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An Annotated List of the Flora of the Bisley Area, Luquillo Experimental Forest, Puerto Rico 1987 to 1992

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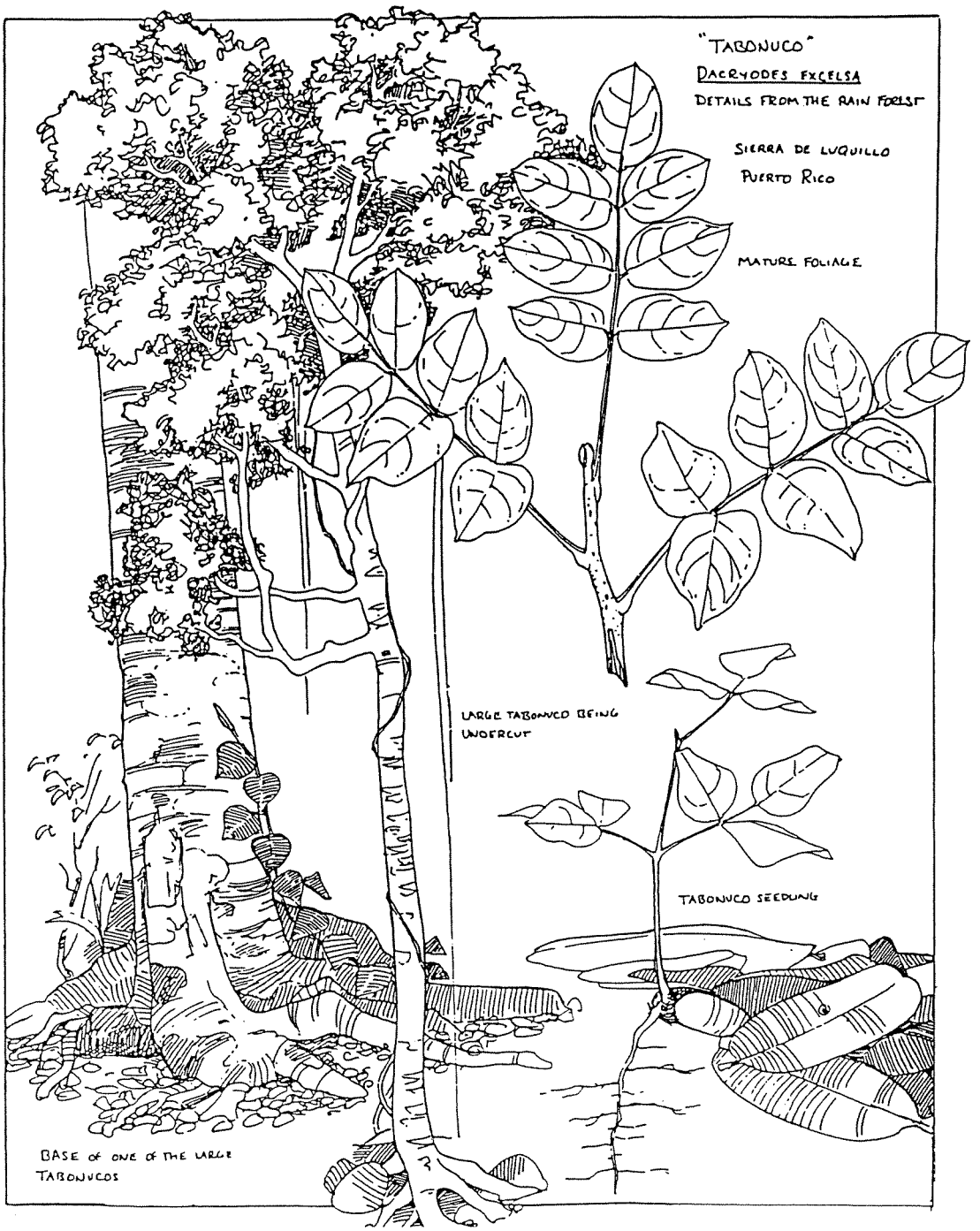

