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Review Article

Knowledge for a Better Conservation: Syntaxonomic Review of Caribbean Pine Forests (Cuba, Hispaniola)

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Abstract: A phytosociological review is carried out of the pine forest formations on the islands of Cuba and Hispaniola (Caribbean), due to the diversity of soils and environments. We collected 10 plant associations belonging to the class *Byrsonimo-Pinetea caribaea* growing on siliceous, calcareous and sandy substrates and 21 associations on special, serpentine and ophite substrates and on ultramafic rocks belonging to the class *Caseario crassinervis-Pinetea cubensis*, exclusive to Cuba; while the association of pine forests on serpentines in Hispaniola is included in the class *Phyllantho orbicularis-Neobracetea valenzuelanae* with a Caribbean distribution. The comparative phytosociological and statistical study reveals phytosociological anomalies in the inclusion of various syntaxa, and in the description of other syntaxa according to the International Code of Phytosociological Nomenclature (ICPN). We therefore propose a change in status for several of the subassociations described: subass. *ilicetosum repandae*: syn. var. con *Ilex repanda*; subass. *schmidtottietosum shaferi*: syn. var. with *Schmidtottia shaferi*; subass. *acrosynanthetosum trachyphylli*: syn. var. with *Acrosynanthus trachyphyllus*; subass. *psychotrietosum grandis*: var. con *Psychotria grandis*; subass. *notodonetosum roigii*: syn. var. with *Notodon roigii*. We also propose a *nomen novum*: *jaquinietosum oxhyphyllae* Reyes & Acosta 2012 ex Cano et al. *hoc loco*.

Keywords: Association; Biodiversity; Endemisms; Pinewoods; *Pinus*; Phytosociology; Vegetation

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1. Introduction

From the bioclimatic standpoint, the thermotype in the Antilles ranges from the infratropical to the supratropical (the latter only in Hispaniola) [1]. The temperature in the supratropical thermotype drops to 0° C in winter. The dominant thermotypes are the infra- thermo- and mesotropical, and the ombrotype ranges between the semiarid and the hyperhumid. This study of Cuban pine forests is conducted in the infra-, thermo- and mesotropical thermoptypes and in rainy environments with rainfalls of between 1300-2000 mm. The ombrotype ranges from the lower subhumid to the upper humid, in agreement with Rivas-Martínez et al. [2] and Cano et al. [3] on the island of Hispaniola, in sites with a dominance of broadleaved forest; however, in areas with steep slopes or special substrates where there is a water deficit, the pine forest should be considered edaphoxerophilous [4-6].

Regarding biogeography, we have followed the work of Rivas-Martínez et al. [7], which establishes three biogeographical provinces: Florida, Cuba and the Antilles, all part of the Caribbean-Mesoamerican Region. When studying the distribution of Melastomataceae in Central America and the distribution of 2050 endemic species on the island of Hispaniola, Cano et al. [8-10] established the superprovince of the Western Antilles in which they include Cuba, Jamaica and the Florida peninsula. They maintain the biogeographical province of Florida with the sectors defined by Rivas-Martínez et al. [7] and the province of Cuba with two subprovinces: the Cuban subprovince, with three biogeographic sectors (Eastern, Central and Western), and the Jamaican subprovince, with the Jamaican sector. The superprovince of the Central-Eastern Antilles is established for the rest of the islands (Hispaniola, Puerto Rico and the Lesser Antilles) and the Eastern Antilles biogeographic province is created for Puerto Rico and the Lesser Antilles. The island of Hispaniola is considered a biogeographical province with two biogeographical subprovinces: the Central subprovince (Central sector) with acid substrates and over 500 endemic species, and the Caribbean-Atlantic subprovince with basic substrates and six biogeographic sectors with 19 district areas, which are subsequently studied by Cano Ortiz et al. [11]. For the biogeographic study we have taken into consideration several factors, the geology of the territory, endemic species, distribution and origin of the flora, as well as the existing plant communities and their catenal contacts. [8-10]

Solid knowledge about flora and vegetation provides a valuable basis for the implementation of biodiversity management and conservation measures [12-14]. The gaps of knowledge, both in native and alien species, are still today the subject of interest by numerous scholars around the world [15-18]. If flora checklists provide new, complete and updated information about the presence of plant taxa in a given geographic area at small or large scale, syntaxonomical studies allow to review, improve and update knowledge on species composition of different plant communities that occupy several habitats in the world.

Pine forests are habitats widespread in the world, very important for providing ecosystem services and for their ecological role [19]. If some of them are well known and studied under different points of view, others less. It is the case of the Caribbean pine forests of Cuba and Hispaniola

For the study of the pine forests in the Caribbean, the phytosociological method was used, since the existing studies in Hispaniola and Cuba are of this type. Thus we highlight the different plant associations, which constitute habitats of special protection due to the high rate of endemism.

On the northern or windward face of the mountains, there is a predominance of broadleaved or rainforest of *Magnolia, Prestoea, Ocotea, Podocarpus, Cyathea* (*Ocoteo-Cyrilletea racemiflorae* Borhidi 1996) [20], while the pine forest is on the Caribbean or leeward face at low altitudes above the sea of clouds. The genus *Pinus* comes from North America and reached the Greater Antilles via the Florida migratory route. Cuba is the location of *Pinus caribaea* Morelet, *P. tropicalis* Morelet [Syn: *Pinus cubensis* Griseb. & Carab. var. *terthrocarpa* Griseb.] and, according to some authors, *P. cubensis* Griseb. & Carab. (endemic) [Syn: *Pinus maestrensis* Bisse; *P. occidentalis* Sw. var. *cubensis* (Griseb.) Silva]. However, following the criterion of Borhidi [21 ,22] and López Almirall [23], we maintain the taxon *P. maestrensis* Bisse. Some authors also cite *P. occidentalis* var. *cubensis* in Cuba. In Hispaniola there is a dominance of *P. occidentalis* (endemic) and in a disperse manner *P. caribaea*. Only *P. caribaea* is located in Puerto Rico, where it forms different types of forest. Other plant communities developing exclusively in Hispaniola are the hemicryptophyte grass scrublands in the supratropical bioclimatic belt, dominated by *Danthonia domingensis* Hack. & Pilg., a plant that is endemic to the Cordillera Central and that coexists with the endemic plant *Deschampsia domingensis* Hitchcock & Ekman, occupying the open areas left by the pine forest of *P. occidentalis*, described by Cano et al. [24] as *Dendropemom phycnophylli-Pinetum occidentalis* Cano, Velóz, & Cano-Ortiz 2011. Several researchers have studied the flora and vegetation of the two largest islands in the Caribbean, Cuba and Hispaniola, in recent decades [25-35].

The statistical study of the several pine forest vegetation units with the rank of association, subassociation and variant reveals anomalies as to the veracity of the syntaxa according to the International Code of Phytosociological Nomenclature (ICPN) [36]. Borhidi [21,22] proposed including the pine forests growing on sandy soils derived from andesites in rainy sites in the order *Pinetalia occidentalis-maestrensis* Borhidi 1991, and assigns this order to the class *Ocoteo-Cyrilletea racemiflorae* Borhidi 1996; whereas Cano et al. [37] includes the mixed pine forests on rainy sites in the order *Pinetalia tropicalis-caribaeae* Samek & Borhidi in Borhidi 1996. It is currently necessary to maintain the order *Pinetalia occidentalis-maestrensis* that contains the alliances *Pinion maestrensis* Borhidi 1996 and *Cyrillo nepensis-Pinion cubensis* Borhidi & Muñiz in Borhidi 1996. Both orders are included in the class *Byrsonimo crassifoliae-Pinetea caribaeae* Samek & Borhidi in Borhidi 1996, which represents the pure and mixed pine forests in the lower-lying regions and hills of Central America, Cuba, Hispaniola, Puerto Rico, Bahamas and Florida. These forests grow on acid to neutral soils, sometimes slightly basic, derived from white sands, slate, sandstone and occasionally limestone.

The aim of this study is to review the different syntaxa of pine forests on the islands of Cuba and Hispaniola, since most of these forests growth on special substrates, in which there is a high number of endemic plants. Thanks to this, it will be possible to act all the necessary actions to protect plants and habitats in these two islands.

2. Materials and Methods

The high mountains in Cuba that developed over millions of years were the Sierra Maestra, Sierra Escambray (Guamuhaya), Sierra Turquino at 1974 m a.s.l., and Pico Cuba at 1972 m a.s.l. The highest altitudes in Hispaniola are the Cordillera Central with Pico Duarte (3175 m a.s.l.), Pico del Yaque (3125 m a.s.l.), la Rosilla (2860 m a.s.l.), Cordillera Septentrional with Pico Diego de Ocampo (1229 m a.s.l.), and other mountain ranges such as Bahoruco, Hotte and La Selle, Cordillera Oriental. Finally, in Puerto Rico, the Cordillera Central with altitudes below 1500 m a.s.l. [21]. The Cordillera Central (Hispaniola) has a siliceous character and dates from the Cretaceous ~~era~~ period, and is the highest point in the whole Caribbean. The climate in all the Antilles is tropical with frequent and abundant rains on the oceanic face, sometimes exceeding 3,000 mm, and low rainfall on the Caribbean face, at up to 200 mm. The mean temperature is 24 °C, and all the islands are subjected to hurricane winds with speeds of over 200 km/h [21, 22].

We studied the plant associations in the pine forest on the islands of Cuba and Hispaniola (Figure 1), with 180 relevés corresponding to associations, subassociations, variants and subvariants. A statistical treatment was performed on 706 species distributed in the associations present on the two islands. The flora of these syntaxa is a consequence of the 4 migratory routes and of the speciation that has occurred throughout history due to the isolation of the species. The 181 relevés correspond to the associations and subassociations described. All the samples are located on the islands of Cuba and Dominican Republic.

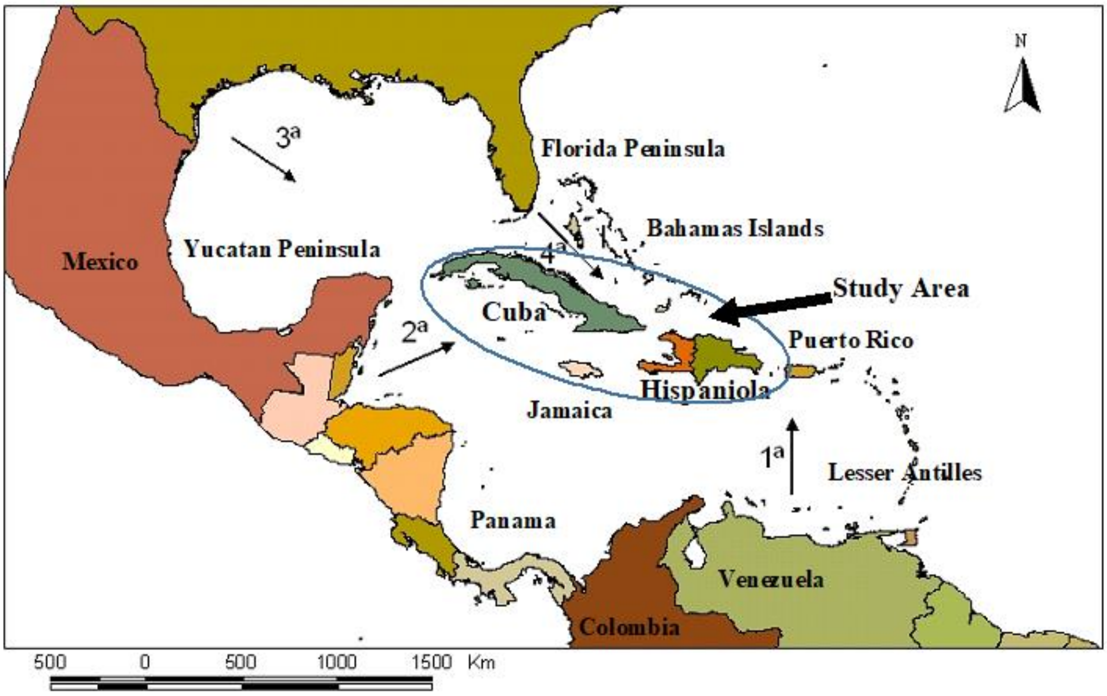

Figure 1. Location of area of study. 1, 2, 3 and 4 migratory routes of the species. Cuba and Hispaniola [24].

Sampling plots and phytosociological inventories follow the sigmatist method of Zürich-Montpellier school of Braun-Blanquet [38] and collected in current works [39]. The plot size and the sampling method carried out by the different authors is correct, according to current phytosociology [38]. Regarding the syntaxonomic review, we have taken into account the main current phytosociology studies [40-42] and the ICPN [36]. To differentiate some syntaxa from others, a synthetic table was made, in which the floristic differences are clearly observed, likewise we established the Jaccard distance between the typus of the syntaxa to see their similarity / dissimilarity. Regarding the choice of characteristic species and companions, the concepts of current phytosociology are taken into consideration: for this we consider the ecological niche of the species, distribution area, bioclimate, status, plant dynamics as well as catenal contacts.

Ordination analyses are applied (cluster, DCA) to establish the syntaxonomical differences between associations, subassociations and ecological variants. The statistical packages PAST (PAleontological STatistics)© and CAP3 (Community Analysis Package III)© were used for this study. Special reference is made to the type relevés. The types for each association were selected out of the total relevés, and a comparative table was compiled to establish the floristic differences between them.

The cluster and DCA analysis helps us to establish the different groups, the use of the types of each association and subassociation allows us to see the proximity between the groups, and if there really are substantial differences to maintain these phytosociological groups, with the established statistical information, together with the phytosociological analysis and the use of the international code of nomenclature, we establish the proposed syntaxes.

