant introduction—A review. Econ. Bot. 10(4): 299–334.
- Hodge, W. H. and A. L. Todd. 2009. Agricultural explorers of the USDA's Bureau of Plant Industry, 1897–1955. Huntia 14(1): 23–50.
- Hoppe, J. 2001. Grandes Exploradores en Tierras de La Española. Santo Domingo: Grupo León Jiménez.

- Howard, R. A. 1996. Ignatz Urban and the "Symbolae Antillanae." Fl. Greater Antilles Newslett. 10. <http://www.nybg.org/bsci/fga/Newsletter/FGANno10.htm>.
- Jiménez, J. de 1985. Coletores de Plantas de La Española. Santiago: Universidad Católica Madre y Maestra.
- Korber, N., J. M. Nassar, J. Mosely, B. Jestrow, C. Lewis and J. Francisco-Ortega. 2016. The last plant hunting expedition of David Fairchild: Venezuela and Colombia (March–April 1948). *Brittonia* 68: 170–186.
- Krebs, A. 1982. Norman Armour, 94, dies; served as an Assistant Secretary of State. *The New York Times* 29 September 1982. <http://www.nytimes.com/1982/09/29/obituaries/norman-armour-94-dies-served-as-an-assistant-secretary-of-state.html>.
- Lee, D. 2013. *The World as Garden: The Life and Writings of David Fairchild*. North Charleston: Createspace.
- Liogier, A. H. 1996. La flora de la Española VIII. San Pedro de Macorís: Universidad Central del Este.
- Mejía, I. M., R. García and S. Rodríguez. 2001. Datos biográficos de Erik Leonard Ekman. *Moscosoa* 12: 1–3.
- Merril, E. D. 1940. The Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, Cuba. *Bull. Popular Inform. Arnold Arbor*, ser. 4. 8: 65–74.
- Mirsha, T. K. 2009. Origin of Species and Darwinian philosophy. *Social Scientist* 37(5/6): 55–63.
- Morrison, B. Y. 1934. Plant material introduced by the Division of Plant Exploration and Introduction, Bureau of Plant Industry, January 1 to March 31, 1933 (nos. 101585–102377). *Invent. U.S.D.A.* 114: 1–38.
- Morrison, B. Y. 1935. Plant material introduced by the Division of Plant Exploration and Introduction, Bureau of Plant Industry, April 1 to June 30, 1933 (nos. 102378–103406). *Invent. U.S.D.A.* 115: 1–51.
- Moscoso, R. M. 1943. *Catalogus Florae Domingensis*. New York: Universidad de Santo Domingo.
- Munro, D. G. 1974. *The United States and the Caribbean Republics, 1921–1933*. Princeton: Princeton University Press.
- Nelson, K. 1950. *America's Crop Heritage: The History of Foreign Plant Introduction by the Federal Government*. Ames: Iowa State University.
- Polhamus, L. G. 1928. Experimental tapping of *Hevea* rubber trees at Bayeux, Haiti, 1924–25. *Techn. Bull. U.S.D.A.* 65: 1–31.
- Ryerson, K. A. 1934. Plant material introduced by the Division of Foreign Plant Introduction, Bureau of Plant Industry, April 1 to June 30, 1932 (nos. 98257–100467). *Invent. U.S.D.A.* 111: 1–93.
- Rose, P. E., K. C. Campbell, T. Commock, N. Korber, J. Mosely, M. Swan, B. Jestrow and J. Francisco-Ortega. 2017. David Fairchild's expedition to Jamaica on board *Utowana*. *J. Torrey Bot. Soc.* 144: 139–252.
- Schreadley, R. L. 1971. *Intervention: The Americans in Haiti, 1915–1934*. Ph.D. dissertation. Tufts University.
- Smith, M. J. 2009. *Red & Black in Haiti*. Chapel Hill: The University of North Carolina Press.
- Sommers, J. W. 2015. The US power elite and the political economy of Haiti's occupation: Investment, race, and world order. *The Journal of Haitian Studies* 21: 46–67.
- Thiers, B. Continuously updated. *Index Herbariorum: A Global Directory of Public Herbaria and Associated Staff*. New York: New York Botanical Garden's Virtual Herbarium. <http://sweetgum.nybg.org/ih/>.
- Todd, A. L. 2009. Biographies of the agricultural explorers of the USDA's Bureau of Plant Industry, 1897–1955: Part 1, A–F. *Huntia* 14(1): 51–86.
- Yaffa, H. 1971. The West Indies cruise on the *Utowana* (Dec. 1931–Apr. 1932) Allison V. Armour–David G. Fairchild plant expedition. *Fairchild Trop. Gard. Bull.* 26(2): 10–13.
- Zanoni, T. A. 1984. Las expediciones botánicas de George V. Nash y Norman Taylor a la isla de La Española. *Moscosoa* 3: 62–82.
- Zanoni, T. A. 1986. Las expediciones botánicas de William L. Abbott y Emery C. Leonard a la isla de La Española. *Moscosoa* 4: 6–38.