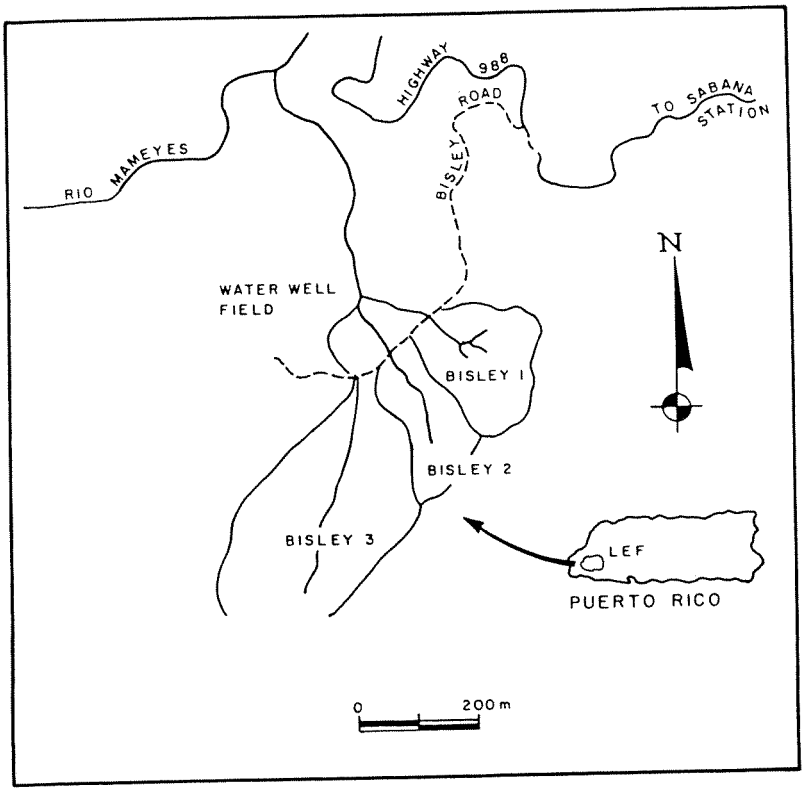

Figure 1. — *Map of the Bisley watershed area in the northeastern Luquillo Experimental Forest. The area surveyed includes Bisley watersheds 1 and 2 and areas along the Bisley road. Bisley 3, the control watershed, was not surveyed.*

(Odum and Pigeon 1970). Other studies have reported the plant species composition of various areas in Bisley (Basnet 1990; García Montiel 1991; Heaton and Letourneau 1989; Migenis and Ackerman, in press). The most comprehensive tree species list of the Bisley area was assembled by Perez (1988) a few years before Hurricane Hugo.

VEGETATION

The forests of the Bisley area have been classified as subtropical wet forests (Ewel and Whitmore 1973), lower montane rain forests (Beard 1944), and single-dominant forests (Richards 1966). The Bisley watersheds are covered by a secondary forest of the tabonuco type (*Dacryodes excelsa* Vahl). This forest type is part of the *Dacryodes-Sloanea* association of Puerto Rico, Hispaniola, and higher elevation islands of the Lesser Antilles. The three dominant species in the watersheds—*D. excelsa, Sloanea berteriana* Choisy, and *Prestoea montana* (R. Grah.) Nichols.—comprise 60 percent of the aboveground biomass, 51 percent of the basal area, 49 percent of the stem density, and 57 percent of the importance value.[1] Details of the ecology and history of the area have been published elsewhere (Brown and others 1983; García Montiel 1991; Odum and Pigeon 1970; Scatena 1989).

Floristic differences between major habitats in the Bisley area have been noted. For example, abundance and diversity of introduced vascular plants decrease with distance from the roads, trails, and streams. Introduced species are almost absent from the upper parts of the watersheds, which are the areas least affected by human disturbances. The abundance and diversity of bryophytes also increase toward stream banks, a trend similar to the observed by Churchill (in press) in Ecuador.

[1]Scatena, F.N.; Lugo A.E. [n.d.] Natural disturbances and the vegetation in two subtropical wet steepland watersheds of Puerto Rico. Manuscript has been submitted to the "Journal of Ecology."

Two growth forms dominate the bryophyte flora of Bisley: cushions (e.g., *Leucobryum, Octoblepharum, Syrrhopodon,* and *Calymperes*) and mats (e.g., *Sematophyllum, Callicostella, Isopterygium,* and Lejeunaceae) (Sastre de Jesús and Buck, in press). Pendent bryophytes are poorly represented.

STATISTICAL SUMMARY

The bryophyte flora of the Bisley area contains 52 species in 40 genera and 21 families, while the vascular flora contains at least 284 species in 215 genera and 81 families (table 2). Among the vascular flora, the major growth forms are represented by 107 species of trees, 20 species of shrubs, 28 species of dicotyledonous vines, 86 species of herbs, and 43 species of ferns.

Ninety-three percent of the listed species are natives of Puerto Rico; only 22 species (all of them angiosperms) are introduced species (table 3). Thirty of the 314 native species (mostly dicotyledones) are endemic to Puerto Rico; these species make up 9 percent endemism among all plant species, or 11 percent endemism among the vascular plants. The largest families of flora in the Bisley area, those with 10 species or more, are listed in table 4.