The following plant associations have been described by us [16] for the island of Hispaniola, and by Borhidi [21,22] and Reyes & Acosta [27] for Cuba: *Clethro-Pinetum maestrensis* (CLP), *Paepalantho-Pinetum tropicalis* (PAP), *Byrsonimo pinetorum-Pinetum tropicalis-caribaeae* (BYP), *Querco-Pinetum caribaeae* (QUP), *Anemio coriaceae-Pinetum cubensis* (ACP), *Euphorbio helenae-Pinetum cubensis* (EHP), *Agavo shaferi-Pinetum cubensis* (ASP), *Dracaeno-*

Pinetum cubensis (DCP), *Dendropemon phycnophylli-Pinetum occidentalis* (DP), *Coccotrino scopari-Pinetum occidentalis* (CP), *Leptogono buchi-Pinetum occidentalis* (LP), *Panico-Pinetum cubensis* subass. *typicum* var. *Evolvulus sericeus* (PP), *Panico-Pinetum cubensis* subass. *lyonetosum affinis* var. *Sida linifolia* (PP), *Panico-Pinetum cubensis* subass. *lyonetosum affinis* var. *Cecropia peltata-Baccharis shaferi* var. *Vaccinium cubense* (PP), *Coccocypselo herbacei-Pinetum cubensis* subass. *typicum* var. *Bonnetia cubensis* var. *Dicranopteris flexuosa* (CSP), *Coccocypselo herbacei-Pinetum cubensis* subass. *ilicetosum repandae* var. *de Cinnamomum elongatum* var. *de Suberanthus stellatus* and subass. *Schmidtottietosum shaferi* (CP), *Schmidtottio shaferi-Pinetum cubensis* var. *Guettarda monocarpa* subvar. *Euphorbia helenae* subvar. *Eugenia asperifolia* (SP), *Schmidtottio shaferi-Pinetum cubensis* subass. *shaferetosum platyphyllae* subass. *acrosynanthetosum trachyphylli* (SP), *Acrosynantho trachyphylli-Pinetum cubensis* subass. *typicum* subass. *ossaeetosum shaferi* subass. *psychotrietosum grandis* (AP), *Protio fraganti-Pinetum cubensis* subass. *myrcetosum* subass. *notodonetosum roigii* (PFP), *Anthaenantio-Pinetum cubensis* var. *tipica* var. *Baccharis scoparioides* (ANP), *Anthaenantio-Pinetum cubensis* subass. *euphorbietosum* var. *tipica* var. *Aristolochia lindeniana-Rhynchospora crispa* (ANP), *Anthaenantio-Pinetum cubensis* var. *Ossaea pauciflora* subvar. *tipica* subvar. *Baccharis shaferi-Rajania nipensis* var. *Evolvulus sericeus-Polygala saginoides* subvar. *tipica* subvar., *Arthrostylidium capillifolium* (ANP), *Anthaenantio-Pinetum cubensis* subass. *grisebachiabthetosum nipensis* var. *Gochanatia shaferi* subvar. *Coccoloba refexa* subvar. *Clerodendrum nipense* (ANP), *Arthrostylidio-Pinetum cubensis* subass. *typicum* var. *tipica* var. *Cynanchum brachystephanum*, subass. *annonetosum sclerophyllae* var. *tipica* var. *Eugenia mensurensesis* subass. *xylosnetosum buxifolii* (ARP), *Phyllantho mirifico-Pinetum cubensis* (PHP), *Phyllantho mirifico-Pinetum cubensis* subass. *pitcairnietosum cubensis* (PHP) (Table 1).

Table 1. Material studied from the 34 associations.

Associations	No. of relevés
DP: *Dendropemon phycnophylli-Pinetum occidentalis* (1DP-4DP)	4
CLP: *Clethro-Pinetum maestrensis* (13CLP1-17CLP5)	5
PAP: *Paepalantho-Pinetum tropicalis* (18PAP1)	1
BYP: *Byrsonimo pinetorum-Pinetum tropicalis-caribaeae* (19BYP1-23BYP5)	5
QUP: *Querco-Pinetum caribaeae* (24QUP)	1
ACP: *Anemio coriaceae-Pinetum cubensis* (25ACP)	1
EHP: *Euphorbio helenae-Pinetum cubensis* (26EHP)	1
ASP: *Agavo shaferi-Pinetum cubensis* (27ASP)	1
CP: *Coccotrino scopari-Pinetum occidentalis* (5CP1-8CP4)	4
LP: *Leptogono buchi-Pinetum occidentalis* (9LP1-12LP4)	4
PP: *Panico-Pinetum cubensis* (29PP-67PP)	39
CSP: *Coccocypselo herbacei-Pinetum cubensis* (68CP-84CP)	17
SP: *Schmidtottio shaferi-Pinetum cubensis* (85SP-100SP)	16
AP: *Acrosynantho trachyphylli-Pinetum cubensis* (101AP-107AP)	7
PFP: *Protio fraganti-Pinetum cubensis* (108PFP-117PFP)	10
ANP: *Anthaenantio-Pinetum cubensis* (118ANP-160ANP)	43
ARP: *Arthrostylidio-Pinetum cubensis* (161ARP-172ARP)	12
PHP: *Phyllantho mirifico-Pinetum cubensis* (173PHP-181PHP)	9
Total relevés	**180**

3. Results

The study of Caribbean pine forests reveals two major groups. 1) Pine forest growing on ferritic, ophiolite, serpentine and pyroxenite soils, and included in the phytosociological class *Caseario crassinervis-Pinetea cubensis* Borhidi & Muñiz in Borhidi 1996; and 2) the second group of pine forests growing on siliceous and limestone substrates, and calcareous sands, which must be included in the class *Byrsonimo crassifoliae-Pinetea caribaeae*. The cluster analysis perfectly separates the Cuban pine forests from the pine forests on the island of Hispaniola (DP, CP and LP); a certain number of syntaxa described by Reyes & Acosta [27] are very close to the group extracted from Borhidi [22] (Figure 2).

The dendrogram in Figure 2 shows the separation of the different types of pine forests, some being clearly separated, while others are close to each other. Several different groups appear in the cluster to which the inventories studied belong. The inventories of associations collected and described by Borhidi [22] belonging to: *Paepalantho seslerioidis-Pinetum tropicalis* (PAP), *Querco-Pinetum caribaeae* Borhidi & Capote in Borhidi (1991) (QUP), *Anemio coriaceae-Pinetum cubensis* (ACP), *Euphorbio helenae-Pinetum cubensis* (EHP), *Agavo shaferi-Pinetum cubensis* (ASP) and *Dracaeno-Pinetum cubensis* (DCP) comprise a single group, and *Clethro-Pinetum maestrensis* (CLP) and *Byrsonimo pinetorum-Pinetum tropicalis-caribaeae* (BYP) are separated and constitute separate groups. Concerning the associations, subassociations and variants described by Reyes & Acosta [27], some syntaxa are are perfectly separated, whereas in others the separation is not clear. The association *Anthaenantio-Pinetum cubensis* (ANP) forms a homogeneous group in the cluster, and is very close to *Arthrostylidio-Pinetum cubensis* (ARP). The group formed by this last syntaxon includes the *typus* for the association and for the subassociations *annonetosum sclerophyllae* and *xylosmetosum buxifolii*. Both associations are localized in Sierra de Nipe. ANP is in the south of Sierra de Nipe, with precipitations ranging 1300-1500 mm and on ferritic soils with high rainfall. ARP is located in the most highlands of the Sierra de Nipe between 600-995 m a.s.l. on an ultramaphic rocky surface and steep slopes, with precipitations that oscillate over 1500 mm. To a large extent both associations share common floristic elements.

The association *Panico-Pinetum cubensis* (PP) constitutes a clearly differentiated group containing three subgroups, two of which correspond to the relevés in the association, and the subassociation *lynetosum affinis*. The third subgroup comprises the relevés (59-67) representing the variant with *Vaccinium cubense* Griseb.

This association is located in rainy areas of the northern area of the Sierra de Nipe on dark ferritic soils, with rainfall of 1500 mm, in north-northeast orientations with rainfall exceeding 1800 mm. It is enriched in *Lyonia affinis* Urb., which together other species acts as a differential against the type association: for this reason, the authors have established the *lyonetosum affinis* subassociation.

The following associations belong to group in the cluster: *Coccocypselo herbacei-Pinetum cubensis* (CP) and the two subassociations *ilecetosum repandae* and *schmidtottietosum shaferi*. In this case, both subassociations form a single group that is separated from the relevés in the association. The pine forest association CP is located in the west of Cubillas del Toa, between 400-740 m a.s.l. and consequently in a thermotropical environment, on ultramafic ferritic substrates and with high rainfall over 1800 mm, the upper subhumid ombrotype being.

The same occurs with *Acrosynantho trachyphylli-Pinetum cubensis* (AP) and its subassociations *annonetosum sclerophyllae* and *psychotrietosum grandis*, in which the three *typus* belong to the same group. AP is present on ophiolite rocks and red fetitus soils, between 400-600 m a.s.l. and with high precipitations, close to 3000 mm: bioclimatically it is found in the thermotropical and in the humid ombrotype.

This is also the case of the subassociations *shaferetosum platyphyllae* and *acrosynanthetosum trachyphylli* in the association *Schmidtottio shaferi-Pinetum cubensis* (SP), *myricetosum* and *notodonetosum roigii* in *Protio fraganti-Pinetum cubensis* (PFP), and *pitcairnietosum cubensis* in *Phyllantho mirifico-Pinetum cubensis* (PHP).

The associations SP, PFP and PHP constitute a group in the cluster. SP corresponds to the pine forests of the ophiolitic massif of Moa Baracao on ultramafic substrates, with red ferritic soils: a pine forests that growth between 600-700 m a.s.l. and in environments with rainfall close to 1800 mm, being the upper subhumid thermotropical bioclimate. The association PFP is located at low altitude, below 300 m a.s.l., in ultramafic substrates, interacting above 300 m a.s.l. with the cloud forest. Rainfall is variable, but ranges between 1500-2000 mm. PFP bioclimatically is framed in the upper subhumid thermotropical. Finally, PHP it is a pine forest that also growth on ultramafic materials, in steep reliefs with slopes between 15-30%, and at altitudes between 600-700 m a.s.l., with rainfalls close to 1800 mm, being the upper subhumid thermotropical bioclimate.

All these associations are located on special substrates, have a common flora, but also present a high richness in endemic species, which act as differentiating species between them [15].

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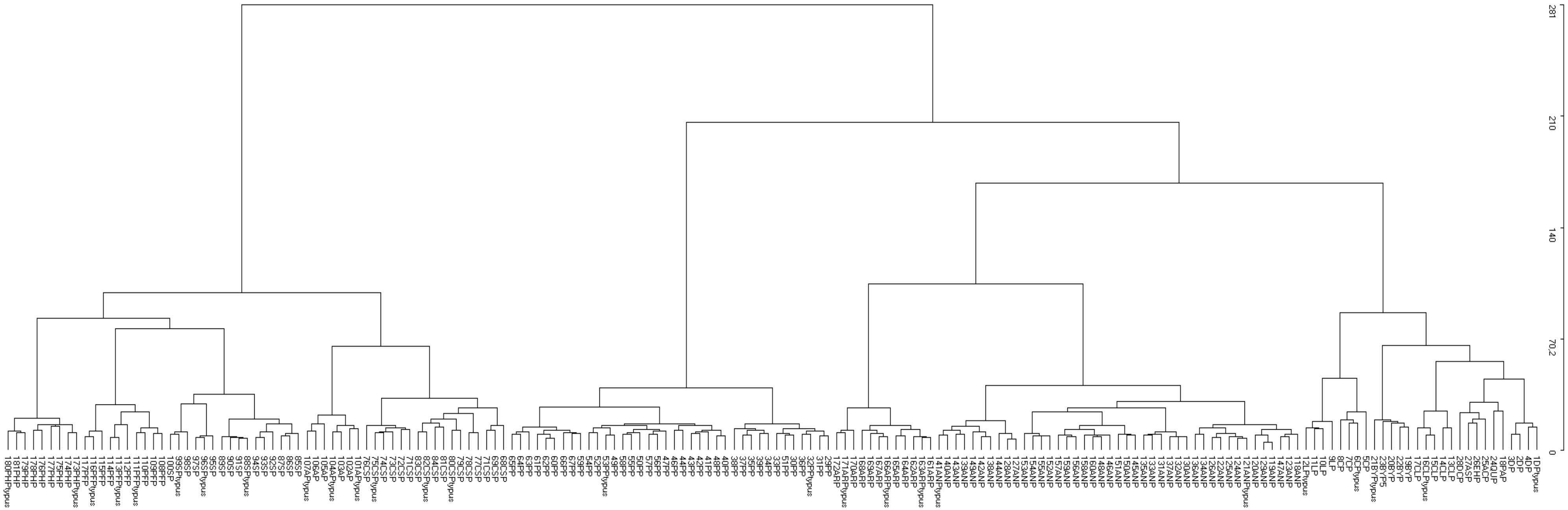

Figure 2. Dendrogram for pine forests on the islands of Cuba and Española. Typus inventories. 1DP1: *Dendropemon pycnophylli-Pinetum occidentalis* (1DP1-4DP4). PAP: *Paepalantho-Pinetum tropicalis* (18PAP). QUP: *Querco-Pinetum caribaeae* (24QUP). ACP: *Anemio coriaceae-Pinetum cubensis* (25ACP). EHP: *Euphorbio helenae-Pinetum cubensis* (26EHP). ASP: *Agavo shaferi-Pinetum cubensis* (27ASP). DCP: *Dracaeno-Pinetum cubensis* (28DCP). 16CLP: *Clethro-Pinetum maestrensis* (13CLP-17CLP). 21BYP: *Byrsonimo pinetorum-Pinetum tropicalis-caribaeae* (19BYP-23BYP). 6CP2: *Coccotrino scopari-Pinetum occidentalis* (5CP1-8CP4). 12LP4: *Leptogono buchi-Pinetum occidentalis* (9LP1-12LP4). 121ANP: *Anthaenantio-Pinetum cubensis* (118ANP-160ANP). 141ANP: *Anthaenantio-Pinetum cubensis* subass. *grisebachianthetosum nipensis*. 163ARP: *Arthrostylidio-Pinetum cubensis* (161ARP-172ARP). 166ARP: *Arthrostylidio-Pinetum cubensis* subass. *annonetosum sclerophyllae*. 171ARP: *Arthrostylidio-Pinetum cubensis* subass. *xylosmetosum buxifolii*. 32PP: *Panico-Pinetum cubensis* (29PP-67PP). 53PP: *Panico-Pinetum cubensis* subass. *lyonetossum affinis*. 75CSP: *Coccocypselo herbacei-Pinetum cubensis* (68CP-84CP). 80CSP: *Coccocypselo herbacei-Pinetum cubensis* subass. *ilecetosum repandae*. 82CSP: *Coccocypselo herbacei-Pinetum cubensis* subass. *schmidtottietosum shaferi*. 101AP: *Acrosynantho trachyphylli-Pinetum cubensis* (101AP-107AP). 104AP: *Acrosynantho trachyphylli-Pinetum cubensis* subass. *ossaeetosum shaferi*. 107AP: *Acrosynantho trachyphylli-Pinetum cubensis* subass. *psychotrietosum grandis*. 88SP: *Schmidtottio shaferi-Pinetum cubensis* (85SP-100SP). 96SP: *Schmidtottio shaferi-Pinetum cubensis* subass. *shaferetosum platyphyllae*. 99SP: *Schmidtottio shaferi-Pinetum cubensis* subass. *acrosynanthetosum trachyphylli*. 111PFP: *Protio fraganti-Pinetum cubensis* (108PFP-117PFP). 113PFP: *Protio fraganti-Pinetum cubensis* subass. *myricetosum*. 116PFP: *Protio fraganti-Pinetum cubensis* subass. *notodonetosum roigii*. 173PHP: *Phyllantho mirifico-Pinetum cubensis* (173PHP-181PHP). 180PHP: *Phyllantho mirifico-Pinetum cubensis* subass. *pitcairnietosum cubensis.*

In the syntaxonomic review carried out, we have taken into consideration the syntaxa described by various authors, with a range of association, subassociation, variants and subvariants. We started from 18 associations (180 inventories), for the islands of Cuba and Hispaniola. However, Reyes & Acosta [27] accept 21 syntaxa with association rank, 11 subassociations and 22 variants and subvariants, although they didn't provide inventories of all syntaxa. In this review, we accept for Cuba 31 associations described by various authors and that comply with the ICPN [36], 8 subassociations and 4 variants. For Hispaniola we only have 3 associations described by us in previous works.

