

## CHECK-LIST OF THE PTERIDOPHYTES OF EQUATORIAL GUINEA

M. VELAYOS, C. AEDO & R. PÉREZ VISO  
Real Jardín Botánico, Pl. Murillo 2, 28014-Madrid, Spain

---

ABSTRACT. — A check-list of the Pteridophytes of Equatorial Guinea is presented, with 226 species. Forty one species are known from Annobón, 203 species from Bioko, and 118 species from Río Muni. Two species are newly recorded for Annobón, 60 for Río Muni. *Davallia repens*, *Diplazium sammatii*, *Elaphoglossum barteri*, *Lycopodiella affinis*, *Pellaea holstii*, *Selaginella grillipes*, *Trichomanes ballardianum*, *T. liberiense*, and *Vittaria schaeferi*, are recorded from Equatorial Guinea for the first time. Additionally, *Selaginella kivuensis* is also recorded as new to West Tropical Africa. The best represented genera are : *Asplenium* (34 species), *Trichomanes* (16 species), *Pteris* (14 species), and *Selaginella* (13 species).

KEY WORDS. — Pteridophyta, Equatorial Guinea.

---

### 1. INTRODUCTION

Equatorial Guinea is located in West Tropical Africa. The insular region includes : Bioko Island (2017 km<sup>2</sup>), about 32 km from the Cameroon coast, and Annobón Island (17 km<sup>2</sup>), about 400 km from Gabon. Río Muni (26000 km<sup>2</sup>), the continental mainland, is located between 1°N and 2°N latitude. The highest altitude of Equatorial Guinea is Basilé peak (3007 m) on Bioko Island. Río Muni is crossed by the Niefang Range (1200 m), which divides the coastal plain from the inland plateau. According to WILKS & ISSEMBÉ (2000 : 3) rainfall on the mainland may be estimated at 3000 mm per year. Some places on Bioko are particularly rainy, up to 10150 mm per year on Ureka (PÉREZ DEL VAL 1996 : 14).

Early general studies on the ferns of West Tropical Africa are those of ALSTON (1956, 1959), and TARDIEU-BLOT (1953). Further studies on Equatorial Guinea refer only to Bioko, where pteridophytes have been carefully studied (ALSTON 1951, ADAMS 1957, BENL 1975, 1978,

1980, 1982, 1988 & 1991). The neighbour islands of São Tome and Principe have a well known pteridological flora too (SOBRINHO 1953, FIGUEIRIDO 1998). For Río Muni there does not exist a fern flora, though the general vascular plant catalogue of GUINEA (1946) includes ferns and fern-allies.

During the last twenty years the Real Jardín Botánico of Madrid has performed intensive field-work on both Bioko and Río Muni. The identification of these collections at MA, has revealed further new records and new areas of distribution for some taxa, providing the basis for a revision of Benl's and Guinea's accounts.

Consequently, the aim of this work is to update the catalogue of pteridophytes of the whole of Equatorial Guinea. This check-list is a first step to a modern Flora of Equatorial Guinea.

### 2. MATERIAL AND METHODS

This check-list is primarily based on herbarium specimens. We have studied more than 800 specimens

from BC, BCC, BM, COI, K, M, MA, including the historic collections of Mann, Vogel, and the modern collections of Spanish expeditions (Aedo, Carvalho, Fernández, Lope del Val, Morales, Guinea, Pérez Viso, Velayos). Additionally, bibliographic references on ferns of Equatorial Guinea have been gathered (AEDO *et al.* 1999). We include eight species based only on literature records. Their distribution area makes believable the presence of these species in Equatorial Guinea.

The locality names used in this check-list have been brought up-to-date and made uniform. For instance, we use Pico Basilé for "Clarence Peak", or "pico de Santa Isabel", and Moca for Moka, etc. Geographical coordinates of localities are summarized in Table 1 (fig. 1).

