Consolidated Issues of the

FLORA OF THE GREATER ANTILLES NEWSLETTER

As done for the bibliography, a consolidated version of all issues of the Newsletter has been prepared to facilitate the search for words. To avoid useless repetition, the Carribean bibliography found in many issues has been omitted. Please feel free to send comments to Thomas Zanoni (tzanoni@nybg.org) or to Martin Dubé (martin@umce.ca).

FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 1 - May 1991

Introduction

In January 1991, at the Congress for Caribbean Biodiversity held in Santo Domingo, Dominican Republic, a group of botanists gathered to discuss a flora project for the Greater Antilles. It was the general consensus that the West Indies are often only seen by American botanists from the air on their way to South America and that such a project would focus attention on the inherent interest and diversity of the Antillean flora. Also, although floras for individual islands in the Greater Antilles have either been published or are ongoing, there was no synthesis available. Therefore, the same plant on more than one island may be known under more than one name. It was thus confirmed that indeed a flora encompassing the Greater Antilles was not only needed, but that this was the tight time to do it. As an initial step, this newsletter was suggested as a way that the many individuals, both those living within the Greater Antilles and those living elsewhere but with a floristic interest in the area, could communicate with one another.

The meeting in Santo Domingo was the second such gathering of botanists interested in the flora of the West Indies. The first was in 1990 at the Latin American Botanical Congress held in Habana, Cuba. Although there was no hesitation in the call for a Greater Antillean flora, many of the details were, and remain, unresolved. Thus, this newsletter offers a forum for discussion about various aspects of the flora. It is hoped that interested individuals will write with opinions and queries, not

only about items discussed here, but also with ones they would like to see discussed and resolved. Similarly, there should be no hesitation about making suggestions about inclusions in and format of this newsletter.

All correspondence should be addressed to:

Dr. William R. Buck
New York Botanical Garden
Bronx. NY 10458-5126
U.S.A.
212-220-8624
FAX 212-220-6504

IF YOU WISH TO CONTINUE TO RECEIVE THIS NEWSLETTER. PLEASE SEND YOUR NAME AND ADDRESS TO WILLIAM R. BUCK (NY). OTHERWISE, THIS WILL BE THE ONLY COPY YOU RECEIVE.

Organization of the Flora

The currently conceived flora project will encompass all plant and fungal groups within the Greater Antilles. Also, it was agreed that although there are already some treatments available for individual islands, e.g. the flora of Jamaica, that this is a new flora project and that treatments for it should not be abstracted from existing ones but rather be based on the examination of specimens. Naturally, with such ambitious goals, and presumably with widespread collaboration of specialists, a well structured organization is needed to insure that all taxa are treated, that the treatments are editorially uniform, and to resolve potential conflicts.

At this stage there are some organizers in place for some of the cryptogamic groups. These are Dr. David I. Ballantine (Department of Marine Sciences, University of Puerto Rico, P.O. Box 5000. Mayagüez. PR 00709-5000) for algae. Dr. Richard C. Harris (New York Botanical Garden. Bronx, NY 10458-5126) for lichens, and Mr. William R. Buck New York Botanical Garden) for mosses. Still needed are coordinators for fungi, hepatics pteridophytes, gymnosperms and angiosperms. For fungi and angiosperms it may be necessary to divide the taxa into smaller groups (e.g.. Ascomycetes and Basidiomycetes ; Monocots and Dicots) because of their large size.

Additionally, it may be desirable to have regional coordinators for each of the islands. These individuals would be invaluable in assisting contributors not only with fieldwork, but with understanding the distribution of individual taxa within their islands.

On principle, all coordinators should also be contributors. By following this, not only will the coordinators be more understanding of the problems at the contributors, but the contributors will not rely too heavily on the coordinators.

At present there is no pre-decided structure to the Organizing Committee. However, there is no doubt that it will require a major commitment of time on the part of at least a couple of individuals if

the flora is to be completed in a reasonable amount of time. Pedro Acevedo (US) has expressed a major commitment to the project. Also, the New York Botanical Garden is offering fellowships for specialists to work on their treatments at the Garden. These two institutions (NY,US) with large herbaria and libraries. may well have to carry the administrative burden of the project so that others can put their efforts into taxonomic treatments. The responsibility for unclaimed taxa wilt also fall on these two.

Any interest in being either a taxonomic or regional coordinator should be expressed to Pedro Acevedo or William Buck.

Angiosperms in the Greater Antilles

(207 families)
compiled by Pedro Acevedo

Dicotyledons

Family	Cuba	Española	Jamaica	Puerto Rico	Total
Acanthaceae	23	23	17	12	32
Aizoaceae	4	4	2	4	5
Amaranthaceae	15	14	5	10	16
Anacardiaceae	7	6	6	6	9
Annonaceae	5	5	3	5	7
Apiaceae	12	12	10	8	19
Apocynaceae	19	21	15	13	26
Aquifoliaceae	1	1	1	1	1
Araliaceae	5	6	3	3	8
Aristolochiaceae	1	1	1	1	1
Asclepiadaceae	12	12	10	8	16
Asteraceae	96	88	44	60	129
Balanophoraceae	2	1	1	1	2
Balsaminaceae	1	1	1	1	1
Basellaceae	2	2	2	2	2
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Bataceae	1	1	1	1	1
Begoniaceae	1	1	1	1	1
Berberidaceae	2	0	0	0	2
Bignoniaceae	18	15	13	14	26
Bixaceae	1	1	1	1	1

Bombacaceae	7	10	2	4	10
Boraginaceae	7	7	6	7	9
Brassicaceae	11	15	10	9	16
Brunelliaceae	1	1	1	1	1
Burseraceae	3	3	2	3	3
Buxaceae	1	1	1	1	1
Cactaceae	19	18	5	14	26
Callitrichaceae	1	1	0	0	1
Canellaceae	2	3	2	2	3
Cannabaceae	0	1	1	1	1

Family	Cuba	Española	Jamaica	Puerto Rico	Total
Capparaceae	6	8	5	4	8
Caprifoliaceae	3	2	2	2	3
Caricaceae	1	1	1	1	1
Caryophyllaceae	5	11	5	2	14
Casuarinaceae	1	1	1	1	1
Cecropiaceae	1	1	1	1	1
Celastraceae	7	7	6	6	10
Ceratophyllaceae	1	1	1	1	1
Chenopodiaceae	5	7	3	5	7
Chloranthaceae	1	1	1	1	1
Chrysobalanaceae	2	2	2	2	2
Cistaceae	1	3	0	0	3
Clethraceae	1	0	1	0	1
Clusiaceae	7	10	6	5	10
Cneoraceae	1	0	0	0	1

Family	Cuba	Española	Jamaica	Puerto Rico	Total
Cochlospermaceae	1	1	0	1	1
Combretaceae	7	7	7	6	7
Connaraceae	2	1	1	1	2
Convolvulaceae	11	13	6	12	15
Crassulaceae	2	7	1	2	7
Cucurbitaceae	18	19	8	12	23
Cunioniaceae	1	1	1	1	1

Family	Cuba	Española	Jamaica	Puerto Rico	Total
Cuscutaceae	1	1	1	1	1
Cyrillaceae	2	1	1	1	2
Dichapetalaceae	1	1	0	0	1
Dilleniaceae	5	4	3	3	6
Droseraceae	1	1	2	1	2
Ebenaceae	1	2	1	1	2
Elaeocarpaceae	1	1	2	2	2
Elatinaceae	1	2	0	0	2
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Ericaceae	6	7	3	4	10
Eriocaulaceae	5	1	0	0	5
Erythroxylaceae	1	1	1	1	1
Euphorbiaceae	41	51	23	34	59
Fagaceae	2	2	1	0	4
Flacourtiaceae	11	11	6	9	12
Frankeniaceae	0	1	0	1	1
Fumariaceae	0	1	0	0	1
Garryaceae	1	1	1	0	1
Gentianaceae	12	8	4	4	14
Geraniaceae	1	2	2	1	2
Gesneriaceae	8	8	8	6	12
Goodeniaceae	1	1	1	1	1
Haloragaceae	2	0	1	0	2
Hernandiaceae	1	1	1	1	1
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Hippocrateaceae	3	3	1	2	5
Hydrophyllaceae	3	3	1	0	3
Icacinaceae	0	2	0	2	2
Illiciaceae	1	1	0	0	1
Juglandaceae	1	2	1	1	2
Krameriaceae	0	1	0	1	1
Lacistemataceae	0	0	1	0	1
Lamiaceae	14	19	8	12	23
Lauraceae	7	8	6	8	9

Family	Cuba	Española	Jamaica	Puerto Rico	Total
Lecythidaceae	0	2	1	2	3
Leguminosae	93	111	58	86	144
Lentibulariaceae	2	1	0	1	2
Linaceae	1	1	1	0	1
Loasaceae	3	4	1	1	4
Lobeliaceae	5	5	2	2	7
Loganiaceae	5	5	3	2	6
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Loranthaceae	4	7	5	6	10
Lythraceae	7	9	4	5	10
Magnoliaceae	1	3	1	1	3
Malpighiaceae	15	10	5	8	16
Malvaceae	21	24	13	16	26
Marcgraviaceae	1	1	1	1	1
Martyniaceae	2	2	1	1	2
Melastomataceae	19	19	17	14	26
Meliaceae	7	7	4	7	8
Menispermaceae	2	3	1	2	3
Menyanthaceae	1	1	1	1	1
Moraceae	9	8	6	7	9
Moringaceae	1	1	1	1	1
Mollugonaceae	1	1	0	1	1
Myoporaceae	1	1	1	1	1
Myricaceae	1	1	1	1	1
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Myristicaceae	0	1	1	1	1
Myrsinaceae	5	5	4	6	6
Myrtaceae	21	15	9	13	23
Nyctaginaceae	9	7	7	6	9
Nymphaeaceae	5	4	3	2	5
Ochnaceae	2	2	2	2	2
Olacaceae	2	2	1	2	3
Oleaceae	5	5	4	3	6
Onagraceae	3	5	5	1	5

Orobanchaceae	1	0	0	0	1
Oxalidaceae	1	2	1	2	2
Papaveraceae	2	4	2	2	4
Passifloraceae	1	1	1	1	1
Pedaliaceae	1	1	1	1	1
Phytolaccaceae	7	6	5	7	7
Piperaceae	4	6	2	3	6
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Pittosporaceae	0	0	1	0	1
Plantaginaceae	1	1	0	1	1
Plumbaginaceae	1	1	0	1	1
Podostemaceae	3	1	0	0	4
Polemoniaceae	0	1	1	0	2
Polygalaceae	2	2	2	2	2
Polygonaceae	6	6	3	6	8
Portulacaceae	3	2	1	2	3
Primulaceae	2	2	1	0	2
Proteaceae	0	1	1	1	2
Punicaceae	1	1	1	1	1
Pyrolaceae	0	1	0	0	1
Quiinaceae	1	0	1	0	1
Rafflesiaceae	0	0	1	0	1
Ranunculaceae	2	3	1	2	3
Rhamnaceae	6	9	4	7	12
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Rhizophoraceae	2	2	2	2	2
Rosaceae	5	10	5	4	11
Rubiaceae	74	55	37	31	88
Rutaceae	13	13	7	9	18
Sabiaceae	1	1	0	1	1
Salicaceae	1	2	0	1	2
Sapindaceae	12	16	10	13	18
Sapotaceae	7	13	5	9	14
Sarraceniaceae	0	0	1	0	1

Saxifragaceae	0	2	0	0	2
Scrophulariaceae	22	23	21	9	38
Simaroubaceae	5	6	4	5	7
Solanaceae	19	16	11	13	21
Staphyllaceae	2	2	2	1	2
Sterculiaceae	14	13	8	10	14
Styracaceae	1	1	0	1	1
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Surianaceae	1	1	1	1	1
Symplocaceae	1	1	1	1	1
Tamaricaceae	0	1	0	1	1
Theaceae	5	4	4	3	6
Theophrastaceae	2	3	1	1	4
Thymelaeaceae	3	3	2	1	4
Tiliaceae	8	4	2	2	8
Tovariaceae	0	0	1	0	1
Tropaeolaceae	0	1	1	1	1
Turneraceae	2	2	2	2	2
Ulmaceae	4	4	2	2	4
Urticaceae	9	8	5	7	11
Valerianaceae	1	1	1	1	1
Verbenaceae	21	23	19	21	24
Violaceae	1	2	1	1	2
Viscaceae	2	2	2	1	2
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Vitaceae	5	4	3	2	6
Zygophyllaceae	3	3	3	3	3
Monocotyledons					
Agavaceae	2	2	2	2	3
Alismataceae	2	2	2	2	2
Amaryllidaceae	8	6	6	7	11
Araceae	10	10	9	11	13
Arecaceae	16	21	7	14	29
Bromeliaceae	10	8	8	8	10

Burmanniaceae	5	3	4	1	5
Cannaceae	1	1	1	1	1
Commelinaceae	9	7	6	6	10
Cyclanthaceae	2	1	1	0	2
Cymodoceaceae	2	2	2	2	2
Cyperaceae	18	16	14	9	24
Dioscoreaceae	2	2	2	2	2
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Haemodoraceae	2	0	1	0	2
Heliconiaceae	1	1	1	1	1
Hydrocharitaceae	3	3	6	4	7
Hypoxidaceae	2	2	2	2	2
Iridaceae	4	3	7	2	9
Juncaceae	1	1	1	1	1
Lemnaceae	4	2	4	1	4
Liliaceae	7	8	5	7	10
Limnocharitaceae	2	2	0	0	2
Marantaceae	3	3	3	2	3
Mayacaceae	1	0	1	0	1
Musaceae	1	1	1	1	1
Najadaceae	1	1	1	1	1
Orchidaceae	74	58	64	23	90
Pandanaceae	0	1	0	1	1
Family	**Cuba**	**Española**	**Jamaica**	**Puerto Rico**	**Total**
Poaceae	96	83	29	63	119
Pontederiaceae	4	2	2	1	4
Potamogetonaceae	2	2	1	1	2
Ruppiaceae	1	1	1	1	1
Smilacaceae	1	1	1	1	1
Typhaceae	1	1	1	1	1
Xyridaceae	1	1	1	1	1
Zingiberaceae	4	4	4	4	4

Cuba	Jamaica	Hispaniola	Puerto Rico

185 Families 1338 Genera		178 Families 857 Genera		190 Families 1346 Genera		173 Families 928 Genera	
Important Families (15)		Important Families (8)		Important Families (15)		Important Families (7)	
Asteraceae	96	Orchidaceae	64	Leguminosae	111	Leguminosae	86
Poaceae	96	Leguminosae	58	Asteraceae	88	Poaceae	63
Leguminosae	93	Asteraceae	44	Poaceae	83	Asteraceae	60
Rubiaceae	74	Rubiaceae	37	Orchidaceae	58	Euphorbiaceae	34
Orchidaceae	74	Poaceae	29	Rubiaceae	55	Rubiaceae	31
Euphorbiaceae	41	Euphorbiaceae	23	Euphorbiaceae	51	Orchidaceae	23
Acanthaceae	23	Scrophulariaceae	21	Malvaceae	24	Verbenaceae	21
Scrophulariaceae	22	Verbenaceae	19	Acanthaceae	23		
Malvaceae	21			Scrophulariaceae	23		
Myrtaceae	21			Verbenaceae	23		
Verbenaceae	21			Apocynaceae	21		
Apocynaceae	19			Arecaceae	21		
Cactaceae	19			Cucurbitaceae	19		
Melastomataceae	19			Lamiaceae	19		
Solanaceae	19			Melastomataceae	19		

Points of View

In a project of this projected scale, there are bound to be differences of opinion. The final product will surely not fit the exact specifications of any one person. We all have to be willing to endure these compromises if the project is to come to fruition. However, it may well be that a point of view not previously considered is the best one. Therefore, differences of opinion are encouraged, with the understanding that everyone has a right to an opinion of their choice. In the following section, various topics are presented. Under each is the general opinion of the Santo Domingo meeting, or if no consensus was reached, the various options explored. Eventually, all will need to be resolved, but if you have an opinion, please send it in and it will be included in subsequent newsletters. In addition to expressing the opinion, try and present the rationale behind it.

Language of the flora

This is a difficult issue and is currently without a consensus. Should the flora be in English or Spanish? Should there be both English and Spanish editions? Should it be primarily in one language with at least keys in both languages? The argument in favor of Spanish is that it is the primary language of the Greater Antilles, and that local users are more likely to prefer it. On the other hand, the majority of users of the flora are most likely not Spanish-speaking, and would prefer English. It should be noted that although French is the official language of Haiti, it is unlikely that a French version will be available.

Publication of the Flora

The New York Botanical Garden has agreed in principle to publish the projected flora. The Garden has produced and published more North American floras than any other institution, and has the expertise both in production and marketing that will be needed. However, the Organizing Committee should explore other options if it so chooses.

The question also arose as to the method of publication. It was generally agreed, after long discussion. that it would be best if the flora was published in a series of rather large volumes. The option of numerous fascicles was discussed, but this method would result in an overall higher cost for the entire flora. It would, however, mean that when a treatment is ready that it could be published rather expediently. The reasons the larger size was considered best were the lower cost and more usefulness of a few volumes over numerous fascicles.

The problem of tardy authors was discussed in this context, if, for example, families 37-92 were to appear in a single volume, and all but one or two treatments were in hand, how would this be handled? It was unanimously agreed that when a potential contributor offered to prepare a treatment, he/she must agree to try and meet the deadline established by the Organizing Committee. If this deadline was not met, the author would agree, *before beginning the treatment*, that the specimens would be returned to their respective institutions so that someone else would he able to do the treatment. This needs to be understood from the beginning in order to minimize the awkwardness and hard feelings that could be generated.

Format of the Flora

It was generally decided that relatively concise descriptions would be used rather than complete, monographic descriptions. The primary reason was to Conserve space. With a rough estimate, there are about 10,000 vascular plants, 3500 lichens, 1500 bryophytes , and an unknown number of algae and fungi within the flora range. Unless the descriptions are relatively short, the flora would be enormous.

It was also thought that it would be best to write the descriptions using as little specialized jargon as possible. Many of the potential users of the flora are not professional botanists and unless this concept is followed, the flora will fail much of its anticipated audience. Care must be taken, though, that this is not carried to extremes so that botanists are not left confused.

The number of illustrations was also discussed. In a perfect world. we would all like every species illustrated, but not only would this be very expensive to do, the final product would be very expensive as well. Therefore, some compromise needs to be reached. The current idea in use by the Missouri Botanical Garden for their *Flora of North America* project is that every genus receives an illustration, and in larger genera, one in three species is illustrated. We should consider, but not be bound by this model.

Expression of plant distribution was discussed at length. No one wanted distribution to be listed only by island, e.g., known from Cuba and Puerto Rico. Since this is a specialized flora, it should reflect the distribution of plants within the islands, however, no specific idea appealed to everyone. In

conjunction with distribution, it was left undecided whether individual specimens should be cited, and if so, how many. It is possible that this information could be stored in a data base rather than in the published flora. On this general subject, Tom Duncan questioned the group whether we should be producing a data base from which a flora will be extracted, or the reverse. He preferred the former. By Duncan's suggestion, much information would be gathered, and available via computer, that would not be published.

The desirability of distribution maps was also discussed. However, because the size of the maps necessary to actually see anything would be so great, that not more than four maps would fit on a page. This was considered inefficient . However, the possibility was discussed of a separate atlas of distributions. Similarly, it was considered desirable to publish a type register of West Indian plants. Not only would such a register be useful to the project at hand, but to a much wider geographical area because West Indian plants were among the earliest described from the neotropics.

Funding for the Flora

It was universally agreed that there would be financial needs that could not be expected from individual contributors. These funding needs include the following (not in order of importance). [l] translator (since treatments will be submitted in both English and Spanish). [2] fieldwork (although the Greater Antilles are generally well known floristically, there is not a single island that does not have areas that are unexplored and potentially interesting), [3] committee meetings (to bring coordinators together). [4] training West Indian students (who would work with contributors in a collaboratory way), [5] lecturers at West Indian universities (without courses in systematic botany offered in regional universities, it is impossible to expect a new generation of botanists to become interested). Of course there would be more needs, but these were the immediate ones that came to mind. It is possible that the West Indian coordinator at NY could be responsible, at least in part, for finding grant support for the project.

Names and Addresses

Below is a list of the participants at the two meetings held so far. The mailing of this news letter is not confined to these individuals. Rather it will be sent to anyone interested in West Indian floristics. It is hoped that within 8 years or so another meeting can be held, perhaps in Puerto Rico, that would be the official beginning of the Coordinating Committee, and at that time solicitations for participation would be extended.

Pedro Acevedo
Department of Botany. NHB-166
Smithsonian Institution
Washington. DC 20560
202-786-2692

James B. Ackerman
Department of Biology
University of Puerto Rico
Río Piedras. PR 00931

Alberto Alverez
Herbario, Jardín Botánico Nacional
Universidad de la Habana
Carretera del Rocío km 3 1/2
Calabazar, Habana
Cuba

Brian M. Boom
New York Botanical Garden
Bronx, NY 10458-5126
212-220-8628

William R. Buck
New York Botanical Garden
Bronx, NY 10458-5126
212-220-8624

Thomas Duncan University Herbarium
University of California
6701 San Pablo Avenue
Oakland, CA 9460S

Richard C. Harris
New York Botanical Garden
Bronx, NY 10458-5126
212-220-8624

Duane A. Kolterman
Departamento de Biología, RUM
Mayagüez, PR 00709-5000
809-265-3837

Alain Liogier
Herbario, Jardín Botánico
Administración Central
Universidad de Puerto Rico
G.P.O. Box 4984-G
San Juan, PR 00936

George R. Proctor
Department of National Resources
P.O. Box 5887, Puerta de Tierra
San Juan, PR 00906

Alberto Areces
Museo Nacional de Historia Natural
Capitolio Nacional
La Habana
1022 Cuba

Attila Borhidi
Janus Pannonius University, Pecs
Department of Botany and Botanical Garden
H-7604 Pecs, Ifjusag u. 6
Hungary

Geraldino Caminero
Departamento de Biología
Universidad de Puerto Rico
Recinto Universitario de Mayagüez
Mayagüez. PR 00708

Ricardo G. García
Jardín Botánico Nacional de Santo Domingo
Apartado 21-9
Santo Domingo
República Dominicana
809-567-6211 (6212, 6213)

Rhema Kerr
Hope Zoo
Ministry of Agriculture
Hope Gardens
Kingston 6
Jamaica

Angela Leiva
Herbario, Jardín Botánico Nacional
Universidad de la Habana
Carretera del Rocío km 3 1/2
Calabazar, Habana
Cuba

Ramona Oviedo
Herbario, Academia de Ciencias de Cuba
Instituto de Botanica
Calzada del Cerro 1257
Habana 6
Cuba

Sue Thompson
Section of Botany
Carnegie Museum of Natural History
4400 Forbes Avenue
Pittsburgh, PA 15213

Carlos Sanchez
Herbario, Jardín Botánico Nacional
Universidad de la Habana
Carretera del Rocío km 3 1/2
Calabazar, Habana
Cuba

Thomas A. Zanoni
Jardín Botánico Nacional
Apartado 21-9 Santo Domingo
República Dominicana
809-565-2860
809-567-6211 (6212, 6213)

Peter Vogel
Department of Zoology
University of the West Indies
Kingston 7
Jamaica

The New York Botanical Garden is pleased to announce

New York Botanical Garden Fellowships in West Indian Botany

As a result of a generous grant from the Andrew W. Mellon Foundation, The New York Botanical Garden now offers Competitive opportunities for researchers to come to NY to work on treatments for the Flora of the Greater Antilles. Visits are foreseen to be either for one or two months. Although no salaries are available, round-trip air fare to New York, housing accommodations and a food allowance are provided, as well as working space at NY. Because of the rich historical Greater Antillean collections, as well as extensive modern holdings in the herbarium, and the excellent library. these fellowships provide an unparalleled opportunity for researchers to work on treatments for the Flora. All systematic botanists are eligible, but West Indians in particular are encouraged to apply.

The fellowships are available immediately and will only be available for the next two years. Interested applicants should write a letter indicating the taxonomic group (s) on which they intend to work and the month(s) they would like to be in NY, and a curriculum vitae.

Address all Correspondence to:

Dr. William R. Buck
Coordinator of the West Indies Program,
New York Botanical Garden Bronx,
NY 10458-5126

FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 2 - October 1991

Thank you for the wonderful response to the first issue of this newsletter and to the flora project. Many of you have written with offers to prepare treatments for various groups. Of particular note has been the strong response from Cuban botanists. Details of the Cuban offer are given below in a separate article, along with their ideas and comments on the flora. Many of the details of the flora format and organization remain unsettled, and for this reason a meeting is planned to resolve them.

Flora meeting in Puerto Rico

For the week of January 13-19 there will be an organizational meeting for the *Flora of the Greater Antilles* held in Maricao. Puerto Rico at the Parador Hacienda Juanita. In addition to meetings to resolve the format for the Flora and to decide upon taxonomic and regional coordinators, there will be field trips to various habitats within Puerto Rico. The cost of a room at the parador is $60/day for a double or $55/day for a single. Meals are available at the parador. Maricao is a small mountain village in western Puerto Rico, not too far from Mayagüez. The parador is an old coffee plantation. Because of its location, field trips will include both coastal, dry habitats and montane, moist localities. If you are interested in attending, you will need to make a reservation at the parador. The telephone number there is 809-838-2550. Also, so that we can make plans, please contact William R. Buck at the New York Botanical Garden. If you wish to attend and share a room with someone but do not have someone in mind, Dr. Pedro Acevedo (US) will coordinate roommates and make your reservations. You may contact him at 202-786-2692 or by writing to the Department of Botany, NHB-166, Smithsonian Institution, Washington, DC 20560.

To a limited extent we will probably be able to meet some of you at the airport in San Juan and transport you to Maricao since we intend to rent a van. Who we can transport depends on flight times and number of people interested. Therefore, contact William R. Buck as soon as you know if you will attend the meeting. If you fly to Mayagüez, it is a relatively easy taxi ride to the parador in Mayagüez.

The taxonomic coordinators will be responsible for finding contributors for their groups, and resolving conflicts when more than one botanist wants to work on the same taxon. The regional coordinators will be responsible for reviewing manuscripts of taxa within their geographic domain to check for accuracy. Even if some of you have not responded directly to me, you will probably be contacted by a coordinator with a request to contribute.

NSF Proposal Submitted

A proposal was submitted to NSF for support of the flora project. Only a two year proposal was submitted for the October 15th deadline to get the flora off and running. In it the New York Botanical Garden has asked for funding for several critical areas. To avoid some of the problems encountered by our sister flora projects (i.e., Flora of North America and Flora Mesoamericana) , we have requested that NSF fund the salaries of a few contributors who are working on very large groups.

In this first grant period we have requested funding for Dr. James Crimes to work on legumes and Dr. Richard Harris to work on lichens. We have also requested funding for 10 fellowships (5/year) of two months each that would allow botanists to come to NY and work on their contributions uninterrupted by the day to day activities of their home institutions. Because there are not specialists for all families, we have requested funding to pay Dr. Thomas Zanoni of the Jardín Botánico Nacional in Santo Domingo to spend half his time at NY working as a generalist to write up smaller families and orphaned genera. Because of the tremendous influx of visitors, we have requested support of a visitor services assistant to make sure the visitors spend their time most efficiently.

Also, to make the specimen information more widely available, we will begin to database and bar-code the Greater Antillean material at NY. The visitor services assistant will also be responsible for proof-reading all the data entered into the system. Because some contributors will need to see their plants in the field, we have requested modest support so that we can provide field expenses to those needing them. In exchange for this initial funding, we have promised 3+ volumes of manuscripts (of an estimated 31 volumes) after the first two years, with two of them being cryptogamic volumes. Of course we may not be successful in this initial approach to NSF, and if we are almost surely the budget will be trimmed somewhat. However, if all goes well on this first proposal, we will be requesting lengthier proposals once we have proved ourselves.

Overlooked Cuban Herbarium Specimens Accessible

The herbarium GENT contains an important set of American plants collected by the well known Belgian botanist Jean Linden. Many of these specimens are poorly annotated. However, most of his Cuban plants do bear a label, handwritten by Linden (?), giving a rough idea of the locality. Persons interested in a complete list of these ca. 440 Cuban plants can send a note to Paul Goetghebeur (GENT), stating what data they would like to receive.

Paul Goetghebeur
Herbarium
Laboratory of Plant Systematics
State University of Gent
K.L. Ledeganckstraat 35
B-9000 Gent, Belgium

Cuban Response to the Flora Project

The first newsletter was mailed to all botanists in Cuba listed in *Index Herbariorum*. In the following month a joint letter from Drs. Pedro Pérez Alvarez, Director of the Institute of Ecology and Systematics of the Academy of Sciences, and Angela Leiva Sánchez, Director of the National Botanic Garden, was received. Because of its importance and the views expressed in it, I am reproducing it in its entirety here.

Dear Dr. Buck:

Last week, many of the members of our staffs, have been receiving the Flora of The Greater Antilles Newsletter. Probably many of them have already answered, in order to continue to receive this newsletter, as the matter concerns very close to almost all of our taxonomists and is of major interest for our scientific institutions.

As you may know, a new treatment of the Flora of Cuba is being prepared since several years. At this moment, about 13 families are finished, and during its revision, a good parcel of Antillean herbarium materials have been consulted asking loans from NY, US, MO, F, GH, and other outstanding USA herbaria through several East European herbaria. Therefore, this opportunity of contributing to the Greater Antilles Flora is considered as the most interesting for us. The National Committee for the Flora of Cuba will send you next week a list of taxonomists that are interested in contributing to the Flora of The Greater Antilles, as well as the taxonomic groups in which they can contribute. In all the cases, trained taxonomists will be proposed.

During the meetings already held, as the Newsletter says, many points didn't obtain consensus, and details remain unsolved in its majority. We would like to give our institutional opinion about the main topics proposed in the Newsletter.

Language of the Flora

We are absolutely convinced about the necessity of an Spanish-written Flora. First, it is the main language among the four islands. Second, the majority of users are or will later or sooner be, Latin Americans (botanists, ecologists, agronomists, landscape planners, teachers, medical doctors .. and so on). Even for Portuguese-speaking or French-speaking people is easier to read Spanish rather than English. Third, most of the scientists concerned with Neotropical floristics in general do speak or at least read Spanish. If desired, an English edition could be planned, but it is not essential in our opinion.

Publication of the Flora

Of course, we agree that New York Botanical Garden carry with the editorial and publishing work. We think that copyrights of contributors is a point to define in the next future when Organizing Committee start its functions. We also agree with the method of large volumes, taking into account that the Flora will be a concise one, in spite of the difficulties that will arise with tardy authors.

Format of the flora

We agree that the less sophisticated language ("jargon") will be used, the more accessibility and best use will have the Flora. Anyway, some parameters should be fixed in order to redact in correct Spanish. Font-Quers Botanical Dictionary is a very good one for Spanish-written botanical texts. Local terms (except local common names given to plants, that are very important to compile) most be forbidden.

Concerning illustrations, we think that one per genus, embracing the whole variability of diagnostic characters within it, is enough, except when infrageneric categories are present; in such a case, one illustration per infrageneric category will be needed. Anyhow, there will be exceptions to any rule, and the Editorial Committee will decide in connection with the author.

We think that, for the Flora be useful enough. the geographical distribution must be included in the text, probably mentioning at least the political-administrative mayor locality (province, department, etc.). Concerning the number of specimens cited, it might be limited to the five-eight more representative ones per island. That will express the

limits of the range, or the ecological extremes. As a supplement, a database of all revised specimens will be very useful for more specialized studies.

Concerning the maps, although the idea of a separate atlas is good, it is necessary for the users of the Flora to have at least a rough idea of geographical distribution within the proper volume. Type localities could be typographically distinguished at the maps, as it is obvious that protologues are of obligatory consult for all contributors.

Finally, we offer the facilities for celebrating the next meeting in La Habana, Cuba, the next year (may be February or March?).

Hoping to hear about you in due course, we remain.

Sincerely yours,

Dr. Pedro Pérez Alvarez
Director
Institute of Ecology and Systematics
Academy of Sciences

Dr. Angela Leiva Sánchez
Director
National Botanic Garden

Additionally, a letter was received from Dr. Leiva in her capacity as Vice - President of the National Committee for the Flora of Cuba, with a list of Cuban botanists interested in participating in the flora. She concurred with our proposal that in most cases it would be best for West Indian botanists to work in collaboration with an American or European systematist. Here is a list of the botanists and their specialties.