In both cases, pine forests occupy large areas of Cuba and Hispaniola, with human actions that cause a decrease of these ecosystems in areas of the Caribbean and elsewhere on the planet [43, 44]. If we add to this phenomenon changes in rainfalls and temperatures due to climate change [45, 46], we obtain plant communities that substitute these forests, some of these being invasive communities. It is the case of *Prosopis juliflora* (Sw.) DC. that it is invasive in much of the world [47]. However, the resilience of *Pinus* species is high [48]. These pine forests located on different types of substrates, represent habitats of interest due to their high rate of endemic species, either because they are located on special substrates or because of the mountain effect, since the mountains present an increase in endemics when climbing in altitude [24, 49].

We include two orders and six alliances with ten plant associations in the class *Byrsonimo crassifoliae-Pinetea caribaeae*. The forests of *Pinus occidentalis* on the island of Hispaniola have a different biogeographical distribution and floristic composition from that of the pine forests of Cuba; for this reason, they form separate groups in the DECORANA statistical analyses (Figure 3). In Hispaniola, Cano et al. [24] described three plant associations for three different environments. *Coccotrino scopari-Pinetum occidentalis* (CP) growth on calcareous substrates in the Sierra de Bahoruco. *Dendropemon phycnophylli-Pinetum occidentalis* (DP) covers large extensions on siliceous substrates in the Cordillera Central, with both associations growing at altitudes above the sea of clouds. Finally, *Leptogono buchi-Pinetum occidentalis* (LP), located on serpentines in the northeast of the island of Hispaniola (Dajabón). The alliance *Rondeletio christii-Pinion occidentalis* was described for these pine forests on serpentines on the island of Hispaniola, and assigned to the order *Ariadno shaferi-Phyllanthetalia orbicularis* Borhidi & Muñiz in Borhidi 1996 and to the class *Phyllantho orbicularis-Neobracetea valenzuelanae* Borhidi & Muñiz in Borhidi 1996, representing sclerophyllous heaths in submontane areas in western Cuba. These plant communities on serpentines on the island of Hispaniola were not included by their authors in the class *Caseario crassinervis-Pinetea cubensis* Borhidi & Muñiz in Borhidi 1996, due to their marked floristic difference from Cuban serpentinicolous vegetation, as can be seen in the synthetic table we provide (Appendix A, Table A1). There are significant ecological, biogeographical and floristic differences between the three pine forest associations described for the island of Hispaniola, and which clearly separate the three syntaxa, as can be seen in the table prepared with the *typus* (Appendix A, Table A2).

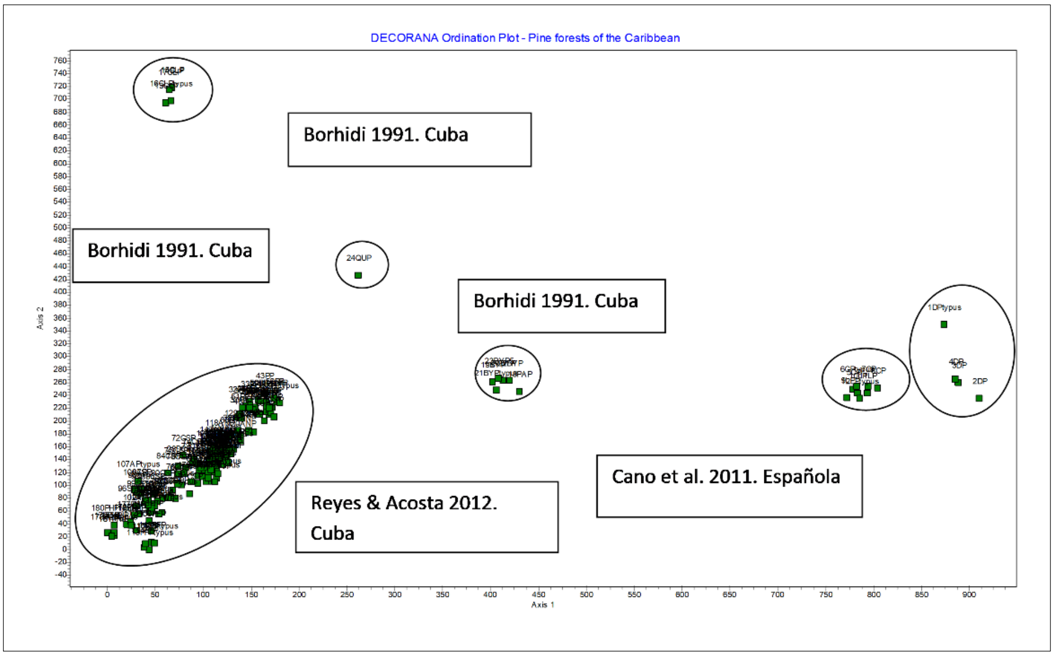

Figure 3. DECORANA ordination analysis showing how the associations described by Reyes & Acosta form a compact group, which shows that the syntaxa described by these authors are very close from the floristic and ecological point of view, since they growth on special substrates Borhidi 1991 and Reyes & Acosta 2012: Cuban Pine Forests. Cano et al. 2011: Pine Forests of the Dominican Republic.

4. Discussion

Borhidi [13,14] includes the alliances *Acoelorrapho-Pinion tropicalis* Samek in Borhidi et al. 1979, *Blechno serrulati-Acoelorraphion wrightii* Hadac and Hadacová 1971, *Neomazaeo-Pinion caribaeae* Borhidi 1991, and for Hispaniola Cano et al. [24] propose the alliance *Ilici tuerckheimi-Pinion occidentalis* Cano et al. 2011, which contains two of the abovementioned associations CP and DP. The associations published by Samek [50,51] for the island of Pinos, (PAP) *Paepalantho seslerioidis-Pinetum tropicalis* and *Roigello-Pinetum tropicalis* (Samek 1969) Borhidi 1996, were compiled by Borhidi [22,37] and included in the alliance *Acoelorrapho-Pinion tropicalis*. In our analysis the association *Byrsonimo pinetorum-Pinetum tropicalis-caribaeae* (BYP) published by Borhidi [22] is perfectly separated from the previous ones, which is to be expected as it was published for rainier sites in western Cuba and included in the alliance *Blechno serrulati-Acoelorraphion wrightii*. This same author published the alliance *Neomazaeo-Pinion caribaeae* for the pine forests on rocky serpentine substrates in the Sierra de Cajalbana, where he includes three associations published by Samek [51], although two of them with a new name. *Agavo cajalbanensi-Pinetum caribaeae*, *Guettardo-Pinetum caribaeae* and *Neomazeo-Pinetum caribaeae* are associations that are typified by Borhidi based on the relevés of Samek. Borhidi [22,37] published the alliance *Pachyantho poiretii-Pinion caribaeae* for the mixed forests of *Pinus caribaea* and *Quercus oleoides* subsp. *sagraeana*, subordinating it to the order *Pinetalia tropicalis-caribaeae*. He creates for this alliance the association *Querco-Pinetum caribaeae* for slates and sandstones in the Sierra de los Organos and the Sierra del Rosario. Due to its mixed forest characteristics, this alliance must be included in the order *Pinetalia occidentalis-maestrensis.* The alliance *Cyrillo nipensis-Pinion cubensis* described for rainy environments on ferritic soils and serpentines in northeast Cuba, with the association *Cyrillo nipensis-Pinetum cubensis* described in Toa River, Sierra de Maguey and Cupeyal, have been included in the order *Podocarpo-Sloanetalia curatellifoliae* Borhidi & Muñiz in Borhidi 1996, which consists of epiphyte-rich vegetation in rainy environments. Based on its floristic and physiognomic characteristics, this alliance should be in the order *Pinetalia occidentalis-maestrensis*, which also includes the alliance *Pinion maestrensis*, with the association *Clethro cubensis-Pinetum maestrensis* described for oligotrophic soils in the rainy mountains of the Sierra Maestra; this association is clearly differentiated from the rest of the syntaxa in the study due to its floristic, ecological and biogeographical composition. All the relevés, including the *typus*, are separated in an independent group, as can be seen in the general cluster in Figure 2.

All the Cuban pine forests growing on ultramafic, serpentine, serpentinised peridotites and ferritic acid soils were included by Borhidi et al. [35] and Borhidi [22,37] in the class *Caseario crassinervis-Pinetea cubensis* Borhidi & Muñiz in Borhidi 1996, representing pine forests growing on ferritic acid soils derived from serpentines and very rich in endemisms. The order *Pinetalia cubensis* Borhidi & Muñiz in Borhidi 1996 is created for this class, and includes the alliances *Andropogono-Pinion cubensis* to group the montane mesophilic pine forests growing on serpentine laterites, and *Guettardo ferrugineae-Pinion cubensis* to include the xeric pine forests on serpentines in eastern Cuba. The first alliance initially proposed by Borhidi comprised the associations *Rhynchosporo cernuae-Pinetum cubensis* Borhidi 1996 for decapitated ferritic substrates in Sierra de Nipe, and *Shafero-Pinetum cubensis* Borhidi & Muñiz 1996 for Sierra de Maguey. The following associations have been proposed for the second alliance *Anemio coriaceae-Pinetum cubensis* (ACP), *Euphorbio helenae-Pinetum cubensis* (EHP), (ASP): *Agavo shaferi-Pinetum cubensis* (ASP) and *Dracaeno-Pinetum cubensis* (DCP), which were typified by Borhidi [22]. In our analysis these last four associations are grouped in the cluster, separated from the rest of the associations published by Reyes & Acosta [27], which denotes the strength of this alliance. These last authors do not recognise the alliance *Andropogono-Pinion cubensis*, which is recognised by Galán de Mera & Orellana [52], but they do accept the alliance *Guettardo ferrugineae-Pinion cubensis*, for which they propose various suballiances: *Caseario crassinervis-Pinenion cubensis*, *Garcinio-Pinenion cubensis*, *Dracaeno cubensis-Pinenion*. They include in these suballiances several new associations and the four associations mentioned previously ACP, EHP, ASP, and DCP. The suballiance *Dracaeno cubensis-Pinenion cubensis* Reyes in Reyes & Acosta 2012 is incorrect in virtue of article 27 [36], as it actually corresponds to a *status novo* under article 51 [36], and hence should be cited as *Dracaeno cubensis-Pinenion cubensis* (Borhidi 1991) Reyes in Reyes & Acosta 2012, with *Dracaeno-Pinetum cubensis* Borhidi 1991 as the basionym. These same authors create the alliance *Bactri cubensis-Pinion cubensis* Reyes in Reyes & Acosta 2012, with two suballiances: *Panico-Pinenion cubensis* Reyes in Reyes & Acosta 2012 and *Cyrillo nipensis-Pinenion cubensis* Reyes in Reyes & Acosta 2012 for the ultramafic substrates in the Sierras de Nipe, Cuchillas and Baracoa, overlooking the fact that Borhidi et al. [35] and Borhidi [22,37] had previously described the alliance *Cyrillo nipensis-Pinion cubensis* with the association *Cyrillo nipensis-Pinetum cubensis* Borhidi & Muñiz 1991 for the serpentine substrates in eastern Cuba. The suballiance proposed by Reyes and Acosta should be synonymized to the one described by Borhidi (art. 2b [36]).

Reyes & Acosta [27] include 21 syntaxa with association rank, for which they propose eight new pine forest associations, one new status, and one new combination, in addition to nine new subassociations and two new combinations. The statistical analysis and the synthetic tables for the 180 relevés corresponding to the associations and subassociations included in the different suballiances and alliances show no substantial differences in some cases. The relevés in the association *Anthaenantio-Pinetum cubensis* created as a new combination, and for which two new combinations are in turn created with the rank of subassociation *euphorbietosum* and subassociation *grisebachianthetosum nipensis*, form a clearly characterized and homogeneous group. In this case the association has been typified: Samek's relevé 39 [53,54] is adopted as the type for *euphorbietosum*, and for the subassociation *grisebachianthetosum nipensis*, the type relevé of the cluster (141ANP) is relevé 4 Table 14 of Reyes & Acosta [27]. Unfortunately, this last subassociation is incorrectly named, as the taxon *Grisebachianthus nipensis* also belongs to the type relevé of the association ARP, which leads to misinterpretation according to articles 26, 36 and 39 of the ICPN

[36], as it is a syntaxon that only presents the endemisms *Lobelia oxyphylla* and *Jacquinia robusta* as differential in regard to the rest of the type. We therefore propose: *jaquinietosum robustae* subass. nova. The association *Arthrostylidio-Pinetum cubensis* represents a homogeneous group in the cluster in Figure 2 together with the subassociations *annonetosum sclerophyllae* and *xylosnetosum buxifolii*, which does not occur in the DECORANA ordination analyses. An analysis of the synthetic table shows floristic differences between ANP and ARP; however, the Jaccard distance is similar between both associations. The type of the association ARP and the types of its two subassociations show a close Jaccard distance given the similarity between the three syntaxa, and particularly between the type for the association and the type for the subassociation *annonetosum sclerophyllae*; however floristic differences can be seen in the table of type relevés, which together with the different ecology they present allows us to maintain both subassociations. The association *Panico-Pinetum cubensis* (PP) has been described for the altiplano in the Sierra de Nipe. The cluster analysis for the relevés forms a very homogeneous group, in which the association is differentiated from the subassociation *lyonetossum affinis*. However, in the Detrended Correspondence Analysis (DCA) the relevés tend to be intermixed with those of ANP and ARP, which is to be expected as they have a certain floristic similarity with these associations, and the Jaccard distance is similar between them (Table 2).

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Table 2. Jaccard similarity analysis for the associations studied.

