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Bissea

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The Newsletter on Plant Conservation of the National Botanic Garden of Cuba

Bissea is the newsletter published by the Conservation team of the National Botanic Garden of Cuba. Its main objective is to report on the efforts that are being carried out for the conservation of the Cuban flora. This newsletter is dedicated to the memory of Prof. Dr. Johannes Bisse, an eminent German botanist, founder of the National Botanic Garden of Cuba who was dedicated to the education of a group of Cuban botanists that has been working on the study and conservation of the Cuban flora.

Jardín Botánico Nacional

The extinct Flora of Cuba

Text: R. Berazaín

According to the International Union for the Conservation of Nature (IUCN) *"a taxon is Extinct when there is no reasonable doubt that the last individual has died".* The Red List of the Cuban Vascular Flora, published in 2005, refers 23 taxa with this category for Cuba, of which 21 are endemics. However, those results are based on the analysis of only 20% of the Cuban flora.

The majority of the extinct species in Cuba grew in Mesophyllous Semideciduous Forest, which is the vegetation type most reduced from its original coverage on the island. The majority of the extinct plants had a narrow distribution. The provinces which have lost the most species are Pinar del Río and Guantánamo, two of those with the greatest biological diversity.

Taking into consideration the criterion of the IUCN that there might be a *"reasonable doubt about the death of the last individual"* and the necessity to have made *"exhaustive surveys in known and/or expected habitats",* several *taxa* exist for which it is possible to reconsider the category of "Extinct." For example, in the "Johannes Bisse" Herbarium of the National Botanic Garden (HAJB), a specimen was located of *Begonia cowelli* (*Begoniaceae*) from a previously unreported locality, which not only extends the distribution of the species but also sows doubt about the continued existence of a population. Similarly, during a study of the *Rutaceae* family, specimens were located of *Kodalyodendron cubensis* (now *Amyris cubensis*) from a previously unreported locality that is still not sufficiently explored to guarantee the extinction of this taxon. Another species, *Crotalaria urbaniana* (*Fabaceae*), was reencountered in 1992 in the same locality as the last known collection and is currently cultivated in the Botanic Garden of Cupaynicú (Granma). Also, *Daphnopsis bissei* has been reencountered in the province of Camagüey, where it is endemic, and its reclassification as Critically Endangered has been proposed. The change of category for these species requires a process of analysis and discussion, which is why for now, and in spite of the new data, they are formally maintained in the category of Extinct.

These encouraging examples illustrate for us the necessity of deepening the study of collections and intensifying botanical exploration of the island, to continue the rescue of our valuable plants.

More information: hajb@ceniai.inf.cu

List of Extinct species in the Flora of Cuba - 2009

Family	Taxon name
Arecaceae	*Roystonea stellata* León
Begoniaceae	*Begonia cowellii* Nash
Begoniaceae	*Begonia fischeri* Schrank var. *fischeri* *
Begoniaceae	*Begonia linearifolia* J. Sierra
Celastraceae	*Maytenus lineata* C. Wright *ex* Griseb.
Commelinaceae	*Commelina blainii* (C. Wright) Woodson
Dioscoreaceae	*Rajania prestoniensis* Kunth
Eriocaulaceae	*Eriocaulon echinospermoideum* Ruhland
Eriocaulaceae	*Eriocaulon minutissimum* Ruhland
Eriocaulaceae	*Lachnocaulon cubense* Ruhland
Euphorbiaceae	*Bonania myricifolia* (Griseb.) Benth. & Hook. f
Euphorbiaceae	*Cnidoscolus fragrans* (Kunth) Pohl
Flacourtiaceae	*Banara wilsonii* Alain
Leguminosae	*Crotalaria urbaniana* Senn **
Menispermaceae	*Hyperbaena obovata* Urb.
Poaceae	*Pappophorum pappiferum* (Lam.) Kuntze
Poaceae	*Paspalum amphicarpum* Ekman
Rubiaceae	*Guettarda retusa* C. Wright
Rubiaceae	*Psychotria banaoana* Urb.
Rutaceae	*Cusparia ossana* (DC.) Beurton
Rutaceae	*Amyris cubensis* (Borhidi & Acuña) Beurton ***
Rutaceae	*Zanthoxylum leonis* Alain
Thymelaeaceae	*Daphnopsis bissei* A. Noa ****

* Since 2008 considered Regionally Extinct.
** Located in 1992 but not reclassified, possibly Critically Endangered.
*** C. Beurton 2008 presumes to still exist in one locality.
**** A. Noa 2009 considers it should be reclassified as Critically Endangered.