The check-list is alphabetically ordered by species within genera and families. Familial and generic circumscription is in accordance with KRAMER & GREEN (1990). In Thelypteridaceae we follow HOLTUM'S (1974) classification, specially useful with the Old World species. Under each accepted name a list with the synonyms used in the fern literature of Equatorial Guinea is included.

Specimens are ordered alphabetically by collectors within the different regions and provinces: Annobón, Bioko (provinces of Bioko Norte, and Bioko Sur), Río Muni (provinces of Centro-Sur, Kie-Ntem, Litoral,

Wele-Nzas). New records for each region are indicated by an asterisk under the first province of this region.

Previous bibliographical records of each taxon are grouped under the three regions. When the taxon was recorded under a different name (synonym or misidentification) it is indicated (*i.e.* Sub *A. geppii*: GUINEA 1946: 143).

Groups in which modern monographic studies are strongly required (*i.e.* *Asplenium aethiopicum* group, *Asplenium africanum* group, *Trichomanes erosum* group, etc.) have been synthetically treated.

Doubtful or erroneous records used in fern literature of Equatorial Guinea are listed at the end of the check-list.

### 3. THE CHECK-LIST

#### ASPLENIACEAE

#### *Asplenium abyssinicum* Fée

BIOKO NORTE: Pico, *Benl 360* (BC-621325); pico Basilé, *Guinea 2949* (MA-186389), *Guinea 2995* (MA-427937), *Adams 1167* (MA-387483).

Previously recorded from Bioko (HOOKER 1864: 235; MILDBRAED 1922: 176; ALSTON

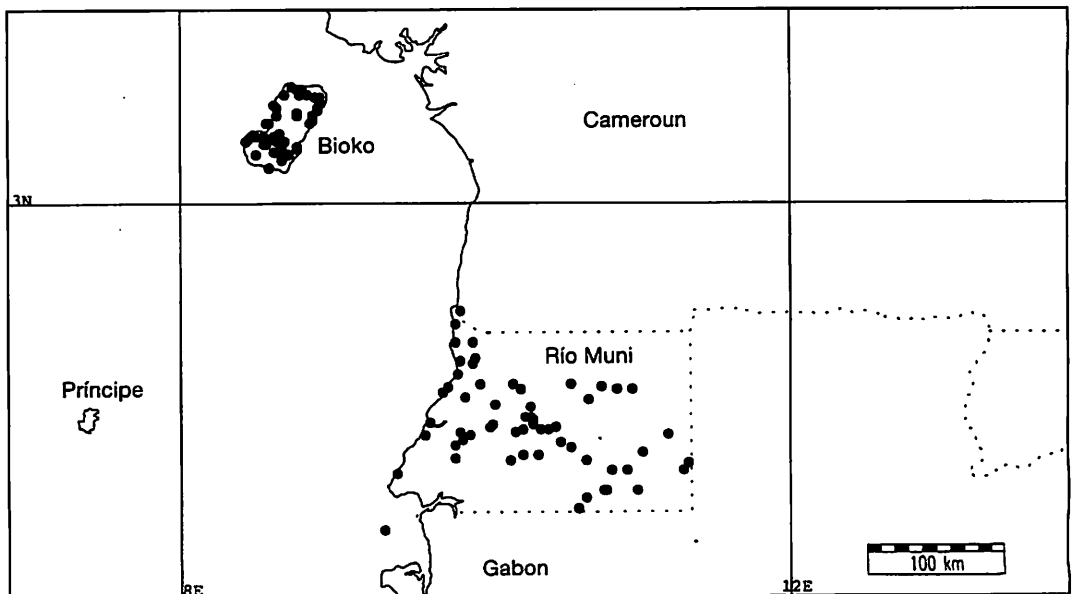


FIG. 1. — Fern collection localities in Bioko and Río Muni

Table 1

*Localities of Pteridophytes collections of Equatorial Guinea with geographical coordinates*