Table 2.— *Statistical summary of the known flora in the Bisley area of the Luquillo Experimental Forest, Puerto Rico, 1987 to 1992*

Vegetation category	Families	Genera	Species
	Number		
Bryophyta	21	40	52
Peteridophyta	8	27	43
Gymnospermae	0	0	0
Angiospermae	73	188	
Dicot herbs			29
Monocot herbs			57
Dicot vines			28
Woody shrubs*			20
Trees*			107
Total	102	255	336

*Categories based on Britton and Wilson (1923, 1925), Little and others (1974), Little and Wadsworth (1989), as well as the authors' field experience.

Table 3.— *Number of native, endemic, and introduced species among the plant groups in the Bisley area of the Luquillo Experimental Forest, Puerto Rico, 1987 to 1992*

Plant group	Natives	Endemics*	Introduced species	Total
	Number of species			
Bryophyta	52	0	0	52
Pteridophyta	43	3	0	43
Dicotyledones	164	26	17	181
Monocotyledones	55	1	5	60
Total	314	30	22	336

*Endemics are a subgroup of native species.

Table 4.— *The 9 largest families of flora (each had 10 or more species) in the Bisley area of the Luquillo Experimental Forest, Puerto Rico, 1987 to 1992*

Family	Number of species
Bryophyta	
Lejeuneaceae	13
Pteridophyta	
Polypodiaceae	31
Dicotyledones	
Lauraceae	11
Leguminosae	10
Melastomataceae	10
Rubiaceae	14
Compositae	13
Monocotyledones	
Cyperaceae	10
Orchidaceae	19

ANNOTATED LIST

Nomenclature follows van der Wijk and others (1959–69) for mosses, Gradstein (1989) for hepatics, Proctor (1989) for ferns, Ackerman and Del Castillo (in press) for orchids, and Liogier and Martorell (1982) for most other species.

The annotations vary somewhat, reflecting the different collaborators' comments. The absence of an annotation usually indicates that the species is uncommon or that it has not been observed after the original collection.

Division: BRYOPHYTA
Class: MUSCI (Mosses)

Family: Fissidentaceae

Fissidens inaequalis Mitt. Common in clay soil, mineralized clay.
F. mollis Mitt.
F. repandus Wils. ex Mitt. On riparian rocks.
F. zollegeri Mont. In mineralized clay.

Family: Dicranaceae

Dicranella perrottetii (Mont.) Mitt. On clay soil of uprooted trees.
Leucoloma cruegerianum (C. Müll.) Jaeg. On tree trunks, rarely on logs.

Family: Leucobryaceae

Leucobrym martianum (Hornsch.) Hampe ex C. Müll. On bases of tree trunks and logs.
Octoblepharum albidum Hedw. On bases of tree trunks and logs.

Family: Calymperaceae

Claymperes erosum C. Müll. On tree trunks and logs.
C. nicaraguense Ren. & Card. On logs.
Syrrhopodon incompletus var. *berteroanus* (Brid.) Reese. On tree trunks and logs.
S. ligulatus Mont. On logs.
S. parasiticus var. *parasiticus* Florsch. On logs.

Family: Bryaceae

Bryum truncorum Brid. On riparian rocks. Archegonia observed in May.

Family: Rhizogoniaceae

Pyrrhobryum spiniforme (Hedw.) Mitt. On tree trunks. Sporophytes produced in February.

Family: Bartramiaceae

Philonotis elongata (Dism.) Crum et Steere. On wet soil, rocks, rarely on logs; also on soil of uprooted trees.

Family: Orthotrichaceae

Groutiella apiculate (Hook.) Crum et Steere. On logs. Sporophytes observed in April.

Family: Neckeraceae

Neckeropsis disticha (Hedw.) Kindb. On bases of tree trunks and logs. Sporophytes produced March to April.
N. undulata (Hedw.) Reichdt. On bases of tree trunks, logs, and rocks.

Family: Callicostaceae

Callicosta evanescens (C. Müll.) Crosby. On logs in stream.
Callicostella depressa (Hedw.) Jaeg. Common on logs.
C. pallida (Hornsch.) Ångstr. Mostly found on logs. Sporophytes produced in February.
Crossomitrium patrisiae (Brid.) C. Müll. On logs in shady areas.
Cyclodictyon albicans (Hedw.) Broth. On logs.
C. varians (Sull.) O. Kuntze

Family: Leucomiaceae

Leocomium strumosum (Hornsch.) Mitt. On logs and rocks.

Family: Thuidiaceae

Thuidium urceolatum Lor. On logs and soil.