	1DP	6CP	12LP	32PP	53PP	75CSP	80CSP	82CSP	88SP	96SP	99SP	101AP	104AP	107AP	111PFP	113PFP	116PFP	121ANP	163ARP	166ARP	171ARP	173PHP	180PHP
1DP																							
6CP	0,02																						
12LP	0,04	0,23																					
32PP	0	0,04	0																				
53PP	0,02	0,06	0,03	0,53																			
75CSP	0,02	0,03	0,04	0,18	0,22																		
80CSP	0,02	0,02	0,04	0,13	0,18	0,42																	
82CSP	0,02	0,02	0,04	0,08	0,11	0,4	0,53																
88SP	0,02	0,01	0,03	0,11	0,15	0,37	0,39	0,27															
96SP	0,02	0	0,02	0,1	0,13	0,28	0,32	0,3	0,51														
99SP	0,02	0,01	0,03	0,12	0,16	0,36	0,31	0,36	0,45	0,42													
101AP	0	0	0	0,09	0,06	0,22	0,3	0,25	0,34	0,29	0,31												
104AP	0,02	0	0,02	0,05	0,08	0,2	0,25	0,28	0,19	0,16	0,23	0,43											
107AP	0	0,01	0,02	0,07	0,08	0,23	0,2	0,25	0,2	0,17	0,26	0,35	0,47										
111PFP	0	0,01	0,02	0,12	0,13	0,35	0,4	0,38	0,46	0,35	0,33	0,33	0,2	0,17									
113PFP	0	0,01	0,01	0,08	0,12	0,3	0,3	0,26	0,41	0,29	0,31	0,23	0,15	0,12	0,58								
116PFP	0	0,01	0,02	0,09	0,12	0,26	0,3	0,24	0,48	0,23	0,32	0,33	0,22	0,18	0,49	0,57							
121ANP	0	0,04	0,02	0,2	0,2	0,1	0,12	0,08	0,2	0,14	0,13	0,09	0,04	0,04	0,16	0,17	0,18						
163ARP	0	0,03	0,04	0,12	0,15	0,16	0,18	0,12	0,25	0,14	0,14	0,13	0,08	0,08	0,21	0,19	0,21	0,32					
166ARP	0	0,02	0,03	0,2	0,15	0,13	0,16	0,11	0,17	0,1	0,12	0,09	0,07	0,07	0,19	0,15	0,16	0,34	0,59				
171ARP	0	0,03	0,03	0,1	0,09	0,16	0,2	0,16	0,21	0,13	0,11	0,15	0,11	0,12	0,26	0,19	0,2	0,27	0,56	0,51			
173PHP	0	0	0	0,07	0,08	0,19	0,23	0,13	0,3	0,17	0,16	0,17	0,09	0,09	0,22	0,2	0,24	0,15	0,29	0,18	0,22		

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Coccocypselo herbacei-Pinetum cubensis is an association described by its authors for the territories in Cuchillas de Toa at an altitude of 400-700 m asl – and therefore with a thermotropical character – growing on ultramafic substrates and dark red ferritic soils. For this association, its authors describe two subassociations in addition to the type subassociation: *ilicetosum repandae* and *schmidtottietosum shaferi*. The ordination analysis for the general cluster in Figure 2 shows a group with all the relevés corresponding to CSP, with two subgroups, one of which contains the *typus* relevé of the association (75CSP) corresponding to relevé 8 Table 4 Reyes & Acosta [27]; the other subgroup contains the *typus* for the two subassociations. Both type relevés are floristically and ecologically very close, and appear to be more a case of ecotones with neighboring associations, as stated by their authors for the subassociation *ilicetosum repandae* in regard to the contact with the submontane tropical and subtropical moist forest, as it happens in Hispaniola [20]. *Schmidtottietosum shaferi* has been characterized by species with a broad distribution, all of which are native, and which have even been used as characteristic plants for both subassociations with the rank of genus, without specifying the species. *Schmidtottia shaferi* has been used as a characteristic for the suballiance *Cyrillo nipensis-Pinenion cubensis*, and also gives the name to the subassociation. *Schmidtottia shaferi* belongs to various associations (Tables A1 and A2), and has been used to name *Schmidtottio shaferi-Pinetum cubensis*, an association that is very close to the previous one in terms of its floristic similarity, as can be seen in the various ordinations we performed and in the table of *typus*. For this last association, *Schmidtottio shaferi-Pinetum cubensis*, the authors propose the subassociations *shaferetosum platyphyllae* and *acrosynanthetosum trachyphylli*; both form a compact subgroup separated from the type association. It is evident that the subassociation *acrosynanthetosum trachyphylli* represents an ecotone contact with *Acrosynantho trachyphylli-Pinetum cubensis*, an association described in the ophiolitic complex in western Cuba and with high rainfall, for which, in addition to the type subassociation, its authors describe the subassociations *ossaeetosum shaferi* and *psychotrietosum grandis*. Both subassociations form a subgroup separated from the *typus* of the association (see table on the comparative analysis of *typus*); the subassociation *ossaeetosum shaferi* is characterised by the endemisms *Gesneria wrightii* Urb., *Ilex hypaneura* Loes. and *Ossaea shaferi* Britton & P.Wils. (syn.= *Miconia jashaferi* Majure & Judd.) However, the subassociation *psychotrietosum grandis* presents the following species as differentials of the association of native species with a broad distribution: *Palicourea dominguensis*, *Pimenta odiolens*, *Psichotria grandis*, *Purdiaea parvifolia* and *Vanilla bicolor*. This subassociation is really a catenal contact with the broadleaved forests and should therefore have been treated as a variant. In the case of *Protio fraganti-Pinetum cubensis* described for the extreme northwest of the municipality of Baracoa, this is a pine forest whose authors claim is located at low altitudes in islands of ultramafic substrates, contacting at higher altitudes with the tropical and subtropical moist forest. This is therefore an edaphoxeric and thermotropical pine forest located on sites with steep slopes. The general cluster shows that the association (type relevé 111PFP), corresponding to relevé 4 Table 111 Reyes & Acosta [27], forms a subgroup with the subassociation *myricetosum*, whereas the subassociation *notodonetosum roigii* constitutes an independent subgroup. However, *Notodon roigii* has been used exclusively as a differential species; this is a native plant with a broad distribution. The subassociation *myricetosum* presents the following endemisms as differential species for the type of the association: *Calycogonium cristalensis* Urb., *Chiococca cubensis* Urb., *Purdiaea ekmamii* Vict. and *P. stenopetala* Griseb. Finally, as in previous cases the relevés for the association *Phyllantho mirifico-Pinetum cubensis* represent a homogeneous group in the general cluster, separating into subgroups the relevés corresponding to the association from those of the subassociation *pitcairnietosum cubensis*; this separation can be observed in the comparative analysis of the *typus* for the syntaxa.

Therefore, to avoid confusion we propose a change of status for the following subassociations: we propose a change from the subassociation to variant rank for subass. *ilicetosum repandae* Reyes & Acosta 2012: syn. var. with *Ilex repanda*; subass. *schmidtottietosum shaferi* Reyes & Acosta 2012: syn. var. with *Schmidtottia shaferi*; subass. *acrosynanthetosum* *trachyphylli* Reyes & Acosta 2012: syn. var. with *Acrosynanthus trachyphyllus*; subass. *psychotrietosum grandis* Reyes & Acosta 2012: var. with *Psychotria grandis*; subass. *notodonetosum roigii* Reyes & Acosta 2012: syn. var. with *Notodon roigii* (article 27 [36]).

5. Conclusions

All the Caribbean pine forests are included in 4 orders and 12 alliances, with a total of 34 plant associations. The high diversity of syntaxa is due to the special characteristics of the territory, as these are islands with a high rate of endemisms and numerous different substrates. Siliceous, basic, and neutral substrates, and ophite, andesite and serpentine rocks are very frequent, leading to a wide range of different soil types. All this is favoured by the special orography of the islands, as there are steep slopes with gradients between 30 and 60°. The analysis of the studies by several authors and by ourselves reveals a high number of syntaxa with the rank of association and subassociation, and ecological and geographic variants. In this work we update several syntaxa based on the nomenclature of the ICPN [36] in order to avoid possible nomenclatural conflicts, and we include all the associations described until now. Finally, we propose the following syntaxonomic checklist for all the Caribbean pine forests.

Syntaxonomic Checklist

BYRSONIMO CRASSIFOLIAE-PINETEA CARIBAEAE Samek & Borhidi in Borhidi 1996

Pinetalia tropicalis-caribaeae Samek & Borhidi in Borhidi 1996

Acoelorrapho-Pinion tropicalis Samek in Borhidi 1996

Paepalantho seslerioidis-Pinetum tropicalis Sameck 1969

Roigello-Pinetum tropicalis (Samek 1969) Borhidi 1996

Blechno serrulati-Acoelorraphion wrightii Hadac & Hadacová 1971

Byrsonimo pinetorum-Pinetum tropicalis-caribaeae Borhidi & Capote 1991

Neomazaeo-Pinion caribaeae Borhidi 1991

Neomazeo-Pinetum caribaeae (Samek 1973) Borhidi 1991

Guettardo valenzuelanae-Pinetum caribaeae Borhidi 1996

Agavo cajalbanensi-Pinetum caribaeae Sameck 1973 corr. Borhidi 1991

Ilici tuerckheimi-Pinion occidentalis Cano, Veloz & Cano-Ortiz 2011

Dendropemon phycnophylli-Pinetum occidentalis Cano, Veloz & Cano-Ortiz 2011

Coccotrino scopari-Pinetum occidentalis Cano, Veloz & Cano-Ortiz 2011

Pinetalia occidentalis-maestrensis Borhidi 1991

Pinion maestrensis Borhidi 1996

Clethro cubensis-Pinetum maestrensis Borhidi 1991

Pachyantho poiretii-Pinion caribaeae Borhidi & Capote in Borhidi 1991

Querco-Pinetum caribaeae Borhidi & Capote in Borhidi 1991

CASEARIO CRASSINERVIS-PINETEA CUBENSIS Borhidi & Muñiz in Borhidi 1996

Pinetalia cubensis Borhidi & Muñiz in Borhidi 1996

Andropogono reinoldii-Pinion cubensis Borhidi 1996

Shafero-Pinetum cubensis Borhidi & Muñiz 1996

Rhynchosporo cernuae-Pinetum cubensis Borhidi 1996

Guettardo ferrugineae-Pinion cubensis Borhidi 1996

Casear io crassinervis-Pinenion cubensis Reyes in Reyes & Acosta 2012

Anthaenantio-Pinetum cubensis (Samek 1973) Reyes & Acosta 2012
jaquinietosum oxhyphyllae Reyes & Acosta 2012 ex Cano et al. *hoc loco*
euphorbietosum Reyes & Acosta 2012
Eugenio-Pinetum cubensis Del Risco, Samek & Reyes 1996
Anemio coriaceae-Pinetum cubensis (Samek 1973) Borhidi 1991
Garcinio-Pinenion cubensis Reyes in Reyes & Acosta 2012
Arthrostylidio-Pinetum cubensis Reyes in Reyes & Acosta 2012
annonetosum sclerophyllae Reyes & Acosta 2012
xylosnetosum buxifolii Reyes & Acosta 2012
Phyllantho mirifico-Pinetum cubensis Reyes & Acosta 2012
Scaevolo-Pinetum cubensis Del Risco, Samek & Reyes 1996
Euphorbio helenae-Pinetum cubensis Borhidi 1996
Agavo shaferi-Pinetum cubensis Borhidi 1996
Vernonio-Pinetum cubensis Samek, Del Risco & Reyes 1996
Dracaeno cubensis-Pinenion cubensis (Borhidi 1991) Reyes in Reyes & Acosta 2012
Dracaeno-Pinetum cubensis Borhidi 1991
Bactri cubensis-Pinion cubensis Reyes in Reyes & Acosta 2012
Panico-Pinenion cubensis Reyes in Reyes & Acosta 2012
Panico-Pinetum cubensis (Samek 1973) Reyes *stat. nov.* Reyes & Acosta 2012
lyonetossum affinis Reyes & Acosta 2012
Coccocypselo herbacei-Pinetum cubensis Reyes & Acosta 2012
var. with *Ilex repanda*
var. with *Schmidtottia shaferi*
Schmidtottio shaferi-Pinetum cubensis Reyes & Acosta 2012
shaferetosum platyphyllae Reyes & Acosta 2012
var. with *Acrosynanthus trachyphyllus*
Acrosynantho trachyphylli-Pinetum cubensis Reyes & Acosta 2012
ossaeetosum shaferi Reyes & Acosta 3012
var. with *Psychotria grandis*
Protio fraganti-Pinetum cubensis Reyes & Acosta 2012
myricetosum Reyes & Acosta 2012
var. with *Notodon roigii*
Clidemio rubrinervis-Pinetum cubensis Del Risco, Samek & Reyes 1996
Gundlachio-Pinetum cubensis Samek, Del Risco & Reyes 1996
Ilici-Pinetum cubensis Reyes, Samek & Del Risco 1996
Agavo albescentis-Pinion cubensis Reyes in Reyes & Acosta 2012
Alvaradoo-Pinetum cubensis Samek, del Risco & Reyes 1996
Cyrillo nipensis-Pinion cubensis Borhidi & Muñiz in Borhidi 1996 (Syn.: *Cyrillo nipensis-Pinenion cubensis* Reyes in Reyes & Acosta 2012, art. 2b ICPN)
Cyrillo nipensis-Pinetum cubensis Borhid & Muñiz 1991

PHYLLANTHO ORBICULARIS-NEOBRACETEA VALENZUELANAE Borhidi & Muñiz in Borhidi 1996

Ariadno shaferi-Phyllanthetalia myrtilloiis Borhidi & Muñiz in Borhidi 1996

Rondeletio christii-Pinion occidentalis Cano, Cano-Ortiz, Del Río, Veloz & Esteban 2014

Leptogono buchii-Pinetum occidentalis Cano, Veloz & Cano Ortiz 2011

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Appendix A: supplementary material

Table A1 | Synthetic analysis of the syntaxa studied.

Table A2 | Comparative analysis of the *typus* of the syntaxa studied.

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Appendix A: supplementary material

Table A1. Synthetic analysis of the syntaxa studied.

DP: *Dendropemon phycnophylli-Pinetum occidentalis*. CP: *Coccotrino scopari-Pinetum occidentalis*. LP: *Leptogono buchi-Pinetum occidentalis*. CLP: *Clethro-Pinetum maestrensis*. PAP: *Paepalantho-Pinetum tropicalis*. BYP: *Pyrsonimo pinetorum-Pinetum tropicalis-caribaeae*. QUP: *Querco-Pinetum caribaeae*. ACP: *Anemio coriaceae-Pinetum cubensis*. EHP: *Euphorbio helenae-Pinetum cubensis*. ASP: *Agavo shaferi-Pinetum cubensis*. DCP: *Dracaeno-Pinetum cubensis*. PP: *Panico-Pinetum cubensis*. CSP: *Coccocypselo herbacei-Pinetum cubensis*. SP: *Schmidtottio shaferi-Pinetum cubensis*. AP: *Acrosynantho trachyphylli-Pinetum cubensis*. PFP: *Protio fraganti-Pinetum cubensis*. ANP: *Anthaenantio-Pinetum cubensis*. ARP: *Arthrostylidio-Pinetum cubensis.* HP: *Phyllantho mirifico-Pinetum cubensis.* Status. E: Endemic; N: Native.

Taxon	Status	DP	CP	LP	CLP	PAP	BYP	QUP	ACP	EHP	ASP	DCP	PP	CSP	SP	AP	PFP	ANP	ARP	PHP
Pinus cubensis	E	.	.	.	V	.	.	.	4	4	2	4	V	V	V	V	V	V	V	V
Pteridium caudatum	N	.	.	.	I	.	.	.	1	1	1	.	IV	V	V	V	III	III	I	.
Odontosoria aculeata	N	.	.	.	IV	.	.	.	1	.	.	.	III	V	III	.	I	I	I	.
Clusia rosea	N	.	.	.	III	.	.	.	.	.	.	.	II	V	I	III	.	.	.	I
Ilex macfadyenii	N	.	.	.	II	.	.	.	.	.	.	.	.	V	V	V	II	.	.	III
Miconia dodecandra	N	.	.	.	II	.	.	.	.	.	.	.	II	II	.	I	.	.	.	.
Clusia tetrastigma	E	.	.	.	I	.	.	.	.	.	.	.	.	I	I	.	II	.	III	IV
Cyrilla nipensis	N	.	.	.	V	.	.	.	.	.	.	.	.	V	V	IV	.	.	.	.
Dicranopteris flexuosa	N	.	.	.	II	.	.	.	.	.	.	.	.	II	I	II	.	.	.	.
Coccocypselum herbaceum	N	.	.	.	II	.	.	.	.	.	.	.	.	IV	I	.	II	.	.	.
Aristida refracta	N	.	.	.	.	1	.	.	2	+	1	1	IV	.	.	.	.	IV	.	.
Andropogon gracilis	N	.	.	.	.	+	III	.	3	2	2	2	.	.	.	.	.	.	.	.
Coccotrinax orientalis	E	.	.	.	.	.	IV	.	1	2	1	2	IV	II	I	.	V	IV	V	III
Ichnanthus mayarensis	E	.	.	.	.	.	III	.	1	1	+	1	I	V	V	II	V	II	V	III
Rhynchospora tenuis	N	.	.	.	.	.	V	.	2	2	2	.	.	.	.	.	V	V	V	.
Myrica cerifera	N	.	.	.	.	.	II	.	.	.	.	.	.	II	II	.	I	.	.	.
Panicum aciculare	N	.	.	.	.	.	I	+	+	.	.	1	V	.	.	.	.	.	.	.