Alberto Alvarez: Dracaenaceae, Agavaceae, Smilacaceae, Melastornataceae (p.p.)
Ileana Arias: Lemnaceae
Martha A. Díaz: Nyctaginaceae, Burrnanniaceae, Orchidaceae (p.p.)
Jorge Gutiérrez: Flacourtiaceae. Cactaceae
Alicia Rodríguez: Cactaceae (p.p.). Malvaceae, Sterculiaceae, Bombacaceae, Elaeocarpaceae. Tiliaceae
Rosa Rankin: Aristolochiaceae. Polygalaceae
Lutgarda González : Eriocaulaceae, Linaceae
Rosalina Berazaín: Ericaceae, Clethraceae, Cyrillaceae
Cristina Panfet; Droseraceae
Hildelisa Saralegui: Piperaceae, Chloranthaceae

Algela Leiva: Loranthaceae, Erernolepidaceae, Viscaceae
Alfredo Noa: Thymeleaceae
Idelfonso Castañeda: Ochnaceae
Eduardo Méndez : Verbenaceae (Lantanae)
Armando Urquiola: Haemodoraceae, Naiadaceae, Mayacaceae, Xyridaceae
Víctor Fuentes: Goetzeaceae, Solanaceae
Jorge Sierra: Begoniaceae
Martha Valentín: Myricaceae
Francisco Cejas: Bromeliaceae
Luis Catasús: Poaceae (p.p.)
Carlos Zavaro: Cyperaceae (p.p.)
Mayra Fernández: Rubiaceac (p.p.)
Reina Hechevarria: Lobeliaceae
Sonia Machado: Anacardiaceae
Antonio Crawford: Simarubaceae
Miguel A. Vales: Capparidaceae
Ramona Oviedo: Erythroxylaceae
Pedro Herrera: Compositae (p.p.)
Isora Baró: Verbenaceae (p.p.)
Adelaida Barreto: Caesalpinaceae (p.p.)
Angela Beyra: Fabaceae (p.p.)
Delhy Albert: Meliaceae
Jacqueline Pérez: Loganiaceae. Dilleniaceae
Carlos Sánchez : Hymenophyllaceae, Polypodiaceae (s.l.)
Mayra Camino: Myxomycetes
Sara Herrera: Hymenochaetaceae. Polyporaceae
Jorge L. Ortiz: Tricholomataceae
Hilda D. Gómez: Micropeltaceae
Miguel Rodríguez: Meliolaceae
Gloria Recio: Xylariaceae
Angel Mercado: Hyphomycetes
Julio Mena: Hyphomycetes
Kendra Rodríguez: Hyphomycetes
Augusto Comas: Chlorococcaceae
Victor Martínez: Desmidiaceae
Enrique Genes: Oscillatoriaceae
Susana Maldonado: Bacillariophyceae
Liliana Toledo: Bacillariophyceae
Hugó Iglesias: Lichens (p.p.)

Alberto Areces at NY

As a result of a grant from the Andrew W. Mellon Foundation to the New York Botanical Garden for new initiatives in science, NY began the Flora of Greater Antilles project by initiating fellowships for botanists to work on the flora. The first fellow is Alberto Areces Mallea from the Museo Nacional de Historia Natural in Habana, Cuba. Areces is working on the Cactaceae for the Greater Antilles. During his 2 month stay at NY he is concentrating on the genera Leptocereus and Opuntia s.1. From NY he hopes to go to the Cayman Islands at the invitation of the Cayman National Trust to study the cacti there. Before returning to Cuba he also hopes to stop off in the Dominican Republic to search for a new species of *Leptocereus* that he has discovered from herbarium material. Anyone wishing to contact Alberto Areces while he is in NY (until 5 November) may write c/o William R.Buck or telephone him directly at 212-220-8642.

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 3 - March 1992

Since the last newsletter, there has been a tremendous amount of activity with the Flora of the Greater Antilles project. We are now geared up and just about ready to actually start producing manuscripts. The major events are outlined below.

ACC Invites NY for Discussion

In November 1991, the Director of the Instituto de Ecología y Sistemática de la Academia de Ciencias de Cuba, Dr. Pedro Pérez , invited William R. Buck (NY) to visit Cuba to discuss Cuban involvement in the Flora of the Greater Antilles project. Since Dr. Pérez requested that the visit take place before the organizational meeting in Puerto Rico in January. Buck flew to Cuba on 9 December 1991 for 10 days of discussions. During this time there were extensive discussions with scientists at both the Instituto and at the Jardín Botánico Nacional, as well as at the Jardín Botánico de Cienfuegos . Without except ion, Cuban botanists were interested in participating in the project as fully as possible. Many of the other questions raised in the first two issues of this newsletter were also discussed. As a result of the meetings in Cuba, the New York Botanical Garden extended invitations to Drs. Miguel Vales (HAC) and Rosalina Berazaín (HAJB) to attend the Puerto Rican meeting.

Discussions were also initiated with the U.S. Interest Section in Havana about scientific materials being shipped by diplomatic pouch to insure their safe arrival. Although not finalized, it appears promising that both Cuban and American diplomatic services may be used in the future to ship herbarium material and scientific literature between the two countries.

For the moment, though, the best alternative is to have the materials hand-carried by one of the ever-increasing scientific travelers. When Buck returned to the United States in December, he carried herbarium specimens for HAJB and numerous Cuban books from HAC for the Library of the New York Botanical Garden.

Puerto Rican Meeting A Great Success

As announced in the last newsletter, an organizational meeting for the Flora of the Greater Antilles project was to be held in Maricao, Puerto Rico from January 13-19, 1992. The meeting met as scheduled and was a great success. Pedro Acevedo, in conjunct ion with Jim Ackerman and Frank Axelrod, arranged transportation for the nonindigenous participants from the airport in San Juan to the Hacienda Juanita in Maricao. The meeting site is one of the islands paradors and is under new management, who went out of their way to be cooperative.

The participants were (in alphabetical order): Pedro Acevedo (US). Jim Ackerman (UPRRP), Nilda Aponte (MSM), Frank Axelrod (UPRRP), Rosalina Berazaín (HAJB), Bill Buck (NY). Linda Escobar (UPRRP), Jim Grimes (NY), Dick Harris (NY), Walt Judd (FLAS), Alain Liogier (UPR), Jean Lodge (± RPPR), Dick (George) Proctor (SJ), Roger Sanders (FTG), Charlotte Taylor (MO), Sue Thompson (CM), Miguel Vales (HAC), and Tom Zanoni (JBSD) .

To make the meetings as palatable as possible to the participants,we met the mornings of January 14, 16, and 18, went into the field locally those afternoons, and had all day field trips on the 15th and 17th, Field trips covered many local types of habitats, including vegetation over serpentine, limestone, and chert.

During the meetings, three significant areas were discussed and decisions reached: format, organization, coordinators. Very shortly a *Guide for Contributors* will be ready to those who will be preparing manuscripts for the flora. Although no single meeting participant was pleased with every aspect of the format, we all believed it to be a workable compromise.

The organization decided upon has numerous levels, so as to spread the responsibility as widely as possible. There is a permanent editorial board of William R. Buck, James D. Ackerman, Thomas A. Zanoni, Walter S. Judd, and Miguel Vales. Under this level, there are coordinators for each major group of plants/fungi. These are: David L. Ballantine (marine algae), Augusto Comas (freshwater algae), Sabine Huhndorf (Ascomycetes), Jean Lodge (Basidiomycetes), Richard C. Harris (lichens), William R. Buck (mosses), Deisi Reyes (hepatics), Pedro Acevedo (vascular plants). Additionally, Dr. Richard A. Howard will coordinate an introductory volume for the flora. Below the group coordinators are coordinators for each of the volumes. Many of these individuals have already been contacted. but a few are still outstanding. When all are in place, a list will appear in the next newsletter.

Additionally, there are geographic coordinators who will assist with field work in their islands, and will read the manuscripts for geographical accuracy. These are: Frank Axelrod (Puerto Rico), Jorge Gutiérrez (Cuba), Tom Zanoni (Hispaniola), George Proctor (Jamaica and Cayman Islands), and Pedro Acevedo (Virgin Islands). As one can see, the Cayman and Virgin Islands were added to the scope of the flora since these islands are both geologically and vegetationally Greater Antillean.

Also at the meeting, a group of phanerogamists. Walt Judd, Roger Sanders, Pedro Acevedo, Jim Grimes and Tom Zanoni, completely rearranged the families of vascular plants into volumes. The new system is basically a modified Cronquist system that reflects recent ideas by Dahlgren and others. All deviations from Cronquist will be explained by Judd in the introductory volume of the flora.

The next organizational meeting of the Flora of the Greater Antilles will be held in Havana, Cuba, at the IV Simposio de Botanica, on 21-25 June 1993.

Cuban Biodiversity Roundtable Held at Smithsonian

On February 3-4, 1992, a roundtable discussion was held in Washington, D.C. on Cuban biodiversity. The meeting was the idea of Dr. Wayne S. Smith, a former U.S. diplomat to Cuba and current director of Cuban studies at Johns Hopkins University, and was organized by Dr. Don E. Wilson, director of the Biological Diversity Program at the Smithsonian institution. The meeting was attended primarily by Smithsonian staff and eight Cubans, but there were also representatives of the New York Botanical Garden, the American Museum of Natural History, and the Center for Marine Conservation.

The first day was occupied by opening ceremonies and greetings (in the morning), and the botany session (in the afternoon), and was held in the Natural History Building of the Smithsonian. The second day dealt with zoological topics and met at the National Zoo. Botany was less represented than zoology, with two Cubans, Miguel Vales, president of the Sociedad Cubana de Botánica, and Angela Leiva, director of the Jardín Botánico Nacional, and four Americans, Pedro Acevedo and Larry Dorr of the Smithsonian, and Brian Boom and Bill Buck of the New York Botanical Garden.

Despite the under-representation, it was obvious that botanical cooperation between the two countries has progressed much further than zoological cooperation, primarily as a result of the Flora of the Greater Antilles project. During the zoological session, both Cuban and American scientists pleaded for cooperation and interaction, while the botanists were already cooperating in several areas.

After the meeting, the New York Botanical Garden sponsored a trip to New York for Angela Leiva and Miguel Vales. Because of other responsibilities, Dra. Leiva was only able to stay a week, while Dr. Vales stayed two weeks. The two Cubans were shown all aspects of operation at the New York Botanical Garden and were able to meet informally with most of the staff at various social events. They were even interviewed by a local newspaper. At Sue Thompson's invitation, Miguel Vales traveled to Pittsburgh for a visit at the Carnegie Museum for several days. All parties found the Cuban visit in the United States worthwhile.

NY Signs Agreement with ACC

During the visit of Bill Buck to Cuba in December (see opening article in this newsletter), in addition to discuss ins Cuban participation in the Flora of the Greater Antilles, he also worked out, with Miguel Vales, a draft of an agreement between the New York Botanical Garden and the Academia de Ciencias de Cuba.

The document was signed in Washington on February 3, 1992. during the biodiversity roundtable discussions, by Sergio Pastrana, head of the Departamento de Colaboracion of the ACC, and Brian Boom, Vice-President for Botanical Science at NY. The purpose of the agreement is to increase cooperation between the two institutions and to make it easier for their staffs to visit each other.

Because the ACC does not want to enter into agreements with numerous American institutions, NY can act as the representative for other botanical institutions. In other words, if a systematic botanist in the United States wants to visit Cuba, they can contact NY to make the arrangements for them. Naturally. they must adhere to the points of the agreement. The collaboration includes, but is not limited to: plant systematics, biodiversity, and economic botany. As part of the agreement, the ACC will facilitate the processes for obtaining visas, housing, phytosanitary documents, etc. within Cuba and NY will perform the equivalent functions within the United States.

For fieldwork within Cuba by Americans:

1) The first set of collections, including holotypes , will remain in Cuba and will be deposited in either HAC or HAJB.

2) The Instituto de Ecologia y Systematica will provide a driver, a Cuban botanist, laboratory facilities, and possibly a vehicle.

3) The American will pay for all fuel and other field costs of the driver and Cuban

botanist, and if necessary, the costs of renting a vehicle.

Although there are several other points in the agreement, the most interesting permits NY to develop the facilities at the Jardín Botánico de Cienfuegos (Harvard's former Atkins Botanical Garden) as an international biological station.

For additional information on the agreement, contact: William R. Buck
New York Botanical Garden
Bronx, NY 10458-5126, U.S.A.

or

Miguel Vales
Instituto de Ecología y Sistemática, ACC
Carretera de Varona km 3 1/2
Capdevila, Boyeros
A.P. 8010, C.P. 10800
La Habana, Cuba

Cuba Newsletter

Although it has been going on for several years, it has just been brought to our attention that there is a newsletter specifically dealing with Cuba. It is called CubaINFO Newsletter and primarily reports on political and economic news relating to Cuba. However, as these issues impact on science, it is of interest. It is published every three weeks during the academic year and once a month during the summer and holiday season at a subscription price of $50/year (for individuals). The address Is:

CubaINFO
Cuba Policy Project
Johns Hopkins University
1740 Massachusetts Ave. N.W.
Washington. D.C. 20036-1983

ACC Celebrates 30th Anniversary

On February 17-21, l992, the Academia de Ciencias de Cuba celebrated its 30th anniversary with a well orchestrated program of events. Brian Boorn represented the

New York Botanical Garden at the program. High-technology kinds of science were highlighted, but during an informal session Brian discussed the Flora of the Greater Antilles project. He was also able to visit the Instituto de Ecologia y Sistematica and the Jardín Botánico Nacional. The Jardín Botánico Nacional features a brand new vegetarian cafe in their Japanese garden, the first vegetarian eatery in Cuba. The food is grown on the grounds of the Jardín.

Carnegie Museum to Identify Insects

During the organizational meeting in Puerto Rico, Sue Thompson of the Carnegie Museum of Natural History informed the participants that entomologists at CM would be willing to identify insects associated with plants and fungi. The information thus gained could be used in the *Ecology* section of manuscripts to list pollinators, dispersers, herbivores, etc. The following guidelines have been provided:

> The Section of Invertebrate Zoology at the Carnegie Museum of Natural History has a special interest in the Caribbean insect fauna with emphasis on lineages associated with plants and fungi.. In order to facilitate biological studies of the Caribbean flora, we are offering to accept insect specimens collected in association with Caribbean plants or fungi as gifts for determination in order to broaden the biological and ecological content of the Flora of the Greater Antilles. The Carnegie herbarium and research collection of insects are adjacent to each other in the same building, a proximity facilitating documentation of plant/insect associations pertinent to this Flora. The following conditions apply:
>
> A. Carnegie will accept for determination any insect taxon in any stage of development (eggs, nymphs, larvae, pupae, adults) that were found in association with a given plant or fungus by collectors or contributors to the Flora. Hosts may include mosses, liverworts, algae, and lichens (the last being especially interesting to Carnegie staff).
>
> B. Carnegie will be responsible for preparation, labelling, and permanent preservation of the specimen in its collection. cross-referenced to an appropriate plant/fungus voucher.
>
> C. Carnegie will provide to the contributor a determination to whatever level feasible or possible. Determinations will be done by Carnegie staff, or solicited from entomological specialists worldwide as part of our regular loan network.

D. Each specimen (or batch of specimens) must be associated with a distinct plant/fungus voucher clearly identified by collector number or other unique indication. Collection data (time, place, collector, etc.) for the host voucher should be provided and will be the source of data attached to the insects. When possible and convenient, a duplicate of the insect-associated plant specimen should be deposited at Carnegie Herbarium). In any case, the herbarium of deposit for the host voucher should be clearly indicated.

E. The presumed nature of the association between insect specimens and plant/fungus host should be specified. Examples include: visiting flowers of, emerging from gall on, boring in twigs of, in runways under moss, reared from seeds of, browsing soredia of, feeding on leaves of, feeding on sporophores of, and any other conceivable association with a specific vascular plant, alga, moss, lichen, fungus, etc.

F. Field collections of insects are basically of three types: 1) large-winged specimens like butterflies should be placed in paper envelopes; 2) the vast majority of specimens may be placed in vials containing 70 to 85% alcohol (ethanol or isopropanol), or if necessary in FAA; 3) large thick-bodied larvae (like caterpillars or grubs) should be captured alive, dropped into boiling water for a minute or so, and then placed in 70-85% alcohol. Vial labels should be inside vials in ink, permanent marker, or pencil, and should mention the collector and plant voucher number at the very least.

G. The most valuable plant/insect interactions will come from rearings, although only a few field botanists will have time or interest in attempting these. These involve confining galls, seeds, infructescences, or other plant parts in containers and then preserving whatever insects (often tiny) that emerge over a period of 1-4 weeks. Especially rewarding are associations discovered by rearing wild- caught larvae found feeding on a particular plant or fungus, but this requires providing fresh host material over several days until a pupa (and later adult) are obtained to verify insect determination.

H. Please address questions, comments, and securely packed specimens to Dr. John Rawlins, Invertebrate Zoology, Carnegie Museum, 4400 Forbes Avenue, Pittsburgh PA 15213. U.S.A.

If anyone has information that is appropriate and that they would like placed in this

newsletter, please write to:

William R. Buck
New York Botanical Garden
Bronx, NY 10458-5126

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 4 - October 1992

Since the last newsletter, in March, there has been much activity in our project: the volume coordinators have been selected and have agreed, the format has been worked out, and a new grant proposal has been submitted to NSF to fund the project. These areas, as well as other items of interest, are detailed below.

Flora de la Republica de Cuba begins publication

The first two fascicles of the new Cuban flora were published earlier this year, as numbers of the journal *Fontqueria*, out of the Real Jardín Botánico in Madrid, Spain. The first fascicle, by Angela Leiva, treats the Loranthaceae, and is *Fontqueria* 34: 1-16. 1992. Seven species of *Dendropemon* are covered, with each mapped, and one, *D. confertiflorus*, illustrated.

The second fascicle treats three families, the Eremolepidaceae by A. Leiva, and the Clethraceae and Ericaceae by Rosalina Berazaín. They were published as: *Fontqueria* 35: 1-80. 1992. The Eremolepidaceae are represented in Cuba by a single species, *Antidaphne wrightii*, as are the Clethraceae, by *Clethra cubensis*. The Ericaceae comprise the bulk of fascicle two, with one species each of *Befaria*, *Kalmia* (with two varieties), *Pieris*, and *Symphysia*, and *Lyonia* with species, 14 species, and *Vaccinium* with six species.

Volume Coordinators in Place

The coordinators for each of the proposed 40 volumes of the *Flora of the Greater Antilles* are now in place. The lists of contributors for each of the volumes, i.e., those who wrote to me at NY to express an interest in participating, have been forwarded to the coordinators. They should be writing to you in the not too distant future to verify the genera on which you are interested in working, and to resolve conflicts when more than one botanist wants to work on the same group. In part the coordinators have been waiting on the format, that is presented here in the newsletter.

NSF proposal submitted

The proposal submitted to NSF (National science Foundation) year was rejected, at least in part because the coordinators and format were not finalized. With these areas resolved, as well as additional progress that has been made, we are hopeful that this years proposal, sent in for the October 15 deadline for the panel on Surveys and Inventories, will be successful.

Guide for Contributors Flora of the Greater Antilles

The Flora of the Greater Antilles covers a diverse taxonomic spectrum, from unicellular algae to large trees, and has numerous contributors. Consequently the following guidelines are meant to provide a degree of uniformity to the projected 40 volumes. However, because of the taxonomic and contributor diversity, it is hoped that these guidelines are not excessively restrictive--that is not their intent--but rather it is expected they will allow individual authors a degree of flexibility that best suits the appropriate taxa of the manuscript.

Geographical coverage. The flora will cover all groups of plants and fungi occurring within the region of Cuba, the Cayman Islands, Jamaica, Hispaniola, Puerto Rico, the Virgin Islands and Navassa Island. A list of the geographical and political divisions to be used in the Flora can be found at the end of the "Guide". Descriptions should cover all native and naturalized plants and fungi, but not those solely persisting from cultivation. If there is some doubt about a plant's status, it should be included. For example, although bananas only persist from cultivation, they are widespread and are found in apparently natural areas, and thus they should be included.

Language. The organizing committee decided that the language of the flora, or at least the first edition, will be in English. However, all keys should be prepared in both languages. The organizing committee is investigating the possibility of publishing a Spanish edition, or at least an abridged, manual-like Spanish edition.

Nomenclatural novelties. The decision on whether or not to include new combinations or descriptions of new taxa is left to the author. In some cases, publication may be rapid enough to satisfy the author. In other cases an author may have to wait until all the manuscripts of his/her volume are ready, and thus publication of a given manuscript may be significantly delayed. If an author is concerned about nomenclatural priority, he/she is encouraged to publish nomenclatural novelties in scientific journals prior to submitting manuscript to the *Flora*. If new taxa are described in the *Flora*, only short Latin diagnoses should be used, not lengthy Latin descriptions.

Taxonomic categories. The use of categories between family and genus, between genus and species, and below the level of species, are left to the discretion of the author. However, if they are used, they need to be treated fully (see Format), in the same way that the category above them is treated.

For vascular plants, the family scheme will be a modified Cronquist system. Contributors will receive a list of the families to be included in their particular volume. For cryptogamic groups the subject coordinators will decide upon the sequence of families (but contributors are encouraged to make suggestions). However, within a contributor's taxon, the contributor is responsible for all taxonomic decisions. For example, if an individual is contributing an entire family, that individual is responsible for deciding upon generic boundaries and species inclusions. If there are conflicts, e.g., if a genus is claimed by two different contributors for different families, the volume coordinator(s) will mediate the dispute.

Illustrations. As a rule, each genus will receive a single plate. In very large genera, each section or other taxonomic grouping will be illustrated. The individual contributor should recommend the species

to be illustrated. To be considered are species previously not illustrated or those restricted to the Greater Antilles. Contributors' recommendations will be followed except in those cases where the *Flora* already has an illustration on hand from Pedro Acevedo's "*Flora of St. John*." Otherwise, illustrations will be prepared by an artist at The New York Botanical Garden. Contributors will see the illustrations done in association with their contribution to check for accuracy.

Format. The following format is meant to standardize the flora. It should cover only those items that are common to every kind of organism treated. Certainly it should be assumed that "(if any)" follows almost every entry. All genera within a family, and all species within a genus will be numbered, even if the family is unigeneric and/or the genus is unispecific. It is suggested that the sequence of taxa be based on evolutionary relationships, but even if an author chooses an alphabetical arrangement, all taxa below family should be numbered.

Within the flora, the names of authors and literature references (e.g., journal and book titles) should not be abbreviated, but spelled out in full. For books and journals, this includes prepositions and articles.

In the following outline of the format, nouns are to be considered descriptive, and are not to be used themselves. For example, "number" should be replaced by an actual number, and the word "number" should not be used.

The sequence of items below should be followed. Please note the punctuation, it is as it should be in the flora:

Number. **Genus species** Author, Literature citation;

> **Basionym** Author, Literature Citation. Year; [additional homotypic synonyms in chronological order with literature citations]. Type: Country: Major Geographic Locality, date, **collector number** (herbaria).
> [NOTE: Only proper nouns should appear in the type citation, not vegetation types, etc. If the kind of type is known, e.g., holotype, lectotype, then this should directly precede the acronym of the herbarium in which it is located, followed by no punctuation. For example: (holotype NY, isotypes A, GH, MO). or (syntype IJ) . However if an author does not wish to make decisions as to the kind of type that is being cited, then acronyms should be cited within parentheses without descriptors. In the case of lectotypes, the designator and year, or the phrase "designated here" should follow in brackets. For example: (lectotype [Jones, 1934] CM).]
>
> **Basionym of heterotypic synonym** Author, Literature Citation. Year; [additional combinations based on the name]. Type: [as above].
>
> Latin diagnosis (if a new taxon is being described).
> Description. Proceed from whole organism to smallest parts.

Vegetative parts should be described before reproductive parts. Use periods between organ systems and semicolons [;] between organs within an organ system. Descriptions should be as brief as possible but still informative enough to allow identification. They should not be monographic descriptions. Extralimital variation should be enclosed in brackets. Information present in the description of the next higher rank(s) should not be repeated in descriptions of included taxa. If known, chromosome numbers should be the last item in the description. Descriptions should be technical and use Latin-based vocabulary, not anglicized alternatives. This allows speakers of romance languages, specifically

Spanish, to read the descriptions more easily. e.g., in a family the key descriptions more easily. Major nouns should be *italicized*.

Key. [If lower taxa are included, e.g., in a family the key should be to genera, unless subfamilies are used, and then only to those; within a genus the key should be to species unless there are subgeneric categories used; within a species there should be keys only if infraspecific categories are used. Keys should be numbered and indented. Keys must be in English and Spanish, with the English key coming first.]

Description [if key precedes].

Distribution. [This word, and those that head the following paragraphs, should be present.] Global. Greater Antilles (in the following order: Cuba, Cayman Islands, Jamaica, Navassa, Haiti, Dominican Republic, Puerto Rico, Virgin Islands). [NOTE: Do not use words like **endemic**. The presentation of the information should make that clear.] Within Cuba and Dominican Republic, provinces should be cited; within Jamaica, parishes should be cited; and within Haiti, departments should be cited. Political subdivisions should be given in alphabetical order. No political subdivisions of Puerto Rico should be used. Additionally, an explanation of the distribution should be given. The following format should be followed: Country: Province [in alphabetical order]; locality, locality. For example: Cuba: Prov. Cienfugos and Sancti Spiritus; Sierra del Escambray. Dominican Republic: Prov. El Siebo, La Rornana and San Pedro de Macoris; along the coast from the Rio Soco to Bahia Catalinita, including Isla Saona. Specimen citations (only for documentation of rarities and paratypes; should not be used for most taxa).

Ecology. Habitat type (following the terminology of Richard A Howard, The vegetation of the Antilles. Pages 1-38. In: A. Graham (ed.). 1973. Vegetation and vegetational history of northern Latin America. Elsevier Scientific Publishing Company, Amsterdam; the outline from this article is included here). Elevation (in meters). Substrate. Pollinators (CM will identify the insects; see notice in Flora of the Greater Antilles Newsletter no. 3). Frequency. Phenology (for flowering plants follow this format: Flowering: Mar-Jun; Fruiting: Apr-Aug. For cryptogams: Fertile: Jan-May.).

Vernacular names and uses. [These should be grouped by island, in the order islands are listed under distribution, even if it means repeating a common name; e.g., Cuba: yerba mala; Jamaica: evil eye; Dominican Republic: yerba mala. Cuba: infusions for eye ailments; Jamaica: aphrodisiac; Dominican Republic: paste for headaches.] If used sparingly, vouchers may be cited.

Discussion. [This section is for important information not included above, including, but not limited to, discussion about differences between closely related species. In this section, any problems should be admitted so that future researchers can find worthwhile areas of investigation.]

Conservation Status. [Authors are encouraged to include information on this subject whenever possible.]

Taxonomic Literature. [Only taxonomic monographs should be cited here. Other pertinent literature, such as wood anatomy studies, etc., can be listed under the Discussion section.]

[Notes to authors:
1. When submitting your manuscript, you should also submit a list of all scientific names, with synonyms *italicized* and new names bold-faced, to be used in preparing the volume index.
2. Three hard copies of all manuscripts should be submitted, and when possible a copy on diskette.

3. All manuscripts should be double-spaced throughout.
4. Each volume will have a glossary for specialized terms. These terms within your treatment should be listed **and** defined in a glossary that will be intercalated with those of other authors in the volume.]

From: Howard, R. A. 1973. The vegetation of the Antilles. In: A. Graham (ed.), Vegetation and vegetational history of northern Latin America. Elsevier, Amsterdam.

In order to consider the composition, distribution and relationships of the Antillean vegetation it is desirable to discuss and illustrate some of the vegetational types. The following modified classification will be followed which utilizes the geographic location as well as the ecological factors of the area.

Coastal formations : beach, strand, rock pavement, mangrove

Lowland formations : thorn scrub, savanna, marsh or swamp, alluvium

Montane formations : wet or dry forests on limestone, montane sclerophyll, palm brakes, tree fern communities, pine forests, cloud forests, volcanic and soufriere communities, crater lakes, elfin thickets

---

Geographical and Political Divisions Used in the Flora of the Greater Antilles

Cuba (Provinces; ciudad de la Habana)

Camaguey	La Habana
Ciego de Avila	Las Tunas
Cienfuegos	Matanzas
Ciudad de la Habana	Pinar del Rio
Granma	Sancti Spiritus
Guantanamo	Santiago de Cuba (formerly Oriente)
Holguin	Villa Clara (formerly Santa Clara)
Isla de Juventud (formerly Isle of Pines)	

Cayman Islands

Cayrnan Brac
Grand Cayman
Little Cayman

Jamaica (Parishes)

Clarendon	St. Elizabeth
Hanover	St. James
Manchester	St. Mary
Portland	St. Thomas
St. Andrew (including Kingston)	Trelawny

St. Ann	Westmorland
St. Catherine	

Navassa Island

Haiti (Departments)

Artibonite
Nord
Nord-ouest (including Île de la Tortue)
ouest (including Île de la Gonave)
Sud (including Île à Vache)

Dominican Republic (Provinces; Distrito Nacional)

Azua	Independencia	Salcedo
Bahoruco	La Altagracia	Samana
Barahona	La Romana	Sanchez Ramirez
Dajabon	La Vega	San Cristobal
Distrito Nacional	Maria Trinidad Sanchez	San Juan
Duarte	Montecristi	San Pedro de Macoris
Elias Pina	Pedernales	Santiago
El Seibo	Peravia	Santiago Rodriguez
Espaillat	Puerto Plata	Valverde

Puerto Rico (including Culebra, Mona and Vieques islands

Virgin Islands (only largest islands listed)

British Virgin Islands

- Anegada
- Jost Van Dyke
- Norman
- Peter
- Tortola
- Virgin Gorda

U.S. Virgin Islands

- St. Croix
- St. John
- St. Thomas

Flora of the Greater Antilles Newsletter is published by The New York Botanical Garden. For information or to send notices for future issues, please contact Thomas A. Zanoni or William R. Buck, Institute of Systematic Botany, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. E-mail: tzanoni@nybg.org or bbuck@nybg.org.

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 5 - January 1994

It's been a long time since the last newsletter. Fortunately it is not an indicator of lack of activity. Quite to the contrary, a lot has happened. Most significantly, the *Flora* project received its first significant funding, specifically for the project, from The John D. and Catherine D. MacArthur Foundation. The grant permits Cuban botanists to come to The new York Botanical Garden (with side trips to other herbaria) to prepare treatments for the *Flora*. More details are given below. Also, last summer, in Havana, there was a very successful botanical congress. Also, beginning with this issue Tom Zanoni will continue his bibliography of West Indian botany that he began in *Moscosoa* . If you have information that you would like conveyed to the participants in the project, please feel free to send it on, either to William R. Buck or Thomas A. Zanoni, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A.

MacArthur Grant Brings Cubans to New York

The John D. and Catherine T. MacArthur Foundation has funded a program to facilitate the study visits of Cuban botanists to The New York Botanical Garden for one year, beginning in the fall of 1993. The grant covers the travel, lodging, and food expenses for three groups of four botanists who will spend three months at New York Botanical garden each using the herbarium and the library in their work on preparation of manuscripts for the Flora of the Greater Antilles. Provision is made for time at the herbaria of Harvard University and the Smithsonian Institution, so that the botanists will be able to consult the specimens at the three institutions with the largest West Indian collections in the United States.

The first group is now in New York. They are Maira Fernández (Rubiaceae, HAC), Rosalina Berazaín (Ericales, HAJB), Carlos Sánchez (Hymenophyllaceae, HAJB), and Augusto Comas (Chlorococcales, Jardín Botánico de Cienfuegos). They arrived in mid-November and will be in New York until mid-February. A separate office has been renovated and set aside for the Cuba botanists. Their direct dial phone number at the office is 718-817-8642. The next group is scheduled to arrive at the beginning of March. They will be Deisi Reyes (Hepaticae, ACC-Santiago de Cuba), Armando Urquiola (Xyridales, Inst. Sup. Ped. Pinar del Río), Jorge Ferro (Orchidaceae, ACC-Pinar del Río), and Marta Díaz (Orchidaceae, HAJB).

The grant is flexible enough that if any of the botanists wishes to visit herbaria other than US or GH/FH, this is possible. For example, Rosalina Berazaín intends to visit FLAS, and Augusto Comas intends to visit several Puerto Rican herbaria.

Meeting of Flora of the Greater Antilles, June 1993

Toward the end of the IV Simposio de Botánica, held in Havana at the end of June 1993, a meeting was convened of those interested in the Flora of the Greater Antilles. At that time we were able to announce the aforementioned grant from the MacArthur Foundation. There were also extensive discussions on how those in the United States could aid those in Cuba and the Dominican Republic prepare their treatments. The meeting was near the end of a very successful meeting. Hundreds of botanists were in attendance at the symposium, with especially large delegations from Mexico and Brazil, as will as from Cuba.

Herbaria of Olof Swartz and Erik L. Ekman at Stockholm (S)

Bertil Nordenstam, Roger Lundin & Thomas A. Zanoni

The Swedish Museum of Natural History's Regnellian Herbarium (part of S) is the home of two highly important collections of Caribbean plants, the herbaria of Olof Swartz and Erik L. Ekman. The Swartz herbarium was acquired by the Royal Swedish Academy of Sciences after the death of Swartz in 1818. It formed part of the collections which in 1819 became the Swedish Museum of Natural History. The Swartz herbarium included most of his personal collections. Swartz collected on the islands of Jamaica (specimens of there form the principal part of his Caribbean material), and Haiti (marked Hispaniola). He also visited Cuba and some smaller islands. On returning to Europe in 1786, he stopped in London to work in the herbarium of Joseph Banks (now in BN). During the time in London, Swartz studied other important Caribbean specimens and consulted Solander's unpublished "Florula Indiae Occidentalis". Swartz' "Prodromus" (1788) and the "Flora Indiae Occidentalis" (1797-1806) were the principal works resulting from the exploration and study of specimens. The Swartz herbarium in Stockholm forms the base for interpretation of Swartz' new taxa. Many of the type specimens are located there. Others are found in the herbarium of the Bergius Foundation (SBT) in Stockholm. Also, during the stay in London, Swartz gave Caribbean specimens to Banks, so that duplicates or even some originals, in some cases where only unicates existed, are in BM now.