Family: Sematophyllaceae

Sematophyllum adnatum (Michx.) Britt. On logs.
S. subpinatum (Brid.) Britt. On logs.
Taxithelium planum (Brid.) Mitt.
Trichosteleum sentosum (Sull.) Jaeg.

Family: Hypnaceae

Isopterygium tenerum (Sw.) Mitt. On logs. Sporophytes observed in February.

Class:HEPATICAE (hepatics)
Order: JUNGERMANNIALES

Family: Lepidoziaceae

Bazzania schwaneckeana (Hampe & Gott.) Trev. On logs.
Telaranea nematodes (Gott. ex Aust.) Howe. On logs and leaf litter.

Family: Geocalycaceae

Lophocolea bidentata (L.) Dum. On logs and rocks.

Family: Plagiochilaceae

Plagiochila sp.

Family: Lejeuneaceae

Archilejeunea parviflora (Nees) Schiffn. On logs and tree trunks.
Ceratolejeunea patentissima (Hampe & Gott.) Evans. On logs and tree trunks.
C. valida Evans
Cheilolejeunea rigidula (Nees ex Mont.) Schust. On logs.
Colura rynchophora Jov.-Ast. On leaves of shrubs beside creek; common after rainy season.
Cyclolejeunea luteola (Spruce) Grolle
Lejeunea sp. On logs.
Macrolejeunea cerina (Lehm. & Lindenb.) Gradst. On logs and tree trunks.
Marchesinia brachiata (Sw.) Schiffn. On fern leaves beside creek.
Microlejeunea acutifolia Steph.
M. bullata (Tayl.) Steph.
Odontolejeunea lunulata (Web.) Schiffn.
Prionolejeunea innovata Evans

Order: METZGERIALES

Family: Aneuraceae

Riccadia digitiloba (Spruce) Pagan. On logs and rocks.

Family: Metzgeriaceae

Metzgeria uncigera Evans. On logs and rocks.

Family: Pallaviciniaceae

Pallavicinia lyellii (Hook.) S. Gray

Division: PTERIDOPHYTA
(Ferns and fern-allies)

Family: Psilotaceae

Psilotum nudum (L.) P. Beauv. Over bridge on Bisley Road at Bisley 3.

Family: Lycopodiaceae

Lycopidium cernum L. Outside watersheds, along roadsides.

Family: Selaginellaceae

Selaginella krugii Hieron. Entire area. Endemic.

Family: Marattiaceae

Danaea elliptica J.E. Smith
D. nodosa (L.) J.E. Smith. Entire area.

Family: Gleicheniaceae

Dicranopteris flexuosa (Schrad.) Underw.
Gleichenia bifida (Willd.) Spreng. Along roadsides.

Family: Hymenophyllaceae

Trichomanes rigidum Sw. On high, shady slopes.

Family: Cyatheaceae

Cyathea horrida (L.) J.E. Smith. Entire area.
C. arborea (L.) J.E. Smith. Entire area.
C. borinquena (Maxon) Domin. Endemic.
C. portoricensis Spreng. ex Kuhn. Entire area, except sunny areas. Endomic.

Family: Polypodiaceae

Adiantum latifolium Lam. Entire area.
A. pyramidale (L.) Willd. In the watersheds.
Arachniodes chaerophylloides (Poir.) Proctor
Asplenium auritum Sw.
A. salicifolium L.
A. serratum L. In the watersheds.
Blechnum occidentale L. In the watersheds.
Bolbitis aliena (Sw.) Alston. Rare in the watersheds.
B. nicotianifolia (Sw.) Alston. Very common in the watersheds.
Ctenitis subincisa (Willd.) Ching
Dennstaedtia bipinnata (Cav.) Maxon. Entire area.
D. obtusifolia (Willd.) Moore. Entire area.
Elaphoglossum sp. Entire area.
Hemidictym marginatum (L.) K. Presl. Inside and outside the watersheds; near creek beds.
Hypolepis repens (L.) K. Presl. Common in sunny, disturbed areas.
Lonchitis hirsuta L. Riparian.
Nephrolepis exaltata (L.) Schott
Nephrolepis rivularis (Vahl) Mett. ex Krug. In the watersheds, along roadsides.
Odontosoria aculeata (L.) J. Smith. Entire area, in drier areas.
Pityrogramma calomelanos (L.) Link var. *aureoflava* (Hooker) Weatherby ex Bailey
P. calomelanos (L.) Link var. *calomelanos*. Entire area.
Polybotrya cervina (L.) Kaulf. Entire area, not common.
Polypodium aureum L.
P. crassifolium L. Upper slopes of watersheds.
P. piloselloides L. In the watersheds, epiphytic.
P. spp. *Many epiphytic species.*
Pteris altissima Poir. In the watersheds.
Tectaria trifoliata (L.) Cav. Entire area.
Thelypteris balbisii (Spreng.) Ching
T. deltoidea (Sw.) Proctor. Entire area.
T. reticulate (L.) Proctor. Sunny areas, roadsides.