Andropogon virginicus	N	.	.	.	.	.	II	.	.	.	.	.	IV	IV	II	I	.	III	.	II
Psychotria revoluta	N	.	.	.	.	.	.	1	.	.	+	.	II	IV	IV	IV	III	I	III	V
Tillandsia fasciculata	N	.	.	.	.	.	.	+	+	.	.	.	I	III	III	.	III	I	IV	II
Ossaea pauciflora	E	.	.	.	.	.	.	.	1	.	.	.	II	V	V	.	V	.	.	III
Panicum xalapense	N	.	.	.	.	.	.	.	+	.	.	2	IV	II	.	.	.	.	.	.
Baccharis scoparioides	E	.	.	.	.	.	.	.	2	.	.	.	V	V	V	III	.	III	II	IV
Andropogon bicornis	N	.	.	.	.	.	.	.	+	.	.	+	IV	III	I	.	.	.	II	.
Bactris cubensis	N	.	.	.	.	.	.	.	+	.	.	.	IV	V	.	V	II	I	.	II
Bletia purpurea	N	.	.	.	.	.	.	.	+	.	.	.	.	IV	III	.	V	.	.	IV
Eugenia pinetorum	N	.	.	.	.	.	.	.	1	.	1	.	IV	V	II	III	.	II	IV	IV
Vernonia urbaniana	N	.	.	.	.	.	.	.	1	+	+	.	V	.	.	.	.	IV	V	.
Casearia crassinervis	E	.	.	.	.	.	.	.	1	1	2	.	III	.	.	.	.	V	.	.
Clerodendrum nipense	E	.	.	.	.	.	.	.	1	+	.	.	IV	V	V	IV	III	III	.	.
Vaccinium cubense	E	.	.	.	.	.	.	.	+	1	1	.	II	II	IV	.	I	.	.	.
Bisgoeppertia scandens	N	.	.	.	.	.	.	.	+	1	1	1	IV	.	III	.	.	III	II	I
Angadenia cubensis	E	.	.	.	.	.	.	.	1	1	1	.	IV	.	.	.	.	.	.	.
Andropogon reinoldii	E	.	.	.	.	.	.	.	+	+	+	1	.	.	.	.	.	.	.	.
Stigmaphyllum sagraeanum	N	.	.	.	.	.	.	.	.	1	2	+	V	IV	II	II	I	V	IV	.
Euphorbia helenae	E	.	.	.	.	.	.	.	.	3	.	+	.	.	I	.	I	.	.	IV
Baccharis shaferi	E	.	.	.	.	.	.	.	.	1	1	.	I	.	.	II	.	II	II	.
Ariadne shaferi	N	.	.	.	.	.	.	.	.	1	.	.	.	.	I	.	.	III	IV	IV
Guettarda ferruginea	E	.	.	.	.	.	.	.	.	1	.	.	I	I	IV	.	II	IV	III	V
Guettarda monocarpa	E	.	.	.	.	.	.	.	.	+	1	.	I	IV	II	V	III	II	II	III
Chaptalia pumila	N	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	I	II	.
Scaevola wrightii	N	.	.	.	.	.	.	.	.	+	.	.	.	II	IV	.	I	.	.	V
Senecio plumbeus	N	.	.	.	.	.	.	.	.	+	.	.	.	II	I	.	.	I	.	.
Koanophyllon polystictum	E	.	.	.	.	.	.	.	.	.	.	.	V	V	V	I	IV	IV	III	IV

Anemia coriacea	N	.	.	.	.	.	.	.	.	.	1	.	.	I	III	.	V	IV	V	IV
Ouratea striata	N	.	.	.	.	.	.	.	.	.	1	.	I	IV	IV	I	V	I	I	V
Lyonia glandulosa	E	.	.	.	.	.	.	.	.	.	1	+	.	I	I	.	.	.	.	.
Tillandsia bulbosa	N	.	.	.	.	.	.	.	.	.	+	.	.	II	III	I	.	I	.	V
Paspalum breve	N	.	.	.	.	.	.	.	.	.	+	.	III	.	.	.	.	II	V	.
Epidendrum nocturnum	N	.	.	.	.	.	.	.	.	.	+	.	.	III	I	I	I	.	II	.
Schmidtottia shaferi	E	.	.	.	.	.	.	.	.	.	.	1	.	I	V	III	II	.	.	.
Spirotecoma apiculata	N	.	.	.	.	.	.	.	.	.	.	+	.	I	I	II	III	.	.	IV
Chaetocarpus oblongatus	N	.	.	.	.	.	.	.	.	.	.	1	.	I	V	III	V	.	.	.
Dracaena cubensis	E	.	.	.	.	.	.	.	.	.	.	2	.	.	I	I	V	.	.	.
Galactia revoluta	E	.	.	.	.	.	.	.	.	.	.	+	.	IV	V	.	V	.	IV	IV
Antirhea shaferi	N	.	.	.	.	.	.	.	.	.	.	+	.	I	I	III	.	.	.	.
Schizachyrium gracile	N	.	.	.	.	.	.	.	.	.	.	.	V	II	I	III	.	V	II	II
Lyonia macrophylla	E	.	.	.	.	.	.	.	.	.	.	.	IV	V	V	.	V	IV	.	II
Cyathea parvula	N	.	.	.	.	.	.	.	.	.	.	.	I	V	IV	V	II	.	.	I
Guettarda valenzuelana	N	.	.	.	.	.	.	.	.	.	.	.	I	III	I	.	III	.	.	.
Ipomoea carolina	N	.	.	.	.	.	.	.	.	.	.	.	IV	III	IV	II	IV	I	.	.
Jacaranda arborea	E	.	.	.	.	.	.	.	.	.	.	.	.	IV	II	V	V	.	II	IV
Linodendron aronifolium	E	.	.	.	.	.	.	.	.	.	.	.	.	I	IV	.	II	.	I	III
Machaerina cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	II	I	IV	.	.	.	I
Metopium venosa	E	.	.	.	.	.	.	.	.	.	.	.	.	II	I	II	V	.	I	II
Miconia baracoensis	E	.	.	.	.	.	.	.	.	.	.	.	.	III	V	V	V	.	.	II
Neobracea valenzuelana	E	.	.	.	.	.	.	.	.	.	.	.	.	V	V	V	V	.	I	V
Plumeria clusioides	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	I	II	II	V	II
Suberanthus stellatus.	E	.	.	.	.	.	.	.	.	.	.	.	.	II	III	.	III	.	.	IV
Vernonia hieracioides	N	.	.	.	.	.	.	.	.	.	.	.	.	II	I	.	II	I	I	.
Vernonia pineticola	N	.	.	.	.	.	.	.	.	.	.	.	.	V	IV	IV	.	.	.	IV

Catopsis sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	IV	IV	II	.	.	IV	IV
Coccoloba shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	I	II	.	II	.	.	II
Vanilla palmarum	N	.	.	.	.	.	.	.	.	.	.	.	.	I	II	I	II	.	.	.
Chamaecrista lineata	E	.	.	.	.	.	.	.	.	.	.	.	.	II	III	.	.	II	III	IV
Scleria havanensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	III	I	III	V
Smilax havanensis	N	.	V	V	.	.	.	.	.	1	.	.	III	IV	II	III	IV	IV	V	.
Scleria lithosperma	N	.	V	V	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.	.
Dodonaea viscosa	N	.	IV	.	.	.	.	.	2	.	.	.	V	I	.	.	.	III	IV	.
Lasiacis divaricata	N	.	III	III	.	.	.	+	.	.	.	.	II	.	.	.	.	.	.	.
Byrsonima crassifolia	N	.	IV	IV	.	2	V	.	.	.	.	.	I	.	.	.	.	.	.	.
Tillandsia balbisiana	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	I	II	.
Chrysophyllum oliviforme var. *oliviforme*	N	.	V	V	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Centrosema virginianaum	N	.	V	.	.	.	III	+	+	.	.	.	II	.	.	.	.	.	.	.
Cassytha filiformis	N	.	I	.	.	1	III	.	+	+	.	.	.	.	.	.	.	.	.	.
Scleria secans	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	IV	II	.	.	.
Miconia laevigata	N	.	I	I	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.	.
Passiflora suberosa	N	.	IV	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	.	.
Swietenia mahagoni	N	.	IV	.	.	.	I	.	.	.	.	.	.	I	.	.	.	.	.	.
Ternstroemia peduncularis	N	.	III	III	.	.	.	.	.	.	.	.	I	.	.	.	.	II	.	.
Sideroxylon cubense	N	.	III	III	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Hypericum hypericoides	N	.	I	.	.	.	.	.	.	.	.	.	III	II	.	.	.	.	.	.
Angadenia berteroi	N	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Myrica picardae	N	IV	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III
Myrsine coriacea	N	IV	.	I	.	.	.	.	.	.	.	.	IV	V	IV	III	.	.	.	II
Brunellia comocladifolia	N	I	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinus occidentalis	E	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pteridium aquilinum	N	IV	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Ilex tuerckheimii	E	IV	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dendropemom pycnophyllus	E	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Garrya fadyenii	N	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Baccharis myrsinites	N	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lobelia rotundifolia	N	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lophosoria quadripinnata	N	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lycopodium fawcettii	N	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dendropemom constantiae	E	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetrazygia urbaniana	E	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rubus eggersii	E	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Danthonia domingensis	E	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Weinmania pinnata L.	N	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gautheria domingensis	E	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fuchsia pringsheimii	E	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypericum constanzae	E	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia selleana	N	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mykania barahonensis	N	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lycopodium cernuum	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lycopodium clavatum	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia heptamera	E	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia urbaniana	E	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alsophila minor	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pilea microphylla	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.
Blechnum fragile	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Blechnun occidentale	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia krugii	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Microgramma piloselloides	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Paepalanthus repens	E	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pellea ternifolia	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polypodium angustifolium	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Styrax ochraceus	E	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eupatorium illitum	E	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cheilanthes nivea	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Isachne rigidifolia	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ilex fuertesiana	E	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Verbascum thapsus	N	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Haematoxylon campechianum L.	N	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chiococca alba	N	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exostema spinosum	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Erythroxylum rufum	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia odorata	E	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chrysobalanus icaco	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Echites umbellata	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guettarda pungens	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leptogonum buchii	E	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Jacaranda ekmanii	E	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesechites repens	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba buchii	N	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba fuertesii	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Comocladia cuneata	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Comocladia pinnatifolia	N	.	I	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cordia lima	N	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ouratea ilicifolia	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oceoclades maculata	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Ocotea coriacea	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Croton linearis	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora bilobata	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora murucuja	N	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Psychotria dolichocalyx	E	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poitea paucifolia	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rajania quinquefolia	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Randia aculeata	N	.	V	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rondeletia christii	E	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Securidaca virgata	N	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Simarouba berteroana	E	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stigmaphyllon emarginatum	N	.	V	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tabebuia berterii	E	.	IV	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Turnera ulmifolia	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tillandsia recurvata	N	.	III	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sabal domingensis	E	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchosia reticulata	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Samyda dodecandra	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Bursera simaruba	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calophyllum calaba	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Diodia ekmanii	E	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaesyce berteroana	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia domingensis	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia maleolens	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala penaea	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pictetia spinifolia	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pimenta ozua	E	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Lantana camara	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lonchocarpus neurophyllus	E	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Maytenus domingensis	E	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Serjania polyphylla	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Corchorus hirsutus	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brya buxifolia	N	.	I	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccotrinax scoparia	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Narvalina domingensis	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pilea spathulifolia	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Bumelia repens	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rynchosia reticulata	N	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio barahonensis	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tripsacum floridanum	N	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eupatorium gabbii	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eupatorium sinuatum var. *viscigerum*	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaecrista glandulosa var. *picardae*	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia truncatula var. *truncatula*	E	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dillenia americana	N	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetramicra ekmanii	E	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Garrya fadyenii	N	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gnaphalium eggersii	E	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaesyce adenoptera subsp. *adenoptera*	N	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Agave intermixta	E	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Artemisia peruviana	N	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coreopsis buchii	E	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lygodium venetum	N	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Wedelia reticulata	N	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Eupatorium illitum	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galactia dictyophylla	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galactia rudolphioides var. *haitiensis*	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coniza canadensis	N	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cordia selleana	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesechites angustifolia	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Piptadenia peregrina	N	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leptochloa monticola	N	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Artemisia domingensis	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boconia frutescens	N	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cestrum brevifolium	E	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Setariaa glauca	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia fruticosa	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia sprengeliana	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chaptalia angustata	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Diodia rigida	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ipomoea viridiflora	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Forestiera selleana	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pitcairnia domingensis	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala crucianelloides	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Melochia tomentosa	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Anemia adiantifolia	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Citharexylum schulzii	E	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cuscuta americana	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ateleia gummifera	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora anadenia	N	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dillenia americana	N	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Lygodium venetum	N	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Swietenia mahagoni	N	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Piptadenia peregrina	N	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Wedelia reticulata	N	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassytha filiformis	N	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Desmodium barbatum	N	.	.	.	II	.	IV	.	.	.	.	.	I	.	.	.	.	.	.	.
Callicarpa ferruginea	N	.	.	.	II	.	.	.	.	.	.	.	.	II	.	.	.	.	.	I
Phaius tankervilliae	N	.	.	.	II	.	.	.	.	.	.	.	IV	I	.	.	.	.	I	.
Panicum scoparium	N	.	.	.	III	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.
Ascyrum hypericoides	N	.	.	.	II	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Clidemia hirta	N	.	.	.	II	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Clidemia strigillosa	N	.	.	.	IV	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Clusia minor	N	.	.	.	II	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Panicum boliviense	N	.	.	.	III	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Clidemia umbellata	N	.	.	.	V	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Trema cubensis	E	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia calycosa	E	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Blechnum occidentale	N	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypericum hypericoides	N	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Matayba domingensis	N	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ageratina paucibracteata	E	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Clethra cubensis	E	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pytirogramma sulphurea	N	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rubus turquinensis	E	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sapium erythrospermum	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sapium jamiaicense	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vaccinium leonis	E	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Dennstaedtia adiantoides	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cyrilla racemiflora	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lobelia assurgens	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cyathea araneosa	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cyathea arborea	N	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccocypselum x lanceolatum	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Critonia dalea	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cyathea armata	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tabebuia hypoleuca	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tibouchina longifolia	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia parvuliceps	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Weinmannia pinnata	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Wigandia reflexa	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viburnum villosum	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Solonia reflexa	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Garrya fadyenii	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rondeletia calophylla	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dalbergaria cubensis	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Habenaria monorrhiza	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lophosoria quadripinnata	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lycopodium dichotomum	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia maestrensis	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia acunae	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia alternifolia	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia punctata	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Purdiaea maestrensis	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myrica cacuminis	E	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Nephrolepis biserrata	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Odontosoria uncinella	N	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ossaea muricata	E	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Palicourea alpina	N	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myrica punctata	N	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myrcia splendens	N	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rondeletia naguensis	E	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia rigida	N	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gesneria viridiflora	E	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Graffenrieda refescens	E	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hedyosmum grissebachii	N	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sauvagesia brownei	N	.	.	.	.	+	.	.	1	.	.	.	III	.	.	.	.	.	.	.
Buchnera elongata	N	.	.	.	.	+	I	.	.	.	.	.	.	.	.	.	.	I	.	.
Tetramicra eulophiae	E	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	II	.	.
Trachypogon filifolius	N	.	.	.	.	1	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Acoelorrhapte wrightii	N	.	.	.	.	+	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia punicifolia	N	.	.	.	.	+	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Tabebuia leipidophylla	E	.	.	.	.	1	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinus tropicalis	E	.	.	.	.	2	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Roigella correifolia	E	.	.	.	.	1	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccothrinax miraguama subsp. *arenicola*	E	.	.	.	.	1	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Croton cerinus	E	.	.	.	.	1	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Croton craspedotrichus	E	.	.	.	.	+	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Calyptranthes pinetorum	E	.	.	.	.	+	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Phyllanthus junceus	E	.	.	.	.	+	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Chaetolepis cubensis	N	.	.	.	.	1	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Evolvulus grisebachii	N	.	.	.	.	+	I	.	.	.	.	.	.	.	.	.	.	.	.	.