In 1990, Bertil Nordenstam (S) and Thomas Zanoni (then of JBSD) initiated the Herbarium Swartz Project, pulling together the Swartz Project, pulling together the Swartz specimens at S and forming a type register of all taxa from the Caribbean published by Swartz or his successor J.E. Wikström. By early 1992, the types and other specimens marked as once belonging to Herb. Swartz have been set aside in a special part of the Regnellian Herbarium. Also set aside were Caribbean specimens of other collectors and worked on by Swartz (or Wikström), such as Forrström, Euphrasén, Freyseiss, West, and Ryan. Swartz had access to Caribbean specimens in other contemporary herbaria and these were undoubtedly influential in his studies. Montin's herbarium, particularly, contained specimens of Caribbean and South American taxa received from Joseph Banks in the late 1770's. Swartz himself freely gave away specimens to his

compatriots, so that duplicates of Swartz' specimens are found in several herbaria, most of which are now in S.

The catalog of the herbarium of the Bergius Foundation (SBT) has been checked for Swartz specimens and the information integrated into the data base. A search of Herb. Banks at BM was made to locate types not found at S and SBT. The "Flora of Jamaica" by Fawcett and Rendle also provided information about Swartz' specimens (types and non-types) at BM. The French botanist L'Héritier, who was at Banks' herbarium during Swartz' visit, also received specimens from him. These specimens, now at Genève (G) will be examined for incorporation of data into the study. The expected results of the project are the history and bibliography of Swartz' Caribbean work, a type register of Swartz' taxa and taxa based on Swartz' specimens, and publication of a selection of the unpublished illustrations once intended for the continuation of Swartz' "Icones Plantarum Incognitarum". Attention is given to the project because we now have the principal registry in draft form and can help investigators locate types of almost all the Caribbean taxa.

Roger Lundin (S) and Thomas Zanoni (then of JBSD) began in 1990 a botanical biographical and bibliographical project of the Swedish plant collector Erik Leonard Ekman, who collected in Cuba and Hispaniola (Haiti and the Dominican Republic) from 1914 until his death in 1931. A manuscript on Ekman in Hispaniola (1914, and 1924-1931) is in the final stage of editing for publication. Included will be the detailed itinerary on the island and maps to indicate locations visited by Ekman. The Caribbean plant specialist Ignatz Urban of Berlin (B) studied the Ekman specimens by special arrangement with Stockholm (S). Under the agreement, Urban was to identify and publish on the work of Ekman. The principal (full) set of vascular and non-vascular plants was to be returned to Stockholm. The Ekman Caribbean collection numbered over 35,000, and with duplicates totaling over 150,000 specimens. Stockholm S) should have a specimen of each number, sometimes there are even duplicates. Obviously, Urban returned the original specimens to Stockholm in accordance with the agreement, since many Ekman sheets are annotated as types in Urban's handwriting. Urban could keep one duplicate of the material upon which any of his and Ekman's publications were based. Berlin once reported about 24,000 Ekman numbers (including his South American specimens from his earlier years). Almost all the Berlin specimens were lost in 1944, in the nearly complete destruction of the herbarium there. However, original material, some times even the holotypes, probably still exists in Stockholm in most cases. It is important for taxonomists working on the Caribbean flora to contact S in their search for original Ekman specimens. We have noted in Flora Neotropica and other monographs, that Ekman's Caribbean specimens, especially types, are frequently cited from herbaria other than the principal Ekman herbarium at S, and sometimes are even stated to be lost at B. without citing the extant specimens from S! Some times S even has two type specimens, one which may have annotations by Urban, neither of which has been cited! Attention is drawn to the need to consult the "premier" collection of Ekman's Caribbean plants at Stockholm for types of names by Urban, Urban and Ekman, and Urban's collaborators at Berlin.

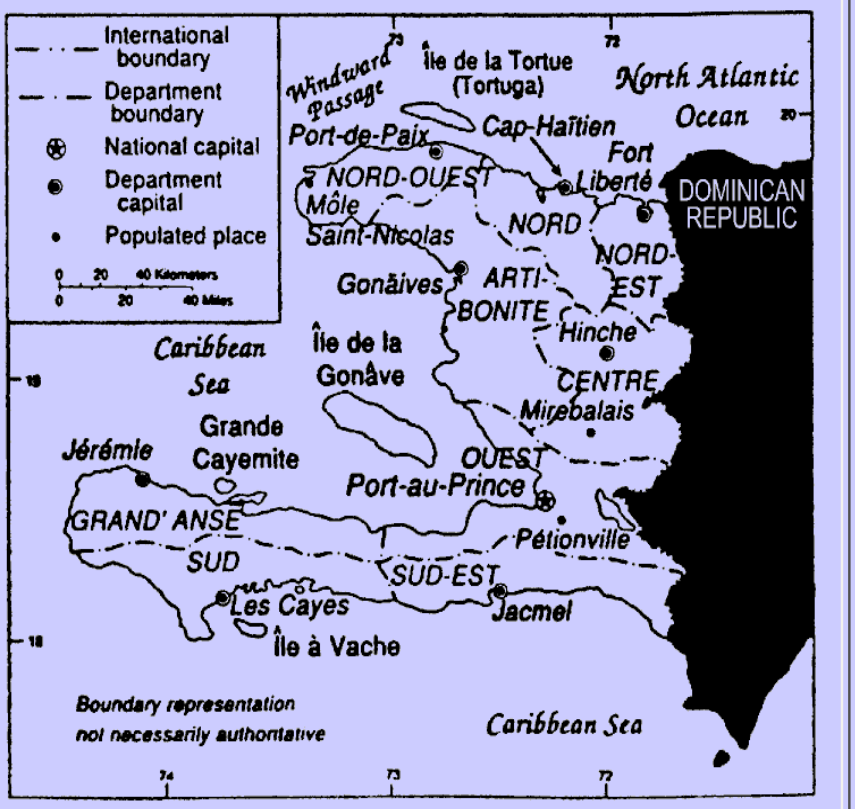
BHU transferred to B

The herbarium BHU from the Humboldt University of Berlin was transferred in 1993 to the Botanical Museum Berlin-Dahlem B. The collection includes about 23,000 specimens from the Flora of Cuba Project (a joint project of Humboldt University and Cuban institutions). Requests for loans should now be sent to B.

Corrections to Guide for Contributors
Flora of the Greater Antilles (FGA Newsletter 4:2-7)

Geographical and Political Divisions used in the Flora of the Greater Antilles (pp. 6 & 7):

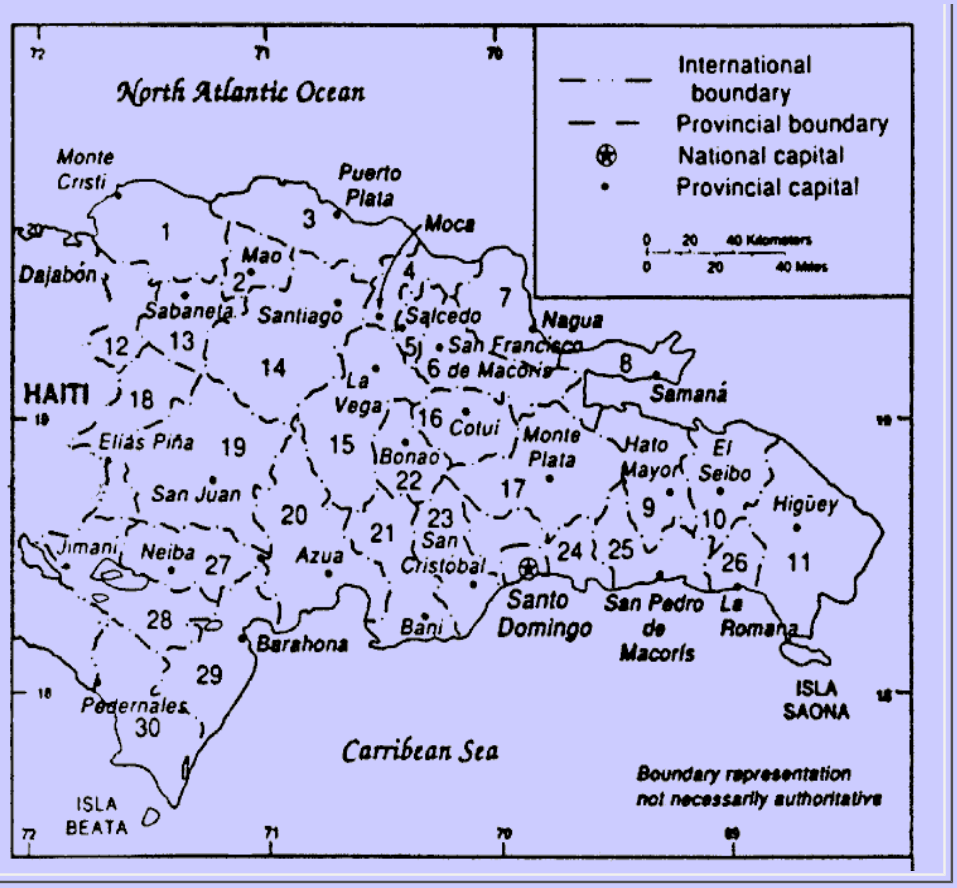
Haiti : Departments



Artibonite
Centre
Grand'Anse
Nord
Nord-Est
Nord-Ouest
Ouest
Sud
Sud-Est

Dominican Republic : Administrative Divisions

La Altagracia (11) Azua (20) Baoruco (27) Barahona (29) Dajabón (12) Duarte (6) Elias Piña (18) Espaillat (4) Hato Mayor (9) Independencia (28) María Trinidad Sánchez (7) Monseñor Nouel (22) Monte Cristi (1) Monte Plata (17) National District (24)	Pedernales (30) Peravia (21) Puerto Plata (3) La Romana (26) Salcedo (5) Samaná (8) San Cristóbal (23) Sánchez Ramírez (16) San Juan (19) San Pedro de Macorís (25) Santiago (14) Santiago Rodríguez (13) El Seibo (10) Valverde (2) La Vega (15)



Maps taken from :

Haggerty, R.A. (ed.) 1991. Dominican Republic and Haiti: Country studies, Federal Research Division, Library of Congress. United States Government Printing Office: Washington, D.C.

Request from the Artist

Bobbi Angell, artist at The New York Botanical Garden, will be preparing the botanical illustrations for many of the families of the Flora of the Greater Antilles. She has asked that those who collect in the field should make liquid-preserved (in FAA) sample of flowers, fruits and leaves as well as a dried herbarium specimen to help her in the dissection of the material for illustration. The liquid and dried specimens should be clearly marked for her attention when they are sent to Bill Buck or Tom Zanoni at The New York Botanical Garden.

National parks opened in Jamaica

The John Crow and Blue Mountains National Park, the first terrestrial national natural park in Jamaica, was inaugurated in 1993. The park covers 200,000 acres in the John Crow and Blue

Mountains in eastern Jamaica. The area reaches 2450 m elevation. In 1992, the first marine national park, Montego Bay Park, in northwestern Jamaica, was inaugurated. Collectors should contact the National Park System about exploration and collecting within the new national parks. The Natural Resources and Conservation Department, Kingston, Jamaica, can be reached at tel. (909) 923-5166.

Communications with Cuba

There are two ways to make phone calls to Cuba from the United States. AT&T has a service for the hours of 21:00-23:00. To use the service, the caller in the U.S. must call ahead on 700-460-1000 to make an appointment for the call to be make.

Rapi-tel (P.O. Box 475, Succ. M, Montreal, Québec, Canada H1V 3M5 also will connect you with Cuba. Call 514-529-3484 to talk to Rapi-tel's operator. She will need the number that you want to call in Cuba, then try to get through, and call you back to give you the connection. Rapi-tel's rates are US$15.00 for the first three minutes, and US$3.00 for each additional minute, with a ten minute maximum per a call. Billings from Rapi-tel are mailed to you.

RARE Center for Tropical Conservation (1616 Walnut Street, Suite 911, Philadelphia, Pennsylvania 19103 (FAX 215-735-3515) sends DHL packets to Cuba each Friday. They will receive FAXes and letters to send on to scientists in Cuba. The FAX message should be sent to RARE's number, the coversheet should be directed to RARE asking them to forward the attached message (second sheet) which should be addressed (as in a letter) to the person in Cuba. Letters in envelopes can also be sent to RARE. The outer envelope should be addressed to RARE. The inner envelope to be forwarded to Cuba should have the correct address (and phone number, if available) of the person in Cuba. Packages are currently not accepted by RARE for forwarding to Cuba.

Bibliography of Caribbean Botany. 5.

Section removed - see the Consolidated Bibliography rather.

Caribbean biodiversity symposium

Assessing the Quantity and Distribution of Caribbean Biodiversity : A symposium on surveys and inventories of Caribbean biodiversity will be held in conjunction with the 3rd Symposium on Zoology in Havana, cuba, from June 21 to 24, 1994.

Although the symposium is associated with a zoological meeting, botanical topics will be

welcomed in this special session that will address general biodiversity issues. papers may be presented in Spanish or English.

In order to receive further information contact: Lic. Luis Hernández, National Museum of Natural History of Cuba, c/o Michael L. Smith, Center for Marine Conservation, 1725 DeSales Street, NW, Washington, DC 10036, 202-429-5609.

The **Flora of the Greater Antilles Newsletter** is edited and published by The New York Botanical Garden. News and articles for consideration for inclusion in the Newsletter should be sent to:

William R. Buck or Thomas A. Zanoni
New York Botanical Garden
Bronx, New York 10458-5126
U.S.A.
Tel. 718-817-8624
Fax 718-562-6780
E-mail bbuck@nybg.org

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 6 - September 1994

Cuban Botanists Visit New York

On 24 March 1994, Marta Díaz (Orchidaceae, HAJB), Jorge Ferro (Orchidaceae, ACC, Pinar del Río), Deisi Reyes (Hepaticae, ACC, Santiago de Cuba), and Armando Urquiola (Xyridaceae, Mayacaceae, and Haemodoraceae, Instituto Pedagogico Superior, Pinar del Río) arrived at The New York Botanical Garden for three months of herbarium and library work on the Flora of the Greater Antilles. Visits were also made to GH/FH and US. Pedro Herrera (Asteraceae, HAC) and Hugo Iglesias (Lichens, HAC) arrived on 22 June. Hildelisa Saralegui (Piperaceae and Chloranthaceae, HAJB) and Carlos Sánchez (Hymenophyllaceae, HAJB) arrived on 11 July, and finally Hilda Delia Gómez (Micropeltidaceae, HAJB) came in on 8 August.

These visits are sponsored by the John D. and Catherine T. MacArthur Foundation to The New York Botanical Garden.

Other Visiting Botanists:

Edwin Bridges (aquatic vascular plants, FTG) visited NY in early June and was able to work with Armando Urquiola on several aquatic plant families. Meredith Lane (Asteraceae, KANU) worked on the Caribbean genus *Gundlachia* in late June at NY.

Bibliography of Caribbean Botany No. 6.

Section removed - see the Consolitated Bibliography rather.

Flora of the Greater Antilles Newsletter is edited and published at The New York Botanical Garden. News and articles for consideration for inclusion in the Newsletter should be sent to: William R. Buck or Thomas A. Zanoni, New York Botanical Garden, Bronx, New York 10458-5126. U.S.A. Fax 718-562-6780. E-mail: bbuck@nybg.org and tzanoni@nybg.org.

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 7 - April 1995

Telephoning Directly to Cuba from the USA

In late November, 1994, several of the long distance telephone call carriers, including AT & T, MCI, Sprint, and TLD (Puerto Rico), started to offer direct dialing for calls to Cuba.

If you are subscribers to these services, the method is now quite simple. Follow the usual pattern that you use for international long distance calls. Telephone numbers in Cuba are connected using 011-53-(city code)-telephone number desired. Note that 011 is the international code and 53 is the country code for Cuba. City codes for Cuba include Camagüey 32, Ciego de Avila 33, Cienfuegos 43, Granma 23, Guanajay 686, Guantánamo 21, Habana (city) 7, Holguín 24, Isla Juventud 61, Las Villas 42, Matanzas 5, Provincia Habana 6, Pinar del Río 8, Sancti Spiritus 41, Santiago de Cuba 22, and Villa Clara 42.It seems that the city codes adjust the shorter local phone numbers for the computerized long distance calls. AT & T's operator can be contacted at the toll free number 1-700-460-1000.

Current Mailing Addresses Needed for Newsletter Mailing and E-Mail Addresses Requested for Flora Directory

We have been sending the Flora of the Greater Antilles Newsletter over the last four years. As expected, some of our subscribers have moved during that time. The post office returned copies of Number 6 (Sept 1994) for Hilda Díaz-Soltero (formerly at Eden Prairie, MN) and Keith Jackson (formerly at Los Angeles, CA).

Any one having a current address for either should contact the Newsletter Editor promptly. Subscribers of the Newsletter and collaborating botanists for the Flora of the Greater Antilles are requested to send corrections to the mailing addresses used on the envelopes to mail the Newsletter. Also, please send your telephone, fax numbers and e-mail (INTERNET) address.

Recent Masters and Doctoral Dissertations

We have received a copy of the following dissertation from Ms. Newson. If other graduate students have finished theses or dissertations and have not yet published the material, we welcome receiving information about the unpublished manuscripts. To include them, we will need at least copies of the title and the summary pages. If any theses or dissertations are sent to us, we will deposit them in the Library of The New York Botanical Garden for use by others.

Newson, L. A. 1993. Native West Indian plant use. Ph.D. dissertation. University of Florida: Gainesville, Florida. An archaeological study of the plant component of prehistoric diet and human adaptation in the Caribbean islands of Bonaire, Grenada, Barbados, Antigua, Nevis, St. Eustatius, St. Martin, St. John, Puerto Rico, Hispaniola (Dominican Republic and Haiti).

Upcoming Meetings of Regional Interest

Measuring and Monitoring Forest Biological Diversity: The International Network of Biodiversity Plots. 23-25 May 1995. S. Dillon Ripley Center, Smithsonian Institution, Washington, D.C. Includes sessions on Wednesday, May 24, on St. John, Virgin Islands (4 presentations) and Puerto Rico (5 presentations). Registration: $200. Information: Olga H. MacBryde, telephone (202) 357-4793, fax (202) 786-2557, e-mail: ic.ohm@ic.si.edu

Sixth Symposium on the Natural History of the Bahamas. 9-13 June 1995. Bahamian Field Station, San Salvador, Bahamas. Half-days and evening of presentations of research on the natural history of the Bahama Islands, with afternoon field trips. Abstracts for papers and posters were due 15 March 1995. Proceedings volume will be published. Information: Dr. Daniel R. Suchy, Executive Director, Bahamian Field Station, Ltd., c/o Red Aircraft, 270 SW 34 th Street, Ft. lauderdale, FL 33315. telephone & fax (809) 331-2520.

Museum Techniques in Botany Workshop (Second National Museum of Natural History Workshop for Latin America and the Caribbean). 2-16 Sep 1995. National Museum of Natural History, Washington, D.C. Introduction to concepts and methods of museum research and collections management for entry-level herbarium professionals (those initiating careers in herbaria and working with botanical collections) from public and private institutions in tropical Latin America and the Caribbean. Lectures in English or Spanish. Some English is required. Information: Argelis Román, Botany Workshop, Biodiversity Programs, National Museum of Natural History, MRC-180, Smithsonian Institution, Washington, D.C. 20560, U.S.A.. Fax (202) 786-2934, e-mail mnhbd007@sivm.si.edu

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Research in Progress

We would like to start a new column: Research in Progress, that will include short notices of plant science research on native Caribbean plants or plants introduced in the West Indies. Send the title of the project and a short summary of what work is currently being done and when the work is expected to be completed.

Centre Technique de Coopération Agricole et Rurale

The Technical Center for Agricultural and Rural Cooperation was established in 1983 by what is now the European Union for assistance to countries participating in the Lomé Convent, of which Jamaica, Haiti, and the Dominican Republic of the Greater Antilles are signatory members. Many of the Lesser Antilles islands are members too. The Center provides access to information, conducts research, and takes innovations to the field in the areas of agricultural and rural development. They could be contacted for information and publications on crops. The address is:

Centre Technique de Coopération Agricole et Rurale
Die Rietkanmpen
Galvanistraat, 9
Ede, The Netherlands
Tel. (31) (0) 8380-60400
FAX (31) (0) 8380-31052

The mailing address:

Postbus 380
6700 AJ Wageningen,

What Happened to All Those Provinces?

Thomas A. Zanoni

Dealing with older literature and especially older herbarium labels leaves one in a quandary when all that a person has is a modern or recent map or atlas. The investigator is exasperated for locations in the Antillean islands since most atlases usually give little detail to any of the islands; few show where current province or department lines are located.

The work on the Flora of the Greater Antilles requires checking localities of types and especially non-types to describe the geographical distribution of a species. Our specimens, particularly those with some indication of locality span about two centuries. Many of the place names (see Howard, 1988, and Underwood, 1905) are difficult to find on maps. When mention of a province or department is made, it is based on a system which is quite different from that indicated on our modern maps. For example, when specimens of Charles Wright cite locations in Provincia Oriente in Cuba, we encounter some localities little known on our recent maps and, worse yet, the province no longer exists.

A search was made to find maps of Cuba, Haiti, and the Dominican Republic for different time periods to indicate what and where were the provinces. The Nuevo Atlas Nacional de Cuba (Oliva Gutierrez, 1989) provided a very useful comparison of the provinces for the years 1774, 1827, 1878, 1953, 1970, and 1976. One can immediately see what Wright was calling Oriente province on the map of 1827, which shows provinces as they were in his time (1856-1857 and 1858-1867) in Cuba. The province (as Oriente or Santiago de Cuba) existed, with minor variations in its western boundary until the 1976 reorganization of Cuban provinces. Another major collector of plants in Cuba, Erik L. Ekman, used provinces in the years 1914-1924, which can be found on the map of 1878. It is important to note that some of the provinces changed names during he last two centuries even if they did not have major realignments, whereas others may have been divided and the original name continued in use with new boundaries, e.g., Departamento Occidental or de La Habana of 1774 became Deptos. Occidental and Central by 1827, and then disappeared as Occidental but persisted as a newly defined Provincia La Habana by 1878, which was greatly altered by the loss of Isla de Pinos (now Isla de la Juventud) in 1976.

A search for maps of Haiti and the Dominican Republic did not result in a series of maps over the two centuries as in the case of Cuba. The dates of when the various Dominican provinces were chartered shows a gradual increment in the number of provinces over the years. It was decided that the first map of provinces of the Dominican Republic for the time of Ekman (1920's) would be needed to show in comparison to a current map. The same decision was made for the case of Haiti. The reason for these decisions is strongly based on the fact that Ekman was the principal collector of the earlier part of this century who **used** provinces on his herbarium labels for Dominican plants and departments for his Haitian plants. Almost all other collectors did not use regional designations on their labels.

Needless to say, the pre-1900's labels for Hispaniolan plants do not have regional designations. We are fortunate that some mention a local town name! [Note: Early specimens taken from Hispaniola may mention Santo Domingo or St. Domingue on them. Most of these labels are referring to the names of the island. It is not rare to see modern citations of types from the 1700's and 1800's being cited as coming from the Dominican Republic, when the original citation was "Santo Domingo" (or "St. Domingue"), a name that was also popularly applied (even to the present time!) to what became the Dominican Republic in 1844. It is necessary to check Urban (1902) for collectors' itineraries to determine whether a particular locality citation refers to modern Dominican Republic or Haiti. Needless to say, that an assumption that Santo Domingo refers to the modern city of the same name is probably wrong. Few types or non-types were collected there until more recent times!]

CUBA

1774

1827

1878

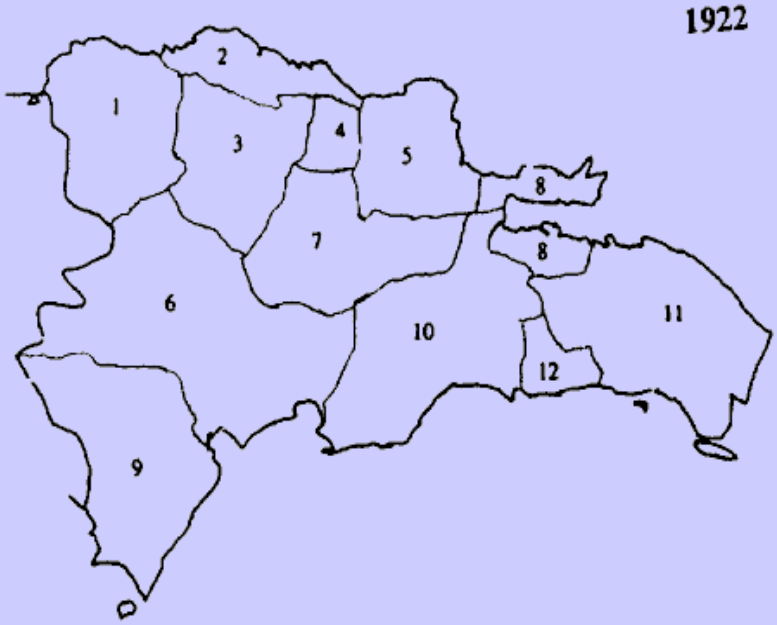
1953

DOMINICAN REPUBLIC : Provinces and capital district. Numbers are indicated on the maps. Names not in actual use are indicated with an asterisk (*). Several of the provincial names listed do not occur on the 1922, 1974, or 1989 maps, but reference is made to the actual province name.

La Altagracia (29)	Pedernales (24)	1. Monte Cristi	17. San Juan
Azua (6)	Peravia (25)	2. Puerto Plata	18. Salcedo
Baoruco (23)	Puerto Plata (2)	3. Santiago	19. Duarte
Barahona (9)	La Romana (28)	4. Espaillat	20. María Trinidad Sánchez
Comendador* (16)	Salcedo (18)	5. Pacificador*	21. Sánchez Ramírez
Dajabón (13)	Samaná (8)	6. Azua	22. Independencia
Distrito Nacional (27)	San Cristóbal (26)	7. La Vega	23. Baoruco
Duarte (19)	Sánchez Ramírez (21)	8. Samaná	24. Pedernales
Espaillat (4)	San Juan (17)	9. Barahona	25. Peravia
La Estrelleta (16)	San Pedro de Macoris (12)	10. Santo Domingo*	26. San Cristóbal
Hato Mayor (32)	Santiago (3)	11. El Seibo	27. Distrito Nacional
Independencia (22)	Santiago Rodríguez (14)	12. San Pedro de Macoris	28. La Romana
María Trinidad Sánchez (20)	Santo Domingo* (10)	13. Dajabón	29. La Altagracia
Monseñor Nouel (30)	El Seibo (11)	14. Santiago Rodríguez	30. Monseñor Nouel
Monte Cristi (1)	Trujillo Valdéz* (26)	15. Valverde	31. Monte Plata
Monte Plata (31)	Valverde (15)	16. La Estrelleta	32. Hato Mayor
Pacificador* (5)	La Vega (7)		

DOMINICAN REPUBLIC : provinces and capital district on the 1922, 1974, and 1989 maps.

1922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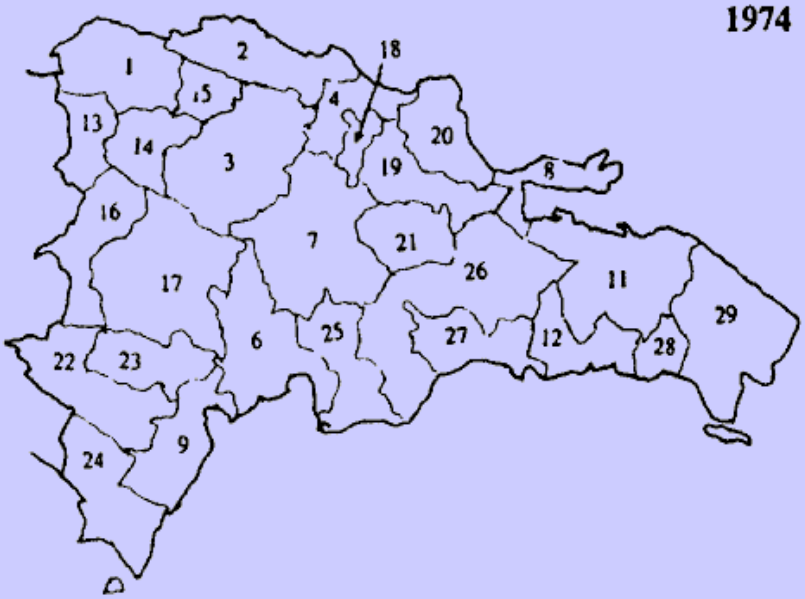
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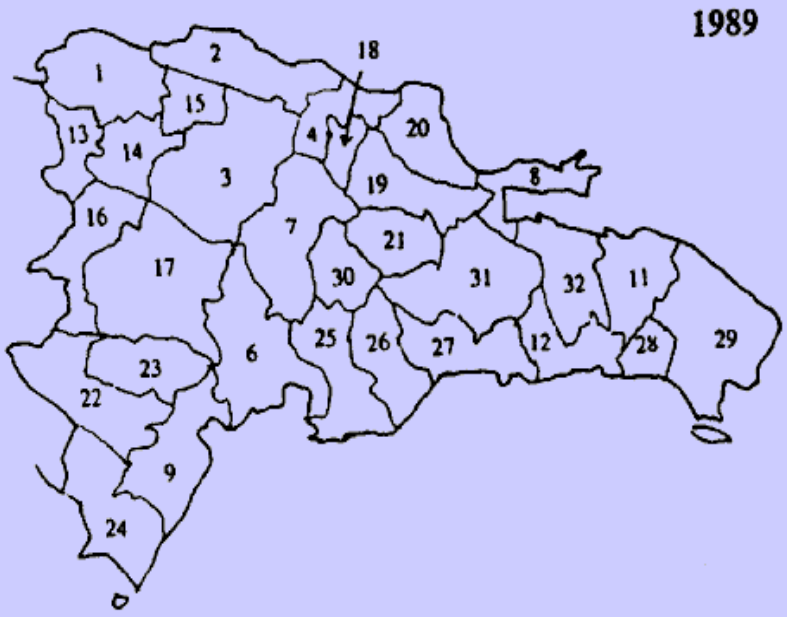
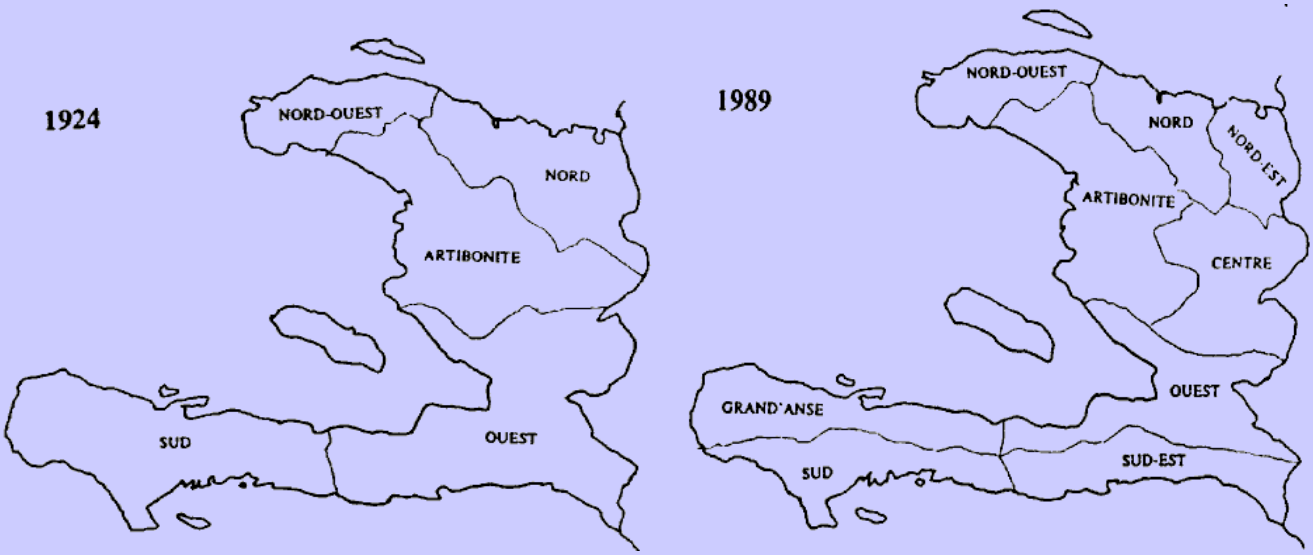


Haiti



Cuban maps were adapted from Oliva Gutiérrez (1989). Dominican Republic map of 1922 was adapted from Vaughan et al. (1922), and the 1974 map was adapted from a map prepared by the Instituto Geografíco Universitario, Universidad Autónoma de Santo Domingo in 1974. The Haiti map adapted from Woodring et al. (1924). The 1989 maps of the Dominican Republic and Haiti were adapted from Haggerty (1989).

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Woodring, W. P., J. S. Brown, & W. S. Burbank. 1924. Geology of the Republic of Haiti. Geological Survey of the Republic of Haiti: Port-au-Prince, Haiti.

A Cactus Collecting Expedition to the West Indies
25 December 1994-31 January 1995

Alberto Areces-Mallea
New York Botanical Garden
Bronx, NY 10458-5126, U.S.A.