Botanical exploration in Pinares de Mayarí (Holguín)

Text: C. Sánchez & R. Morejón **Photo:** C. Sánchez

From 17-23 of May 2009, specialists from the National Botanic Garden, the Holguín Botanic Garden, and the National Enterprise for the protection of the Flora and Fauna carried out an expedition to the area of Pinares de Mayarí (Holguín), with the objective to collect ferns and lycophytes from some localities in this province ("Pinares de Mayarí" Station, Pinalito, Cayo Mujeres and Salto del Guayabo).

Among the visited localities, Cayo Mujeres, an isolated patch of montane rainforest at 800 m above sea level, turned out to be of interest because, in spite of fragmentation, the area still has a high floristic value. Precisely in this locality several species of ferns were collected from the genera *Elaphoglossum* (8 species, among them a Cuban endemic, *E. wrightii* (Mett.) T. Moore), *Hymenophyllum* (3 species), *Trichomanes* (3 species), and 4 species of grammitidoid ferns of the *Polypodiaceae* family.

In general, in the visited localities a marked deterioration of the original vegetation was observed, due to forestry activity, cattle, and occasional fires. Vegetation fragments with some degree of conservation, like Cayo Mujeres, need protection status to guarantee the preservation of the biological diversity of the region.

More information: csanchez@fbio.uh.cu

Elaphoglossum wrightii (Mett.) T. Moore in Cayo Mujeres, Pinares de Mayarí (Holguín).

With this volume, **Bissea** celebrates its second anniversary.

I National Workshop on Key Biodiversity Areas in Cuba

Text: J. A. Hernández

From 29 June to 2 July, 2009, specialists from different institutions in the country will meet in Varadero, Matanzas province, to validate Key Biodiversity Areas (KBAs) identified for Cuba. This I National KBAs Workshop in Cuba, convened by the National Center for Protected Areas (CNAP), will include the advice of specialists from BirdLife International. The validation of these Areas will be based on the criteria of threat and distribution range of the species of flora and fauna.

More information: juan@snap.cu

First report of *Triphora gentianoides* (*Orchidaceae*) for western Cuba

Text: Y. Domínguez

Triphora gentianoides (Sw.) Ames & Schlechter is a terrestrial orchid classified as Near Threatened according to the Red List of the Cuban Vascular Flora. Its distribution includes several countries in Central and South America, Florida, Cuba, and Jamaica. In our country it has been collected in mountainous regions in the central and east of the country, always more than 200 m above sea level.

In Melena del Sur (La Habana), several individuals of *T. gentianoides* were recently found growing in an area degraded by humans. The species is not showy and is small (15 cm); it is perennial but can only be seen during the rainy season and spends the rest of the year dormant, present only as a basal tubercle. Due to these characteristics the plant can easily go unnoticed.

Botanical explorations will be necessary in nearby locations with similar ecological conditions, with the goal of locating other populations of this species.

More information: yoannisd@isch.edu.cu

About the I International Ecology and Conservation Symposium "S.O.S Nature"

Text: A. Cuscó

The I International Ecology and Conservation Symposium "S.O.S Nature", which met from 5-10 April, 2009, in the Heredia Theater of Santiago de Cuba, included the participation of 208 delegates and 50 invitees, among whom were researchers from Mexico, Switzerland, and the United States. The event allowed for the presentation of a total of 234 works, 116 presentations and 118 posters. In educational conferences, roundtables, workshops, oral presentations, and expositions of photographs and illustrations, the themes of Ecology, Conservation Biology, Biogeography, and Environmental Education were addressed.