Xiphidium xanthorrhizon	E	.	.	.	.	1	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Xyris elliottii	N	.	.	.	.	+	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypericum styphelioides	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Syngonanthus insularis	E	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scleria verticillata	N	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora globosa	E	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lachnorrhiza piloselloides	E	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia vaccinioides	N	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Andropogon multinervosus	N	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Byrsonima wrightiana	E	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia androsaemifolia	N	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phyllanthus heliotropus	E	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala uncinata	E	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sachsia polycephala	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	I	.
Tabernaemontana amblyocarpa	N	.	.	.	.	.	I	.	.	.	.	.	.	I	.	IV	.	.	.	.
Oxalis pinetorum	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	I	.	.
Leptocoryphium lanatum	N	.	.	.	.	.	III	.	.	1	.	3	.	.	.	.	.	.	.	.
Andropogon nashianus	N	.	.	.	.	.	III	.	1	+	.	.	.	.	.	.	.	.	.	.
Panicum fusiforme	N	.	.	.	.	.	II	.	+	.	.	.	IV	.	.	.	.	.	.	.
Sida linifolia	N	.	.	.	.	.	V	.	.	.	.	.	II	.	.	.	.	.	.	.
Malpighia horrida	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	II	.
Sebastiania corniculata	N	.	.	.	.	.	IV	.	.	.	.	.	II	.	.	.	.	.	.	.
Waltheria americana	N	.	.	.	.	.	II	.	+	.	.	.	.	.	.	.	.	.	.	.
Pachyanthus poiretii	N	.	.	.	.	.	V	+	.	.	.	.	.	.	.	.	.	.	.	.
Pinus caribaea	E	.	.	.	.	.	V	3	.	.	.	.	.	.	.	.	.	.	.	.
Tetrazygia bicolor	N	.	.	.	.	.	II	+	.	.	.	.	.	.	.	.	.	.	.	.
Miconia ibaguensis	N	.	.	.	.	.	I	2	.	.	.	.	.	.	.	.	.	.	.	.

Richarida muricata	N	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Heptanthus sp	N	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Hyptis pedalipes	E	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Aristida neglecta	N	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Brya depressa	N	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Byrsonima pinetorum	E	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesosetum filiforme	N	.	.	.	.	.	V	.	.	.	.	.	.	.	.	.	.	.	.	.
Melochia savannarum	E	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesechites roseus	E	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Aristida vilfifolia	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Borreria thymocephala	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Burmannia capitata	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Byrsonima hybrida	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Diodia teres	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Paspalum multicaule	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora cyperoides	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassia diphylla	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccothrinax wrightii	E	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassia pilosa	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassia serpens	N	.	.	.	.	.	IV	.	.	.	.	.	.	.	.	.	.	.	.	.
Curatella americana	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Richardia scabra	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora seslerioidies	E	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Lacnnorrhiza piloselloides	E	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Andropogon virgatus	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora plumosa	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Eriosema crinitum	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.

Cynanchum savannaraum	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaesyce pinariona	N	.	.	.	.	.	III	.	.	.	.	.	.	.	.	.	.	.	.	.
Aster grisebachii	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Arthropogon piptostachyus	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Borreria strumpfioides	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora wrightiana	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Declieuxia fruticosa	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Galactia isopoda	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Sauvagesia tenella	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Eragrostis cubensis	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Cuphea micrantha	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Conostegia xalapensis	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Schultesia guianensis subsp. *nana*	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Sporobolus virginicus	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Stenandrium ovatum	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Piriqueta cistoides	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhexia cubensis	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala wrightii	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala squamifolia	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Pisonia rotundata	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Crhysobalanus pellocarpus	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Pachyanthus cubensis	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Pachyanthus wrightii	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia myrtilloides	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetrazygia delicatula	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Herpyza grandiflora	E	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Angelonia pilosella	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.

Aristida ternipes	N	.	.	.	.	.	II	.	.	.	.	.	.	.	.	.	.	.	.	.
Scoparia dulcis	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Pavonia intermixta	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinguicula filifolia	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Copernicia curtissii	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Mitracarpus glabrescentes	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Cordia lineata	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Bulbostylis setacea	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Stigmaphyllom microphyllum	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Commelina angustifolia	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Lachnanthes tinctoria	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Jatropha angustifolia	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Aeschynomene tenuis	E	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Eupatorium villosum	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Xyris navicularis	N	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
Alchornea latifolia	N	.	.	.	.	.	.	+	.	.	.	.	.	I	.	.	.	.	.	.
Quercus sagraeana	E	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.
Wedelia rugosa	E	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Xylopia aromatica	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Urena lobata	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia cubensis	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia sagraeana	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Scleria cubensis	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia farameoides	E	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Desmodium canum	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Didimopanax morotononi	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Davilla rugosa	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.

Dendropanax cuneifolius	E	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Guarea guidonia	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Hibiscus costatus	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Jambosa vulgaris	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Matayba oppositifolia	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Alsophila myosuroides	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Amaioua corymbosa	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Barbieria pinnata	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Blechnum serrulatum	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Calophyllum pinetorum	E	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Miconia prasina	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Mikania ranunculifolia	E	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Ossaea parviflora	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Panicum chrysopsidifolium	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Panicum ischaemum	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Phania matricarioides	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Renealmia sp.	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Rhus copallina subsp. *leucantha*	N	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchosia minima	N	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Galactia rudolphioides	N	.	.	.	.	.	.	.	+	+	1	.	.	.	.	.	.	II	.	.
Casearia sylvestris var. *myricoides*	E	.	.	.	.	.	.	.	+	.	.	.	IV	I	.	.	.	.	.	.
Clidemia rubrinervis	N	.	.	.	.	.	.	.	+	.	.	+	.	.	I	.	.	.	.	.
Eupatorium polystictum	N	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.
Smilax balvisiana	N	.	.	.	.	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.
Echites crassipes	N	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.
Eupatorium ayapanoides	N	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.
Catopsis berteroniana	N	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.

Rajania howardii	N	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.
Rhynchospora shaferi	E	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Rondeletia alaternoides	E	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Imperata contracta	N	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Stigmaphyllom lineare	N	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Ipomoea ophitica	N	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Machaonia nipensis	E	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Marsdenia linearis	N	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Aristida eggersii	N	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Gochnatia attenuata	E	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Eupatorium lantanifolium	N	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Phyllanthus myrtilloides subsp. *shaferi*	E	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	I
Rondeletia myrtacea	N	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	I	.
Lyonia nipensis	E	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.
Rhynchospora cernua	E	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	III	.	.
Polygala saginoides	E	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.
Rhynchosia nipensis	E	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	III	.	.
Turnera diffusa	N	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	I	.	.
Spathelia pinetorum	E	.	.	.	.	.	.	.	.	1	.	.	.	I	I	.	.	.	.	.
Rajania nipensis	E	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	I	II	.
Rhynchospora diodon	N	.	.	.	.	.	.	.	.	.	1	1	.	.	I	.	.	.	.	.
Arthrostylidium capillifolium	N	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	V	.
Xylosma buxifolium	E	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	I	.
Callicarpa cuneifolia	E	.	.	.	.	.	.	.	.	.	+	.	.	I	.	.	.	.	.	.
Setaria tenax	N	.	.	.	.	.	.	.	.	.	+	1	II	.	.	.	.	.	.	.
Vernonia nipensis	N	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Epidendrum cochleatum	N	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.

Epidendrum howardii	N	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Eugenia subspinulosa	E	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Anemia nipensis	N	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Clusia nipensis	N	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Playgyna triandra	E	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Psychotria graminifolia	E	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Purdiaea nipensis	E	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Psidium parvifolium	E	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	I	V	.
Myrtus ophiticola	N	.	.	.	.	.	.	.	.	.	.	1	.	.	IV	.	II	.	.	.
Callicarpa oblanceolata	E	.	.	.	.	.	.	.	.	.	.	+	.	.	IV	.	V	.	.	.
Aristolochia lindeniana	E	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	III	.	.
Guatteria moralesi	N	.	.	.	.	.	.	.	.	.	.	+	.	II	.	.	.	.	.	.
Callicarpa wrightii	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	V
Rajania baracoensis	N	.	.	.	.	.	.	.	.	.	.	+	II	.	.	.	.	.	.	.
Rhynchospora lindeniana	E	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Eugenia cycloidea	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Guettarda crassipes	E	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Chaptalia shaferi	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Heptanthus shaferi	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Jacquinia roigii	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Panicum breve	N	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Casearia bissei	E	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Casearia ophiticola	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Angadenia moaensis	N	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Cassia lineata	N	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Cordia duartei	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Mouriri emarginata	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.

Phllanthus pachystylus	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Platygyna obovata	E	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Rheedia polyneura	N	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Cynanchum brachystephanum	E	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.	I	.
Anthaenantia lanata	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	IV	II	.
Evolvulus sericeus	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	I	II	.
Spermacoce spinosa	N	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	III	.	.
Imperata brasiliensis	N	.	.	.	.	.	.	.	.	.	.	.	IV	II	.	.	.	I	.	.
Waltheria indica	N	.	.	.	.	.	.	.	.	.	.	.	V	.	.	.	.	I	.	.
Galactia savannarum	E	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	I	.	.
Andropogon hirtiflorus	N	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	I	.	.
Adiantum cristatum	N	.	.	.	.	.	.	.	.	.	.	.	I	I	.	.	.	I	.	.
Cecropia peltata	N	.	.	.	.	.	.	.	.	.	.	.	I	IV	.	.	.	.	.	.
Chaptalia dentata	N	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.	.	.
Phyllanthus procerus	E	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.	.	.
Paspalum notatum	N	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.	.	.
Lyonia affinis	E	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	.	.
Andropogon glomeratus	E	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	.	.
Panicum policaulon	N	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	.	.
Panicum wilmingtonense	N	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	.	.
Setaria geniculata	N	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	.	.
Rhynchospora pruinosa	E	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.	.
Vernonia angustissima	N	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.	.
Hyptis minutifolia	E	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.	.
Paspalum laxum	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Passiflora foetida	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Polygala paniculata	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.

Rhynchelytrum repens	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Spermacoce laevis	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Hypericum nitidum	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Desmodium incanum	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Lantana montevidensis	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Angadenia lindeniana	E	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Panicum pilosum	N	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.
Malpighia martiana	E	.	.	.	.	.	.	.	.	.	.	.	.	II	II	.	.	.	.	V
Gundlachia apiculata	E	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.	.	V
Eupatorium sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	I	I	.	.	.	.	II
Guapira rufescens	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	IV	.	.	.	IV
Chaetocarpus acutifolius	E	.	.	.	.	.	.	.	.	.	.	.	.	III	I	.	II	.	.	.
Calophyllum utile	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	III	III	.	.	.
Pera bumeliifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	I	I	.	III	.	.	.
Pera bumeliifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	I	I	.	III	.	.	.
Tabebuia dubia	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	III	II	.	.	.
Sloanea curatellifolia	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	II	I	.	.	.
Smilax lanceolata	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	IV	.	.	.
Platygyna leonis	E	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	II	.	.	.
Chiococca cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	II	.	.	.
Ilex repanda	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	II	.	.	.
Erythroxylum rotundifolium	N	.	.	.	.	.	.	.	.	.	.	.	.	I	I	II	.	.	.	.
Acrosynanthus trachyphyllus	N	.	.	.	.	.	.	.	.	.	.	.	.	I	I	V	.	.	.	.
Arthrostylidium fimbriatum	E	.	.	.	.	.	.	.	.	.	.	.	.	I	I	II	.	.	.	.
Chionanthus domingensis	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	III	.	.	.	.
Guzmania monostachya	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	II	.	.	.	.
Hieronyma nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	II	.	.	.	.

Alvaradoa arborescens	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	III	.	.	.	.
Byrsonima biflora	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	IV	.	.	.	.
Clusia tetrastigma	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	IV	.	.	.	.
Scheffera morotononi	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	I	.	.	.	.
Rajania ovata	N	.	.	.	.	.	.	.	.	.	.	.	.	IV	II	.	.	.	.	.
Salacia nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	II	I	.	.	.	.	.
Exostema purpureum	E	.	.	.	.	.	.	.	.	.	.	.	.	II	I	.	.	.	.	.
Gesneria norlindii	E	.	.	.	.	.	.	.	.	.	.	.	.	III	I	.	.	.	.	.
Terminalia sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	I	I	.	.	.	.	.
Clidemia capituliflora	E	.	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.	.
Koanophyllon ayapanoides	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Lygodium volubile	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Calyptronoma plumeriana	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Pentalinom luteum	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Casearia sylvestris var. *sylvestris*	E	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Panicum glutinosum	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Rhytidophyllum villosulum	N	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.	.
Rhynchospora scabrata	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Lyonia sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Erithalis fruticosa	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Guapira obtusata	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Hyperbaena sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Adiantum pyramidale	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Alectoria sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Beilschmiedia pendula	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Bonnetia cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Buchenavia capitata	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.

Campyloneurum phyllitidis	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Cinnamomum elongatum	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Cojoba arborea	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Colubrina nipensis	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Passiflora penduliflora	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Passiflora sexflora	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Oplismenus sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Polypodium aureum	N	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Protium cubense	E	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.
Calycogonium moanum	E	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	IV
Psychotria sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	IV	IV	.	.	.	.
Shafera platyphylla	E	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	II
Phyllanthus myrtilloides	E	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	I	.
Lyonia glandulosa var. *toensis*	E	.	.	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.
Guandlachia apiculata	N	.	.	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	.	.
Loranthaceae	N	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.	.
Lycopodiella cernua	N	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Eugenia asperifolia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Gerascanthus ellipticus	N	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Epidendrum sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Laplacea moaensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Coccoloba nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Tillandsia valenzuelana	N	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.
Spathelia splendens	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.	II
Erythroxylum longipes	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	II
Senecio polyphebius	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	I
Grisebachianthus lantanifolius	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV	I	.	.	.