I received a grant from the Cactus and Succulent Society of America to study cacti in the West Indies, and in particular to try and refind a population of a cactus from Haiti that was only known from a 1929 collection made by Leonard, with duplicates deposited in GH, NY and US. From the single collection this Haitian cactus appeared to represent a new genus. So, with the grant, my main objectives were:

1. To search for this apparently new Cactoideae from NW Haiti.
2. To search for a *Mammillaria* species previously known from a single Jamaican herbarium specimen from the Cockpit Country, and identified in Adams' "*The Flowering Plants of Jamaica*" as *M.* aff. *columbiana.*
3. To study material in the field of the taxon from SW Dominican Republic reported in the literature by Pfeiffer as *Melocactus communis* var. *macrocephalus.*
4. To taxonomically assess a central Puerto Rican population of *Melocactus intortus* with very small individuals.
5. To search for and taxonomically assess the species of *Opuntia* in Haiti collected by Ekman, e.g., O. *falcata*, O. *acaulis*, O. *ekmanii* and O. *microcarpa.*

To realize these objectives I had a convoluted flight itinerary because of the various visa restrictions imposed by the islands I was visiting, as well as airline flight schedules. My trip took me from New York to Santo Domingo to San Juan to Miami to Port-au-Prince to Miami to Kingston and finally back to New York. In the Dominican Republic I visited Bayahibe, Cabo Engaño, Azua, Barahona, Cabo Rojo, Pedernales, Lake Enriquillo area, Montecristi and Dajabón. In Puerto Rico I went to Boquerón, Guánica, Maricao, Cayey and Sierra Bermeja. In Haiti I travelled to Etang-Saumatre, Gonaives, Morne-Saint-Nicholas, Jean Rabel, Port-de-Paix and Saline Saint Michel. Finally, in Jamaica I visited Morant Bay, Hellshire Hills, Spanish Town area, Alligator Pond, Sanguinetti, Long Bay, Great Pedro Bluff and the Cockpit Country.

I was very successful in fulfilling my objectives. In Hispaniola I was able to relocate the cactus in NW Haiti that initially appeared to be a new genus. It turns out to be a new arborescent species of *Leptocereus*. The *Melocactus* from the Dominican Republic, previously reported as *M. communis* (a Jamaican species), is a new species, unrelated to the Jamaican taxon. Finally, I was able to relocate *Opuntia acaulis* and *O. microcarpa* but was unable to find *O. falcata*, even though I visited the type locality. It seems possible that the species is now extinct. I was also unable to find *O. ekmanii* in the field. Also, related to Hispaniola, Dr. Alain Liogier, now in Puerto Rico, requested that I write the Cactaceae for his "*Flora de La Española*." In Puerto Rico I was able to find the population of *Melocactus intortus*. From my observations it appears to be a new variety of that species. Despite a thorough, hands-and-knees search, I was unable to relocate *Opuntia borinquensis*, and suspect that it

is now extinct. However, I was able to find what appears to be a new variety of *O. moniliformis* for Puerto Rico. Also, in Puerto Rico I have been able to grow almost all the cacti I have found in my travels and they are doing well and flowering. This garden in on the estate of Victor González, who has assisted me in many ways in my study of West Indian cacti. In Jamaica I was able to relocate the *Mammillaria* known previously from a single collection in the Cockpit Country. It is not *M. columbiana* (= *M. eriacantha*, a species from central Mexico) as reported but rather a new species. *Mammillaria eriacantha* is a yellow-flowered species known from Mexico to South America. This Jamaican material is red-flowered, among other differences. New for Jamaica I found *Acanthocereus pentagonus*. Fortunately, I was also able to relocate and collect the rare Jamaican endemic, *Disocactus alatus*. With very few exceptions, all known species of cacti from Hispaniola, Jamaica and Puerto Rico were collected. This greatly complements my field knowledge of Cuban cacti. I was able to assess the conservation status of the cacti as part of an ongoing study in which I am involved. This trip would not have been possible without the assistance of many individuals and organizations. First, I thank the Cactus and Succulent Society of America for a grant that made the trip possible. In the Dominican Republic collecting would not have been possible were it not for the facilities provided by the Universidad Autónoma de Santo Domingo. In Jamaica and Puerto Rico I availed myself of the indispensable aid of Dr. George Proctor and Victor González, respectively.

Bibliography of Caribbean Botany. 7.

Section removed - see the Consolitated Bibliography rather.

Flora of the Greater Antilles Newsletter is published by The New York Botanical Garden. For information or to send notices for future issues, please contact Thomas A. Zanoni or William R. Buck, Institue of Systematic Botany, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. FAX: 718-562-6780. E-mail: tzanoni@nybg.org or bbuck@nybg.org.

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 8 - July 1995

Plant Collecting in Jamaica

James D. Ackerman, University of Puerto Rico at Río Piedras, wrote of his experience in collecting plants in Jamaica during a trip in April 1995. Recent regulations and enforcement means that permits must be obtained to collect plants in the Blue Mountains and Jim Crow Mountains, both of which are now included in national parks. To apply for permission to collect in the national parks, contact Miss Yvette Strong, Natural Resources Conservation Authority, 53½ Molynes Road, Kingston 10, Jamaica, West Indies (telephones [809] 937-1774 and 923-5166; fax [809] 923-5070). A copy of the same letter should be sent to Dr. David Lee, Planning Institute of Jamaica, 8 Ocean Boulevard, P.O. Box 634, Kingston, Jamaica, West Indies (telephones [809] 967-3690 ext. 2 and 967-3949 ext. 50 and fax [809] 967-3688). The letter should summarize the project and provide as many details as possible concerning the proposed collecting activities. The Conservation Authority expects that duplicate specimens be deposited at the Institute of Jamaica (IJ). Dr. Lee estimated that it would take about one month to process an application. When planning for the field work, Jim Ackerman suggests a two month lead time to obtain the permits. Jim does not recommend arrival in Jamaica without having received the necessary permission to collect in the national parks beforehand.

If a CITES permit is needed (which has no relation to the permit for collecting in the national parks), notify Miss Strong in advance because her office also issues these papers. Although the permit is issued just before departure date from Jamaica, it is necessary to notify her office even before one arrives in Jamaica. She will explain the procedures. In addition to contacting the Conservation Authority, one should also write to Dr. Ivan Goodbody, Chairman of the Scientific Authority-CITES, Jamaica, at the Department of Zoology, University of the West Indies, Mona, Kingston 7, Jamaica, West Indies.

While in the Kingston area, worthwhile visits can be made to the herbaria at the University of the West Indies (UCWI) where Jamaican collections of William Harris and C. D. Adams are housed and at the Institute of Jamaica (IJ), where collections by

George R. Proctor are found. IJ also has some specimens from Erik L. Ekman's Haiti and the Dominican Republic years and Wilhelm Buch's Haiti years.

Jamaican topographic maps are now available in a new metric edition. They are available from the Government Survey Office in Kingston or via outlets in England (OS International Ordnance Survey, Romsey Road, Southampton SO16 4GU, England) or in California (MapLink Inc., Santa Barbara at fax [805] 962-0884). The new set has about 20 sheets at 1: 50,000 scale. Jim wrote that the maps are "Absolutely essential" for plant exploration in Jamaica.

Upcoming Meetings and Symposia

World Palm Symposium. 20-21 October 1995.
Sponsored by the Palm Beach Palm and Cycad Society. Thirteen invited palm researchers will give presentations on their work with the Arecaceae. No other presentations are scheduled. Location: Fairchild Tropical Garden, Miami, Florida. Registration by 20 September. Contact Paul Craft at telephone (407) 793-9029 or fax (407) 790-0194. Palm Beach Palm & Cycad Society, 16652 Velazquez Blvd., Loxahatchee, FL 33470.

II Taller de Biodiversidad. 25-27 October 1995.
Workshop on the biodiversity of Cuba, to be held in Santiago de Cuba, sponsored by the Centro Oriental de Ecosistemas y Biodiversidad (BIOECO), la Sociedad ProNATURALEZA, and the Universidad de Oriente. Registration by 30 August. For further information contact: BIOECO, Museo de Historia Natural "Tomas Romay", José A. Saco No. 601 esquina Barnada, Santiago de Cuba, CP 90100, Cuba. Telephone (53) (0226) 23277, fax (53) (0266) 41579 and e-mail cmstgo@ceniai.cu.

V Encuentro de Botánica "Johannes Bisse, in memoriam". 14-16 December 1995.
Instituto Superior Pedagógico "José Martí", Camagüey, Cuba. Activities: Pre-meeting sessions, Third National Meeting of Cuban Herbaria, First Symposium of Environmental Education, First Symposium for Ethnobotany, First Plant Biotechnology Workshop, First Botanical Education Workshop, Field excursions (after the meetings). Sessions are planned for live presentations of research, as well as posters, in the following areas: plant anatomy, plant diversity, plant biotechnology, ecology, environmental education, botanical history, and computerization applied to botany. Abstracts for presentations and posters are due by 15 November 1995. Further information and the second announcement are available from Isidro E. Méndez Santos, Secretario Ejecutivo, V Encuentro de Botánica, ISP "José Martí," Camagüey 6, CP-74670, Cuba. Telephones

(53) (322) 61017, 62232 and 62306. Fax (53) (322) 62232.

Plants for Food and Medicine. 1-6 July 1996.
The joint meeting of the Society for Economic Botany and the International Society for Ethnopharmacology to be held at the Imperial College, the Natural History Museum, and the Royal Botanic Gardens, Kew in England. Symposia: Food, Medicine and Health; Cross-cultural Plant Exchange; and Botany-What's in it for Drylands Development. Two days of miscellaneous contributed papers and posters are planned. Afterwards, on 8-10 July 1996, at the Southampton University, the International Centre for Under-utilised Crops is sponsoring the conference: Domestication, Production and Utilization of New Crops". Contact for information and second circular: Linnean Society, Burlington House, Piccadilly, London W1V 0LQ, England. Telephone (44) (0) 171 434-4479, fax 171 287-9364, and e-mail marquita@linnean.demon.co.uk.

Simposio de Botánica. 10-13 July 1996.
La Sociedad Cubana de Botánica, the Instituto de Ecología y Sistemática, el Jardín Botánico Nacional, and la Sociedad ProNATURALEZA will sponsor the biennial meeting. Principal themes will be biodiversity and conservation, plant taxonomy and systematics, and socio-cultural and economic impact of the use of plant resources. Other sessions are planned for plant anatomy and morphology, flora and vegetation, economic botany, ethnobotany, phytochemistry, ecophysiology, management and conservation of biodiversity, plant biotechnology for the conservation of genetic resources, and botanical gardens. Contact for information and the second circular: Carlos Zavaro Pérez, Instituto de Ecología y Sistemática, Carretera de Varona km 3½, Boyeros, CP-10800, Habana, CUBA, fax (53) 7 333758 or 7 331325, or e-mail: ecologia@ceniai.cu. Rosa Rankin Rodríguez, Jardín Botánico Nacional, Carretera del Rocío km 3½, Calbazar, Boyeros, CP 19320, Habana, CUBA, fax (53) 7 335350 or e-mail: hajb@ceniai.cu. We hope to be able to have a FLORA OF THE GREATER ANTILLES meeting at this conference.

New Books

An orchid flora of Puerto Rico and the Virgin Islands.
James D. Ackerman. Memoirs of the New York Botanical Garden 73: 1-203. [97 plates]. June 1995. Scientific Publications Department, The New York Botanical Garden, Bronx, New York 10458-5126. ISBN 0-89327-394-5. Price: $35.00 hardcover plus postage and handling (in USA: $3.50 plus 5% of subtotal of order).

Descriptive flora of Puerto Rico and adjacent islands: Spermatophyta. Vol. IV. Melastomataceae to Lentibulariaceae.

Henri Alain Liogier. 1995. Editorial de la Universidad de Puerto Rico, Apartado 23322, Río Piedras, Puerto Rico 00931-3322. ISBN 0-8477-2337-2. Price: $20.00 paperback plus shipping (in USA: $3.00). 617 pp.

Moss Flora of Cuba

The manuscript by Pedro Pablo Duarte-Bello, *Musgos de Cuba*, was finished when I first saw it in Cuba in 1982. However, numerous delays led to it not being published before now, including Duarte's immigration to the United States in 1985. However, I now have information that the Real Jardín Botánico in Madrid will publish it in 1996. I also recently received a letter from Dr. Duarte, who is still living in the Miami area. - William R. Buck

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News from the Carnegie Museum of Natural History

The Carnegie Museum of Natural History (CM) is in the process of entering label data from its plant specimens into a database. Data from approximately 30% of CM specimens, including all Pennsylvania specimens, all primary types and isotypes, all Orchidaceae, collections made by current staff, and miscellaneous other material, have been captured. The CM database presently contains over 165,000 specimen-based records. Although CM's Caribbean holdings have not been the focus of data entry, more than 5,000 specimens from this region have been entered.

The Carnegie Museum encourages both data and loan requests from botanists involved in the Flora of the Greater Antilles project. Label data are entered from all specimens before they are sent on loan, and thus an electronic copy of specimen data can be included with any loan shipment. Please address inquiries to: Sue Thompson, Section of Botany, Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, PA 15213, U.S.A. (telephone: 412-622-3295; FAX: 412-622-8837; e-mail: thompsons@clpgh.org).

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Garden.

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 9 - November 1995

NSF Funds FGA Orchidaceae Treatment

James D. Ackerman
Department of Biology, University of Puerto Rico
P.O. Box 23360, San Juan, PR 00931-3360
e-mail: j_ackerman@upr1.upr.clu.edu
Telephone (office and lab) (809) 764-0000 ext. 2023.
FAX (809) 764-3875.

The National Science Foundation's Biotic Surveys and Inventories Program funded my proposal to do the orchid treatment for the Flora of the Greater Antilles. The grant provides for field and herbarium work, a database for specimen documentation, a graduate student assistant, and illustrations for the flora. The grant runs until 1998 with completion of the manuscript expected by 1999. Aspects of the proposal that were regarded by NSF as important were: 1) large number of species involved; 2) probability of finding new species; 3) unstable taxonomy and patchy (by age and geography) floristic treatments; 4) record of PI research productivity; 5) impressive list of collaborators; and 6) the intention of establishing a specimen data base that would be made available through the Internet.

The weakest link in the proposal was the database. In my mind, the ideal system is one that would be operable on a notebook computer so that data could be entered directly into the system when visiting herbaria. Furthermore, NSF requires the database to be e-mail accessible on the World Wide Web. At the time I had written the proposal I could not find an established data base program that fit NSF's expectations and my criteria. NSF recognized the problem but had no solutions to offer. They simply required that I continue my search for a suitable specimen documentation program. Since the proposal was written I have seen a demonstration of Rob Colwell's BIOTA program. For small collections (less than 100,000 specimens) it seems ideal. Colwell had developed it for the ALAS project at OTS's La Selva Biological Station in Costa Rica. It has just become commercially available through Sinauer. BIOTA, however, has been criticized because the software on which it is based will be dated within a year. I would very much

appreciate the views of FGA collaborators on this issue.

A number of reviewers of the proposal commented on the lack of a FGA project-wide database and plans for transmitting the written flora electronically. We should perhaps think about how this should be done.

National Herbarium for Bahamas

Dr. Lee B. Kass of the Natural Sciences Division of Elmira College, Elmira, NY, has been awarded a Fulbright grant to lecture and conduct research at the College of the Bahamas in Nassau, New Providence, The Bahamas, the J. William Fulbright Foreign Scholarship Board and the United States Information Agency (USIA) announced recently. She and her husband, Dr. Robert E. Hunt, plan to help initiate a National Herbarium for the Bahamas. Lee will be at the College of the Bahamas from January through June 1996. Anyone wishing to support this effort by donating specimens for the herbarium or books for the library should contact her at Elmira College Herbarium, Elmira, NY 14901, Tel. (607) 564-7495, e-mail lbkbhwon@aol.com. In January 1996, her mailing address will be: Lee B. Kass, Natural Science Division, College of the Bahamas, PO Box N-4912, Nassau, Bahamas.

Dr. Kass received her Ph.D. in Botany from Cornell University in 1975. After graduating, she was awarded a Cambridge University Research Fellowship to study at the Agricultural Research Council in Cambridge, England. She continued her research at Vanderbilt University with the support of a NSF Postdoctoral Research Fellowship. Since 1982 she has been a faculty member in the Division of Natural Sciences at Elmira College, where she teaches both undergraduate and graduate students. Her research centers on local (northeastern USA) and Bahamian flora and the history of science. In 1984, Dr. Kass established the Elmira College Herbarium. She has been a Visiting Professor at Cornell University and Michigan State University. Recently she was appointed Adjunct Professor at the L. H. Bailey Hortorium of Cornell University, Ithaca, New York.

Robert Roy Smith (1934-1995)

Dr. Robert R. Smith, Professor of Biology and Curator of the Hoysradt Herbarium at Hartwick College, Oneonta, New York, passed away on 27 June 1995 after a long illness.

Bob was born on 11 September 1934 in Stamford, NY. He graduated from Stamford High School in 1952. He received his B.A. in Biology from Hartwick College in 1960, and from the University of Florida an M.S. in Botany in 1962 and a Ph.D. in Botany in 1968. The subject of his dissertation was a revision of Heliconia (Musaceae) in Middle America.

His association with Hartwick College resumed when he accepted a position as Assistant Professor in September 1968, receiving promotions to Associate Professor in 1972 and Professor in 1979. Besides teaching a wide variety of courses on campus, he was intimately involved with teaching field courses at both the nearby Pine Lake campus and the Bahamian Field Station on San Salvador Island, the Bahamas.

Bob always enjoyed working in the herbarium. Based on the private herbarium that Lyman H. Hoysradt had amassed in the late 1870's, Bob recognized its value and worked steadily to upgrade the collection. He and I were still involved in processing the last of the Hoysradt specimens a month before his passing.

In addition to the work on the flora around Oneonta and the adjacent Catskill region, he devoted a great deal of time to his other research love, the flora of the Bahamas. Since the days of his first trip to San Salvador Island in 1971, Bob had worked on various floristic projects, eventually leading to publication of two editions of the "*Field Guide to the Vegetation of San Salvador Island, The Bahamas.*" Bob found the first known population of *Aechmea lingulata* (Bromeliaceae) in the Bahamas. In 1985, he organized the First Symposium on the Botany of The Bahamas and edited the proceedings volume from that meeting as well as the next two. The biannual symposium was recently expanded to include all Bahamian natural history.

I knew Bob for over 20 years, as a teacher, researcher, mentor, and friend. A more extensive biography and complete bibliography will be published elsewhere.- Richard K. Rabeler, University of Michigan Herbarium, North University Building, Ann Arbor, MI 48109-1057.

Fungi For Flora Finally Finds Funding

A group of mycologists, led by Jean Lodge of The Center for Forest Mycology Research in Puerto Rico, have submitted a proposal to the National Science Foundation to fund preparation of a mycota for the basidiomycetes of the Greater Antilles. The group estimates that there are 12 orders, 36 families, over 320 genera and 2000+ species, with ca. 12% of these undescribed. The project involves extensive field work in Puerto Rico, the Virgin Islands, the Dominican Republic, and Jamaica by trained mycologists. Over 20 research personnel, 14 of which are specialists in their respective areas of

basidiomycete taxonomy, have been enlisted to produce the survey. Co-PIs on the proposal, in addition to D. Jean Lodge, are Tim Baroni, Karen Nakasone and Leif Ryvarden. Additional specialists include Peter Roberts, Orson Miller, Egon Horak, Regis Courtecuis, Angel Nieves-Rivera, Roy Halling, Rytas Vilgalys, Maria Nuñez, Karl-Henrik Larsson, H. H. Burdsall, Jr., Julieta Carranza, Omar Paino-Perdomo, and Michael Larsen. The initial proposal requested ca. $532,000 for 4 years. The proposal has been highly recommended for funding by NSF, but with a reduced budget of $450,000. Final approval is contingent on the U.S. federal budget and Congress. Let's hope this worthwhile proposal receives final funding.

Upcoming Meetings

Segundo Congreso de la Biodiversidad Caribeña. 14-17 January 1996. Areas to be covered (in presentation and posters sessions): biological diversity and environmental education. Contact: Felicita Heredia L. or Cecilio Díaz Carela, Departamento de Biología, Universidad Autónoma de Santo Domingo, Ciudad Universitaria, Santo Domingo, República Dominicana FAX (809) 533-1106 (PRONATURA). Telephone (Depto. Biología): (809) 535-8300.

II Congreso Latinoamericano de Micología. 23-26 October 1996. To be held at the Instituto de Medicina Tropical "Pedro Kouri," La Habana, Cuba. Areas to be covered (in presentations and poster sessions): taxonomy, medical mycology, phytopathology, industrial mycology and biotechnology, edible fungi, ecology, mycorrhizae, ethnomycology, biochemistry, physiology and genetics. Contacts: Mayra Camino, Jardín Botánico Nacional, Carretera del Rocío Km 31/2, C.P. 19230 Calabazar, Boyeros, La Habana, Cuba, at e-mail hajb@ceniai.cu or Rolando Tápanes, Instituto de Medicina Tropical, Apartado 601, Marianao 13, La Habana, Cuba, at e-mail ciipk%infomed.sld.cu@gn.apc.org

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Publication Still Available

An early publication on the plants of the Isle of Pines (now Isle de Juventud), Cuba, is still available. It is "*A contribution to the botany of the Isle of Pines, Cuba, based upon the specimens of plants from that island contained in the herbarium of the Carnegie Museum under date of October, 1916.*" by O. E. Jennings, and originally published in the Annals of the Carnegie Museum 11(1 & 2): 19-290, Plates V-XXVIII. 1917.

To obtain a copy contact Office of Scientific Publications, Carnegie Museum of Natural

History, 4400 Forbes Avenue, Pittsburgh, PA 15213-4080, U.S.A. The price is $10.00 and add $1.50 for shipping and handling within the U.S.A.

Book Reprinted

Koeltz Scientific Books has announced the reprinting (1995/1996) by Gantner Verlag (Vaduz) of the "*Flora of the Bahamian Archipelago (including the Turks and the Caicos Islands.*" by D. S. Correll and H. B. Correll (1982). There is a special subscription price of DM350, and the later price of DM420. Shipping and handling extra. Contact: Koeltz Scientific Books, P.O. Box 1360, D-61453 Königstein, Germany. FAX (+49) 6174 937240 or e-mail koeltz@ibm.net In U.S.A. for dollar prices and ordering, contact: Koeltz Scientific Books (USA), 1911 North Duncan Road, Champaign, Illinois 61821, U.S.A. FAX (217) 355-9413 and e-mail koeltz@shout.net.

Correction

In *FGA Newsletter* 8: 1 (1995), **Plant collecting in Jamaica**: the mountains in eastern Jamaica are called the John Crow Mountains.

Bibliography of Caribbean Botany . 8.

Section removed - see the Consolitated Bibliography rather.

Flora of the Greater Antilles Newsletter is published by The New York Botanical Garden. For information or to send notices for future issues, please contact Thomas A. Zanoni or William R. Buck, Institute of Systematic Botany, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. E-mail: tzanoni@nybg.org or bbuck@nybg.org.

FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 10 - March 1996

Ignatz Urban and the "Symbolae Antillanae"

Richard A. Howard[1]

Ignatz [Ignatius, on several publications] Urban was born in Warburg, a small town in eastern Westphalia, Germany, on January 7, 1848. As the son of a prosperous brewer he received a good education, first at the Gymnasium in his home town and then at the college in Pederborn, where he matriculated in 1866. While in college his interest in Botany was aroused by his teacher, Friedrich Wilhelm Grimme, and this was continued at the University of Bonn and the University of Berlin under the tutelage of Alexander Braun, Paul Ascherson, and Leopold Kny. His education was interrupted by military training in 1869 and by active service in the Franco-German war from 1870 to 1871. He returned to the University and published his first botanical paper in 1872. After receiving the doctor of philosophy degree in 1873, Urban took a position as a teacher in Lichterfelde, near Berlin, where he stayed until 1878. His published botanical work during this period concerned the local flora of Lichterfelde and a continuation of his doctoral work on the genus Medicago. After the death of Alexander Braun in 1878, W. A. Eichler was appointed head of the Department of Botany at the University of Berlin, and he in turn appointed Urban the head assistant in the Botanical Garden. Urban was promoted to curator of the garden in 1883. From 1889 until his retirement in 1913 at the age of 65, he served as assistant director of the botanical museum with the title of professor.

Urban's contributions are divided into three principal areas, each clearly revealed in his publications. As the assistant and later the curator of the botanical garden, he gave his attention to garden plants, to techniques of growing new plant introductions, to seed distribution, and to the history of the Berlin Botanical Garden. It was Urban who supervised the transfer of the botanical garden activities from the historical site in Berlin to the current site in Berlin-Dahlem. His knowledge of handling seeds and growing plants is revealed in his use of such material in his later work on the vegetation of the West Indies. As Eichler's assistant and eventual successor as editor of the *Flora Brasiliensis*, Urban made a second major contribution, his studies of plants of South America. Urban is credited with many contributions to the *Flora Brasiliensis* and with most of the editorial supervision which led to the completion of the publication in 1906. The Introduction to the *Flora Brasiliensis* which Urban prepared is often cited as one of the finest and most valuable surveys of its type. Third, to many botanists the series of publications called *Symbolae Antillanae seu fundamenta Florae Indiae Occidentalis* represents Urban's finest accomplishment, yet it is but one segment of a distinguished record of study and publication on the vegetation and the flora of the Antilles.

Urban's work on the West Indies was due in large measure to the influence and support of Leopold Krug. Krug was born in Berlin in 1833 in a prosperous and distinguished family. After completing his schooling he went to Bremen to be trained in a business career, which he started in Puerto Rico. Krug's business acumen is credited with his rapid rise to ownership of the firm in which he was first employed. He also married the daughter of a wealthy landowner, and thus his personal and business successes provided him with leisure time to devote to a personal hobby of zoology. Through a friend, Domingo Bello y Espinosa, whose profession was law, Krug's interest broadened to include plants. Together the lawyer and the businessman made collections and notes on the local flora and fauna. They attempted to identify the plants encountered with the aid of the works of Grisebach, de la Sagra, and De Candolle, but had little success.

As their collections also proved difficult to maintain in the tropics, Krug decided to supplement their observations with drawings from nature, and he eventually produced 340 plates giving the habit, the color of the flower and fruit, and often analytical drawings of the plant parts. When Krug returned to Berlin in 1876 he sought aid at the Botanical Garden and Museum for the identification of his material. Dr. Fritz Kurtz was the first to attempt to assist Krug. Although the amount of West Indian material in the museum was small, it did include the first ten centuries of

Egger's exsiccatae from St. Thomas, Dominica, Trinidad and Puerto Rico, which had been identified at Copenhagen with the aid of the Vahl herbarium specimens.

In 1881, to the surprise of Krug, his former companion, Bello y Espinosa, published in the *Anales de la Sociedad Española de Historia Natural*, Madrid, the first part of his "*Apuntes para la Flora de Puerto Rico*." A second part was issued in 1883. This material had been envisioned by Krug as a joint publication, and toward this supposedly collaborative effort he was still working. The "*Apuntes*" as it appeared, contained many changes from their joint effort and made no mention of Krug or of his contributions. Although new taxa were described, no specimens were cited. The descriptions were meager, and no reference was made to Krug's more detailed drawings.

In 1884 Kurtz emigrated permanently to Argentina, leaving to Urban the privilege of working with Krug and his material. Apparently Krug and his family were anxious to remove the reflection they felt had been cast on Krug's botanical efforts, and so they supported financially the goal Urban then set to enlarge the West Indian herbarium and to complete a sound study of the Puerto Rican flora. The collections of Krug and Bello had been made in the western end of Puerto Rico at a low elevation. As a first step, the plant collector, Paul Sintenis, was hired to collect plant specimens, with emphasis to be placed on the mountainous areas. Sintenis arrived in Puerto Rico in the fall of 1884 and collected until June of 1887, during which time he gathered 8450 numbers of pteridophytes and flowering plants. The best specimens were kept in the Berlin herbarium and the duplicate sets were sold. It is not clear if Urban ever knew that many of the specimens "collected" by Sintenis and distributed from Berlin proved to have spurious origins and data. In any case the funds obtained by the sale of duplicate specimens identified by Urban were used to further the collection of plant specimens on other islands.

It was about this time that Baron von Eggers retired from military service. Eggers had previously collected and written of the plants of the Danish islands in the Antilles. Urban, using Krug's financial support, offered to subsidize Eggers on further botanical explorations starting with a trip to the high mountain areas of Hispaniola. Through this collection, a total of nearly 4500 numbers of plant specimens was received. Eventually Eggers also presented to the Botanical Museum his personal herbarium which contained rare and unusual species of his very early collections.

To these Urban was able to add many other collections obtained by purchase and by exchange. An impressive report of the collectors whose specimens were represented in the Krug and Urban Herbarium is included in the obituary of Krug which Urban published in 1898 (*Ber. Deutsch. Bot. Ges.* 16: 23-37. 1898). Krug and Urban managed to acquire a large set of the collections of Charles Wright, 1100 numbers of Bertero's collections from the Kurt Sprengel herbarium, numerous collections by Meyerhoff, de la Sagra, Torralbas, Weinland, Sauvalle, Spengel, Tillson, Jacquemont, Prax, and many others, which totaled over 12,000 numbers.

The contributions of Leopold Krug to this herbarium were material as well as financial. Urban recorded 1554 numbers that are credited to Krug, although these do include the collections made by Gundlach in Puerto Rico. [Gundlach, a professor of zoology, had been Krug's guest in Puerto Rico in 1875-1876, and during this time he collected plant specimens which Krug transferred in his own name to Berlin.] Among his most valuable contributions to the Krug and Urban herbarium were two catalogues. One of these was an annotated set of folders, each concerning the scientific name of one species in the West Indies. The second catalogue was a compilation of the vernacular names of West Indian plants. Krug's collection of 340 colored illustrations of Puerto Rican plants was also in the herbarium. In addition, Urban claimed to have obtained from Krug a handwritten copy of the third volume of MacFadyen's Flora of Jamaica, which was never completely published.

After Krug's death, and even after Urban's retirement, the additions to the herbarium continued. Urban collaborated in the study of the Cuban and Hispaniolan collections of Erik Ekman, and the Guadeloupe and Martinique collections of A. Duss; supported the collecting efforts of W. Buch and M. Fuertes; exchanged plants with N. L. Britton in New York, W. Fawcett in Jamaica, and other botanists in England and Trinidad. Urban was a prolific correspondent who never hesitated to write and request a fragment of a type specimen of a species he was studying. The postal cards in a meticulous hand were written in German except during a few years of the first World War, when Urban's correspondence was in English. The cards in many correspondence files or on herbarium sheets remain of great value in interpreting some of Urban's botanical decisions. While Urban was liberal in his requests for fragments, he was equally generous in supplying fragments or volunteering them. To aid the work of Wilhelm Buch in Haiti, Urban sent a complete set of fragments, often from type material, representing all the rare,

unusual, or poorly collected species for Buch's study. With the destruction of nearly all the Krug and Urban herbarium in the Berlin fire during World War II these scattered fragments are all that remain of authentic material of many species of the West Indies.

The full size of the Krug and Urban herbarium was never revealed by its collectors. In 1922, in response to a request from B. L. Robinson, Urban placed a value of $20,000 on just the duplicate specimens in the herbarium. Urban indicated that he had given the herbarium to the State and, while he could sell the duplicates, the proceeds would go to the government and be of no personal help in spite of the hardships he was suffering from inflation.

Urban's early work with Krug on the West Indian flora was done while he was also responsible for work on the Flora Brasiliensis. Although the two floras presented similar problems and often concerned the same literature or the same species, the progress that Urban was able to make on each flora is astonishing. In 1886 Urban published the first of the papers he devoted primarily to collections from the West Indies. "*Kleinere Mittheilungen über Pflanzen des Berliner Botanischer Gartens und Museums II*" (*Jahrb. Bot. Gard. Berlin* 4: 241-259. 1886) contained notes of Krug on *Dacryodes hexandra* Griseb. which corrected observations by Bello; a description of *Marcgravia sintenisii* and one of *Simarouba tulae* from Puerto Rico, In 1892 the first number of the series "*Additamenta ad cognitionem florae Indiae occidentalis*" appeared in *Engler's Bot. Jahrb.* 15: 286-308, a series to consist of four parts, each describing many new taxa from the area. The genus *Krugia*, named in honor of Leopold Krug was published in 1893 by Urban as a single paper (*Ber. Deutsch. Bot. Ges.* 11: 375. 1893). A third series of two papers, which was first entitled "*Diagnosen westindischer Arten*" and later "*Plantae novae antillanae*" was published in the *Notizbl. Königl. Bot. Gart. Berlin* in 1895 and 1897.