Division: EMBRYOPHYTA
Class: ANGIOSPERMAE (flowering plants)
Subclass: DICOTYLEDONES

Family: Casuarinaceae

Casuarina equisetifolia J.R. & G. Forst. Along roadsides. Introduced from Australia.

Family: Piperaceae

Lepianthes peltatum (L.) Rafinesque. Entire area.
Peperomia spp. Several species in the watersheds.
Piper aduncum L. Along roadsides, in sunny areas.
P. glabrescens (Miq.) C. DC. Entire area.
P. hispidum Sw. Entire area.
P. jacquemontianum Kunth. Along roadsides, near the creek in Bisley 1.

Family: Chloranthaceae

Hedyosmum arborescens Sw. In the watersheds before Hurricane Hugo.

Family: Ulmaceae

Trema micranthum (L.) Blume. Along roadsides; on high, disturbed slopes.

Family: Moraceae

Artocarpus altilis (S. Park.) Fosb. In drainages along road. Introduced from islands of the South Pacific.
Cecropia peltata L. Entire area.
Ficus citrifolia P. Miller. Inside and outside the watersheds.

Family Urticaceae

Pilea inaequalis (Juss. ex Poir.) Wedd. Entire area.
P. krugii Urban. On upper slopes of Bisley 2. Endemic.
Pilea obtusata Liebm.
Urera baccifera L. Wedd. Entire area.
U. sp. In the watersheds.

Family: Phytolaccaceae

Phytolacca rivinoides Kunth & Bouché. Entire area.
Trichostigma octandrum (L.) H. Walt

Family: Menispermaceae

Cissampelos pareira L. Entire area.

Family: Magnoliaceae

Magnolia splendens Urban. In the watersheds, especially on ridges. Endemic.

Family: Annonaceae

Guatteria caribaea Urban. In the watersheds.

Family: Lauraceae

Aniba bracteata (Nees) Mez. Entire area.
Beilschmiedia pendula (Sw.) Hemsl. In the watersheds.
Licaria triandra (Sw.) Kostermans
Ocotea floribunda (Sw.) Mez. In the watersheds.
O. globosa (Aubl.) Schlecht. & Cham.
O. leucoxylon (Sw.) Mez. Common in entire area.
O. membranacea (Sw.) Howard
O. moschata (Meissn.) Mez. In the watersheds. Endemic.
O. portoricensis Mez. In the watersheds. Endemic.
O. sintenisii (Mez) Alain. In the watersheds.
Persea americana Miller. Along roadsides. Introduced from Mexico.

Family: Chrysobalanaceae

Hirtella rugosa Pers. Entire area. Endemic.
H. triandra Sw.[2] Observed in Bisley 1 before Hurricane Hugo, but not found afterwards.

Family: Rosaceae

Rubus rosifolius Smith. Along roadsides. Introduced from Southeast Asia.

Family: Connaraceae

Rourea surinamensis Miq. Entire area.

Family: Leguminosae
Subfamily: Minosoideae

Inga fagifolia (L.) Willd. Entire area.
I. vera Willd. Entire area.
Mimosa pudica L. Along roadsides.

Family: Leguminosae
Subfamily: Caesalpiniodeae

Cassia aeschinomene DC. Along roadsides.

Family: Leguminosae
Subfamily: Papilionoideae

Andira inermis (W. Wright) HBK. Entire area.
Desmodium adscendens (Sw.) DC.
Neorudolphia volubilies (Willd.) Britton. Entire area. Endemic.
Ormosia krugii Urban. Entire area.
Pterocarpus officinalis Jacq. Inside and outside the watersheds.
Pueraria phaseoloides (Roxb.) Benth. Along roadsides. Introduced from Asia.

Family: Rutaceae

Citrus X *paradisi* Macfad. Along roadsides. Introduced from other islands of the West Indies.
Ravenia urbanii Engler. In the watersheds, mostly on high ridges. Endemic.
Zanthoxylum martinicense (Lam.) DC. Entire area.

Family: Burseraceae

Dacryodes excelsa Vahl. Entire area.
Tetragastris balsamifera (Sw.) Kuntze. In the watersheds.

Family: Meliaceae

Guarea glabra Vahl. Entire area.
G. guidonia (L.) Sleumer. Entire area.
Khaya nyasica Stapf. ex Baker. Entire area. Introduced from Africa.
Swietenia macrophylla G. King. Entire area. Introduced from Mexico and Central America.
Trichilia pallida Sw. Entire area.