More information: http://www.tvsantiago.co.cu/?mod=noticias&id=15294

Events

➲ Annual Meeting of the National Network of Botanic Gardens. 10-13/june/2009. Las Tunas, Cuba. Information: leivajbn@ceniai.inf.cu

➲ XIII Congress of the Mesoamerican Society for Biology and Conservation. 26-30/october/2009. Belize. Information: http://www.msbcbelize2009.com

➲ "Role of Botanic Gardens in the Conservation of Plant Biological Diversity." 18-20/november/2009. Cienfuegos, Cuba. Information: lazaro@jbc.perla.inf.cu

➲ II Symposium of Ecology, Society, and Environment "ECOVIDA 2009." 1-5/december/2009. Pinar del Río, Cuba. Information: alina@ecovida.pinar.cu

Natural regeneration and reinforcement of the population of *Dendrocereus nudiflorus* (*Cactaceae*) in Punta Guano, Matanzas

Text: D. Barrios; A. Aguilera & B. Domínguez **Photos:** A. Aguilera

Plantlets of *Dendrocereus nudiflorus* in Punta Guano (Matanzas): A. planted plantlet; B. plantlet encountered in its natural habitat.

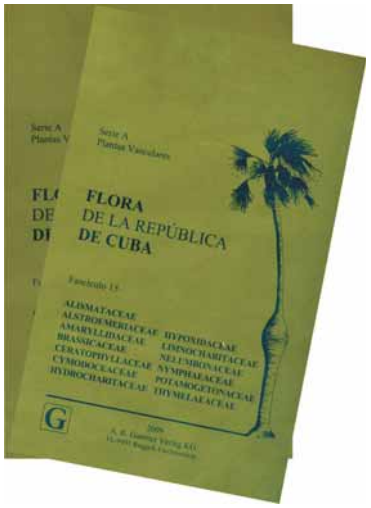
During a populational count of *Dendrocereus nudiflorus* (Engelm.) Britton & Rose in the locality of Punta Guano (Matanzas), a plantlet 7 cm tall was encountered. Until now not a single plantlet had been recorded from any of the populations of this species across the entire island, in fact there are reports of few juvenile individuals. The population of *D. nudiflorus* in the Punta Guano locality is further comprised of 47 individuals, of which only 6 are juveniles with a mean height of 2.5 m.

The presence of few juvenile individuals is evidence of problems with dispersal, germination, or survival in natural conditions since seed germination in controlled conditions is greater than 75%.

Punta Guano, a locality affected by petroleum development, is not included in the expansion plans for this industry, nor in tourism plans, thus in the future it will be a suitable area for natural regeneration. Under this premise, the *D. nudiflorus* population was reinforced with 67 plantlets obtained from seeds germinated *ex situ* as one of the conservation strategies for this species. These actions carried out by the Matanzas Botanic Garden, along with a collaborator from the University of Huelva (Spain) and a cactus collector, form part of the Program for the Conservation of Cuban Cactus.

More Information: duniel.barrios@umcc.cu

Publications



Fascicles 14 (2008) and 15 (2009) of the Flora of the Republic of Cuba have been published. Number 14 includes 18 genera with 75 indigenous species (38 endemics) from four families: *Lythraceae, Oleaceae, Rutaceae,* and *Salicaceae.* In the work, 19 taxa are treated that are under some category of threat, another ten are poorly collected or have not been seen in more than 60 years.

Number 15 contains the treatment of the families: *Alismataceae, Alstroemeriaceae, Amaryllidaceae, Brassicaceae, Ceratophyllaceae, Cymodoceaceae, Hydrocharitaceae, Hypoxidaceae, Limnocharitaceae, Nelumbonaceae, Nymphaeaceae, Potamogetonaceae*, and *Thymelaeaceae.* In total, 35 genera are described with 67 indigenous species (15 endemics); ten of the taxa are considered threatened and 13 are considered poorly collected.

More information: http://www.uh.cu/centros/jbn

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Edited by L.R. González-Torres & A. Palmarola
Guest editor: J. R. Abbott (University of Florida)
Reviewed by Scientific Committee of JBN
Translated by J. R. Abbott (University of Florida)
Designed by A. Palmarola