In 1898 Urban published the first fascicle of the *Symbolae Antillanae* which ran as a series through nine volumes, the last published in March of 1928, There is very little information available concerning the series. Why it started, why it did not contain all of Urban's publications on the West Indies, or why it stopped are not clear. The many letters from Urban in the historical files of the herbaria at Harvard or at the New York Botanical Garden contain very few references to the *Symbolae*. In contrast to the information available for other journals, there are no notices of publication, no bills for the copies, or statements of price changes. Even in other botanical and horticultural journals of the period there are few notices of the *Symbolae* or reviews of its various issues. In a preface to the first volume, Urban stated that either the separate papers in the journals he had previously used for publication were not available to the botanists in the West Indies, or the volumes themselves were too expensive for them. He also suggested that his published work would sometime return to the series of papers he had established. Perhaps the original intent was to sell each fascicle of the *Symbolae* at a profit and thereby support the work of the Krug and Urban Herbarium. The first two volumes, however, contain evidence of pre-publication of portions of fascicles as reprints. Although Leopold Krug died in April of 1898 and the first fascicle of the *Symbolae* appeared in November of that year, he must have been a supporter of the work. In correspondence with B. L. Robinson, Urban credits a son of Krug with the continuation of some financial support of the series. In the first three volumes of the *Symbolae*, Urban published a particularly valuable synoptical review of the collectors, the authors, and the publications that concerned the flora of the Antilles, as well as miscellaneous papers as monographs or descriptions of new species. It is probable that the historical reviews were not acceptable to the editors of the standard periodicals in which Urban had published previously. The fourth volume of the *Symbolae* contained a flora of Puerto Rico and was dedicated to Leopold Krug. It was issued in four fascicles between 1903 and 1911. Although it contained no descriptions or keys to the taxa, the synonymy given has been basic to all subsequent work on the plants of the island. During the publication of this flora, six fascicles containing volumes five and six of the *Symbolae* were also issued. Volume seven comprised four fascicles issued between 1911 and 1913. Urban retired in 1913, shortly before the outbreak of World War I. In 1914 he began a series called "*Sertum Antillanum*" with the first number in volume 13 of *Fedde's Repert. Spec. Nov. Regni Veg*. This series comprised 30 numbers and concluded in 1930, just before Urban's death. The *Symbolae* was resumed with volume eight, a flora of Hispaniola, issued in 1920 and 1921, and was concluded with volume nine, the last fascicle of which was issued in 1928.

Upon his retirement Urban was able to devote even greater amounts of time to his work on the plants of the West Indies. He was receiving specimens regularly from Padre M. Fuertes in Barahona and W. Buch in Port-au-Prince. These, considered with the collections of H. F. A. von Eggers, H. von Türckheim, suggested that even more active exploration was needed. A young Swedish botanist, Erik L. Ekman, who had collected grasses and composites in Argentina, had come to Urban's attention through an application for fellowship support of work in Brazil (Howard, *Bull. Torrey Bot. Club* 79: 80-95. 1952). Urban arranged that the Swedish fellowship awarded Ekman be used for

collecting in Haiti, and although this was not with Ekman's approval, it began one of the most profitable associations recorded of field botanist and herbarium taxonomist. Ekman arrived in the Western Hemisphere at the outbreak of the first World War and could not reach Haiti. Instead he visited Cuba. His first collections were described in "*Sertum Antillanum III*" while the majority appeared as the series "*Plantae cubenses novae vel rariores a clo. Er. L. Ekman lectae*" in volume nine of the *Symbolae Antillanae*. He finally reached Haiti in 1917, and the scientific report of the collections of this expedition was treated as a list of additions to the flora and published in the *Ark. Bot.* (Stockholm). Urban described Buch's collections as "*Novitates haitiensis*" in the *Notizbl. Königl. Bot. Gart. Berlin*. A Danish expedition to Beata Island collected plants, and these were described in a separate paper in the *Dansk Bot. Ark.* A classic investigation of the pre-Linnaean publication of Charles Plumier was issued as a Beiheft to *Fedde's Repert*. in 1920. A flora of Hispaniola consisting of two fascicles of 480 and 380 pages was published in 1920 and 1921 as volume eight of the *Symbolae*. Ekman's collecting continued and was intensified by this publication, and the records of new species formed series of papers which became "*Plantae haitienses et domingenses novae vel rariores*." The tenth and last part of this series in the *Ark. Bot.* was issued three months after Urban's death. Before the time of Urban's death, Ekman was ordered to stop his work in Hispaniola and begin again in Venezuela. In characteristic fashion he delayed his departure, and his last collections from Hispaniola are less thoroughly reported and many remain unidentified. On his 80th birthday in 1928 Urban was honored with the unveiling of a bust of his figure at the Botanical Museum. His colleagues around the world had been solicited for donations to create this memorial. Urban continued his work, appearing regularly in his laboratory until a few weeks before his death on the morning of his 83rd birthday in 1931.

The *Symbolae Antillanae* is one of the most comprehensive of publications on the flora of one small area of the world. It is equally unusual in being largely the work of one man. Although it was prepared under earlier rules of botanical nomenclature and not all parts are currently acceptable, the accuracy and completeness of the descriptions, the citations, and the references make the work of current as well as historical value. Urban's contributions on the plants of the Neotropics appeared in such a vast number of periodicals and series of papers that the ideal single complete index is not possible. The nine volumes of the *Symbolae Antillanae* are the largest segment of his work that can be handled in one cumulative index. It is published as an aid to easier work on the Antillean flora, and in respect and appreciation for the accomplishments of Ignatz Urban.

Selected biographies and bibliographies of Urban:

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Anon. 1931. Notizbl. Bot. Gart. Berlin, II, Beilage zu Heft 103.
Loesner, T. 1930. Ber. Deutsch. Bot. Ges. 48: 205-225, photo.
Rendle, A. B. 1931. Proc. Linn. Soc. 143: 198-201.
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Symbolae Antillanae
Dates of Publication

Volume I:
Fasc. I: 1 - 192 6 Nov 1898
Fasc. II: 193 - 384 10 Apr 1899
Seorsum impress.: 291 - 471 29 Jun 1899
Fasc. III: 385 - 536 15 Jan 1900

Volume II:
Fasc. I: 1 - 160 15 Jan 1900
Fasc. II: 161 - 336 20 Oct 1900
Seorsum impress.: 344 - 388 20 Apr 1901
Fasc. III: 337 - 508 1 Oct 1901

Volume III:
Fasc. I: 1 - 160 1 Mar 1902
Fasc. II: 161 - 352 15 Aug 1902
Fasc. III: 352 - 546 1 May 1903

Volume IV:
Fasc. I: 1 - 192 16 Sep 1903
Fasc. II: 193 - 352 15 Feb 1905
Fasc. III: 353 - 528 15 May 1910
Fasc. IV: 529 - 771 16 Sep 1911

Volume V:
Fasc. I: 1 - 176 20 May 1904
Fasc. II: 177 - 352 20 May 1907
Fasc. III: 353 - 555 20 May 1908

Volume VI:
Fasc. I: 1 - 192 15 Jul 1909
Fasc. II: 193 - 432 15 Dec 1909
Fasc. III: 433 - 721 24 Dec 1910

Volume VII:
Fasc. I: 1 - 160 15 Dec 1911
Fasc. II: 161 - 304 15 Jun 1912
Fasc. III: 305 - 432 1 Oct 1912
Fasc. IV: 433 - 580 15 Aug 1913

Volume VIII:
Pars I: 1 - 480 1 Feb 1920
Pars II: 418 - 860 1 Jun 1921

Volume IX:
Fasc. I: 1 - 176 1 Jan 1923
Fasc. II: 177 - 272 15 Mar 1924
Fasc. III: 273 - 432 1 Jan 1925
Fasc. IV: 433 - 568 15 Mar 1928

[1] "Ignatius Urban and the 'Symbolae Antillanae'" [original title] by R. A. Howard first appeared as the introduction (pp. 1-6) in *A cumulative index to the nine volumes of the Symbolae Antillanae seu fundamenta Florae Indiae Occidentalis* edited by Ignatius Urban, compiled and prepared by E. Carroll and S. Sutton, Introduction by R. A. Howard. 1965. Arnold Arboretum of Harvard University: Jamaica Plain, Massachusetts. It is published here, with very minor changes, with permission of the author and of Arnold Arboretum of Harvard University, Cambridge, Massachusetts, U.S.A.

Collections in the Botanical Museum Berlin-Dahlem (B) of particular interest for the Flora of the Greater Antilles

Paul Hiepko

The world's largest and best studied collection of West Indian plants was kept at the Botanical Museum Berlin-Dahlem (B) in the 1930's. This statement given with regard to the Herbarium Krug & Urban by Loesener (1931: 214) in his obituary on Ignatz Urban was, unfortunately, only true up to March 1, 1943, when the greater part of the old holdings of this herbarium were destroyed by fire in a bombing raid. The opinion that the herbarium was totally destroyed is wrong, even if it was widely circulated during the first decades after World War II. It was estimated that about one-half million (of 4 million) specimens were saved and among this remaining stock there are at least single specimens from nearly all old collections, especially among the surviving 20,000 types of the General Herbarium.

Comprehensive lists of the collections kept at B are given by Urban (1916) and Hiepko (1978, 1987). In his geographical index Urban (1916: 432 f.) lists the following collectors from the Greater Antilles: Alexander, Bertero, Bredemeyer, Britton, Buch, Caldwell & Baker, Christ, Combs, Churchill, Curtiss, Eggers, Ehrenberg, Favrat, Fuertes, Garber, Greene, de Grosourdy, Gruner, Gundlach, Hansen, Harris, Harshberger, Hart, Heller, Heuser, Humboldt & Bonpland, Jacquemont, Jaeger, Krause, Krug, Kuntze, Ledru, Linden, MacNab, March, Mayerhoff, Millspaugh, Morales, Moritz, Müller, Nash & Taylor, Nectoux, Otto, Palmer & Riley, Picarda, Plée, Poeppig, Poiteau, Prax, Prenleloup, Pringle, Purdie, Read, Rehder, Richard, Riedlé, Rothrock, Rugel, Sagra, Schomburgk, Schumann, Schwanecke, Shafer, Sintenis, Stahl, Stenzel, Swartz, Taylor, Torralbas, von Türckheim, Underwood & Griggs, Wilson, Wolff, Wright, Wullschlägel, Wydler, Xavier. Most of their collections were assembled in the Herbarium Krug & Urban which later continuously expanded by the collections of E.L. Ekman who added more than 24,000 numbers. The Herbarium Krug & Urban was kept separate until the death of Urban who, after retiring in 1913, has worked exclusively on the plants from the West Indies up to 1930. When the collection in 1933 was filed into the General Herbariumit consisted of 790 fascicles[2]. The building of this big herbarium started when Leopold Krug asked Urban in 1884 for aid for the identification of his plants collected in Puerto Rico. Krug, born in Berlin in 1833, lived as businessman from 1856 to 1876 in Puerto Rico. During this time he made collections and notes on the local fauna and flora. Finally his Herbarium Portoricense included 1554 numbers and he made 340 colored

illustrations of plants (these illustrations, as well as Krug's two catalogues concerning scientific and vernacular names of West Indian plants, have been destroyed in 1943). Since the collections of West Indian plants in the Berlin herbarium were very poor at this time, Urban asked Krug for financial support to enlarge these collections as a sound base for the study of the flora of the Antilles. The first paid collectors were P. Sintenis and Baron von Eggers. A detailed report on the Herbarium Krug & Urban is included in Urban's obituary on Krug (Urban, 1898). Howard (1965) gives an impressive survey of the co-operation of Urban and Krug in the study of the West Indian flora. The surviving parts of the old Berlin herbarium are composed of the following (only examples relevant for the Flora of the Greater Antilles are given; for further details see Hiepko, 1987):

1. Fungi: All of the material of Uredinales and Fungi imperfecti was saved.
2. Pteridophytes: The pteridophyte herbarium is - apart from the small families Marattiaceae and Ophioglossaceae - completely extant; it may be the world's largest herbarium collection of pteridophytes, comprising ca. 300,000 specimens.
3. Phanerogams: There are different sources for the extant material. a) For various reasons the material of some plant families, genera, and a few special collections escaped the destruction completely or to a great extent, e.g. Begoniaceae, Lobelioideae, Herbarium Willdenow (see below), collections of cones, dry fruits and seeds (with 113 no. collected by Sintenis and 59 no. of Eggers), and spirit collection (1898 Urban mentioned 239 spirit collections of Sintenis; when I made spot checks I found 8 specimens of Cactaceae and 14 specimens of Annonaceae). b) As has already been mentioned ca. 20,000 type specimens had been extracted from the General Herbarium and deposited elsewhere shortly before the bombing. Unfortunately this activity was not completed. Some larger families of which old types are extant are: Amaranthaceae, Amaryllidaceae, Annonaceae, Araceae, Arecaceae, Begoniaceae, Brassicaceae, Bromeliaceae, Campanulaceae (p.p.: Lobelioideae), Capparaceae, Cyperaceae (p.p.), Dioscoreaceae, Eriocaulaceae, Lauraceae, Liliaceae, Loranthaceae, Menispermaceae, Moraceae, Nyctaginaceae, Olacaceae, Piperaceae, Poaceae (p.p.), Polygonaceae, Santalaceae, etc. (see complete list in Hiepko, 1987). It must be stressed that it is necessary to check each individual case in the herbarium to be sure whether or not a type was saved. c) A third category of extant material is the group of duplicates of different collections saved in 1943. Among this material many isotypes were found. It includes duplicate specimens of West Indian plants collected by Eggers, Ekman, and Sintenis.

The very important historical Herbarium Willdenow (B-W) was also saved. Besides the types of the numerous species described by Willdenow himself, there is type material of many other species described by his contemporaries. In connection with the Flora of the Greater Antilles the following collectors represented in B-W are of special interest: F. Bredemeyer (180 specimens from Haiti, Puerto Rico, and Venezuela, 1785-1788), P.A. Poiteau (140, Haiti, 1796-1801), L.C. Richard (200, Antilles and N-America, 1786-1787), and O. Swartz (500, Haiti etc., 1784-1785). Specimens of the Herbarium Willdenow are not sent on loan, but we provide photographs or xerox-copies; there is a published alphabetical index (Hiepko, 1972) and the herbarium is available on microfiche (IDC 7440). The rebuilding of the general herbarium after World War II was only possible through generous gifts from friendly institutions and botanists from Germany and abroad. Sources of new material from the West Indies were many specimens sent as gifts or in exchange from American herbaria, especially from NY and US, and from the Swedish Museum of Natural History, Stockholm (S, 270 duplicates leg. Ekman). We received 179 plants from Cuba collected by W.H. Hatheway in 1954 as a gift. In 1993 the herbarium of the Humboldt University in Berlin (BHU) was transferred to the Botanical Museum (B). It includes ca. 23,000 specimens from Cuba, the third set of the "Proyecto Flora de Cuba (PFC)"-series of about 70,000 numbers (in HAJB, JE, and B), originally a joint project of the Jardín Botánico Nacional and the Academia de Ciencias de Cuba, the University of Jena, and the Humboldt University.

References Cited:

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Gart. Berlin-Dahlem 12 (111): 1-28.

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Hiepko, P. 1978. Die erhaltenen Teile der Sammlungen des Botanischen Museums Berlin-Dahlem (B) aus der Zeit vor 1943. Willdenowia 8:
389-400.

Hiepko, P. 1987. The collections of the Botanical Museum Berlin-Dahlem (B) and their history. Englera 7: 219-252.

Howard, R.A. 1965. Ignatius Urban and the "Symbolae Antillanae". Pp. 1-6 in E. Carroll & S. Sutton (compilers), A cumulative index to the nine
volumes of the Symbolae Antillanae seu fundamenta Florae Indiae Occidentalis edited by Ignatius Urban. Arnold Arboretum, Jamaica Plain.

Loesener, T. 1931. Ignatius Urban. Ber. Deutsch. Bot. Ges. 48: (205)-(225).

Urban, I. 1898. Leopold Krug. Ber. Deutsch. Bot. Ges. 16: 23-37.

Urban, I. 1916. Geschichte des Königlichen Botanischen Museums zu Berlin-Dahlem (1815-1913) nebst Aufzählung seiner Sammlungen. Dresden.
(Also in Beih. Bot. Centralbl. sect. 1, 34: 1-457. 1917).

[2] Fascicle: a bundle of herbarium sheets between two cardboards tied with a strap. At those times the herbarium sheets were kept in that way. It is not easy to estimate the number of sheets included in one bundle. There may have been 80-100 sheets included in one bundle. Urban (1916): 122) mentioned that in 1913 Herb. Krug & Urban was composed of "749 dicke Mappen" (749 thick bundles), thus the collection consisted of 60,000-75,000 sheets. For 1933 (Anon., 1934), about 790 bundles are mentioned; there may have been ca. 80,000 sheets or more (after 1913, ca. 20,000 specimens collected by E. L. Ekman arrived at Berlin).

Upcoming Meetings:

Natural History Collections--a Resource for the Future. Second World Congress on Preservation of Natural History Collections. Sponsored by the Biotechnology and Biological Sciences Research Council, Great Britain. 20-24 August 1966. Major issues to be discussed at the congress to be held in Cambridge, England: 1. The use and development of collections in industry, research, and education. 2. Accessibility of collections using information technology, data bases, and international data exchange. 3. Current techniques in the care and management of collections. 4. Current condition of collections in the developed and developing countries. 5. The media image of natural history collections. 6. Economic and fund-raising aspects. 7. Strategies for the future including the practical development of the World Council on Collection Resources (WCCR). 8. The development of natural history collections in developing countries as a socio-economic resource. Meeting include discussion sessions and workshops involving every participant of the congress. A poster session is also planned. Limited travel grants may be available for participants from developing countries. For further information contact: The Administrator--World Congress, Dept. Earth Sciences, University of Cambridge, Downing Street, Cambridge CB2 3EQ, UK. Telephone +44 1223 33 34 21. Fax +44 1223 33 34 50.

Second International Symposium on Ornamental Palms and other Monocots from the Tropics. Sponsored by Instituto Canario de Investigaciones Agrarias (ICIA), International Society for Horticultural Science (ISHS) and Sociedad Española de Ciencias Hortícolas (SECH). 3-6 February 1997. This symposium will facilitate the exchange of scientific and technical information related to biology, production, and use of ornamental palms and tropical monocots (including gingers, Aroids, Bromeliads, Heliconias)and will be held in Tenerife, Islas Canarias, Spain. The sessions will include invited papers, contributed papers and posters. Preliminary registration due 1 Mar 1996. Second announcements to be mailed in April 1996. For information contact: Palm Symposium, ICIA, Apartado 60,

La Laguna, 38200 Tenerife, Spain. Fax (34-22) 476303. E-mail: mcaballero@icia.rcanaria.es

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Books Available:

Flora of the Lesser Antilles
Richard A. Howard's Flora of the Lesser Antilles is still available from the Arnold Arboretum. The journal Arnoldia (Fall 1995 issue) provided the following information: All 6 volumes are still on sale, either individually or in special combinations. Vol. 1: Orchidaceae ($20); Vol. 2: Pteridophytes ($25); Vol. 3: Monocotyledoneae, other than Orchidaceae ($35); Vol. 4: Dicotyledoneae 1 ($75); Vol. 5: Dicotyledoneae 2 ($85); and Vol. 6: Dicotyledoneae 3 ($85). The individual volumes require the addition of $2 per volume for shipping and handling. The complete set of 6 volumes is available for the special price of $260 (including shipping and handling within the U.S.A.; add $5 for shipping outside the country). The special price for Vols. 4, 5, and 6 is $205. Checks (in U.S. funds) should be made payable to the Arnold Arboretum. Orders should be sent to Ms. Frances Maguire, Arnold Arboretum, 125 Arborway, Jamaica Plain, MA 02130, U.S.A.

A cumulative index to the nine volumes of the Symbolae Antillanae seu fundamenta Florae Indiae Occidentalis edited by Ignatius Urban compiled by Eileen Carroll and Stephanne Sutton.
The Arnold Arboretum has donated copies of this paper-cover book, with an introduction by Richard A. Howard, published in 1965. We are making the book available for the cost of shipping. The cost depends on the destination and how (book-surface mail or book-air mail) it will be sent. The following schedule indicates the cost:
Book/surface: U.S.A. and Canada $3.00; Europe, Caribbean, Mexico, South America, Asia, and Australia $4.00
Book/air: Canada $5.00; Europe $9.00; Caribbean and South America $7.00; Mexico $6.00; Asia $10.00; Australia $11.00
This volume is a good companion piece to use with Urban's Symbolae Antillanae, because it is a cumulative index to all titles and authors of articles, Latin names, common names, and publication dates for all the volumes. The introduction about Urban and his Caribbean work is the best available (and is reproduced as the lead article in this newsletter). To order the book, send your name and complete mailing address plus the correct shipping costs in US $. Checks should be drawn on a U.S. bank and made payable to The New York Botanical Garden. Otherwise, send U.S. cash. Send your order to T. Zanoni, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. Since the volume is being offered for only the cost of shipping, only prepaid orders will be filled.

Bibliography of Caribbean Botany. 9.

Section removed - see the Consolidated Bibliography rather.

Flora of the Greater Antilles Newsletter is published by The New York Botanical Garden with support from the John D. and Catherine T. MacArthur Foundation. For information or to send notices for future issues, please contact Thomas A. Zanoni or William R. Buck, Institute of Systematic Botany, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. E-mail: tzanoni@nybg.org or bbuck@nybg.org.

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 11 - December 1996

New Coordinator for Vascular Plants

Until now, Pedro Acevedo has held the position of Coordinator of Vascular Plants for the Flora of the Greater Antilles. He recently realized that he is overcommitted to other projects and has not given the Flora of the Greater Antilles the time it deserves. Therefore, he has resigned the position. Tom Zanoni has generously agreed to take over the responsibilities. He will be contacting the vascular plant volume coordinators shortly to check on progress. I personally want to thank Pedro Acevedo for holding the position for several years during the infancy of this project. He will continue to maintain his position as a volume coordinator. Bill Buck

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Newsletter goes electronic

The Flora of the Greater Antilles Newsletter is being issued in paper copy and electronic form beginning with this issue, Number 11. We will be sending the Newsletter as an attachment to a message to those subscribers with an e-mail addresses. This will mean that you can receive the newsletter as soon as we post them, without the usual postal service delivery delays. Paper copy will be mailed out to libraries and those not on e-mail. We ask that subscribers keep us informed of their e-mail addresses.

We are working with the Department of Math & Computer Science at Lehman College of the City University of New York, Bronx, to get the previous newsletters (Nos. 110) on the World Wide Web, on the New York Botanical Garden home page. As new issues come out, we will be adding them to that home page.

WWW West Indian Specimen Data

The New York Botanical Garden now has specimen data from its Type Specimen Collection of worldwide Orchidaceae on line. Also, all West Indian Orchidacae (non-types) are on line. Work has begun on the other types of West Indian taxa. So far families of gymnosperms, monocots and some of the dicot families are in the data base and some are available on line. Additionally, types of nonvascular plants are also listed. See the introduction to the data base for a list of contents, which are updated frequently. You can consult the data base by accessing http://www.nybg.org/bsci/hcol/hcol.html

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Cuba on the Gopher & WWW

If you can connect on your computer to the University of Minnesota Gopher, try tracking the Cuban page. To get there, select (in sequence): Other gophers; North America; Cuba; CENIAI, La Habana, Cuba. Among items of interest are: Important Centers of Education and Science in Cuba, Some Cuban Institutions, Area Codes for Long Distance Phone Calls to Cities in Cuba, Environment, and Agriculture. The same gopher is found on the W.W.W. Search for Cuba, then look for a home page called "Republic of Cuba W.W.W." (this is a long directory of items related to Cuba). The CENIAI Cuba Gopher is the location that you want. There are also 3 e- mail address lists for Cuba as well as directions on how to contact Cuba via e-mail.

Work initiated on the Basidiomycetes of the Greater Antilles

Jean Lodge

The first expedition of mycologists on the NSF-supported project of Basidiomycetes of the Greater Antilles was in Puerto Rico in June, 1996. Over 1,000 collections were made in the Luquillo Mountains, the Sierra de Cayey, Cerro La Tiza, and the Toro Negro and Guajataca Commonwealth Forests. There were many new species and new records, as is typical for basidiomycete collections from Puerto Rico. We anticipate that at least preliminary information on these and over 3,000 previous collections of Basidiomycetes and Ascomycetes will become available on-line in November through the Luquillo Long-Term Ecological Research Gopher subdirectory: fungi.survey.dat at sunceer.upr.clu.edu [Note from M.D., this address does not seem to be still living, October 2000].

Jean Lodge travelled to the Dominican Republic in July and to Jamaica in September to set up logistics for future expeditions and meet cooperators. Some very nice stands of native *Pinus occidentalis* were explored in the Valle Nuevo area of the Dominican Republic, thanks to assistance received from the Fundación Moscoso Puello. This is

logistically the easiest access I've found to high elevation virgin pine stands in the island. The foundation has applied to the Parks in Peril program to help preserve this area. Some field sites in Jamaica were explored in the Cockpit Country (Ramgoat Cave, Birdcave Rock) with a group of botanists learning sites of rare and endangered plants from Dr. George R. Proctor. These sites were also interesting from a mycological standpoint. Many collections of Polyporaceae were found in good condition in the herbarium of the Institute of Jamaica (IJ) in Kingston. Xylariaceous ascomycetes were also found in good condition. None of the agaric fungi was accompanied by notes on color, shape, size, odor, texture, taste, etc. and are therefore of very little use. No specimens of Corticiaceae were found.

Some very nice paintings and illustrations of Jamaican basidiomycetes are stored at the Institute of Jamaica. Many are identifiable to genus or species; unfortunately, there are no voucher specimens associated with them. Ms. Tracy Commock of the Institute of Jamaica also found the original printings for the plates of the "*Fungus Flora of Venezuela*" by R. W. G. Dennis, published by Kew and now out of print.

The next expedition is scheduled for November for the island of St. John in the U.S. Virgin Islands, followed by an expedition to the Cordillera Central, probably Valle Nuevo, in the Dominican Republic in early January, 1997.

New Publications

Acevedo-Rodríguez, P. & collaborators. 1996. ***Flora of St. John, U.S. Virgin Islands.*** Mem. New York Bot. Gard. 78: 1-581. Price: $49.95, plus postage and handling. Contact: Scientific Publications Department, New York Botanical Garden, Bronx, NY, 10458-5126, U.S.A. Phone orders (718) 817-8721, fax credit card (MasterCard or Visa) orders (718) 817-8842, e-mail: scipubs@nybg.org. This well illustrated flora (242 illustrations) will be published 17 December 1996.

Boletín Informativo, Red de Herbarios de Mesoamérica y el Caribe: Año 2(no. 1), Marzo 1996. For information contact Mireya Correo (e-mail: stri.tivoli.corream@ic.si.edu) or Noris Salazar (e-mail: stri.tivoli.salazarn@ic.si.edu) or FAX (507) 232-5978.

Catesby, M. 1996. ***The natural history of Carolina, Florida & the Bahama Islands.*** First facsimile edition, Alectro Historical Editions, Sackville House, 40 Picadilly, London W1V9PA, England. Fax: 44 (0) 171 434 3514. The first facsimile edition of the 263 color plates will be published over a three year period, in a limited edition of 50 complete sets and an additional 10 sets for commerce. The opening of the subscription list was recently announced .

Liogier, A. H. 1995. ***Flora de la Española Vol. VII.*** Universidad Central del Este Vol. LXXI, Ser. Ci. 28. i-iv, 9-491. [Families Acanthaceae, Bignoniaceae, Campanulaceae, Caprifoliaceae, Dipsacaceae, Gesneriaceae, Goodeniaceae, Lentibulariaceae, Martyniaceae, Myoporaceae, Pedaliaceae, Plantaginaceae, Rubiaceae, and Valerianaceae.] US$25.00 plus $3.00 postage (in U.S.A.). To order copies: H. A. Liogier. 2400 Emily Drive, Fort Worth, Texas 76112, U.S.A.

Noti-flora. No. 1 [4 pp]. Departamento de Botánica, Jardín Botánico Nacional, Apartado 21- 9, Santo Domingo, República Dominicana.

Courses and Graduate Programs

Short courses (610 days): Cactaceas cubanas, Orquídeas cubanas, Los helechos en Cuba, Flora y vegetación de Cuba. And Maestria en Botánica (graduate program, masters degree level) with concentration in mycology or systematics of vascular plants. Contact: Dr. Miguel Rodríguez, Dirección de Ciencia y Técnica, Jardín Botánico Nacional, Carretera del Rocio km. 3.5, Calabazar, C.P. 19230, Habana, Cuba. Tel. (53) 7-44-5525. Fax (53) 7-33-5350. e-mail: HAJB@CENIAI.CU

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 12 - June 1997

National Herbarium in the Bahamas

Lee B. Kass reported on the start of the formation of the National Herbarium in the Bahamas in the **Flora of the Greater Antilles Newsletter 9: 2**, 1995. She sent the following information after her stay in the Bahamas.

The Bahamas Department of Agriculture, the Natural Science Division of the College of the Bahamas (COB), and the Bahamas National Trust (BNT) cooperated in the establishment of a national herbarium. Dr. Lee B. Kass, on a Fullbright Scholar appointment to the College of the Bahamas in January-June 1996 worked with Dr. Robert E. Hunt (her husband), Dr. Karra Reddy (Senior Lecturer at COB), Ms. Wanza Munroe and Mr. David Knowles, (Assistant Agricultural Officers), Ms. Tanya Ferguson (COB graduate intern) and students from Lee's COB College Botany class to start the establish the herbarium, now housed in an airconditioned room at the Conservation Unit of the Botanical Gardens in Nassau. Specimens accumulated since the 1960's were curated and the herbarium facilities were put in working order. Recently collected specimens of plants from the Bahamas islands were also added. Two annex herbaria were also established: one at COB and the other at BNT. Also, the existing herbaria at the Bahamian Field Station on San Salvador Island (initiated by Dr. R. R. Smith) and at the Rand Nature Center in Freeport, Grand Bahama Island were designated as branches of the Bahamas National Herbarium.

Dr. Reddy and Ms. Munroe were appointed as curators of the Bahamas National Herbarium, which currently contains over 4,000 specimens. A goal is that each island of the Bahamas will have representation of its flora deposited in this herbarium.

Collecting in the Dominican Republic

James D. Ackerman

In January, 1997, I visited the Dominican Republic to visit the herbarium (JBSD) at the Jardín Botánico Nacional and to collect orchids for the Flora of the Greater Antilles project and for my continuing studies on *Tolumnia*. With Donald D. Dod and a number of assistants, including the University of Puerto Rico graduate student Carlos Trejo and my technician William Carromero, we ventured to Reserva Científica Ebano Verde in the Cordillera Central and stayed at the nearly completed Arroyaso science center. Biologist Sánchez has been establishing interpretive nature trails in the reserve. Our first day was spent documenting the orchid species along their cloud forest trail. Later, we went to Loma La Sal, an adventure that would have been impossible without our rented 4-wheel drive vehicle. The trail to the mountain top passed through very disturbed forests (mostly pines) and the orchids in these areas were of the weedy type. In the small patch of cloud forest (elev. 1400-1500 m), we did find some unusual species. We also collected along the Río Arroyaso above the science center. The broadleaf gallery forest, though small, was wet and rich in species (elev. ca. 1100 m). I found *Psilotum complanatum* and *Ophioglossum palmatum* growing together on a tree fern. Perhaps old hat for a pteridologist, but pretty cool to me. (I didn't get much reaction from George R. Proctor).

We also visited the Cordillera Septentrional. Loma El Murazo, NW of Navarrete (also called José E. Bisonó), a lime-stone outcrop that towers over the valley below. The peak was surrounded by coffee fincas but the small patch of forest on the rocky peak was rich in orchids. Nonetheless, Don was so discouraged with the widespread

habitat alteration (conversion to coffee plantations) in the area that we aborted the remainder of our trip in the Cordillera Septentrional and returned to the Cordillera Central to explore the not-so-warm sounding areas of Siberia and La Nevera. We took the road from Constanza to San José de Ocoa, which passed through pine forests and a few patches of rather young broadleaf forests. Unfortunately, we did not find old patches of broadleaf forest so the orchid hunt was not too fruitful. We returned to Constanza to find an interesting region near town, the slopes between the Río Pantuflas and the Río Grande de Constanza. The hills were dry but along the ravines were moist broadleaf forests containing an unexpected array of interesting species.

Although we did not have permits to collect in Parque Nacional Los Haitises, Carromero and I found the magenta and white forms of *Bletia patula* outside the park. We took the opportunity to shift from floristics to reproductive biology to test that there may be selection on flower color. We are working on the data right now.

Upon our return to JBSD, the herbarium staff continued to help us in every way possible, including the procurement of our CITES documents. Many thanks to the staff of Milcíades Mejía (recently appointed Director of the botanical garden), Francisco Jiménez (curator), and Daisy Castillo de Vásquez (herbarium manager). The herbarium continues to be an active place and a center for much botanical activity on the island. The collection is very good and filled with specimens of prominent collectors such as A. H. Liogier, T. A. Zanoni, F. Jiménez, and R. García. Their resources, though, are limited and they do appreciate whatever help that can be offered (including donations of books, journal subscriptions, microscopes, herbarium cabinets, and mounting materials).

The restaurant Museo de Jamón in Ciudad Colonial of Santo Domingo has flamenco dancing on Thursday and Sunday nights, beginning at 9 PM. Call ahead to confirm. Very nice.

[The Dominican Republic trip was funded by NSF grant DEB 9505459.]