Family: Malpighiaceae

Byrsonima spicata (Cav.) HBK. Entire area.
Heteropteris laurifolia (L.) A. Juss. Entire area.

[2]García, Diane. 1989. Personal communication (letter). On file with: International Institute of Tropical Forestry, U.S. Department of Agriculture, Forest Service, Río Piedras, PR 00928.

Family: Polygalaceae

Securidaca virgata Sw. Common in entire area.

Family: Euphorbiaceae

Alchornea latifolia Sw. Entire area.
Alchorneopsis floribunda (Benth.) Muell. Arg. Entire area.
Croton poecilanthus Urban. Entire area. Endemic.
Drypetes glauca Vah. Entire area.
Phyllanthus urinaria L. Along roadsides. Introduced from Asia.
Sapium laurocerasus Desf. Entire area. Endemic.

Family: Anacardiaceae

Comocladia glabra (Schultes) Spreng. Entire area.
Magifera indica L. Along roadsides and in the watersheds. Introduced from Asia.
Spondias mombin L. In the watersheds.

Family Cyrillaceae

Cyrilla racemiflora L. Reported by Perez (1988) but found only in Bisley 3.

Family: Stahyleaceae

Turpinia occidentalis (Sw.) G. Don. In the watersheds.

Family: Sapindaceae

Cupania americana L. In the watersheds.
Matayba domingensis (DC.) Radlk. In the watersheds.
Paullinia pinnata L. Entire area.

Family: Sabiaceae

Meliosma herbertii Rolfe. Entire area.

Family: Balsaminaceae

Impatiens wallerana Hook.f. Along roadsides. Introduced from Zanzibar.

Family: Vitaceae

Cissus erosa L.C. Rich. Along roadsides.
C. sicyoides L. Entire area.
C. verticillate (L.) Nicolson & Garvis. Along roadsides.

Family: Elaeocarpaceae

Sloanea berteriana Choisy. Entire area.

Family: Malvaceae

Pavonia fruticosa (Miller) Fawc. & Rendle. Entire area.
Sida rhombifolia L. Along roadsides.
Thespesia grandiflora DC. In the watersheds. Endemic.
Urena lobata L. Along roadsides.

Family: Bombacaceae

Ochroma lagopus Sw. Several individuals recruited after Hurricane Hugo in Bisley 2 near the road.
Quararibea turbinata (Sw.) Poir. In the watersheds.

Family: Dilleniaceae

Pinzona coriacea Mart. & Zucc. In the watersheds.

Family: Ochnaceae

Sauvagesia erecta L. Entire area.

Family Marcgraviaceae

Marcgravia rectiflora Triana & Planch. Entire area.
M. sintenisii Urban. Endemic.

Family: Theaceae

Laplacea portoricensis (Krug & Urban) Dyer. In the watersheds.

Family: Guttiferae

Calophyllum brasiliense Jacq. In the watersheds.
Clusia clusioides (Griseb.) D'Arcy. In the watersheds.
C. gundlachii Stahl. Entire area. Endemic.
Rheedia portoricensis Urban. In the watersheds. Endemic.

Family: Flacourtiaceae

Casearia arborea (L.C. Rich.) Urban. Entire area.
C. guianensis (Aubl.) Urban
C. sylvestria Sw.
Homalium racemosum Jacq.
Laetia procera (Poepp. & Endl.) Eichl. Entire area.

Family: Passifloraceae

Passiflora edulis Sims. Along roadsides. Introduced from Brazil.
P. rubra L. In the watersheds.

Family: Begoniaceae

Begonia decandra Pavón. In the watersheds. Endemic.

Family: Lythraceae

Cuphea carthagenensis (Jacq.) Macbride
C. strigulosa HBK.

Family: Rhizophoraceae

Cassipourea guianensis Aubl. In the watersheds.

Family: Combretaceae

Buchenavia capitata (Vahl) Eichl. Inside and outside the watersheds.

Family: Myrtaceae

Calyptranthes pallens (Poir.) Griseb. Near water well field in lower end of Bisley 2.
Eugenia eggersii Kiaersk. Endemic.
E. stahlii (Kiaersk.) Krug & Urban. Endemic.
Myrcia deflexa (Poir). DC. In the watersheds.
M. leptoclada DC. In the watersheds.
M. splendens (Sw.) DC. In the watersheds.
Syzgium jambos (L.) Alst. Introduced from Asia.