Protium fragans	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	V	.	.	.
Symphysia alainii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	II	.	.	.
Rhynchospora sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.
Simarouba laevis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.
Sticherus remotus	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.
Rajania sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.
Calycogonium grisebachii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.	.
Guzmania lingulata	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.
Vanilla bicolor	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.
Ossaea shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.
Pimenta odiolens	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.
Psychotria grandis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.	.
Gesneria wrightii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Sideroxylon jubilla	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Callicarpa resinosa	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Ilex hypaneura	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Marcgravia evenia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Palicourea domingensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Psylotum nudum	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Purdiaea parvifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.
Tabebuia sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	IV
Dendrophthora tetrastachya	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	II
Purdiaea ekmanii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	I
Notodon roigii	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	I	.	.
Cyathea nipensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	.
Rajania angustifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV	.	.	.
Pera ekmanii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.

Erythroxylum coriaceum	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.	.	.
Pachyanthus reticulatus	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.
Vernonia gnaphallifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.
Plinia baracoensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.	.	.
Purdiaea stenopetala	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.
Rhynchospora nipensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.
Guatteria blainii	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.
Machaerina filifolia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.
Caesalpinia nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.
Calycogonium cristalensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.
Grisebachianthus nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	V	.
Agave shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	V	.
Coccoloba reflexa Lindau	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	V	.
Prosthechea cochleata	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	IV	.
Gochnatia shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	II	.
Annona sclerophylla	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	II	.
Tillandsia flexuosa	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Fimbristylis bufonia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Heliotropium humifusum	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Jacquinia robusta	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Lobelia oxyphylla	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Acrosynanthus parvifolius	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Antirhea abbreviata	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Artistida curtifolia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Bumelia cubensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Catopsis floribunda	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Myrtus acuñae	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.

Myrtus sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Scleria sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.
Vanilla dilloniana	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	III
Euphorbia podocarpifolia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.
Bourreria pauciflora	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	III	.
Zanthoxylum dumosum	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.
Rondeletia plicatula	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.
Bumelia conferta	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II	.
Salvia cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Senna benitoensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Spathelia cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Tabebuia pulverulenta	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Encyclia phoenicia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Harnackia bisecta	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Rhynchospora cernua	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Ipomoea sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.
Garcinia revoluta	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV
Mosiera ophiticola	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV
Oplonia spinosa	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV
Phyllanthus mirificus	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	IV
Tabebuia brooksiana	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Zanthoxylum cubense	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Cyrilla nitidissima	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Harpalyce cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Lyonia longipes	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Amyris sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Arthrostylidium sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II

Croton viminalis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Paspalum rupestre	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II
Pitcairnia cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	II

Table A2. Comparative analysis of the *typus* of the syntaxa studied. 1DP: *Dendropemon phycnophylli-Pinetum occidentalis*. 6CP: *Coccotrino scopari-Pinetum occidentalis*. 12LP: *Leptogono buchi-Pinetum occidentalis*. 16CLP: *Clethro-Pinetum maestrensis*. 21BYP: *Byrsonimo pinetorum-Pinetum tropicalis-caribaeae*. 32PP: *Panico-Pinetum cubensis*. 53PP: *Panico-Pinetum cubensis* subass. *lyonetosum affinis*. 75CSP: *Coccocypselo herbacei-Pinetum cubensis*. 80CSP: *Coccocypselo herbacei-Pinetum cubensis* subass. *ilicetosum repandae*. 82: *Coccocypselo herbacei-Pinetum cubensis* subass. *Schmidtottietosum shaferi*. 88SP: *Schmidtottio shaferi-Pinetum cubensis*. 96SP: *Schmidtottio shaferi-Pinetum cubensis* subass. *shaferetosum platyphyllae*. 99SP: *Schmidtottio shaferi-Pinetum cubensis* subass. *acrosynanthetosum trachyphylli*. 101AP: *Acrosynantho trachyphylli-Pinetum cubensis*. 104AP: *Acrosynantho trachyphylli-Pinetum cubensis* subass. *ossaeetosum shaferi*. 107AP: *Acrosynantho trachyphylli-Pinetum cubensis* subass. *psychotrietosum grandis*. 111PFP: *Protio fraganti-Pinetum cubensis*. 113PFP: *Protio fraganti-Pinetum cubensis* subass. *Myrcetosum*. 116PFP: *Protio fraganti-Pinetum cubensis* subass. *notodonetosum roigii*. 121ANP: *Anthaenantio-Pinetum cubensis*. 141ANP: *Anthaenantio-Pinetum cubensis* subass. *grisebachiabthetosum*. 163ARP: *Arthrostylidio-Pinetum cubensis*. 166ARP: *Arthrostylidio-Pinetum cubensis* subass. *annonetosum sclerophyllae*. 171ARP: *Arthrostylidio-Pinetum cubensis* subass. *xylosnetosum buxifolii*. 173PHP: *Phyllantho mirifico-Pinetum cubensis*. 180 PHP: *Phyllantho mirifico-Pinetum cubensis* subass. *pitcairnietosum cubensis*. The abundance values of the species correspond to the phytosociological values transformed to Van der Maarel. + = 2; 1 = 3; 2 = 4; 3 = 5; 4 = 6; 5 = 7.

Inventories number typus		**1**	**6**	**12**	**16**	**21**	**32**	**53**	**75**	**80**	**82**	**88**	**96**	**99**	**101**	**104**	**107**	**111**	**113**	**116**	**121**	**141**	**163**	**166**	**171**	**173**	**180**
Association		**DP**	**CP**	**LP**	**CLP**	**BYP**	**PP**	**PP**	**CSP**	**CSP**	**CSP**	**SP**	**SP**	**SP**	**AP**	**AP**	**AP**	**PFP**	**PFP**	**PFP**	**ANP**	**ANP**	**ARP**	**ARP**	**ARP**	**PHP**	**PHP**
Taxon	**Status**																										
Pinus cubensis	E	.	.	.	.	.	4	4	6	6	5	5	6	5	6	6	5	6	5	5	6	4	4	4	4	4	4
Ichnanthus mayarensis	E	.	.	.	.	3	.	.	5	5	5	5	5	4	3	3	.	5	5	4	2	2	2	2	2	4	.
Koanophyllon polystictum	E	.	.	.	.	.	3	3	4	3	.	3	3	3	2	.	.	2	2	2	4	2	2	2	2	3	3
Psychotria revoluta	N	.	.	.	.	.	.	2	2	2	2	2	2	2	3	2	2	2	2	.	.	2	2	2	2	2	3
Smilax havanensis	N	.	3	3	.	.	.	2	2	2	2	2	.	2	.	.	2	2	2	2	2	2	2	2	3	.	.
Neobracea valenzuelana	E	.	.	.	.	.	.	.	2	2	3	2	2	2	3	2	4	3	2	2	.	.	.	.	2	3	4
Baccharis scoparioides	E	.	.	.	.	.	4	5	5	3	.	4	3	4	2	2	.	.	.	.	3	2	2	.	3	2	2
Galactia revoluta	E	.	.	.	.	.	.	.	2	2	2	2	2	2	.	.	.	2	2	2	.	.	2	3	3	3	2
Jacaranda arborea	E	.	.	.	.	.	.	.	2	2	2	2	.	.	2	5	4	3	3	3	.	.	2	.	2	2	2
Pteridium caudatum	N	.	.	.	.	.	3	.	3	3	2	3	3	2	3	2	2	3	.	3	2	3	.	.	3	.	.
Ouratea striata	N	.	.	.	.	.	.	.	2	2	2	3	2	2	2	.	.	2	5	3	.	2	2	.	.	2	2
Lyonia macrophylla	E	.	.	.	.	.	2	3	5	3	2	3	2	4	.	.	.	3	2	3	2	2	.	.	.	.	.
Anemia coriacea	N	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	2	5	4	2	3	3	4	3	2	5
Clerodendrum nipense	E	.	.	.	.	.	.	2	2	2	2	2	.	2	2	2	.	2	2	.	2	2	.	.	.	.	.
Coccotrinax orientalis	E	.	.	.	.	.	2	2	.	2	.	2	.	.	.	.	.	2	2	2	2	4	4	3	.	2	.

Cyathea parvula	N	.	.	.	.	.	2	.	3	4	4	2	3	2	3	5	5	6	.	.	.	.	.	.	.	.	.
Eugenia pinetorum	N	.	.	.	.	.	2	2	3	2	2	.	.	.	.	.	2	.	.	.	.	2	2	2	3	2	2
Guettarda monocarpa	E	.	.	.	.	.	.	.	.	2	3	2	.	.	4	4	4	2	.	2	.	2	.	2	2	.	2
Ilex macfadyenii	N	.	.	.	.	.	.	.	3	2	4	2	2	2	2	2	3	4	.	.	.	.	.	.	.	.	2
Ossaea pauciflora	E	.	.	.	.	.	.	2	4	3	2	3	3	2	.	.	.	4	2	2	.	2	.	.	.	.	2
Schizachyrium gracile	N	.	.	.	.	.	4	4	2	.	.	.	.	2	2	2	.	.	.	.	5	3	2	2	2	.	4
Stigmaphyllum sagraeanum	N	.	.	.	.	.	2	2	2	2	2	2	.	.	.	2	.	.	.	.	2	2	2	2	2	.	.
Bactris cubensis	N	.	.	.	.	.	2	2	4	4	2	.	.	.	2	3	2	2	.	.	.	.	.	.	.	.	2
Bletia purpurea	N	.	.	.	.	.	.	.	2	2	2	2	.	2	.	.	.	2	2	2	.	.	.	.	.	2	2
Cyrilla nipensis	N	.	.	.	6	.	.	.	2	3	2	4	4	4	4	3	6	.	.	.	.	.	.	.	.	.	.
Guettarda ferruginea	E	.	.	.	.	.	.	2	.	.	.	3	2	2	.	.	.	.	2	.	2	2	2	2	.	3	4
Ipomoea carolina	N	.	.	.	.	.	2	2	2	2	.	2	.	2	2	.	.	2	2	2	.	2	.	.	.	.	.
Miconia baracoensis	E	.	.	.	.	.	.	.	2	.	.	2	2	2	2	2	3	2	4	3	.	.	.	.	.	.	.
Myrsine coriacea	N	4	.	2	.	.	.	2	2	4	4	2	2	2	.	2	.	.	.	.	.	.	.	.	.	.	.
Tillandsia fasciculata	N	.	.	.	.	.	2	.	2	2	2	.	.	2	.	.	.	2	2	.	.	2	2	2	2	.	.
Vernonia pineticola	N	.	.	.	.	.	.	.	2	2	3	2	2	3	.	2	2	.	.	.	.	.	.	.	.	3	2
Clusia rosea	N	.	.	.	2	.	.	2	2	2	2	.	.	2	.	2	2	.	.	.	.	.	.	.	.	.	2
Catopsis sp.	N	.	.	.	.	.	.	.	2	.	.	2	.	2	2	.	.	.	.	.	.	.	2	2	2	2	3
Chaetocarpus oblongatus	N	.	.	.	.	.	.	.	.	2	.	4	2	3	4	.	2	2	2	2	.	.	.	.	.	.	.
Odontosoria aculeata	N	.	.	.	2	.	2	2	2	4	2	.	2	2	.	.	.	4	.	.	.	.	.	.	.	.	.
Andropogon virginicus	N	.	.	.	.	3	2	3	2	.	.	.	.	2	.	2	2	.	.	.	.	2	.	.	.	.	2
Casearia aquifolia	E	.	.	.	.	.	.	.	.	.	.	3	2	2	.	.	.	2	2	2	.	.	.	.	.	5	3
Rhynchospora tenuis	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	2	4	2	3	2	4	3	3	.	.
Scleria havanensis	E	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	2	.	2	.	.	2	.	3	3	2
Suberanthus stellatus	E	.	.	.	.	.	.	.	.	4	.	2	2	.	.	.	.	2	2	3	.	.	.	.	.	5	3
Dodonaea viscosa	N	.	2	.	.	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	2	3	.	.
Epidendrum nocturnum	N	.	.	.	.	.	.	.	2	2	2	.	.	.	.	.	.	2	2	.	.	.	.	2	2	.	.

Schmidtottia shaferi	E	.	.	.	.	.	.	.	.	.	2	5	4	5	5	4	.	.	.	5	.	.	.	.	.	.	.
Spirotecoma apiculata	N	.	.	.	.	.	.	.	.	2	2	.	.	2	2	.	.	2	2	.	.	.	.	.	.	2	.
Metopium venosa	E	.	.	.	.	.	.	.	.	.	2	.	.	2	2	2	.	3	3	2	.	.	.	.	.	.	.
Plumeria clusioides	N	.	.	.	.	.	.	.	.	2	.	.	.	.	.	2	.	.	.	.	.	2	2	2	3	.	2
Rhynchospora purpusilla	.	.	.	.	.	.	.	.	2	.	.	3	2	2	.	.	.	.	.	.	.	.	.	.	.	5	5
Guapira rufescens	E	.	.	.	.	.	.	.	.	2	.	.	.	.	3	2	2	.	.	.	.	.	.	.	.	2	2
Scaevola wrightii	N	.	.	.	.	.	.	.	.	.	.	3	2	2	.	.	.	.	.	4	.	.	.	.	.	7	6
Scleria secans	N	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	2	2	2	.	.	.	.	.	.	.
Linodendron aronifolium	E	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	2	3	.	.	.	.	.	3	.	2
Smilax lanceolata	N	.	.	.	.	.	.	.	.	2	.	.	.	.	2	2	.	2	2	2	.	.	.	.	.	.	.
Vanilla palmarum	N	.	.	.	.	.	.	.	2	2	.	2	.	2	.	.	.	.	2	2	.	.	.	.	.	.	.
Tillandsia bulbosa	N	.	.	.	.	.	.	.	2	2	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	2	2
Vernonia urbaniana	N	.	.	.	.	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	2	3	.	.
Calophyllum utile	E	.	.	.	.	.	.	.	2	.	.	.	.	.	.	2	2	.	2	2	.	.	.	.	.	.	.
Callicarpa oblanceolata	E	.	.	.	.	.	.	.	.	.	.	2	2	2	.	.	.	2	3	.	.	.	.	.	.	.	.
Clidemia capituliflora	E	.	.	.	.	.	2	4	5	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba shaferi	E	.	.	.	.	.	.	.	.	2	.	2	.	2	.	.	.	2	2	.	.	.	.	.	.	.	.
Chamaecrista lineata	E	.	.	.	.	.	.	.	2	.	.	2	.	.	.	.	.	.	.	.	.	2	2	.	.	3	2
Dracaena cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	2	3	2	.	.	4	4	.	.	.	.	.	.	.
Guettarda valenzuelana	N	.	.	.	.	.	.	.	2	.	4	.	.	2	.	.	.	2	2	.	.	.	.	.	.	.	.
Hypericum hypericoides	N	.	3	.	3	.	2	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Malpighia martiana	E	.	.	.	.	.	.	.	.	2	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	3	3
Myrica cerifera	N	.	.	.	.	2	.	.	2	.	.	2	.	.	.	.	.	.	2	.	.	.	.	.	.	.	2
Rajania ovata	N	.	.	.	.	.	.	.	2	2	2	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Sloanea curatellifolia	E	.	.	.	.	.	.	.	.	.	3	.	.	.	.	2	2	2	2	.	.	.	.	.	.	.	.
Vanilla dilloniana	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	2	2
Machaerina cubensis	E	.	.	.	.	.	.	.	.	.	2	.	.	2	2	2	2	.	.	.	.	.	.	.	.	.	.