Communing in Cuba

James D. Ackerman

Oh, the agony of waiting for a visa! Despite valiant efforts of my Flora of the Greater Antilles collaborator Marta A. Díaz, my Cuban visa came too late to visit during my semester break. With a visa in hand but teaching at full-swing, I could get away from the University of Puerto Rico for only a week. On short notice, Marta rolled out the red carpet (no pun intended) and arranged housing, time in the herbarium (HAJB), a seminar (given by yours truly) at the botanical garden, and a field trip to Pinar del Río. Wherever I went, hospitality was tremendous. We took the botanical garden vehicle ($0.75/km., which includes a driver) to Soroa Orquideario, a wonderful garden with housing and research facilities that sits above the Soroa vacation center. The Orquideario has a very good collection of native species plus a good assortment of exotic species and hybrids grown in a botanical garden setting. From there, we explored a number of places in the Sierra Rosario where there are a number of reserves. The moist forest is relatively young but the drier regions over serpentine soils were seemingly more pristine. It was amazing how much of the moist forest had been taken over by *Syzygium jambos* (rose-apple). It is a common tree in Puerto Rico, but it hasn't taken over large areas as it has done in Pinar del Río. Orchid species richness in the Sierra Rosario was not particularly high, but we did find some unusual things including what may be a new species of *Cyclopogon*.

I also obtained live plants of *Tolumnia variegata* to compare genetically with Dominican and Puerto Rican populations.

Remember, if you go to Cuba, you need a visa and collecting permits from the Cuban government (arranged with the help of our colleagues in Cuba), and also a License to Visit Cuba [for U.S. citizens] from the U.S. Treasury Department. Plan several months in advance for these documents. If you need a CITES permit, it may take up to

two weeks to process it. The trip costs were moderate (some things more expensive than in the Dominican Republic, others less expensive), but I had a difficult time staying within the U.S. Government restrictions of spending only $100/day in Cuba, primarily because of my short stay and the lack of a U.S. colleague to share expenses.

[The trip to Cuba was funded by NSF grant DEB 9505459.]

West Indian Specimen Data

In Newsletter 11, we reported the availability of the data from type specimens of West Indian vascular plants (flowering plants, gymnosperms, and pteridophytes) in The New York Botanical Garden Herbarium. Data have been entered for all the types now and will be available via the WWW in July, 1997. As mentioned before, there are also data available from some specimens that are not types, e.g., all non-types of West Indian Orchidaceae. The data on the West Indian types will be featured two ways: in a West Indian database and in the general catalog of the vascular plant collection (including types). Accessing the information will depend on your needs (the whole genus or family vs. just West Indian taxa). For quick access to the data base, search for the New York Botanical Garden homepage in WWW, and then take the research option, then the herbarium specimen catalog option.

New Publications

Borhidi, Attila 1996. ***Phytogeography and vegetation ecology of Cuba.*** 2nd. revised edition. 940 pp. Contact: Koeltz Scientific Books, e-mail: koeltz@ibm.net; WWW http://www.koeltz.com

García, Ricardo, Milcíades Mejía & Francisco Jiménez. 1997. ***Importancia de las plantas nativas y endémicas en la reforestación. Jardín Botánico Nacional: Santo Domingo, República Dominicana.*** (Proyecto Jardín Botánico Nacional-Helvetas.) 86 pp. Contact: Depto Botánica, Jardín Botánico Nacional, Apartado 21-9, Santo Domingo, República Dominicana. e-mail: j.botanico@codetel.net.do

Gentianales Newsletter. No. 1, Sept. 1996. Contact: Siwert Nilsson, Swedish Museum of Natural History, Palynological Laboratory, Box 50007, S-104-05, Stockholm, Sweden. Tel. + 46-8-666 41 91. e-mail: pl-siwert@nrm.se

Publications of the Bahamian Field Station. Contact: Dr. Dan Suchy, Bahamian Field Station, c/o Twin Air, 1100 Lee Wagener Blvd., Suite 113, Ft. Lauderdale, FL 33315. [Publications list, covering geology, palaeobiology, botany, zoology, anthropology, archaeology, and geography in the publications issued by the Bahamian Field Station. 6 pp.]

Timyan, Joel. 1996. ***Bwa yo: important trees of Haiti.*** South-East Consortium for International Development, 1634 I Street N.W., Suite 702, Washington, DC 20006, U.S.A. x+418 pp., illustrated.[Useful native and exotic trees.]

Upcoming Meetings

Second Caribbean Islands Botanic Gardens Workshop. 5-7 July 1997.

Botanic Gardens Conservation International and the Andromeda Botanic Garden of Barbados are organizing a workshop for representatives of botanical gardens in the Caribbean islands. Topics to be covered include: discussion of priorities for the development of botanical gardens in the region, their infrastructure, activities, and training needs; enhancement of the network among institutions; consideration of the roles that the institutions can play, especially in environmental education; and continuation of the development of a region-wide action plan for botanical gardens, including a special focus on biodiversity conservation. For information: Botanic Gardens Conservation International, Descanso House, 199 Kew Rd., Richmond, Surrey TW9 3BW, England. Telephone 0181-332-5953 or 5954 or 5955; Fax 0181-332-5956; e-mail: bgci@rbgkew.org.uk

IV International Orchid Workshop. 19-21 November 1997.

The University of Pinar del Río is sponsoring this conference at the Orquideario Soroa. The objectives of the conference are to update the latest scientific studies on Neotropical orchids; promote interchange of ideas and experiences on the cultivation and propagation of orchids; and to explore common interests for future collaboration among specialists and institutions. Carl Luer, Robert Dressler, and James Ackerman will be giving talks. Oral and poster presentations are solicited. Official language of the conference will be Spanish but presentations in English will be accepted. The organizers have established an 8 day-7 night package which includes housing, meals, and field trips (not including your airfare to La Habana) for only US$290. An excellent price anywhere! The program should be very good and the setting is beautiful. This will be an excellent opportunity to make Cuban contacts--orchid or otherwise. Mark it on your calendar.

For information contact: Rolando Pérez Marquez, Apartado Postal 5, Candelaria, C.P. 22700 Pinar del Rio, Cuba. Telephone (53) 85-2558; FAX (53) 82-5813; e-mail:

cnictpr@ceniai.cu or univpr@princesa.pri.sld.cu. Also, James D. Ackerman, telephone (787)

764-0000 ext. 2023; e-mail: ackerman@upracd.upr.clu.edu

James D. Ackerman

Bibliography of Caribbean Botany. 11.

Section removed - see the Consolidated Bibliography rather.

Flora of the Greater Antilles Newsletter *is published by The New York Botanical Garden. Edited by Thomas A. Zanoni (tzanoni@nybg.org) and William R. Buck (bbuck@nybg.org).*

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 13 - October 1997

From Barbados...

George Rogers

Over the last year (1996-1997), a group of biology students from the University of the West Indies has been preparing a comprehensive account of the grasses and sedges of Barbados. The graminoids there have not been examined closely in decades. The account in the *Flora of Barbados* by E. G. B. Gooding (1965) was based only on a small sample of specimens. The accounts in the Flora of the Greater Antilles are regional in scope, and involved no work on Barbados. Dr. Sean Carrington's recent "*Wild plants of Barbados*" deliberately omitted the graminoids, pending an in-depth separate account of the grasses and sedges, which our endeavor comprises.

Grasses and sedges are the most diverse, most conspicuous, and most pervasive plants on Barbados, and the species composition is changing. Species new to the island are turning up frequently as the work progresses. Their arrivals are not difficult to explain in speculative terms: introduced forage and turf grasses, animal feeds, visiting race horses with seeds in their stomachs, and seedy imported topsoil for the upscale landscaping come to mind.

Of particular concern is the loss of habitats and of species. Barbados is a tiny island, and any other habitat, other than sugar cane fields, pasture, and disturbed scrubland, is scarce and shrinking. Most of the beaches are almost literally covered with hotels; forests are reduced to postage stamp size areas; and freshwater and brackish habitats are few. Among these is the well known Graeme Hall Swamp, the last mangrove swamp on Barbados. The swamp (really largely a brackish marsh, meadow, and savanna) is home to scores of species of graminoids, as well as to a unique aquatic and avian fauna. Thus the swamp is a focal point of our exploration, at the very time it is suffering substantial new impacts. One side of the area is the new home of a sewage treatment plant, and the other side is in the early stages of development as an ecotourism destination. Road construction and pumping operations appear to be altering water levels, salinity, and the florisitic composition.

Perhaps, the most important reason for the work is to provide the University of the West Indies biology students an opportunity to experience and research their local flora. In 1996-1997, students Bernice McClain and Sadee Forde prepared accounts of the "Large-bracted Sedges of Barbados" and of the "Seashore Grasses of Barbados," respectively. Ayander Holder is struggling with the species of *Paspalum* and *Panicum*. Faye Williams had prepared illustrations for a guide to the grasses for beachcombers. We all stand in awe of the array of grasses and sedges housed on our coral outcrop island that is only 20 miles long.

Back in Cuba

James D. Ackerman

In June, 1997, Frank Axelrod and I spent about 16 days in Cuba. Our plan was to spend about a week in La Habana visiting colleagues and studying specimens in the herbaria at HAC and HAJB. As in my previous trip, Marta A. Díaz was our host and made all arrangements for housing and transportation. We stayed in one of the University houses (Calle 41, No. 703) and it was very reasonably priced and comfortable. As it turned out, we spent most of our herbarium time at HAC which is packed with historical collections (e.g. Wright, Roig, Acuña).

The remainder of the time we planned to visit Guantánamo Province, particularly some high elevation wet montane sites. Unfortunately, at the last moment, we were denied permission to visit these areas but we were allowed to visit others. So off we went. We flew from La Habana to Santiago de Cuba, where some colleagues met us. We immediately left for the dry forest along the coast in the municipality of San Antonio del Sur. We found a number of interesting plants (Frank was doing the general collecting) but very few orchids. The combination of mosquitos and scarcity of orchids drove us north to the wet districts of Baracoa. We visited the area near Yumurí, El Yunque and Río Toa. The vegetation in nearly all sites we visited was disturbed but we picked up some good material of *Encyclia*, a genus that Marta and I have been working on together. One of the species Marta suspects is new. Near the end of our stay in the Oriente, we returned south to the city of Guantánamo. The next day we drove west of the city to the high, wet plateau called Alto de Mango. There were patches of limestone forest, somewhat disturbed, nonetheless fascinating and reminiscent of such areas in the Dominican Republic.

Although we did not get to the areas we had intended on visiting, we did see a variety of habitats and collected over 50 numbers of orchids and many more of other plant families. We also brought back some live material to flower. As in my last trip, Marta

Alate did all she could to make my trip a successful one for which we are very grateful. Hospitality everywhere was tremendous.

After the IV International Orchid Workshop in Sora, Cuba, this November, the Flora of the Greater Antilles Orchidaceae collaborators will visit Holguín to collect orchids in high, wet regions of the province. Marta is making arrangements for this trip so it should be a productive one as well.

These trips have been funded by my NSF-BSI grant (DEB 9505459).

From Puerto Rico...

Duane A. Kolterman

Between March and August or 1997, four Cuban botanists visited Puerto Rico, each for 17-18 days. Their visits were sponsored by the Atlantea Project of the University of Puerto Rico (UPR), which provides funds to promote collaboration between UPR faculty members and their peers in the Caribbean, on particular those in the Antilles. Their visits, which provided them with an opportunity to pursue studies relating to the plant families they are studying for the Flora de la República de Cuba and the Flora of the Greater Antilles, were originally planned for late March and early April. Two of them, however, obtained their visas too late to come at that time, and visited us later in the year. During each visit, field trips were conducted so that our visitors could observe plants and collect specimens to take back to their herbaria, and time was set aside so that they could work in each of the four herbaria in Puerto Rico, MAPR, SJ, UPR, and UPRRP. Lectures and meetings with local botanists and students were also scheduled. The participants in these activities represented many institutions and agencies: the UPR Botanical Garden; and the UPR campuses at Mayagüez, Río Piedras, Cayey, Humacao, and Ponce; Pontifical Catholic University; Sacred Heart University; the Department of Natural and Environmental Resources; the International Institute of Tropical Forestry (IITF); and the U.S. Fish and Wildlife Service (FWS).

Isidro E. Méndez Santos (Instituo Pedagógico "José Martí" of Camagüey, herbarium HIPC) and Armando Urquiola Cruz (Instituto Superior Pedagógico of Pinar del Río, herbarium HPPR) visited from 19 March to 6 April. Field trips were conducted to Luquillo, Carite, Peñuelas, Boquerón, Maricao, Susúa, Guánica Sierra Bermeja, Guajataca, and the Tortuguero Lagoon. On some of the trips, we were accompanied by Milcíades M. Mejía Pimentel and Ricardo G. García G. (Director and Associate Director, respectively, Jardín Botánico Nacional "Dr. Rafael M. Moscoso", in Santo Domingo, Dominican Republic), and by Rudy G. O'Reilly, Jr.,(University of the Virgin Islands, St.

Croix).

In the field and in the herbaria, Isidro and Armando paid particular attention to the families that they are currently working on: the Verbenaceae and the Myrtaceae, respectively. Isidro also had the opportunity to study and annotate nearly 2,000 specimens of *Lantana* on loan from JBSD, NY, GH, and US. Both visitors gave seminars in Mayagüez and San Juan, and Alberto Areces Mallea (a doctoral student at The New York Botanical Garden) also gave a seminar in Mayagüez.

Ramona Oviedo Prieto (Instituto de Ecología y Sistmática, herbarium HAC) visited us from 23 May to 9 June. Field trips were conducted to Luquillo, Peñuelas, Boquerón, Susúa, the Tortugero Lagoon, the Cartagena Lagoon, and the Joyuda Lagoon. In the field and in the herbaria, Ramona was particularly interested in species of *Erythroxylon*, wetland vegetation and flora, and rare and endangered plant species. She participated in a discussion at the FWS offices in Cabo Rojo on the latter two topics, studied and annotated loans of *Erythroxylon* from JBSD and IJ, gave talks in Mayagüez and San Juan, and met with Stuart J. Ramos Biaggi (Chancellor of UPR, Mayagüez at the time of her visit) to share information on the host plants of *Atlantea* (butterflies) in Cuba and Puerto Rico.

Rosalina Berazaín Iturralde (Universidad de La Habana, Jardín Botánico Nacional, herbarium HAJB) visited us from 27 July to 13 august. Given her interest in the families Ericaceae and Cyrillaceae, the field trips to Luquillo and Carite were especially productive: she observed variation in *Cyrilla* and collected *Symphysia racemosa* and *Gonocalyx portoricensis* in flower and fruit and *G. concolor* in flower. [This represented her first opportunity to observe *Gonocalyx* in the field, because the genus does not occur in Cuba.] Field trips were also conducted to Guánica, Susúa, and Maricao; the latter two forests on serpentine, whose vegetation and flora Rosalina has studied extensively in Cuba. During her visit she also studied and annotated specimens of Ericaceae and Cyrillaceae on loan from JBSD, and worked in the four Puerto Rican herbaria, and gave talks at Mayagüez and San Juan.

During their visits, our four Cuban botanists collected a total of approximately 1,200 herbarium specimens for heir herbaria. These specimens, we understand, are already being consulted by other Cuban botanists who are working on families for the Flora de la República de Cuba and the Flora of the Greater Antilles. In addition, a great deal of literature was exchanged, and copies of the most recent volumes of

Liogier's Descriptive Flora of Puerto Rico and Adjacent Islands and La Flora de la Española are now available for consultation in Cuba.

Many people contributed to the success of the visits. We particularly wish to

acknowledge the following botanists: Gary J. Breckon and Jeanine Vélez (Director and Curator, respectively, MAPR, George R. proctor (Director, SJ), José A. Cedeño Maldonado (Curator, UPR), James D. Ackerman and Frank Axelrod (Director and Curator, respectively, UPRRP),and Julio Figueroa and Carlos Rivera (IITF). We also gratefully acknowledge the support of the Atlantea Project (Carlos A. Santiago, Coordinator), and the UPR Mayagüez (in particular José Figueroa Miró, Assistant to the Chancellor, and Flavio Padovani Padilla, Director of the Department of Biology).

Upcoming Meetings

Evolution in man-made environments. VII International Symposium of the International Organization of Plant Biosystematists (IOPB). 10-15 August (and 16-19 Aug, for field trips). 1998, University of Amsterdam, Amsterdam. The Netherlands. Contact: VIII IOPB Symposium, Dr. Hans den Nijs, Hugo de Vries Laboratory, University of Amsterdam, Kruislaan 318, NL-1098 SM Amsterdam, The Netherlands. tel. (+31) 20 525-7660, fax (+31) 20 525-7715. e-mail: iopb98@bio.uva.nl

XVI International Botanical Congress. 1-7 August 1999.. St. Louis, Missouri. WWW Web site: http://www.ibc99.org Contact: Secretary General XVI IBC, c/o Missouri Botanical Garden, Box 299, St. Louis, MO 63166-0299. fax (+01) 314 577-9589. e-mail: ibc16@mobot.org

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New Publications

Codon. A new newsletter announced in Taxon 46: 373, 1997. The Campanulales (Campanulaceae, Lobeliaceae, Goodeniaceae, Stylidaceae, Brunoniaceae, Donatiaceae, Sphenocleaceae, Pentaphragmataceae, Nemacladaceae, Cyphiaceae, Cyphocarpaceae) newsletter. For information, contact: Bill Eddie, Institute of Cell and Molecular Biology, University of Edinburg, Edinburgh EH9 3JH, Scotland. Fax: (+44-131) 650-5392, E-mail: weddie@srv0.bio.ed.ac.uk

Liogier, A. H. 1996. **La flora de la Española. VIII.** Universidad Central del Este [San Pedro de Macoris, República Dominicana] Vol. 72, Serie Científica 29: 1-588. This is the last volume to be published by A. H. Liogier [=H. A. Liogier] in the flora. The families included are: Asteraceae and the families Casuarinaceae to Viscaceae. Available from: Henri A. Liogier, 2400 Emily Drive, Ft. Worth, Texas 76112. Cost (delivery in USA): US $35 plus $5 postage.

Wyse Jackson, P. S. & J. Willison (compilers). 1996 [1997]. **Plant conservation in the Caribbean Islands--the role of botanic gardens.** Proceedings of a Caribbean Island Botanic Gardens Workshop held from Saturday 29 June to Monday 1 July 1996 in Grand Cayman , West Indies. v + 92 pp. Available from: Botanic Gardens Conservation International, Descanso House, 199 Kew Road, Richmond, Surrey TW9 3BW, U.K. Fax (+44) 181 332-5956. e-mail: pwj@bgci.rbgkew.org.uk Cost: UK £ sterling 10.00 plus postage.

Recent Dissertations

Block, T. A. 1996. Comparative anatomy and morphology of the genus *Aureodendron* Urb. (Rhamnaceae). Ph.D. dissertation. Miami University: Oxford, Ohio.

A descriptive study of the leaf and stem anatomy of the West Indian (Cuba, Jamaica, Puerto Rico, and the Bahamas) genus of 10 species. Two publications are expected to be published from this study.

Bibliography of Caribbean Botany. 12

Section removed - see the Consolidated Bibliography rather.

Flora of the Greater Antilles Newsletter *is published by The New York Botanical Garden. Edited by Thomas A. Zanoni (tzanoni@nybg.org) and William R. Buck (bbuck@nybg.org).*

ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 14 - April 1998

The Early Development of Botanical Institutions in the Antilles, 1765-1901*

Donal P. McCracken

University of Durban-Westville, South Africa

When the French revolutionary war broke out in 1793, Britain had only four proper imperial botanic gardens; two of these were in the Antilles. One, the empire's oldest botanical institution, was on St Vincent, established in 1765 by the maverick military governor, General Robert Melville. Sir Joseph Banks, the doyen of botany, set a trend for the future by pressing for this gardens to have primarily an economic function.[1]

The second gardens, under the supervision of Jamaica's official botanist, Dr Thomas Clark, was established in 1775 on that island at Bath. Another gardens on Jamaica, at Liguanea, had belonged to a man called Hinton East and was under colonial government control from 1790 until it was sold in 1810. Meanwhile, not far distant at St Pierre on Martinique, the French were busy from 1803 setting up what would be a famous botanic gardens, one which was ultimately to be destroyed, along with its curator, by volcanic activity in 1901.[2]

In 1818 a botanic gardens was established on the former French-dominated island of Trinidad, an important location given its proximity to the mouths of the Orinoco River, an Aladdin's cave for the botanist. Despite British institutional botany being at a low ebb between the death of Banks in 1820 and the arrival of Sir William Hooker at Kew in 1841, the Royal Trinidad Botanic Gardens flourished under a succession of sympathetic governors and able curators, most notably the plant hunter David Lockhart. Indeed, as early as 1810, Bath botanic gardens had been downgraded and left to run wild and later, in 1822, thanks in part to the eccentric activities of its curator, the irascible George Caley, the St Vincent botanic gardens was abandoned.[3] Plants which could be moved were shipped to the Trinidad gardens. The rest, including the prized nutmeg trees, were left to their fate. St Vincent had been an important economic gardens, perhaps best

remembered as the eventual destination of Bligh's troublesome breadfruit, which had a limited economic impact as spices remained the dominant economics grown here.

Jamaica: Decline and renewal

There were about 115 botanic gardens in the Victorian British empire; 21 were in the Americas, of which 14 were in the Antilles.[4] In the early Victorian era only Bath carried the flag for botany in the British Caribbean.

After a lengthy period of neglect the old gardens at Bath experienced a heyday under the direction of Nathaniel Wilson (1846-67). Wilson was not only a good botanist but he also had the common sense, often lacking in curators, to create a pretty gardens for the general public. Sadly, when Wilson moved on, Bath once again was left to its own devices.[5] By that time, however, a new botanic gardens on the island, first gazetted in 1862, was beginning to take shape.

Castletown botanic gardens lay in a picturesque valley near to Kingston, the capital. In 1868 another gardens called Hill or Cinchona was begun up in the Blue Mountains, inaccessible to all but the most intrepid visitor. Finally, in 1873 the Hope botanic gardens was set up near to Kingston on the dry Liguanea plain.[6]

It is not surprising that Governor Sir John Grant and then Governor Anthony Musgrave saw these four botanic gardens as forming part of a network with the Parade Gardens, the Palisadoes coconut plantation at the harbour and the government house gardens. Indeed, in the late 1870s Musgrave formally united them into a botanical department, one of only half a dozen in the empire. Dr (later Sir) Daniel Morris came from the great botanic gardens at Peradeniya in Ceylon to direct the new department.[7] When he left in 1886 to take up the assistant directorship at KEW Gardens, he was replaced by the equally intelligent William Fawcett from London's Natural History Museum. These highly paid botanists (ca. £600 per annuum) were the equal of the impressive botanist-doctor-curators who dominated the principal botanic gardens in India.

With the exception of Bath, which staggered along largely unmolested, the island's botanic gardens actively experimented in growing 'economics' and in particular trying to divert farmers away from total dependence on sugarcane, the crop which had rapidly ousted spices and then coffee. Bananas, indigenous logwood, tea, cinchona as well as different varieties of cane were tried. The department had its own Bulletin, designed in particular to assist farmers. Plant exchange with KEW, other imperial and continental botanic gardens and with large overseas nursery firms was undertaken, especially from Castleton.

As the gardens developed and their beauty increased, so the volume of visitors rose. Castleton even had a small hotel in its grounds. It tried to lay out its plants according to geographical location, with India, Africa and so on, each having its own area in the gardens.

The growing of economic plants might help farmers but nurserymen all over the empire were very suspicious of these 'state-subsidised rivals', which they regarded as a disgrace in a 'civilised, Christian, English colony'.[8] Jamaica was no exception and in 1892 the 'commercial nature' of the island's botanic gardens was attacked. This, coupled with the public's demand for pleasure parks, resulted in a downgrading of the gardens. The Hope gardens supplanted that at Castleton and the Hill gardens declined to such an extent that in 1903 it was virtually abandoned, a proportion being rented out to the New York Botanical Garden.

Other Victorian botanic gardens

The Trinidad gardens went from strength to strength in the Victorian era. William Purdie, Henry Prestoe and J. H. Hart were all excellent directors but, a rarity in good curators, they were also excellent plant collectors. By the 1890s the gardens was distributing upwards of 20,000 plants a year across the globe as well as experimenting with economic plants, especially with cocoa.[9] It also had its own herbarium, a feature not common in imperial gardens outside of India and Australia.

On the nearby island of Grenada a botanic gardens was established in 1886, a decade or so after gardens had been laid out in Bermuda and the Bahamas. The Grenada botanic gardens, however, was more botanically and economically orientated. Its greatest drawback was the steep hill on which it was situated. The proximity to the prison was a benefit for here, as elsewhere in the empire, free convict labour was eagerly sought by the impecunious curator.

The Grenada gardens, like that established in British Guiana in 1879, was luxuriant and boasted over 700 orchids. Some experiments were carried out, particularly on cocoa. Like Jamaica, Trinidad and soon St Vincent, Grenada produced its own **Bulletin**.

The botanic station experiment

When the West Indian sugar industry went into serious decline in the early 1880s, Kew responded with an audacious scheme to diversify the islands' economies away from monoculture. Daniel Morris was tasked with creating a network of West Indian botanic stations under the Jamaican botanical department. Crisis or not, colonial rivalry would have none of this. While Barbados established a botanic station in 1885, the Leeward Islands wanted a 'federal botanic garden'; they then quarrelled among themselves with

the result that the presidency got only a botanic station in Dominica in 1889.[10] Further south in the Windward Islands all was not well either. Grenada's decision in early 1886 to establish a full-blown botanic gardens led to a howl of protest from adjacent British islands, which were meant to contribute to its upkeep. Planters resented being 'tacked on to another colony'; as a St. Lucian newspaper noted:

To ask us to join in paying for a school and schoolmaster at Grenada, while what we require is to be taught our alphabet here, is a cynical mockery.[11]

By November 1886 St Lucia had won and out of much acrimony a five-acre botanic station was established outside Castries on a site part swamp and part refuse dump. Though small, this soon became a very beautiful gardens.

Following Daniel Morris's departure for Kew, there were once again delays and arguments. Indeed, the imperial botanic stations initiative shifted to British West Africa. A plan to create a botanical headquarters at Trinidad botanic gardens, linked to Grenada, outraged the Jamaican botanical department and annoyed Kew. Still, there was some progress. In some of the islands peasants who purchased crown land were either required to plant certain crops or were given crop seed free from the local botanic station. Later, in 1894, Kew informed the Colonial Office:

I have always been under the impression that the great object which the several West Indian governments have had in promoting Botanical Enterprise was to assist the peasant proprietors.[12]

In 1889 both Antigua and Dominica at last established botanic stations, the former on a disused sugar estate about a mile from St Johns, and the latter a much larger gardens in a romantic setting behind Roseau. Both grew economics; Antigua having several substations on the island. Dominica station was bisected by a road; to one side grew economic plants and to the other ornamentals. From a report in a local paper the station's curator soon felt at home:

Mr Murray, the curator of the botanic station here, was arrested while under the influence of liquor and 'immured in a cell as a dangerous lunatic'. He was on his way home from choir practice.[13]

Things were now back on track, helped by a new governor for the Windward Islands, Sir Walter Hely Hutchinson. Montserrat got its botanic station at Plymouth in 1890. By 1901 it had three satellite stations. The long-neglected gardens on St Vincent was rehabilitated in 1890. It had suffered terribly, not least from a hurricane in 1886. Now it was 'deserted and dilapidated'. However, the fact that the governor's house was the old

curator's cottage helped the gardens' regeneration. Henry Powell, a Kewite, came to curate the St Vincent station. He was devoted to the gardens, with its magnificently coloured hummingbirds and quickly restored it, at least in part, to its former glory. Daily he would pat the leaves of the surviving old nutmeg tree 'so that its last days will close in comfort'.[14]

Also in 1890 St Kitts followed the trend and set up a botanic station, which would soon have eight large plant sheds to house economic plants. This craze for establishing botanic stations did not go unnoticed at Kew. In late 1890 and early 1891 Daniel Morris made a tour of inspection of part of the Antilles. This encouraged further development, the most significant being the establishment of a department of agriculture for the Leeward Islands. Both the Antigua and Dominica botanic stations now fell under the new superintendent of agriculture.[15]

The final phase of the story came in the late 1890s. In 1897 a Royal Commission had recommended that agriculture in the Leeward and Windward islands should come under imperial control, thus neutralising island rivalry - or at least that was the hope. Thus in 1898 Sir Daniel Morris returned to the Caribbean, where his heart lay, as commissioner in charge of the imperial department of agriculture for the West Indies.[16]

Morris wrote a lengthy paper on the economic resources of the West Indies that was published in 1898 as a supplementary volume to Kew's monthly journal for the empire, the **Kew Bulletin**. Morris based himself at Dominica botanic station, which had thrived under the guidance of J. R. Bovell, a local planter who ran the adjacent Dodd's reformatory, a fact which facilitated the supply of labour to the station. An agricultural school was now established on the island and another on St Lucia.

Morris also initiated the first West Indies agricultural conference. Seven of these were to be held between 1898 and 1908, when Morris retired.[17] In the interim more botanic stations appeared: one on Tobago in 1898, the same year as another was set up on faraway Bermuda, and a third in 1900 at Tortola on the Virgin Islands. Though not in the West Indies, a botanic station at Belize in British Honduras, established in 1892, had close links with the Jamaican botanical department and with Daniel Morris.

The end of the Victorian era saw the beginning of the end for many botanic gardens in the British empire. The enthusiasm for botany and the establishment of colonial departments of agriculture effectively killed them. In the case of the West Indies, the abolition of the bounty on sugarbeet in most European countries in 1902 revived sugar and made it once again king. Was there now any need for botanical institutions in the West Indies? The interesting fact is that while the Jamaican gardens tended to develop into attractive botanical parks, those in the Lesser Antilles remained for some time

closely linked to an economic function. This was also the case in West Africa, an indication of the ongoing need to facilitate both peasant and plantation agriculture.

Notes:

1. McCracken, Donal P. Gardens of empire, (London, 1997), p.5.
2. Amer. Hort. Mag. 45(4): 398-403. Oct 1966; Bot. Gaz. 24(5): 350. Nov 1897.
3. British Library, Add.Ms.33982, .117, 121, 153 and 191. See also L. Guilding, An account of the botanic gardens in the island of St Vincent, (Glasgow, 1825).
4. McCracken, Donal P. A new history of Durban botanic gardens, (Durban, 1996), p.2.
5. Gardeners' Chronicle, 13 January 1866 and 16 November 1867.
6. See, for example, Colonial Standard and Jamaica Despatch, 30 December 1892; Daily Gleaner, 5 February 1897; and Jamaica Post, 5 February 1897.
7. A portrait of Daniel Morris appeared in the Journal of the Kew Guild in 1896.
8. See D. P. McCracken and E. M. McCracken, The way to Kirstenbosch, (Cape Town, 1988), p.88; and D. P. McCracken and P. A. McCracken, Natal the garden colony, (Sandton, 1990), p.86.
9. McCracken, D, P. Gardens of empire, p.136.
10. Kew Archive, 'Dominica, 1885-1900', .13-19; and Kew Bulletin, (June 1887), pp.1-2.
11. Voice of St Lucia, 20 March 1886.
12. Kew Archive, 'Antigua, 1889-1900', .120.
13. Gall's Packet Newsletter, 28 June 1890.
14. McCracken, D. P. Gardens of empire, p.192.
15. Kew Archive, 'West Indies, 1884-97', .151.
16. Desmond, Ray. Kew: The history of the Royal Botanic Gardens, (London, 1995), pp.299-300. On one occasion Morris proclaimed to Beatrix Potter, "I am exclusively tropical."
17. The Times (London) 13 October 1908.

Selected Bibliography of Botanical Institutions in Victorian West Indies, British Guiana, British Honduras and Bermuda*

Donal P. McCracken
University of Durban-Westville, South Africa

This bibliography does not list the hundreds of annual reports for botanic gardens and botanic stations in the West Indies which were printed in the Victorian era. These can be found in various locations including the library of the Royal Botanic Gardens, Kew; the

libraries of former colonial botanic gardens; in British colonial government gazettes and occasionally in colonial newspapers.