Family: Melastomataceae

Calycogonium squamulosum Cogn. Endemic.
Henriettea fascicularis (Sw.) Gómez Maza
Heterotrichum cymosum (Wendl.) Urban. Endemic.
Miconia laevigata (L.) DC.
M. prasina (Sw.) DC. In the watersheds.
M. racemosa (Aubl.) DC. Common in the entire area.
M. serrulata (DC.) Naud. In the watersheds.
M. tetrandra (Sw.) D. Don
Nepsera aquatica (Aubl.) Naud. Entire area.
Tetrazygia urbanii Cogn. In the watersheds and along roadsides. Endemic.

Family: Onagraceae

Ludwigia octovalvis (Jacq.) Raven. Along roadsides and on sunny ridgetops.

Family: Araliaceae

Dendropanax arboreus (L.) Decne & Planch.
Didymopanax morototoni (Aubl.) Decne. & Planch. Entire area.

Family: Myrsinaceae

Parathesis crenulata (Vent.) Hook. f.
Wallenia pendula (Urban) Mez. In the watersheds. Endemic.

Family: Sapotaceae

Chrysophyllum argenteum Jacq. Reported before Hurricane Hugo but not seen again.
Chrysophyllum cainito L. In Bisley 1.
Manilkara bidentata (A. DC.) A. Chev. Entire area.
Micropholis chrysophylloides Pierre
M. garciniifolia Pierre. Endemic.

Family: Oleaceae

Chionanthus domingensis Lam.

Family: Apocynaceae

Allamanda cathartica L. Introduced from South America.
Forsteronia portoricensis Woods. Endemic.

Family: Convolvulaceae

Ipomoea setifera Poir.
I. tiliacea (Willd.) Choisy

Family: Boraginaceae

Cordia borinquensis Urban. Endemic.
C. sulcata DC. In the watersheds.
Tournefortia sp. In Bisley 2.

Family: Verbenaceae

Lamtana camara L. Along roadsides.
Stachytarpheta jamaicensis (L.) Vah. Along roadsides.
Vitex divaricata Sw.

Family: Solanaceae

Cestrum macrophyllum Vent. Along roadsides.
Solanum torvum Sw. Entire area; in sunny places.

Family: Scrophulariaceae

Bacopa stricta (Schrad.) Robins

Family: Bignoniaceae

Tabebuia heteropylla (DC.) Britton. Entire area.

Family: Acanthaceae

Odontonema strictum (Nees) Kuntze. Introduced from Central America.
Ruellia coccinea (L.) Vahl. Entire area.
Teliostachya alopecuroidea (Vahl) Nees. Along roadsides.
Thunbergia alata Bojer. Introduced from Africa.

Family: Rubiaceae

Coffea arabica L. Introduced from Abyssinia.
Faramea occidentalis (L.) A. Rich.
Gonzalagunia spicata (Lam.) Gómez Maza. Entire area.
Hamelia patens Jacq.
Hemidiodia ocimifolia (Willd. ex R. & S.) K. Schum.
Hillia parasitica Jacq. In the watersheds.
Ixora ferrea (Jacq.) Benth.
Palicourea crocea (Sw.) Roem. & Schult. var. *crocea*
P. crocea var. *riparia* (Benth.) Griseb. In the watersheds.
Psychotria berteriana DC. Common in entire area.
P. brachiata Sw. Entire area.
P. maleolens Urban. Endemic.
Rodeletia portoricensis Krug & Urban. Endemic.
Sabicea hirsuta HBK. Entire area.

Family: Cucuritaceae

Cayaponia racemosa (Miller) Cogn. In the watersheds.

Family: Compositae

Aster subulatus Michx. Along roadsides.
Bidens alba (L.) DC. var. *radiata* (Sch.-Bip.) Ballard. Along roadsides.
Clibadium erosum (Sw.) DC. In the watersheds and along roadsides; in sunny, disturbed areas.
Elephantopus mollis Kunth
E. spicatus Juss. ex Aubl.
Eupatorium odoratum L.
Mikania cordifolia (L.f.) Willd. In the watersheds.
M. fragilis Urban. In watersheds. Endemic.
Neurolaena lobata (L.) Cass.
Rolandra fruticosa (L.) Kuntze
Synedrella nodiflora (L.) Gaertn. Along roadsides.
Vernonia cinerea (L.) Less.
Wedelia trilobata (L.) A.S. Hitchc. Along roadsides.

Subclass: MONOCOTYLEDONES

Family: Gramineae

Andropogon bicornis L.
A. leucostachyus HBK.
Bambusa vulgaris Schrad. ex Wendl. Along roadsides. Introduced from Asia.
Ichnanthus pallens (Sw.) Munro. Common in the watersheds.
Olyra latifolia L. Fairly common after Hurricane Hugo; less common as canopy closes.
Panicum trichoides Sw.
Paspalum conjugatum Berg. In the watersheds.
P. virgatum L. Along roadsides.
Pharus latifolius L. In the watersheds.