Scleria lithosperma	N	.	2	4	.	.	.	.	2	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Acrosynanthus trachyphyllus	N	.	.	.	.	.	.	.	.	.	.	.	.	2	4	5	4	.	.	.	.	.	.	.	.	.	.
Agave shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	5	3	4	.	.
Andropogon bicornis	N	.	.	.	.	.	2	.	2	.	.	.	.	2	.	.	.	.	.	.	.	.	.	2	.	.	.
Anthaenantia lanata	N	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	5	4	.	2	2	.	.
Ariadne shaferi	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	2	2	2
Arthrostylidium fimbriatum	E	.	.	.	.	.	.	.	.	.	3	.	4	2	.	.	4	.	.	.	.	.	.	.	.	.	.
Bisgoeppertia scandens	N	.	.	.	.	.	.	2	.	.	.	2	.	.	.	.	.	.	.	.	.	2	3	.	2	.	.
Clusia tetrastigma	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	2	3	2	.	.	.	.	.	.	.	.	.
Coccocypselum herbaceum	N	.	.	.	.	.	.	.	2	4	3	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Chaetocarpus acutifolius	E	.	.	.	.	.	.	.	2	2	2	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Chionanthus domingensis	N	.	.	.	.	.	.	.	.	2	2	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.
Dicranopteris flexuosa	N	.	.	.	2	.	.	.	5	.	.	.	.	2	.	.	3	.	.	.	.	.	.	.	.	.	.
Euphorbia helenae	E	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	6	.	.	.	.	.	3	2
Exostema purpureum	E	.	.	.	.	.	.	.	.	2	2	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Grisebachianthus nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	2	2	.	.
Guatteria blainii	N	.	.	.	.	.	.	.	.	2	2	.	.	.	.	2	.	2	.	.	.	.	.	.	.	.	.
Gundlachia apiculata	E	.	.	.	.	.	.	.	2	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	4
Miconia dodecandra	N	.	.	.	2	.	.	2	.	2	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Paspalum breve	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	3	.	.	.
Pera bumeliifolia	N	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	.	2	2	.	.	.	.	.	.	.	.
Pictetia spinifolia	N	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	.	.
Protium fragans	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	2	3	2	.	.	.	.	.	.	.
Platygyna leonis	E	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.
Spathelia pinetorum	E	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	3	.	.	.	.	.	.	.	.	.	.
Tabebuia dubia	E	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	3	2	2	.	.	.	.	.	.	.	.
Vaccinium cubense	E	.	.	.	.	.	.	.	3	.	.	2	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.

Myrtus ophiticola	N	.	.	.	.	.	.	.	.	.	.	3	.	2	.	.	.	.	2	2	.	.	.	.	.	.	.
Alvaradoa arborescens	E	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	.	.	.	.	.	.	.	.	.	.
Angadenia berteroi	N	.	2	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
Antirhea shaferi	N	.	.	.	.	.	.	.	.	2	.	.	2	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Aristida refracta	N	.	.	.	.	.	5	2	.	.	.	.	.	.	.	.	.	.	.	.	5	2	.	.	.	.	.
Arthrostylidium capillifolium	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	6	5	.	.
Baccharis shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	.	2	.	.	3	.	.
Byrsonima biflora	E	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	3	.	.	.	.	.	.	.	.	.	.
Byrsonima crassifolia	N	.	2	.	.	4	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Callicarpa ferruginea	N	.	.	.	2	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Casearia crassinervis	E	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.
Casearia sylvestris var. *myricoides*	E	.	.	.	.	.	2	2	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba reflexa	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	.	.
Cynanchum brachystephanum	E	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	2	.	.	.
Cynanchum sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	2	2
Erythroxylum rotundifolium	N	.	.	.	.	.	.	.	.	.	2	.	.	2	.	.	2	.	.	.	.	.	.	.	.	.	.
Grisebachianthus lantanifolius	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	2	.	.	.	.	.	.	.
Guandlachia apiculata	N	.	.	.	.	.	.	.	.	.	.	4	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Gesneria norlindii	E	.	.	.	.	.	.	.	.	2	2	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Euphorbia podocarpifolia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	4	4	.	.
Imperata brasiliensis	N	.	.	.	.	.	2	2	3	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
Panicum fusiforme	N	.	.	.	.	2	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phaius tankervilliae	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
Psidium parvifolium	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	2	.	.
Psychotria sp.	N	.	.	.	.	.	.	.	.	.	.	.	2	.	.	2	4	.	.	.	.	.	.	.	.	.	.
Scheffera morotononi	N	.	.	.	.	.	.	.	2	2	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Shafera platyphylla	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.	4	2

Sida linifolia	N	.	.	.	.	2	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora suberosa	N	.	2	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Spermacoce spinosa	N	.	.	.	.	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Tillandsia balbisiana	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	2	.	.
Tabebuia sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	5	.
Vernonia hieracioides	N	.	.	.	.	.	.	.	2	.	.	2	.	.	.	.	.	3	.	.	.	2	.	.	.	.	.
Lyonia glandulosa var. *toensis*	E	.	.	.	.	.	.	.	.	.	.	2	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Brunellia comocladifolia	N	2	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lophosoria quadripinnata	N	4	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinus occidentalis	E	7	6	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Garrya fadyenii	N	4	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myrica picardae	N	4	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alsophila minor	N	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Baccharis myrsinites	N	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dendropemom constantiae	E	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dendropemom pycnophyllus	E	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fuchsia pringsheimii	E	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gautheria domingensis	E	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ilex tuerckheimii	E	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lobelia rotundifolia	N	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lycopodium cernuum	N	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia krugii	N	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia selleana	N	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Microgramma piloselloides	N	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mykania barahonensis	N	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polypodium angustifolium	N	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetrazygia urbaniana	E	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Weinmania pinnata	N	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Styrax ochraceus	E	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ternstroemia peduncularis	N	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.
Centrosema virginianaum	N	.	4	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Maytenus domingensis	E	.	2	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba buchii	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba fuertesii	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dillenia americana	N	.	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Haematoxylon campechianum	N	.	4	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Psychotria dolichocalyx	E	.	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rajania quinquefolia	N	.	3	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chiococca alba	N	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chrysophyllum oliviforme var. *oliviforme*	N	.	3	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cordia lima	N	.	3	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora bilobata	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora murucuja	N	.	3	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exostema spinosum	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leptogonum buchii	E	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poitaea paucifolia	N	.	2	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Randia aculeata	N	.	3	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Securidaca virgata	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stigmaphyllon emarginatum	N	.	2	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Swietenia mahagoni	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tillandsia recurvata	N	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Agave intermixta	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Anemia adiantifolia	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Artemisia domingensis	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Artemisia peruviana	N	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Boconia frutescens	N	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brya buxifolia	N	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Bumelia repens	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccotrinax scoparia	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coniza canadensis	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cordia selleana	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Coreopsis buchii	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaecrista glandulosa var. *picardae*	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaesyce adenoptera subsp. *adenoptera*	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chrysobalanus icaco	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Diodia rigida	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Erythroxylum rufum	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia odorata	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eupatorium gabbii	E	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eupatorium sinuatum var. *viscigerum*	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galactia dictyophylla	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galactia rudolphioides var. *haitiensis*	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Gnaphalium eggersii	E	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia truncatula var. *truncatula*	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lantana camara	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leptochloa monticola	N	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Narvalina domingensis	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oceoclades maculata	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Ouratea ilicifolia	N	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pilea spathulifolia	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pitcairnia domingensis	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pteridium aquilinum	N	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rondeletia christii	E	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rynchosia reticulata	N	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sabal domingensis	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio barahonensis	E	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sideroxylon cubense	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetramicra ekmanii	E	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tripsacum floridanum	N	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Turnera ulmifolia	N	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calophyllum calaba	N	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaesyce berteroana	N	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guettarda pungens	N	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Jacaranda ekmanii	E	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lygodium venetum	N	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesechites repens	N	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ocotea coriacea	N	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Piptadenia peregrina	N	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchosia reticulata	N	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tabebuia berterii	E	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Wedelia reticulata	N	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Clidemia umbellata	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Clidemia strigillosa	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Clusia minor	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Clethra cubensis	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Clidemia hirta	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Critonia dalea	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dennstaedtia adiantoides	N	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia uniflora	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Graffenrieda refescens	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lobelia assurgens	N	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia calycosa	E	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia acunae	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia alternifolia	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myrica cacuminis	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myrica punctata	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Purdiaea maestrensis	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pytirogramma sulphurea	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rondeletia naguensis	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rubus turquinensis	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sapium erythrospermum	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trema cubensis	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia parvuliceps	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Wigandia reflexa	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Blechnum occidentale	N	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ageratina paucibracteata	E	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sachsia polycephala	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
Acoelorrhapte wrightii	N	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Andropogon nashianus	N	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Andropogon virgatus	N	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aristida neglecta	N	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aristida ternipes	N	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Aristida vilfifolia	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Borreria strumpfioides	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Borreria thymocephala	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brya depressa	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Buchnera elongata	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Burmannia capitata	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Byrsonima hybrida	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Byrsonima pinetorum	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calyptranthes pinetorum	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassia diphylla	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassia serpens	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cassytha filiformis	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Crhysobalanus pellocarpus	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Croton cerinus	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Croton craspedotrichus	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cuphea micrantha	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cynanchum savannaraum	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaesyce pinariona	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eugenia punicifolia	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Heptanthus cochlearifolius	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Herpyza grandiflora	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hyptis pedalipes	E	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Jatropha angustifolia	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lachnorrhiza piloselloides	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lachnanthes tinctoria	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pachyanthus cubensis	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pachyanthus poiretii	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Pachyanthus wrightii	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leptocoryphium lanatum	N	.	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia myrtilloides	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesechites rosea	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesosetum filiforme	N	.	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Paspalum multicaule	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phyllanthus junceus	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinguicula filifolia	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinus caribaea	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pinus tropicalis	E	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala squamifolia	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala wrightii	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhexia cubensis	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora seslerioidies	E	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora wrightiana	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Richarida muricata	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora cyperoides	N	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sauvagesia tenella	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stenandrium ovatum	E	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stigmaphyllom microphyllum	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tabebuia leipidophylla	E	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetrazygia bicolor	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tetrazygia delicatula	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trachypogon filifolius	N	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Xiphidium xanthorrhizon	E	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Xyris elliottii	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Xyris navicularis	N	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Chaptalia dentata	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galactia savannarum	E	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hyptis minutifolia	E	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Panicum aciculare	N	.	.	.	.	.	3	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Panicum wilmingtonense	N	.	.	.	.	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phyllanthus procerus	E	.	.	.	.	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sauvagesia brownei	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sebastiania corniculata	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Waltheria indica	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Paspalum notatum	N	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Andropogon hirtiflorus	N	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypericum nitidum	N	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Passiflora foetida	N	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchelytrum repens	N	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio plumbeus	N	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vernonia angustissima	N	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Andropogon glomeratus	E	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Panicum xalapense	N	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Desmodium incanum	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lasiacis divaricata	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia affinis	E	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Miconia laevigata	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Panicum policaulon	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhynchospora pruinosa	E	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Setaria geniculata	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Spermacoce laevis	N	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lygodium volubile	N	.	.	.	.	.	.	.	2	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Buchenavia capitata	N	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campyloneurum phyllitidis	N	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Casearia sylvestris var. *sylvestris*	E	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Koanophyllon ayapanoides	N	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pentalinom luteum	N	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Salacia nipensis	E	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ilex repanda	N	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Erithalis fruticosa	N	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Colubrina nipensis	N	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alectoria sp.	N	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guapira obtusata	N	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guzmania monostachya	N	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hieronyma nipensis	E	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Adiantum cristatum	N	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alchornea latifolia	N	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beilschmiedia pendula	N	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia sp.	N	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Terminalia sp.	N	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Loranthaceae	N	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Machaerina filifolia	E	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Gerascanthus ellipticus	N	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Acrosynanthus revolutus	E	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	4
Clidemia rubrinervis	N	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Coccoloba nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Laplacea moaensis	N	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Lycopodiella cernua	N	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Lyonia glandulosa	E	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.

Rhynchospora diodon	N	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Tillandsia valenzuelana	N	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Calycogonium grisebachii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	.	.	.	.	.	.	.
Rhynchospora sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	2	.	.	.	.	.	.	.	.	.	.
Rajania sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Senecio polyphebius	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	2
Erythroxylum longipes	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	2
Symphysia alainii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	.	.	.	.	.	.
Simarouba laevis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.
Tabernaemontana amblyocarpa	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	5	.	.	.	.	.	.	.	.	.	.
Callicarpa resinosa	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.	.	.
Gesneria wrightii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Ilex hypaneura	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Ossaea shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Palicourea domingensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.
Pimenta odiolens	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Psychotria grandis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Purdiaea parvifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.
Sticherus remotus	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Vanilla bicolor	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Rajania angustifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.	.	.	.	.
Erythroxylum coriaceum	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.	.	.	.
Pera ekmanii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3	.	.	.	.	.	.	.	.
Plinia baracoensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3	.	.	.	.	.	.	.	.
Pachyanthus reticulatus	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3	.	.	.	.	.	.	.
Vernonia gnaphallifolia	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	2	.	.	.	.	.	.	.
Calycogonium cristalensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.

Chiococca cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Dendrophthora tetrastachya	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Purdiaea ekmanii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Purdiaea stenopetala	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Notodon roigii	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.
Aristolochia lindeniana	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.
Rhynchosia nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.	.	.
Rhynchospora nipensis	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Tetramicra eulophiae	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Rajania nipensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	2	.	.	.
Annona sclerophylla	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	2	.	.	.
Rhynchospora cernua	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	2	.	.	.
Lobelia oxyphylla	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
Jacquinia robusta	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
Bumelia conferta	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	.	.	.
Prosthechea cochleata	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	2	.	.	.
Bourreria pauciflora	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	4	.	.
Chaptalia pumila	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
Ipomoea sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
Malpighia horrida	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
Rondeletia plicatula	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
Gochnatia shaferi	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	3	.
Encyclia phoenicia	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
Phyllanthus myrtilloides	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
Rondeletia myrtacea	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
Senna benitoensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
Xylosma buxifolium	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.

Arthrostylidium sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2
Calycogonium moanum	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2
Callicarpa wrightii	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	2
Oplonia spinosa	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3
Mosiera ophiticola	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	2
Phyllanthus mirificus	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3
Cyrilla nitidissima	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.
Zanthoxylum cubense	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.
Amyris sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.
Paspalum rupestre	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4
Eupatorium sp.	N	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Harpalyce cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Lyonia longipes	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Pitcairnia cubensis	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Spathelia splendens	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Tabebuia brooksiana	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3

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