A. Manuscript material held at Kew Gardens:

1. 1.Botanic gardens and stations manuscript volumes:

- Antigua: 1889-1900. Bermuda: 1873-1906. British Guiana: 1877-1919. Dominica: 1885-1925 (2 vols.). Grenada: 1885-1900. Honduras. Leeward Islands: 1891-1898. Jamaica: 1856-1903; 1867- 1890; 1891-1900. Jamaica (Royal Commission, Botanic Gardens Department): 1861-1915. St Lucia: 1886-1900 St Vincent: 1884-1914 Trinidad: 1872-1905; 1879-90; 1888-1900 West Indies: 1884-97
- Windward Islands: 1848-98

2. Exchange books

- Inward: 1848-1908
- Outward: 1848-1923

3. Letter books

4. Miscellaneous

- Kew Gardens, Annual reports: 1844-70
- Kew Gardens, Colonial Floras

B. Printed sources

1. Newspapers and periodicals

- Antigua Observer Antigua Standard Bulletin of the Department of Agriculture (Jamaica) The Chronicle and Gazette (West Indies) Colonial Standard and Jamaican Despatch Daily Chronicle (British Guiana) Daily Gleaner (Jamaica)Demerara Algosy Gall's Weekly Newsletter (Jamaica) Grenada Chronicle Grenada People Jamaica Gazette Jamaica Post Journals of the House of Assembly (Jamaica) Leeward Islands Budget Leeward

Islands Gazette The New Era (Trinidad) The Royal Gazette (British Guiana) St Lucia Gazette St Vincent Government Gazette Sunday Royal Gazette (Bermuda) Trinidad Royal Gazette

- Voice of St Lucia

2. Books, pamphlets & articles

- 'Agricultural progress in Jamaica', Kew Bulletin, (1894), 159-161. 'Antigua botanic station': Antigua Observer, 29 November 1890. Antigua Standard, July 1893. Kew Bulletin, (1891), 111; and (1894), 420.-Leeward Islands Gazette, 7 August 1892, 15 September 1892, 17 November 1892 and 12 April 1894. 'Barbados', Kew Bulletin, (1891), 152. 'Bath botanic gardens', Journals of the House of Assembly, (Jamaica), VIII, (1784-1791), 602. 'Bermuda', Sunday Royal Gazette, 21 January 1951. 'Botanical enterprise in British Honduras', Kew Bulletin, (1896), 101-105. 'Botanical enterprise in the West Indies, 1890-1', Kew Bulletin, (1891), 103-168. 'Botanical institutions of Jamaica', Kew Bulletin,(1906), 61-68. 'British Guiana botanic gardens': The Colonist, 12, 23 and 29 September 1879. Demerara Algosy, 23 June 1882 and 19 August 1882. Daily Chronicle, 4 August 1887. Royal Gazette, 13 December 1879. 'British Honduras botanic station': Kew Bulletin, (1895), 10; and (1896), 101-103. 'Cultural industries in Dominica', Kew Bulletin, (1894), 405- 410. 'Dominica botanic station': Kew Bulletin, (1891), 115; (1893), 148 and 359; (1894), 409 and 420 and (1908), 200-201. Eyre A., The botanic gardens of Jamaica, (London, 1966). Fawcett, W., Guide to the botanic gardens, Castleton, Jamaica, (Kingston, 1904).Fawcett, W., `The public gardens and plantations of Jamaica', Botanical Gazette, 24(5), (November 1897), 345-369. 'Grenada botanic gardens': Chronicle and Gazette, 16 March 1889. Grenada Chronicle, 17 January 1891. Grenada People, 21 March 1889. Kew Bulletin, (8 June & 12 July 1887) and (1891), 146. Guide to Castleton Botanic Gardens, (Jamaica, 1904). Guilding, L., An account of the botanic gardens in the island of St. Vincent, (Glasgow, 1825). Handbook of Jamaica, (1885/1886), 174-180.Harris, W., `History of the introduction of the

economic plants of Jamaica', Bulletin of the Department of Agriculture (Jamaica), (1910), I.3:181-189. Hill, A. W., 'A visit to the West Indies.'Kew Bulletin, (1912), pp.166-189. Howard, R. A., `Botanical gardens in the West Indies: History', Garden Journal, (July/August 1953), 3: 117-120. Howard, R. A., -`A history of the botanic garden of St Vincent, British West Indies', Geographical Review, 44, (July 1954), 381-93. Howard, R. A., & Powell, D. A., `The Indian botanic garden, Calcutta and the gardens of the West Indies', Bulletin of the Botanical Survey of India, 7 (1-4): 1-7 (1965). 'Jamaica botanic gardens.' Colonial Standard and Jamaican Despatch, 30 December 1892, 29 January 1895 and 30 October 1880. Gardeners' Chronicle, 13 January 1866, 16 November 1867 and 19 May 1877. Jamaica Post, 1 February 1892, 2 February 1893 and 5 February 1897. Kew Bulletin, (1892), 73-5; (1895), 79; and (1906), 61. 'Kew and the West Indies', Nature, 13 January 1887. 'Leeward Islands botanic stations': -Kew Bulletin, (1894), 419-20 Leeward Islands Budget, 9 December 1893.McCracken, D. P., Gardens of empire: botanical institutions of the Victorian British empire, (London, 1997), introduction and chapters 1 & 2. Maxon, W. R., `The botanic gardens of Jamaica', Annual report: Smithsonian Institution, (1920), 523-35. 'Montserrat botanic station': Kew Bulletin, (1891), 119; (1894), 420 and (1908), 203-204. Morris, D., `Report on the economic resources of the West Indies', Kew Bulletin : Additional Series, I, (1898). 'Planting enterprise in the West Indies', St. Helena Guardian, 26 July 1883. Powell, H., 'Notes from St. Vincent', Kew Guild, (1893), 1:41-43. Prestoe, H., Catalogue of plants, Royal Botanic Gardens, Trinidad, (Port-of-Spain, 1870). 'St Kitts botanic station': Kew Bulletin, (1891), 126; (1894), 420; and (1908), 202-204. 'St Lucia botanic station': Gall's Weekly Newsletter, 7 July 1888. Kew Bulletin, (1891), 134 and 163; (1899), 193; and 1908), 142-144. St Lucia Gazette, 20 March 1891. Voice of St Lucia, 20 March and 20 November 1886; 3 January 1891; 6 September 1894; and 17 January 1895. 'St Vincent botanic gardens/ station': Kew Bulletin, (1891), 140; (1892), 92-104; (1894), 80 and 366-367; and (1898), 80. Kew Guild, (1893), 1.1:41-43. Voice of St Lucia, 7 June 1894.

'Trinidad botanic gardens':-Gardeners' Chronicle, 11 April 1874. Trinidad Royal Gazette, 7 May 1879. 'Virgin Islands experimental station', Kew Bulletin (1908), 204-205. 'Visit of botanical officer of Gold Coast to the West Indies', Kew Bulletin, (1894), 227-228. Visitor's Guide to the Royal Botanic Gardens, Trinidad, (Trinidad, 1895). 'West Indies botanic gardens': Gardeners' Chronicle, 6 August 1887. Kew Bulletin, (June 1887), 1-2, (July), 9-13; and (1908), 202-204.

- Zuill, W., Bermuda journey, (London, 1976 ed.).

Anguilla

Mary Walker (Librarian, New England Wildflower Society at Garden in the Woods, Framingham, Massachusetts) has been visiting and collecting plants on the island of Anguilla of the Lesser Antilles since 1987. The number of species in the flora has been increased to 516 (Walker, 1997) from the 473 species previously reported in the ***Flora of the Lesser Antilles*** (Howard, 1977-1989) and an additional study by Howard & Kellogg (1987). New records, identifications verified by Richard A. Howard, for the island have been vouchered by specimens deposited at the Harvard University Herbaria and the Anguilla National Trust Herbarium.Howard, R. A. (ed.). 1977-1989. Flora of the Lesser Antilles, Vols. 1-6. Arnold Arboretum: Jamaica Plain, MA.Howard, R. A. & E. A. Kellogg. 1987. Contributions to a flora of Anguilla and adjacent islets. J. Arnold Arbor. 68: 105-131.Walker, M. 1997. From hobby to *The Anguilla Flora Project* in ten years. Wild Fl. (Toronto) 13(4): 39-42.

Correction to FGA Newsletter No. 13

In the article on Page 1: "From Barbados...," In the first paragraph, where it reads: The account in the Flora of the Greater Antilles..., the text should read: "The account in the Flora of the Lesser Antilles...."

Book Still Available

We still have some copies of the volume:*A cumulative index to the nine volumes of the Symbolae Antillanae seu fundamenta Florae Indiae Occidentalis edited by Ignatius Urban* which was compiled by Eileen Carroll and Stephanie Sutton, with an introduction by Richard A. Howard, published by the Arnold Arboretum, Jamaica Plain, Mass., 1965. The books were donated by Arnold Arboretum.We will make the book available for the cost of shipping. Check the following for the schedule of rates: Book/surface: U.S.A. and Canada $3.00; Europe, Caribbean, Mexico, South America, Asia, and Australia, $4.00. Book/air: Canada $5.00; Europe, $9.00; Caribbean & South America $7.00; Mexico, $6.00; Asia $10.00; Australia, $11.00.

To order your copy, send your name and complete mailing address plus the correct shipping costs in US$. Checks should be drawn on a U.S. bank and be made payable to The New York Botanical Garden. Otherwise, send U.S. cash. Since the volume is being offered for only the cost of shipping, only prepaid orders will be filled. Send your order to T. Zanoni, New York Botanical Garden, Bronx, NY 10458-5126, U.S.A.

Telephone Area Code Changes in Caribbean

The area previously covered by telephone area code 809 now has new area codes: Anguilla (264), Antigua & Barbuda (268), Bahamas (242), Barbados (246), Bermuda (441), British Virgin Islands (284), Cayman Islands (345), Dominica (767), Dominican Republic (809), Grenada (473), Guadeloupe (590), Haiti (509), Jamaica (876), Martinique (596), Montserrat (664), Puerto Rico (787), St. Barthelemy (590), St. Kitts & Nevis (869), St. Lucia (758), St. Maarten (599), St. Martin (590), Trinidad & Tobago (868), Turks & Caicos Islands (649), U.S. Virgin Islands (340).

Upcoming meeting

VII Latin American Botanical Congress, 18-24 October 1998, in Mexico City. Abstracts for poster sessions due 15 May 1998: Information & send abstracts to: Dr. Ramón Riba, Presidente del VII Congreso Latinoamericano de Botánica, UAM-Iztapalapa, Apartado Postal 55-535, 09340 Mexico, DF, Mexico. E-mail: socbot@alquimia.encb.ipn.mx or clb@xanum.uam.mx

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New Publications of Note

Buck, W. R. 1998. Pleurocarpous mosses of the West Indies. Mem. New York Bot. Gard. 82: 1-400. $49.00 (hardcover) plus postage & handling. Scientific Publications Dept., New York Botanical Garden, Bronx, NY 10458-5126, U.S.A. This (the first of two volumes; the second to cover the acrocarpus mosses) volume treats the pleurocarpus mosses of Bermuda, the Bahamas, and the West Indian islands.Liogier, H. A. 1997. Descriptive flora of Puerto Rico and adjacent islands, Spermatophyta-Dicotyledonae. Vol. V Acanthaceae to Compositae. Editorial de la Univerisdad de Puerto Rico: San Juan, Puerto Rico. 436 pp. (paperback). Editorial de la Univeridad de Puerto Rico, Apartado 23322, San Juan, PR 00931-3322. This last volume of Liogier's Descriptive Flora covers the families from Acanthaceae through the Compositae. A Supplement, pp. 386-412, to the first four volumes includes Nomenclatural notes and additions or deletions of other species of Puerto Rico. See pp. 404406, where *Malpighia woodburyana* Vivaldi, sp. nov., is published.

McCracken, D. P. 1997. Gardens of Empire: Botanical institutions of the Victorian British Empire. Leicester University Press: London. xiv + 242 pp. Leicester University Press, 125 Strand, London WC2R 0BB, England. Finally, we have a volume summarizing the botanical garden activity in the British colonies. The analysis covers the found-ation, extent, management, and achievements of 120 botanic gardens, herbaria, and botanic stations (which also functioned as agricultural research and plant introduction agents) around the world.

Bibliography of Caribbean Botany. 13

Section removed - see the Consolidated Bibliography rather.

Flora of the Greater Antilles Newsletter *is published by The New York Botanical Garden. Edited by Thomas A. Zanoni (tzanoni@nybg.org) and William R. Buck (bbuck@nybg.org).*

ISSN 1090-4344

FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 15 - January 1999

Information for Travel in the Caribbean

For the botanist travelling in the Caribbean Islands, some information sources are cited here. The web sites listed may not pertain to the organization listed, but may have useful information for the traveler. For general travel information, get the Caribbean Vacation Planner from: Caribbean Coalition for Tourism, 80 Broad Street, NY, NY 10004, U.S.A., Tel. (212) 635-9530; Fax (212) 635-9511. This is revised annually and is free.

Anguilla Tourist Information, c/o Medhurst & Assoc., 775 Park Ave., Huntington, NY 11643. Tel. (516) 425-0900, (800) 533-4939; Fax (516) 425-0903. Also contact Anguilla Tourist Office, P.O. Box 1388, The Valley, Anguilla, Tel. (800) 553-4939 http://www.candw.com.ai/~atbtour/

Antigua & Barbuda Dept. Tourism, 610 Fifth Ave, Suite 311, NY, NY 10020; Tel. (212) 541-4117, http://www.interknowledge.com/antigua-barbuda/

Aruba Tourism Authority, 1000 Harbor Blvd., Weehawken, NJ 07087, Tel. (800) 862-7822, (210) 330-0800, Fax: (210) 330-8757; http://www.shore.net/olm/aruba

Bahamas Tourist Office, 150 E. 52nd St., 28th Floor North, NY, NY 10022, Tel. (800) 422-4262, (212) 758-2777; Fax (212) 753-6531; http://www.interknowledge.com/bahamas/ and http://www.bahamaweb.com/

Barbados Tourism Authority, 800 Second Ave., NY, NY 10017; Tel. (800) 221-9831; (212) 986-6516; Fax (212) 573-9850

Tourism Corporation of Bonaire, 10 Rockefeller Plaza, Suite 900, NY, NY 10020; Tel. (800) 826-6247; (212) 956-5911; Fax (212) 956-5913; http://www.interknowledge.com/bonaire/

British Virgin Islands Tourist Board, 370 Lexington Ave, Suite 1605, NY, NY 10017; Tel.

(800) 835-8530, (212) 696-0400; Fax (212) 949-8254

Caribbean Tourism Organization, 80 Broadway, NY, NY 100XX; Tel. (212) 682-9530; Fax (212) 697-4258; http://www.caribtourism.com

Cayman Islands Department of Tourism, 420 Lexington, Ave., Suite 2733, NY, NY 10170; Tel. (800) 346-3313, (212) 682-5582; Fax (212) 986-5123. http://www.caymans.com

Curaçao Tourist Board, 475 Park Ave. South, Suite 2000, NY, NY 10016; Tel. (800) 270-3350, (212) 751-8666; Fax (212) 683-9337. http://www.interknowledge.com/curacao/

Consulate General of Dominica; 820 Second Ave., 9t Floor, NY, NY 10017; Tel. (212) 599-8478; Fax (212) 808-4975; Dominica Tourist Office, 10 E. 21st St., Suite 600, NY, NY 10010, Tel. (212) 475-7542, (888) 374-6361.

Dominican Republic Tourist Office, 1501 Broadway, Suite 410, NY, NY 10036; Tel. (212) 575-4966; Fax (212) 575-5448

French Government Tourist Office , 444 Madison Ave., 16 Floor, NY, NY 10022; Tel. (800) 391-4909, (212) 757-1125; Fax (212) 838-7855

Grenada Board of Tourism, 820 Second Ave., Suite 900D, NY, NY 10017; Tel. (800) 927-9554, (212) 687-9554; Fax (212) 573-9731. http://www.interknowledge.com/grenada/

Guadeloupe Tourist Office, 161 Washington Valley Road, Suite 205, Warren, NJ 07059. Tel. (888) 448-2335.

Consulate General of Haiti, 271 Madison Ave., No. 17-F, NY, NY 10016, Tel. (212) 697-9767; Fax (212) 691-5991

Jamaica Tourist Board, 801 Second Ave., 20th Floor; NY, NY 10017; Tel (212) 856-9727, (800) 233-4582; Fax (212) 856-9730; http://www.jamaicatravel.com

Martinique Promotion Bureau, c/o French Government Tourist Office, 444 Madison Ave., NY, NY 10022; Tel. (212) 838-7800 ext. 228, (800) 391-4909; Fax (212) 838-7855. http://www.martinique.org/

Montserrat Tourist Information. Tel. (516) 425-0901

Netherlands Antilles (Saba, St. Eustatius, St. Maartin, Aruba,Bonaire, Curacao) http://gov.an/

Puerto Rico Tourism Company, 575 Fifth Ave., 23rd Floor, NY, NY 10017; Tel. (800) 223-6530, (212) 599-6262; Fax (212) 818-1866

Saba & St. Eustatius Tourist Office, c/o Caribbean Tourism Office, 20 E. 46th St, 4th Floor, NY, NY 10017; Tel. (212) 682-0435; Fax (212) 697-4258

St. Eustatius Tourist Office, PO Box 6322, Boca Raton, FL 33427. Tel. (800) 722-2394.

St. John., US Virgin Islands. http://stjohnusvi.com

St. Kitts & Nevis Department of Tourism, 414 E. 75th St., 5th Floor, NY, NY 10021; Tel.: (800) 582-6208, (212) 535-1234; Fax (212) 734-6511. http://www.interknowledge.com/stkitts-nevis/

St. Lucia Tourist Board, 820 Second Ave., 9th Floor, NY, NY 10017; Tel. (800) 456-3984, (212) 867-2950; Fax (212) 867-2795. http://www.interknowledge.com/st-lucia/

St.Maarten Tourist Office, 675 Third Ave., Suite 1806, NY, NY 10017; Tel. (800) 786-2278; (212) 953-2084; Fax (212) 953-2145. http://www.st-maarten.com

St. Martin Tourist Office, c/o French West Indies Tourist Office, 444 Madison Ave., NY, NY 10022; Tel. (212) 838-7800. http://www.interknowledge.com/st-martin/

St. Vincent & The Grenadines Tourist Office, 801 Second Ave., 21st Floor, NY, NY 10017; Tel. (800) 729-1726, (212) 687-4981; Fax (212) 949-5946

Trinidad & Tobago Tourism Office, 7000 Boulevard East, Guttenberg, NJ 07093; Tel. (800) 232-0082, (212) 869-0060; Fax (201) 869-7628; http://www.tidco.co.tt

Turks & Caicos Islands Information Office, c/o Trombone Assoc., 420 Madison Ave., NY, NY 10017; Tel. (212) 223-2323. http://www.interknowledge.com/turks-caicos/ Also contact Turks & Caicos Tourist Board, Box 128,

U.S. Virgin Islands, Division of Tourism, 1270 Avenue of the Americas, Suite 2108, NY, NY 10020; Tel. (212) 332-2222; Fax (212) 332-2223; http://www.usvi.net and http://www.gov.vi/

Turks & Caicos, W.I., Tel. (800) 241-0824

Upcoming Meetings

Tropical Urban Forest Ecosystem Restoration International Conference, 23-28 May 1999, San Juan, Puerto Rico. Sponsors: International Institute of Tropical Forestry, Society for Ecological Restoration, International Union of Forest Research Organizations, & University of Puerto Rico. Topics include: Ecological and silvicultural aspects of forest restoration; urban forest ecosystem restoration; & traditional knowledge, socio-economic issues, values and ethics. Contact: www.fs.fed.us/global/iitf/welcome.html

Flora of the Greater Antilles Symposium, Friday 23 June & Saturday 24 June 2000 (Registration: evening, 23 June 2000) to be held at The New York Botanical Garden, Bronx, New York. Principal speakers have been invited to provide the background of the botany, geology, and zoology of the region. All other participants are requested to bring posters concerning their current research on the plants of the Greater Antilles for the poster sessions.

Participants may bring posters from colleagues who are not able to attend the Symposium. Economical lodging will be available at Fordham University, across the street from The New York Botanical Garden. To be placed on the mailing list for the Symposium, send your name, complete mailing address, phone number, fax number & email to: Symposium FGA 2000, Thomas A. Zanoni, New York Botanical Garden, Bronx, NY 10458-5126. Fax: (718) 562-6780. e-mail: tzanoni@nybg.org .

Miscellaneous Notes

Araliales Resource Centre: covering the Apiaceae (Umbelliferae) and Araliaceae. Initial stage of the website includes information on resarchers, on-going projects, publications, etc. Contact: http://www.rbge.org.uk/data/URC/arc.htm or Mark F. Watson, Royal Botanic Garden, Edinburgh, EH3 5LR, Scotland, U.K. e-mail: m.watson@rbge.org.uk

Koeltz Scientific Books *E-NEWS* (new books and sales announcements) is available via e-mail, contact: koeltz@ibm.net. Their Web address is http://www.koeltz.com which allows on-line search for any publicaton in botany and zoology sold by Koeltz Scientific. The publisher has announced the series *Flora de la Republica de Cuba. Series A: Plantas Vasculares.* Fasc. 1 (Araceae, Aristolochiaceae, Bombacaceae, Droseraceae, Linaceae); Fasc. 2 (Mimosaceae).

New Publications

Barneby, R. C. 1998. Silk tree, guanacaste, monkey's earring: a generic system for the synandrous Mimosaceae of the Americas. Part III. *Calliandra*. Mem. New York Bot. Gard. 74(3): 1-223. The last of the three volumes in the mongraphic revisions of the synandrous

Mimosaceae of the Americas. Special price for the purchase of the three volumes together. Available from: NYBG Press, The New York Botanical Garden, Bronx, NY 10458-5126, USA. Fax: (718) 817-8842. e-mail: scipubs@nybg.org <http://www.nybg.org/bsci/spub/catl/order3.html>

Mercado Sierra, A., V. Holubová-Jechová, J. Mena Portales. 1998. Hifomicetos demaciáceos de Cuba enteroblásticos. Mus. Regionale Sci. Nat. Monogr. 23: 1-388 + map in cover. Available from: Museo Regional di Scienze Naturali, Via Giolotti 36, 10123 Torino, Italy. Price: Italian Liras 140,000 plus postage

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We thank Walter L. Meagher for a donation toward the cost of publication of this number

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ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 16 - January 2000

Flora of the Greater Antilles Symposium 2000

The Flora of the Greater Antilles Symposium 2000 will be held at The New York Botanical Garden, Bronx, New York, U.S.A., on Friday, 23 June and Saturday, 24 June 2000. The program will consist of several principal speakers who will present papers on the background for the understanding of the flora and fungi of the region. A poster session is open to all participants. Posters from persons who cannot attend can be sent with persons who are attending the meeting. [NO poster will be accepted unless it is brought and displayed by a participant]. Lodging will be available at Fordham University, across the street from The New York Botanical Garden. To request poster abstract forms and preregistration forms contact: T. Zanoni, New York Botanical Garden, Bronx,. NY 10458-5126, USA. Fax (718) 562-6780 or email TZANONI@NYBG.ORG. Please indicate if your home or funding institution needs a letter of invitation for your participation in the symposium.

News

From James D. Ackerman

Raymond Tremblay, Norris Williams, Wes Higgins and I went to the Dominican Republic in June, 1999, to collect Orchidaceae for the Flora of the Greater Antilles project. We focused on several taxa for molecular work. Tremblay (University of Puerto Rico, Humacao campus) was interested in *Lepanthes* for his studies on the mechanisms of evolutionary diversification in the genus. Wes Higgins (University of Florida) picked up *Prosthechea* (cockle shell Encyclias) and *Quisqueya* for his phylogenetic analyses of Laeliinae. Norris Williams (UF) and I hunted down *Tolumnia* for a monographic treatment of the genus. The trip, though short, was a success, thanks to the assistance that the staff at Jardín Botánico Nacional (JBSD) in Santo Domingo gave us.

Marta A. Diaz (Jardín Botánico Nacional, La Habana, Cuba) just finished a two week

visit to Puerto Rico. Marta and I finished the ground work on the genus *Encyclia* for the Flora. The species in Cuba have a long history of misconceptions. With the combination of studying numerous specimens on loan from herbaria worldwide, examination of types, and a very good understanding of variation in the field, we are satisfied that our treatment will be a big improvement over others.

Raymond Tremblay, Norris Williams and Mark Whitten (University of Florida) visited the Cayman Islands and Jamaica to collect specimens for the Flora project, especially to seek out problem species and obtain more *Tolumnia* material for molecular work.

The work on the Orchidaceae for the Flora of the Greater Antilles is being funded by NSF-BSI grant DEB 9595459 to James D. Ackerman, principal investigator. Other persons may have other sources of funding.

From D. Jean Lodge, Basidiomycetes of the Greater Antilles Group

The Basidiomycetes Group had an expedition to Jamaica in June, 1999. The Corticiaceae and Heterobasidiomycetes were very abundant in the early part of the rainy season. Part of our group stayed in the Blue Mountains, while the other part travelled around the island. While the agaric fungi were not very abundant, several turned out to be new species. We are contemplating submitting a new proposal to the NSF Biotic Surveys & Inventories Program to explore this island more thoroughly.

A participant in the 1997 trips to Puerto Rico and the Dominican Republic, N. W. Legon, published an illustrated (color photographic) report. [Legon, N. W. 1999. A mycological expedition to Puerto Rico. Mycologist 13: 58-62.]

These expeditions were funded in part by NSF Biotic Surveys & Inventories Program grant DEB-95-25902.

For U.S. Citizens Travelling to Cuba

The U.S. State Department has a Web page that provides information for U.S. citizens planning to travel to Cuba. Information covered includes the licensing process, entry requirements, currency regulations, and where to get the license to travel (Office of Foreign Assets Contol, U.S. Treasury Department). The URL is:

www.state.gov/www/regions/wha/cuba/index.html

The Office of Foreign Assets Control, U.S. Department of the Treasury, telephone (202) 622-2520, has its own Web pages at URL: www.treas.gov/ofac

Mailing Address for License Applications:

Office of Foreign Assets Control
U.S. Department of the Treasury
1500 Pennsylvania Avenue, NW
Washington, DC 20220
Attn: Licensing Division

Books and Other Publications of Special Note

Farjon, Aljos. 1998. World checklist and bibliography of conifers. Royal Botanic Gardens, Kew, England. ISBN 1 900347 54 7 (soft cover). vii + 298 pp. Price £34.50 (includes packing & surface mail postage). Available from: Publications Sales, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, England.

> This checklist of conifers covers all species and infraspecific taxa recognized by the compiler in 68 genera and 8 families: 805 taxa. Synonymy, growth form, distribution, and IUCN status are given, as well as many references to the relevant taxonomic literature for the families and genera.

Farjon, Aljos & Christopher N. Page (compilers). 1999. Conifers: Status survey and conservation plan. IUCN/SSC Conifer Specialist Group. IUCN: Gland, Switzerland & Cambridge, England. See pp. 59-62, Caribbean Action Plan by T. A. Zanoni.

Manitz, H. 1999. Bibliography of the flora of Cuba: A survey of systematic and phytogeographica; literature concerning the vascular plants in Cuba and the Caribbean region. Regnum Veg. 136: 1-1108.

Poinar, George, Jr. & R. Poinar. 1999. The amber forest: A reconstruction of a vanished world. Princeton University Press: Priinceton, NJ. [Amber plant & animal fossils, vegetation reconstruction in the Dominican Republic.]

Smith, G. F., H.-D. Ihlenfeldt, J. Thiede, U. Eggli & D. Metzing. 1999. The International Organization for Succulent Plant Study (IOS): Its role and potential services to the international scientific community. Taxon 48: 715-720.

Bibliography of Caribbean Botany. 15

Section removed - see the Consolidated Bibliography rather.

We thank Walter L. Meagher for a donation toward the cost of publication of this number of *The Flora of the Greater Antilles Newsletter.*

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ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 17 - February 2001

Notice:

This will be the last **Flora of the Greater Antilles Newsletter** to be issued in a full press run of about 250 copies. The next newsletter, **No. 18**, will be issued in paper copy for libraries and those persons requesting or requiring a paper copy.

You are requested to provide us with information on the enclosed information sheet to update our postal and email address files.

Martin Dubé of New Brunswick, Canada, has worked in 2000 and 2001 on a web version of the **Flora of the Greater Antilles Newsletter** and now has Nos. 1-17 ready for posting on The New York Botanical Garden' s web site under www.nybg.org/bsci , look for the newsletter under Related Information, where its name will appear.

News

Change of Phone numbers:

The Jardín Botánico Nacional, Apartado 21-9, Santo Domingo, República Dominicana, has had a change of telephone numbers, effective 30 March 2000:

Telephones: (809) 385-2611 to 385-2613
Fax (main office) (809) 385-0525
Fax (Botany Dept.) (809) 385-0446

The Dutch territory St. Maarten (island shared with French Saint-Martin) now has the following country prefix 599-54 to add to the local phone numbers (which are 5 digit numbers).

Herbaria:

Specimens from Martinique:
The specimens of Franz Wilhelm Sieber (collected in 1819-1821 by Franz Kohaut, according to I. Urban, Symb. Antill. 3: 126, 1902) from Martinique were included in a recent donation from the herbarium of the Catholic University, Leuven, Belgium (LV) to the National Botanical Garden of Belgium (BR). See Taxon 49(1): 131, 2000.

17th & 18th Century Herbarium Collections online: The Natural History Museum, London (BM) has a new web site with images of the Jamaican collections of Sir Hans Sloane at http://www.nhm.ac.uk/ botany/databases/sloane/. Sloane is known for his Natural History of Jamaica (1707-1725). His herbarium, in bound volumes, was imaged and is now available for consultation at this website.

Upcoming meetings:

CARIBBEAN BIODIVERSITY CONFERENCE

Save the dates **July 27-30, 2001,** for an international conference to be held in **Punta Cana, Dominican Republic**, that will explore the current state and the future of attempts to integrate biodiversity science and policy in the Caribbean region. Governmental officials will describe the biodiversity policies of the countries they represent, biologists will describe the current state of knowledge of and threats to the flora and fauna in the area, and then policymakers and scientists will jointly discuss and debate ideas for integrating what is known about biodiversity with its conservation and sustainable development. The President and the Secretary of State for the Environment and Natural Resources of the Dominican Republic will be among the governmental officials who will participate in this conference. Scientists and students with expertise and interests in the flora and fauna of the Caribbean are encouraged to participate, as this will be an opportunity for high level governmental officials to interact directly with biodiversity experts. For more information about the conference and registration, please contact, preferably by e-mail, Brian Boom, Vice President for Botanical Science, The New York Botanical Garden, Bronx, NY 10458-5126, U.S.A.; tel. (718) 817-8632; fax (718) 220-6783; e-mail <bboom@nybg.org>.

The Flora of the Greater Antilles project will meet during this conference.

Courses:

Tropical Botany to be taught by Walter S. Judd with Scott A. Zona & Gerard F. Guala, at Fairchild Tropical Garden, National Tropical Botanical Garden-Kampong & Montgomery Botanical Institute, Miami, Florida. 1 -29 July 2001. This is a 5 semester credit hours college course. Applications due 17 April 2001. Contact: Walter S. Judd,

Dept. Botany, P.O. Box 118526, University of Florida, Gainesville, FL 32611-8526. Phone: (352) 392-5135, fax: (352) 392-3993. Email: <wjudd@botany.ufl.edu>

New Dissertation:

Groult, Marie-Laure. 1999. *Pilea microphylla* (L.). Liebm. (Urticaceae) et taxons affins néotropicaux: Aspects biogéographique, ethnobotanique et écologique. Application comme matériel expérimental. Doctoral thesis. Museum National d'Histoire Naturelle: Paris, France. 351 pp.

Books and Other Publications of Special Note:

Ahti, T. 2000. Cladoniaceae. Fl. Neotrop. Monogr. 78: 1-362.Order from: New York Botanical Garden Press, Bronx, NY 10458-5126, U.S.A. <http://www.nybg.org/bsci/spub/catl/order3.html>

Fernández-Zequeira, M., N. E. Ricardo Nápoles, S. Machado Rodríguez, I. Baró Oviedo, C. R. Martínez Callis, P. Herrera Oliver, D. Albert Puente, I. Ventosa Rodríguez, & G. Bridón Calzado. 1999. Cuba y sus árboles. Editorial Academia: La Habana, Cuba. xv + 214 pp. [A large format book on the trees of Cuba, descriptions (nontechnical), and comments on uses in Cuba, abundantly illustrated by photos of habit, flowers, and fruits.]

Henderson, Andrew. 2000. *Bactris* (Palmae). Fl. Neotrop. Monogr. 79: 1-181.Order from: New York Botanical Garden Press, Bronx, NY 10458-5126, U.S.A. <http://www.nybg.org/bsci/spub/catl/order3.html> [A revision of the New World palm genus *Bactris*, based on morphology and anatomy.]

Lombardi, J. A. 2000. Vitaceae: gêneros *Ampelocissus, Ampelopsis* e *Cissus*. Fl. Neotrop. Monogr. 80: 1-250. Order from: New York Botanical Garden Press, Bronx, NY 10458-5126, U.S.A.<http://www.nybg.org/bsci/spub/catl/order3.html>

Nir, Mark. 2000. Orchidaceae antillanae. DAG Media Publishing, Inc.: New York, NY. 453 pp. Order info: <http://www.jacquiniana.com/ index.htm>. [A treatment of the native and naturalized orchid taxa in the West Indies. Includes new taxa and new combinations (lists, pp. 17 & 407), new synonyms (pp. 18-19), and excluded taxa (pp. 410-411)]

Norman, E. 2000. Buddlejaceae. Fl. Neotrop. Monogr. 81: 1-225. Order from: New York Botanical Garden Press, Bronx, NY 10458-5126, U.S.A.<http://www.nybg.org/bsci/spub/catl/order3.html>

Rutten, A. M. G. 2000. Dutch transatlantic medicine trade in the Eighteenth Century

under the cover of the West India Company. Erasmus Publishing: Rotterdam, The Netherlands. 168 pp. Order information: Erasmus Publishing, Glashaven 14-A, 3011 XH Rotterdam, The Netherlands. [The history of the trade and traffic of medicinals (including plant materials) between The Netherlands (then known as the Republic of the United Provinces) and the colonies and overseas stations by the Dutch West India Company. Includes commerce of the medicines from the West Indies (particularly Curaçao) Surinam and Dutch West African forts.]

Bibliography of Caribbean Botany. 16

Section removed - see the Consolidated Bibliography rather.

We thank Walter L. Meagher for a donation toward the cost of publication of this number of the *Flora of the Greater Antilles Newsletter*.