Family: Cyperaceae

Eleocharis interstincta (Vahl) R. & S. Along roadsides.
E. retroflexa (Poir.) Urban. In wet places along roadsides.
Fimbristylis dichotoma (L.) Vahl. In wet places along roadsides.
Fuirena umbellata Rottb. Along roadsides.
Mariscus ligularis (L.) Urban. Entire area.
Rhynochospora nervosa (Vahl) Boeck. ssp. *ciliata* (Vahl) T. Koyama
R. stellata (Lam.) Griseb. Along roadsides.
Scleria canescens Boeck. Entire area. Endemic.
S. lithosperma (L.) Sw.
S. pterota Presl.

Family: Palmaceae

Prestoea montana (R. Grahm) Nichols. Entire area.
Roystonea borinquena O.F. Cook. Along roadsides.

Family: Araceae

Aglaonema pictum (Roxb.) Kunth. Introduced from East Indies.
Anthurium crenatum (L.) Kunth
Dieffenbachia sp. May be an introduced species.
Philodendron angustatum Schott
P. scandens C. Koch & H. Sello
Xanthosoma atrovirens C. Koch & Bouché. Introduced from South America.

Family: Commelinaceae

Commelina diffusa Burm.f. In the watersheds and along roasides.
Commelinopsis persicariifolia (DC.) M. Pichon. In the watersheds.
Zebrina pendula Schniz. Mostly along roadsides.

Family: Pontederiaceae

Heteranthera reniformis Ruiz & Pavón. In mud, along roadsides.

Family: Smilacaceae

Smilax domingensis Willd.
S. havanensis Jacq. Common in the watersheds.

Family: Hypoxidaceae

Hypoxis decumbens L. In tire tracks in the road.

Family: Dioscoreaceae

Dioscorea polygonoides Humb. & Bonpl. ex Willd. Entire area.
Dioscorea sp. On upper slope. With spines and bulbs.
Rajania cordata L.

Family: Musaceae

Heliconia sp. Entire area.
Musa spp. In the watersheds. Introduced from India.

Family: Zingiberaceae

Zingiber sp. Along the creeks and roadsides. Introduced from Asia.

Family: Cannaceae

Canna glauca Entire area.

Family: Orchidaceae

Cranichis muscosa Sw. Terrestrial.
Cyclopogon cranichoides (Griseb.) Schltr. Terrestrial.
Encyclia cochleata (L.) Dressler. Epiphytic or lithophytic.
Epidendrum carpophorum Barbosa Rodrígues. Epiphytic.
E. nocturnum Jacq. Epiphytic or occasionally lithophytic.
E. ramosum Jacq. Epiphytic.
E. tridens poeppig & Endlicher. Epiphytic or occasionally lithophytic.
Erythrodes hirtella (Sw.) Fawc. & Rendle. Terrestrial.
E. plantaginea (L.) Fawc. & Rendle. Terrestrial.
Jacquiniella globosa (Jacq.) Schltr. Epiphytic.
Liparis nervosa (Thumb.) Lindl. Terrestrial.
Maxillaria coccinea (Jacq.) L. O. Williams ex Hodge. Common epiphyte, especially on *Guarea*.
Pleurothallis ruscifolia (Jacq.) R. Br. Common epiphyte, especially on *Guarea*.
Polystachya concreta (Jacq.) Garay & Sweet. Epiphytic or lithophytic.
P. foliosa (Hook.) Rchb.f. Epiphytic or lithophytic.
Prescottia oligantha (Sw.) Lindl. Terrestrial.
Scaphyglottis modestra (Rchb.f.) Schltr. Epiphytic or lithophytic.
Triphora latifolia G. Luer. Very rare terrestrial.
Wullschlaegelia aphylla (Sw.) Rchb.f. Achlorphyllous, terrestrial.

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Known species of plants, including bryophytes and ferns, are listed for the area of the Bisley experimental watershed area, a subtropical wet forest in the Luquillo Mountains of northeastern Puerto Rico.

Keywords: Subtropical wet forest, tabonuco forest, watershed.

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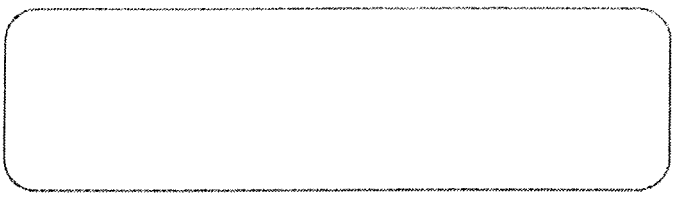
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