Flora of the Greater Antilles Newsletter *is published by the Institute of Systematic Botany of The New York Botanical Garden. Edited by Thomas A. Zanoni (tzanoni@nybg.org) and William R. Buck (bbuck@nybg.org).*

ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 18 - November 2001

Plant collecting in Puerto Rico and Jamaica

Pedro Acevedo-Rodríguez

Earlier this year (2001), I obtained a grant from the International Institute of Tropical Forestry (US Dept. Agriculture, Río Piedras, Puerto Rico) to continue my botanical exploration of the karst limestone in northern Puerto Rico. This belt covers 142,544 ha and has the most spectacular karst features and the largest continuous expanse of mature forest in Puerto Rico. This area is extremely important for the well-being and preservation of wildlife and the freshwater aquifers in this densely populated island. During the summer, I carried out the first forays into three of the ten areas selected for the study. These three areas, Sabana Hoyos, Biáfara, and La Ceiba, are centered in the Municipio de Florida, northcentral Puerto Rico. The most interesting of these areas was southern Sabana Hoyos. Aerial photographs from 1936 to the present showed the area to have had a continuous forest cover, a very rare occurrence in Puerto Rico. Some of the rare endemic or threatened species known from the area were confirmed to be still extant. This includes *Ottoschulzia rhodoxylum* and the elusive *Marsdenia elliptica*, from which flowers were collected only once before, more than 100 years ago. The most striking feature of this site is the presence of numerous trees that exceed the sizes previously reported for the species in Puerto Rico. This work will continue in 2002 and will generate a lot of interesting data on the habitat and composition of karst forests in Puerto Rico.

After the trip to Puerto Rico, I joined George R. Proctor, Institute of Jamaica, to explore the Dolphin Head Mountains, northwestern Jamaica, in search of vascular plants. Dolphin Head is a small limestone mountain of karst and sinkholes, covered by a dense forest, very high in plant diversity and local endemism. Although the history of botanical exploration of this mountain dates back to the time of Olof Swartz (1780s), the flora is by no means completely known. So far ca. 600 vascular plant species, some of which may be new to science, are known from this area of ca. 1300 ha. Results from the field explorations are being compiled by Dr. Proctor and, hopefully, will weigh heavily in the decision by Jamaican authorities to designate the area as a forest reserve.

Correction to publication on Marcgraviaceae in Cuba

Stefan Dressler has sent this note:
In Flora de la República de Cuba, ser. A, Pl. Vasc., Fasc. 5, Marcgraviaceae, p. 10. Third line form the bottom: The Lectotype was previously designated by Dressler, 1997, and is not designated in the page 10 of this fascicle.

Upcoming meetings

Caribbean Biodiversity Congress IV. 21-24 January 2002. Systematics, biogeography, ecology, conservation, bio-ethics, environmental education, and sustainable development in the Caribbean islands. Oral and poster presentations are scheduled. Abstracts due 30 November 2001. Information: Organizing Committee-Caribbean Biodiversity Congress, Dept. Biology, Universidad Autónoma de Santo Domingo, Santo Domingo, Dominican Republic (telephone and fax (809) 686-3346). Carlos M. Rodríguez at carlos_rguez@hotmail.com or Lourdes Rojas at mojarra-lo@hotmail.com

Fourth International Conference on Serpentine Ecology. 21-26 April 2003. Serpentine flora and fauna, plant ecology of ultramafic areas, pedology and soil biology, revegetation of ultramafic areas, and conservation.Oral presentations, posters, and one-day field trips are planned. For second circular, contact: Jardín Botánico Nacional, Carretera del Rocio Km. 3, Calabazar C.P. 19230, La Habana, Cuba, at email hajb@ceniai.inf.cu and the web site www.uh.cu/centros/jbn

Web sites of interest

Historical collections

The Banks Archive
Joseph Banks biography, letters, and the Banks Archive at the Natural History Museum, London.
http://www.nhm.ac.uk/library/banks/

Sloane Jamaican Collections at BM

http://www.nhm.ac.uk/botany/databases/sloane/index.htm

Smith Herbarium at the Linnean Society, London
The Smith Herbarium (LINN-Smith) contains 317 specimens from the Greater Antilles form the late 18th and early 19th centuries; the total database contains 27,108 specimen records based on ca. 20,000 herbarium sheets. Specimens from Cuba include those from James Fraser (nurseryman), Olof Swartz (naturalist); Jamaica: Thomas Dancer (curator of the Botanic Garden at Bath, 1788), James Everard Home (captain, Royal Navy), William Houston (ship's surgeon), John Lindsay (rector of St. Thomas-ye-Vale), Francis Masson (seed collector from Kew), Archibald Menzies (ship's surgeon & naturalist), Richard Shakespear, Hans Sloane (timbers), Olof Swartz (vascular & nonvascular plants), and William Wright (physician); St. Lucia: Alexander Anderson (St. Vincent Botanical Garden); Montserrat: Henry H. Higgins (chaplain at Rainhill Asylum, bryophytes and lichens, possibly from other islands, also).
http://www.linnean.org/html/collections/collections_smithian.htm

Biodiversity

Cuban biodiversity
http://grupojaragua.org/cuwl.htm

Island of Dominica biodiversity
http://foprobim.org/dmwl.htm

Dominican Republic biodiversity
http://grupojaragua.org/dowl.htm

Haitian biodiversity
http://foprobim.org/hbwl.htm

Botanical institutions within the Greater Antilles

Institute of Jamaica
http://www.instituteofjamaica.org.jm/index_b.html

Jardín Botánico Nacional, Cuba
http://www.uh.cu/centros/jbn/

Jardín Botánico Nacional, Dominican Republic
http://www.jbn-sdq.org/

Newsletters, indices, bibliographies, & other websites

Flora of the Greater Antilles Newsletter (all issues)
http://www.nybg.org/bsci/fga/ (here you are !)

Index to American Botanical Literature
http://www.nybg.org/bsci/iabl.html

Index Herbariorum (latest listings of herbaria)
http://www.nybg.org/bsci/ih/

Index Nominum Genericorum (ING)
http://rathbun.si.edu/botany/ing/

International Code of Botanical Nomenclature, St. Louis edition, 2000
http://www.bgbm.fu-berlin.de/iapt/nomenclature/code/SaintLouis/0000St.Luistitle.htm

International Plant Name Index (Index Kewensis, Gray Card Index ,& Australian Plant Name Index combined)
http://www.ipni.org/
http://www.us.ipni.org/

Internet Directory for Botany
http://www.botany.net/IDB/

Kew Record of Taxonomic Literature
http://www.rgbkew.org.uk/kr/KRHomeExt.html

Vascular plant genera and families (based on Brummitt's 1992 book of same title, Kew).
http://www.rbgkew.org.uk/data/vascplnt.html

Rare botanical books on line

Digitalized versions books of the of 1700s & 1800s, including: Lambert, A. B. (1797). A description of the genus *Cinchona* and Lemaire, C. A. (1841-1847). Iconographie descriptive des Cactées.
http://ridgwaydb.mobot.org/mobot/rarebooks/

Plant web pages

Apiales (Araliaceae, Apiaceae)
http://www.rbge.org.uk/data/URC/arc.htm

Ericaceae
http://www.nybg.org/bsci/res/lut2/

Fabaceae (s. lat.)
http://www.ildis.org/

Orchidaceae (Orchid Research Newsletter)
http://www.rbgkew.org.uk/herbarium/orchid/

Piperaceae (names of *Peperomia*, bibliography, directory of horticultural collections)
http://www.peperomia.net

Polygalaceae (bibliography)
http://www.joethejuggler.com/Polygalaceae/

Rubiaceae (synopsis, New World genera)
http://www.nybg.org/bsci/res/delpic2.html

Rubiaceae (synopsis, worldwide)
http://www.br.fgov.be/SCIENCE/DATABASES/PLANTS/RUBIACEAE/

Scrophulariaceae (names and protologue citations)
http://internt.nhm.ac.uk/cgi-bin/botany/scroph/

Zingiberaceae
http://www.rbge.org.uk/data/ZRC/home.html

New books, theses & dissertations

Woods, Charles E. & Florence E. Sergile (eds.). 2001. Biogeography of the West Indies: Patterns and perspectives. Ed. 2. CRC Press: Boca Raton, FL. [22 unnumbered pp +] 582 pp.

Although called edition 2 of Biogeograpphy of the West Indies: Past, present, and future (C. E. Woods, ed., 1989), this is not a revision of "Ed. 1," the text being different. Mainly concerned with biogeography of various animal groups. Of particular interest: Biogeography of the West Indies: An overview (S. B. Hedges); Climate changes in the circum-Caribbean (Late Pleistocene to Present) and implications for regional biogeography (J. H. Curtis, M. Brenner, & D. A. Hodell); Phylogeny and biogeography of *Lyonia* sect. *Lyonia* (Ericaceae) (W. S. Judd); The Prehistory and early history of the Caribbean (S. M. Wilson); and Status of conservation Haiti: A 10-year retrospective (F. E. Sergile).

Timyan, J. 2001. Status and conservation of *Attalea crassispatha* (Mart.) Burret, a rare and endemic palm of Haiti. M.S. thesis, Duke University: Raleigh, NC. iii + 63 pp. + 20 unnumbered pp. plates.

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ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 19 - November 2002

Web site: http://www.nybg.org/bsci/fga/

Field trip to Pedernales and San Juan, Dominican Republic

James D. Ackerman

This summer I joined colleagues, Norris Williams, Mark Whitten, Barbara Carlsward (University of Florida), and Raymond Tremblay (University of Puerto Rico-Humacao), to obtain material for the Flora of the Greater Antilles, and various systematic and anatomical studies of the Orchidaceae. The trip was very short but fruitful. Our friends at the Jardín Botánico Nacional JBSD, in Santo Domingo, welcomed us with their usual hospitality and gave us some orientation. At the conclusion of our trip they helped dry our material and sent it to us when it was done. For all their help over the years I am particularly grateful. Some major changes in collecting policies have occurred over this year in the Dominican Republic. Permit applications for collecting in national parks and reserves are very involved and may take months to obtain. What was not evident at the time, is that a permit is now required for collecting anywhere in the country. Additional rules changes include the following: collaboration with Dominican colleagues (certainly a reasonable requirement!), no live material may be exported, and no "genetic material" for any reason (e.g., molecular systematics) may leave the country. Our friends at JBSD are almost as frustrated as we are because they are adversely affected by some rules changes too. Unfortunately, they have little to say in these matters except that they are quite willing to establish collaborations via "convenios" or some other type of arrangement. Please contact the Jardín Botánico Nacional, j.botanico@codetel.net.do, well in advance of any collecting trip to the Dominican Republic to find out what permits apply to your proposed field collecting. A new law will be passed that will affect collection of biological specimens, so keep in contact with JBSD.

Progress on the Orchidaceae treatment for the FGA

James D. Ackerman

A complete manuscript for the FGA Orchidaceae should be done by summer, 2003. Most generic treatments have been completed with a few remaining to be done. I have taken a sabbatical leave from the University of Puerto Rico to spend time at the Florida Natural History Museum of the University of Florida to work on editing the manuscript and to finish off the treatments of the remaining genera. J. Atwood, M. Díaz, E. Greenwood, E. Hágsater, C. Luer, M. Nir, G. Romero, and V. Sosa have all either completed their contributions or have submitted substantial parts of their work. Bobbi Angell has done most of the illustrations with just a few more genera to be illustrated yet.

Web sites of interest

General

Index Herbariorum
http://www.nybg.org/bsci/ih/

Collections from historical expeditions to the Americas, Real Jardín Botánico, Madrid
http://www.rjb.csic.es/colecciones/herbario/expedicios.htm

Handbook of Latin American Studies, on-line
http://lcweb2.loc.gov/hlas/

Caribbean Amerindian Centrelink
http://www.kacike.org/cac-ike/Museums.html

Caribbean Islands History Index
http://www.workmall.com/wfb2001/caribbean_islands/caribbean_islands_history_index.html

Caribbean Natural History Links, Caribbean Journal of Science
http://www.caribjsci.org/hyperlinks.htm

Swartz Herbarium, Swedish Museum of Natural History, Stockholm
http://www.nrm.se/fbo/data/swartz.html.en

Caribbean, by country

Area Handbooks, Library of Congress (U.S.A.)
http://lcweb2.loc.gov/frd/cs/

Caribbean Site Directory (links to various web pages by country)
http://www.caribbeansitedirectory.com/

Cuba: Biodiversity Conservation, Darwin Intitiative Project (2001-2004)
http://www.biodiversity.ac.psiweb.com/darwcuba/index.htm

Cuba, Museo Nacional de Historia Natural
http://www.medioambiente.cu/museo/

Dominican Republic, Jardín Botánico Nacional (JBSD), Santo Domingo,
http://www.jbn-sdq.org/
http://republicadominicana.inter.net.do/Dominicana/ecologia/flora/botanico.htm

Haiti, Ekman Herbarium, Damien
http://www.umce.ca/cours/martin/herbier_ekman/

Jamaica, Institute of Jamaica, Botany Department
http://www.instituteofjamaica.org.jm/NHD/herbarium.html

Puerto Rico, Caribbean National Forest
http://www.southernregion.fs.fed.us/caribbean/

Puerto Rico, Luquillo Experimental Forest, Caribbean National Forest
http://luq.lternet.edu/data/

Puerto Rico, University of Puerto Rico, Herbarium (UPRRP)
http://www.ccnet.clu.edu/biol.herbariu.html

Trinidad & Tobago, National Herbarium
http://users.carib-link.net/~rfbarnes/tandt.htm

Trinidad & Tobago, Trinidad Botanic Gardens
http://www.sg.inter.edu/revista-ciscla/volume29/pemberton.html

U.S. Virgin Islands, St. George Botanical Garden, St. Croix
http://www.sgvbg.com

U.S. Virgin Islands, University of the Virgin Islands- Natural Resources & Environmental Management
http://rps.uvi.edu/CES/nrem.htm

Families or groups of plants

Plant phylogeny
http://www.mobot.org/MOBOT/research/APweb/welcome.html

Apiaceae
www.umbellifers.com

Aquatic plants
http://aquat1.ifas.ufl.edu/welcome.html

Cactaceae
http://users.aol.com/hecktheuer/indexe.html

Cuscutaceae
http://www.science.siu.edu/parasitic-plants/Cuscutaceae/

Cycads, worldwide
http://plantnet.rbgsyd.nsw.gov.au/PlantNet/cycad/index.html

Fungi
http://www.fpl.fs.fed.us/documnts/Fungi.htm
http://luq.lternet.edu/data/lterdb86/metadata/lterdb86.htm
http://www.cortland.edu/nsf/ga.html

Gesneriaceae
http://www.gesneriads.ca/

Lichens, Caribbean collections, Michigan State University (MSC)
http://www.bpp.msu.edu/herbarium/regions.htm#Caribbean

Onagraceae, Fuchsia
http://www2.dicom.se/fuchsias/homeone.html

Poaceae, New World
http://mobot.mobot.org/W3T/Search/nwgc.html
Poaceae, Phragmites australis-native or introduced genotypes, morphological and DNA analyses
http://www.invasiveplants.net/phragmites/phrag/morph.htm

Pteridophytes, Including downloadable dictionary for pteridophyte terms and genera
http://amerfernsoc.org/

Scrophulariaceae
http://internt.nhm.ac.uk/cgi-bin/botany/scroph/

New books

Feldmann, Philippe & Nicholas Barré. 2001. Atlas des orchidées sauvages de la Guadeloupe. Muséum National d'Histoire Naturelle, Paris, France. ISBN (MNHN) 2-85653-534-8 (paper cover). 228 pp.["Volume 48 de la collection Patrimoines Naturels," Muséum National de Histoire Naturelle.]

> This book is a compendium of almost all that is known about the native orchids (102 species, 5 of which are endemic) of Guadaloupe (an archipelago which includes Basse Terre and Grande Terre, forming the island of Guadeloupe, proper). The treatment of each species fills two pages. One page includes a description; notes on biology and ecology on Guadeloupe; a general statement of global distribution and specific islands of the Lesser Antilles; and the conservation status. The facing page includes the distribution of each taxon on a colored topographic map and one (or two) clear, well-printed color photograph(s), showing of the flower and sometimes the foliage or whole plant.
>
> The field work by the authors for the book began in the 1980s and ran through the 1990s, so much of the information is quite recent. As might be expected from the concentrated field work, the authors of the book also have been the most prolific workers and authors on the island's Orchidaceae. The distributional information resulted mainly from their extensive field work and examination of herbarium specimens. All the species were found on Basse Terre, which reaches a maximum elevation of 1467 m; only a few are noted for Grande Terre, maximum elevation ca. 100 m.
>
> The authors are to be congratulated for the summation of their field and herbarium work in this beautifully illustrated and printed book which will be useful for the orchid specialist, naturalists, and land use planners. - Review by T. Zanoni.

Hoppe, Jürgen. 2001. Grandes exploradores en tierras de La Española. Published by Grupo León Jiménez. Printer: Editorial Amigo del Hogar: Santo Domingo, Dominican Republic. 122 pp. ISBN 99934-0-198-6 (paper cover)

> This volume is a large format book with color and black and white (sometimes sepia toned) illustrations with biographical information on

selected collectors of botanical and zoological specimens in the Dominican Republic and Haiti. The plant collectors included are C. Plumier, C. G. Bertero, L. A. Prenleloup, H. F. A. von Eggers, R. M. Moscoso Puello, M. D. Fuertes Loren, H. F. von Türckheim, J. N. Rose, W. L. Abbott, E. C. Leonard, E. L. Ekman, M. F. Canela Lázaro, J. de J. Jiménez Almonte, E. de J., Marcano Fondeur, J. Cicero, and H. A. Liogier.

Lellinger, David B., Christina H. Rolleri, Christian Feuillet & Paulo G. Windsch. 2002. A modern multilingual glossary for taxonomic pteridology. Pteridologia 3: 1-263 . Available from the American Fern Society, 326 West Street NW, Vienna, VA 22180-4151, U.S.A. ISBN 0-933500-02-05 (hardcover), US$28.00 (USA domestic, postage included; surface mail, Canada & Mexico, add US$6.00; other foreign airmail, add US$15.00) See http://amerfernsoc.org/ for details about the glossary.

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ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 20 - May 2005

Web site: http://www.nybg.org/bsci/fga/

The highest mountain in the Caribbean: Controversy and resolution via GPS

Kenneth Orvis (2003) reported that based on his GPS readings he was able to record the altitude and latitude and longitude of Loma La Pelona and Pico Duarte, (Dominican Republic) both contenders for the highest mountain of the Caribbean islands. Loma La Pelona was reported to be 3094 ± 4.5 m high, at 19°01'55.29"N, 71°00'18.93"W; and Pico Duarte was reported to be 3098 ± 4.5 m. high, at 19°01'22.73"N, 70°59'53.08W.

Orvis, K. H. 2003. The highest mountain in the Caribbean: Controversy and resolution via GPS. Caribbean J. Sci. 39: 378-380.

Web sites

Herbaria & Historic Collections

Ekman Herbarium (EHH), Damien Haiti
http://www.umce.ca/cours/martin/herbier_ekman/dbintroenglish.htm

Rijgersma, Hendrik van--in the West Indies
http://www.nrm.se/fbo/hist/rijgersma/salvocc.html.se

Hans Sloane and his Jamaican Botanical Collection, at BM
http://www.nhm.ac.uk/botany/databases/sloane/specialistsguidetothedatabase.htm

Herbarium, SwedishMuseum of Natural History, historical collections and collectors
http://www.nrm.se/fbo/hist/welcome.html.en

Herbarium, University of Puerto Rico at Mayagüez (MAPR)
http://www.uprm.edu/biology/profs/breckon/herbarium/

Plants & Fungi (taxonomic groups):

Cultivar checklist for ornamental plants (look under link to Services)
http://herbarium.desu.edu/

Angiosperm Phylogeny, classification system
http://www.mobot.org/MOBOT/research/APweb/

Araceae, revision of *Syngonium* by T. B. Croat
http://aroid.org/genera/syngonium/

International Aroid Society
http://www.aroid.org/

Basidiomyctes of the Greater Antilles
http://www.cortland.edu/nsf/ga.html

Distribution maps of Caribbean Fungi
http://www.biodiversity.ac.psiweb.com/carimaps/index.htm

Bryological glossary
http://www.mobot.org/MOBOT/tropicos/most/Glossary/glosefr.html

Cycads
http://plantnet.rbgsyd.nsw.gov.au/PlantNet/cycad/index.html

Equisetum giganteum
http://www.fiu.edu/~chusb001/giant_equisetum.html

Gesneriaceae, bibliography
http://persoon.si.edu/gesneriad/

Malpighiaceae, nomenclature (under link to Collections and Databases)
http://herbarium.lsa.umich.edu/

Melastomataceae of the world
http://www.flmnh.ufl.edu/natsci/herbarium/melastomes/

Mimosaceae, *Acacia* and segregate genera
http://www.anbg.gov.au/cpbr/taxonomy/acacia-conserved-2004.html

Poaceae, Catalog of New World Grasses
http://mobot.mobot.org/W3T/Search/nwgc.html

Poaceae, World Grasses Database
http://www.kew.org/herbarium/gramineae/wrldgr.htm

Pteridological glossary, multilingual (check link under Pteridologia on the web site)
http://amerfernsoc.org/

Rhamnaceae, *Ziziphus* in West Indies
http://www.bgbm.org/BGBM/RESEARCH/DATA/ziziphus/default.HTM

Nomenclature:

Index Nominum Genericorum (new URL)
http://ravenel.si.edu/botany/ing/INDEX.HTM

Indices Nominum Supragenericorum Plantarum Vascularium (above the genus)
http://www.life.umd.edu/emeritus/reveal/pbio/fam/inspvindex.html

Suprafamilial Names of Extant Vascular Plants
http://www.inform.umd.edu/pbio/fam/hightaxa3.html

Floras within the region:

Marine floras for the Americas
http://www.nmnh.si.edu/botany/projects/algae/M-Floras.htm

Navassa Island, vascular plants and mosses
http://sciweb.nybg.org/science2/hcol/navassa/index.asp

Puerto Rico, checklist of plants at Susúa
http://www.uprm.edu/biology/profs/breckon/herbarium/florasusua.htm

Miscellaneous:

Amber
http://www.ambericawest.com/

Asociación Lantinoamericana de Botánica
http://www.botanica-alb.org/

Books, University of West Indies Press
http://www.uwipress.com/cgi-local/shop.pl/SID=1034611146.1028225/page=naturalhistory.html

RoyalBotanic Gardens, Kew--plant information center
http://www.kew.org/epic/

International Botanical Congress, 2005
http://www.ibc2005.ac.at/

International Institute of Tropical Forestry, Río Piedras, Puerto Rico
http://www.fs.fed.us/global/iitf/

Naturalista Postal, Universidad de Santo Domingo, República Dominicana (originally published by mimeography)
http://marcano.freeservers.com/np/

Programa Eco-Hispaniola (Dominican Republic)
http://marcano.freeservers.com/index.html

Eco-Mar (marine studies, Dominican Republic)
http://espanol.geocities.com/ongprogramaecomar/

Environment, Cuba
http://www.medioambiente.cu/

US Virgin Islands, St. George Village Botanical Garden
http://www.sgvbg.org/

Publication (non-botanical) of Special Interest:

Indigenous people in the Caribbean

On-line journal: Kacike, Journal of Caribbean Amerindian History and Anthropology http://www.kacike.org/. See especially: http://www.kacike.org/NewDirections.html, Kacike Special Issue (Dec 2002, updated Dec 2003: New directions in Taino research/ Nueva direcciones en las investigaciones sobre las herencia taína. A bilingual Special Issue edited by Lynne Guitar.

SALE

Flora Neotropica Monographs (Vols. 1-85) and Advances in Economic Botany (Vols.1-14)

Special Sale (greatly reduced price sale) continues—see http://sciweb.nybg.org/science2/PressHome.asp or contact the New York Botanical Garden Press at nybgpress@nybg.org, tel. 718-817-8721 or fax 718-817-8842

Upcoming Meetings of regional interest

The 11th Symposium on the Natural History of the Bahamas, June 23–27, 2005

This biennial conference will be held at the Gerace Research Center (formerly the Bahamian Field Station) on San Salvador Island, Bahamas, on June 23-27, 2005. Biologists who do research in the Bahamas and in the wider Western Atlantic, including Florida and parts of the Caribbean, are invited to give oral presentations or posters on their research in any aspect of natural history, including botany, entomology, vertebrate zoology, marine science, etc. Papers will be published in the Proceedings. The deadline for registration is March 31, 2005 and the deadline for abstracts is April 22, 2005. There is a charter flight from Fort Lauderdale. Further details are available on the web site and you can register online at: Geraceresearchcenter.com

Contact: Mr. Vincent Voegeli, Exec. Director, Gerace Research Center, %Twin Air, 498 SW 34th Street, Fort Lauderdale, FL 33315; FAX 242.331.2524; grcss@juno.com Or contact the program co-chairpersons: Dr. William Hayes, Dept. of Earth and Biological Sciences, Loma Linda University, Loma Linda, CA 92350; whayes@ns.llu.edu and Dr. Beverly Rathcke, Dept. of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI 48109; brathcke@umich.edu

First Regional Workshop on Fungal Genetic Resource Collections, La Habana, Cuba, 17–25 Sep 2005

Theme: To know the most important aspects for the creation, conservation, development, and use of funfal genetic resources, with theoretical-practical learning for those involved in general mycology, biotechnology, mycorrhizae, and bioremediation. Contact: Jorge Luis Oritz-Medina, Instituto de Ecología y Sistemática, Carretera de Varona Km. 3½, Apartado postal 8029, C.P.. 10800, Boyeros, Ciudad de La Habana, Cuba. tel. (53-7) 578780, 578266, 578088, 578010, fax (53-7) 578090 and email botanica.ies@ama.cu, julio.mena@infomed.sld.cu and decock@mbl.ucl.ac.be, and the web site www.ecosis.cu

Botanical Gardens in the Conservation of the Vegetable Biological Diversity, 12–14 Nov 2005, Cienfuegos Botanical Garden Cuba

Topics: Plant conservation in botanical gardens; herbarium development, floristic taxonomy; phtogeography; history of botany in Cuba; ecosystems and protected areas management; environmental education and community work in botanical gardens; sustainable forest management; public ornament and landscape, tourism and nature. Contacts: Lázaro J. Ojeda-Quintana, Jardí Botáico de Cienfuegos, Calle Central No. 136, Pepito Tey, Cienfuegos, Cuba, tel. \(53-43) 45334, 45325, email: lazaro@jbc.perla.inf.cu and Félix Pazos Sánchez at felix@jbc.perla.inf.cu

IX Congreso Latinoamericano de Botánica, Santo Domingo, República Dominicana, 19–25 Jan 2006

Theme: Contributing to the global knowledge of the native Latinamerican flora. For more information ,contact: Ricardo García (Executive Secretary of the IX Congreso), Jardín Botánico nacional, Apartado Postal 21-9, Sano Domingo, República Dominicana, tel. (809)-385-2611 or 385-2612, 04 385-2613, ext. 224; FAX (809) 385-0446, email j.botanico@codetel.net.do Also, see Web page http://www.botanica-alb.org/index2.html and email: albcongreso2006@argentina.com

Fifth International Conference on Serpentine Ecology, 9-13 May 2006

University of Siena, Siena, Italy. Topics: soils and microbiology; bioDiversity: biogeographical and ecological issues; population and community ecology; physiological ecology of serpentine plants; serpentine faunas: interactions with soils and plants;

conservation and management of serpentine soils. Post-conference excursion to an Italian serpentine area. First circular of the conference issued in March 2005 http://www.unisi.it/eventi/5-ICSE/index.htm Second announcement expected in June 2005.

Bibliography of Caribbean Botany. 19

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Appreciation is expressed to Walter H. Meagher for a generous donation to help cover the costs of printing and mailing of the Flora of the Greater Antilles Newletter No. 20 (2005).

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*The **Flora of the Greater Antilles Newsletter** is published by The New York Botanical Garden. Edited by Thomas A. Zanoni (tzanoni@nybg.org) and William R. Buck (bbuck@nybg.org).*

ISSN 1090-4344

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FLORA OF THE GREATER ANTILLES NEWSLETTER

No. 21 - April 2006

Web site: http://www.nybg.org/bsci/fga/

Orchidaceae of the Flora of the Greater Antilles

The Orchidaceae treatment for the FGA has just been submitted to the Memoirs of the New York Botanical Garden for consideration. There are about 585 species of orchids in the flora many of which have been described since work on the FGA began. Collaborators are John T. Atwood, Paul M. Brown, Marta A. Díaz, Ed Greenwood, Eric Hágsater, Carlyle A. Luer, Ernesto Mújica, Mark Nir, Gustavo Romero and Victoria Sosa. The principal illustrator is the award winning artist, Bobbi Angell.

Althought the manuscript has been submitted, work on the Orchidaceae continues unabated as classification changes and new taxa continue to stream in. In addition, I have contacted Bill Gould at the USDA's International Institute for Tropical Forestry (in San Juan) and this month he will have their GIS lab produce some basic maps of the region. I intend to have them printed on the inside cover (as in Pedro Acevedo's Flora of St. John). The maps will be available to all those that wish to use them in subsequent treatments of the FGA.—Jim Ackerman.

Web Sites

Angiosperm phylogeny
http://www.mobot.org/MOBOT/Research/APweb/welcome.html

Aquatic plants and Aquaphyte newsletter
http://plants.ifas.ufl.edu/; http://plants.ifas.ufl.edu/aquaph.html

Archaeological sites, with plant remains, Tibes, Puerto Rico
http://ponce.inter.edu/tibes/tibes.html

Biodiversity hotspots, Caribbean
http://www.biodiversityhotspots.org/xp/Hotspots
http://www.biodiversityhotspots.org/xp/Hotspots/caribbean/

Bryological glossary
Magill, R. E. (ed.). 1990. Glossarium polyglottum bryologiae. Missouri Botanical Garden: St. Louis, Missouri. [Polyglot bryological dictionary] http://www.mobot.org/MOBOT/tropicos/most/Glossary/glosefr.html

CIA, area handbooks, country profiles, factbooks
http://www.cia.gov/cia/publications/factbook/

Cucurbitaceae, Cucurbit Network News
http://www.cucurbit.org/

Gazetteer (place names, non-USA)
http://gnswww.nga.mil/geonames/GNS/index.jsp
http://en.wiktionary.org/wiki/Wiktionary_Appendix:Place_Names_in_the_Americas

Gazetteer (place names, USA, territories, Puerto Rico)
http://geonames.usgs.gov/redirect.html

Gazetteers and related geographical information
Statoids (administrative subdivisions of countries, historical information on subdivisions)
http://www.statoids.com/statoids.html

Haiti, Ekman Herbarium recent status reports
http://www.umce.ca/cours/martin/herbier_ekman/Ekman_Herbarium.htm

Herbarium specimen databases
http://www.cals.ncsu.edu/botany/ncsc/type_links.htm

International Code of Botanical Nomenclature (St. Louis Code, 2000)
http://www.bgbm.fu-berlin.de/iapt/nomenclature/code/SaintLouis/0000St.Luistitle.htm

Invasive plants, Dominican Republic
http://www.ceiba.gov.do/inbidom/index.html

Malvaceae

http://www.malvaceae.info/

Piperaceae (Peperomia)
http://www.peperomia.net/repertory.asp

Plant Chromosome Numbers, Index
http://mobot.mobot.org/W3T/Search/ipcn.html

Poaceae
http://www.kew.org./data/grasses-db.html
http://www.kew.org/data/grasses-syn.html

Poaceae, catalog of New World grasses
http://mobot.mobot.org/W3T/Search/nwgc.html

Polygalaceae
http://www.joethejuggler.com/Polygalaceae/Literature.html

Puerto Rico & US Virgin Islands (Pedro Acevedo site):
Vines and climbing plants of Puerto Rico (announcement); Monocots and gymnosperms of Puerto Rico and the Virgin Islands (text as pdf file); Agustín Stahl, watercolors and specimens; Flora of St. John, U.S. Virgin Islands (announcement); Rio Abajo,Puerto Rico, karst limestome flora
http://ravenel.si.edu/botany/PRFlora/index.html

World Checklists of vascular plants
http://www.kew.org/wcsp/

Upcoming Meetings of Regional Interest

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International Compositae Alliance: A Symposium: Botanic Institute of Barcelona., Barcelona, Spain, 25–29 June 2006

Invited talks are from 15 to 45 minutes. Contributed papers and talks (15 min) will be accepted (1 to 1/2 day devoted to them depending on how many people submit abstracts). Posters welcome on any topic related to Compositae; presenter does not have to attend. Contact: http://www.institutbotanic.bcn.es/compositae2006/inici.htm

Third International Rubiaceae Conference: K.U. Leuven, Belgium, 18–21 September 2006

Since the previous Rubiaceae conference in 1995, many new morphological and molecular data have been published. These data partly confirm previous classifications, but also provide new insights into the evolution and biogeography of this large family. The short Rubiaceae symposium during the XVII International Botanical Congress in Vienna made the need for a more prolonged meeting very evident. With the Third Rubiaceae Conference, we want to offer a forum to all Rubiaceae scientists to present the results they achieved in the last decade. The conference is also open to scientists working on other families of the Gentianales. The conference will consist of thematic sessions of lectures and a poster session. Contact: http://www.kuleuven.be/bio/sys/rubiaceae_conference/

Bibliography of Caribbean Botany. 20

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