Locality and province	Coordinates					
Aconibe (Wele-Nzas)	1	18	N	10	56	E
Acurenam (Centro-Sur)	1	7	N	10	40	E
Adjap (Litoral)	1	56	N	9	49	E
Afumagang, río (Litoral)	2	1	N	9	50	E
Akoga (Centro-Sur)	1	22	N	10	40	E
Akuom (Wele-Nzas)	1	50	N	10	58	E
Añisok (Wele-Nzas)	1	51	N	10	46	E
Arenas Blancas, playa (Bioko Sur)	3	32	N	8	35	E
Asok (Wele-Nzas)	1	18	N	11	18	E
Asonga, caracolas de Cooperación (Litoral)	1	51	N	9	45	E
Atok, lago (Centro-Sur)	1	34	N	10	15	E
Bacá, monte (Bioko Sur)	3	22	N	8	40	E
Bacake Grande (Bioko Norte)	3	34	N	8	52	E
Bacake Pequeño (Bioko Norte)	3	34	N	8	52	E
Bahía de Venus (Bioko Norte)	3	46	N	8	44	E
Balea (Bioko Norte)	3	42	N	8	53	E
Balea, monte (Bioko Norte)	3	42	N	8	53	E
Banapá (Bioko)	3	45	N	8	46	E
Baney (Bioko Norte)	3	42	N	8	55	E
Baó Basuala (Bioko Norte)	3	38	N	8	54	E
Bariobe (Bioko Norte)	3	35	N	8	52	E
Basacato del Oeste (Bioko Sur)	3	35	N	8	38	E
Basilé (Bioko Norte)	3	43	N	8	47	E
Basilé, pico (Bioko Norte)	3	35	N	8	46	E
Basuala (Bioko Norte)	3	37	N	8	54	E
Basupú del Este (Bioko Norte)	3	43	N	8	41	E
Bata (Litoral)	1	51	N	9	45	E
Batete (Bioko Sur)	3	27	N	8	30	E
Belebú Balachá de Riaba (Bioko Sur)	3	24	N	8	34	E
Biaó, lago (Bioko Sur)	3	21	N	8	38	E
Bicomo (Litoral)	1	47	N	9	52	E
Bicurga (Centro-Sur)	1	35	N	10	28	E
Bimbile (Wele-Nzas)	1	52	N	10	34	E
Bisun (Litoral)	1	30	N	9	51	E
Bisun (Centro-Sur)	1	43	N	10	18	E
Bococo (Bioko Sur)	3	25	N	8	26	E
Bocoricho (Bioko Sur)	3	24	N	8	34	E
Bolondo (Litoral)	1	37	N	9	38	E
Bombe (Bioko Sur)	3	27	N	8	37	E
Bome (Litoral)	1	49	N	9	43	E
Bomo, río (Centro-Sur)	1	34	N	10	25	E
Bong, río (Centro-Sur)	1	39	N	10	16	E
Bongoro (Litoral)	2	8	N	9	55	E
Borabaabo, río (Bioko Norte)	3	45	N	8	48	E
Campo, desembocadura del río (Litoral)	2	20	N	9	50	E
Casajuana, patio (Bioko Norte)	3	46	N	8	44	E
Chime, monte (Centro-Sur)	1	27	N	10	34	E
Churu (Centro-Sur)	1	22	N	10	10	E
Clarence Peak (see Basilé, pico)						
Co, río (Bioko Norte)	3	39	N	8	37	E
Concepción (Bioko Sur)	3	22	N	8	46	E
Cope (Bioko Norte)	3	32	N	8	51	E

Locality and province	Coordinates					
Cope, río (Bioko Norte)	3	36	N	8	46	E
Corisco (Litoral)	0	55	N	9	20	E
Cupapa (Bioko Norte)	3	40	N	8	55	E
Dibolo (Litoral)	2	8	N	9	48	E
Drumen, patio (Bioko Sur)	3	26	N	8	27	E
Dumu (Wele-Nzas)	1	21	N	11	20	E
Ebalowa (Centro-Sur)	1	29	N	10	30	E
Ebian (Centro-Sur)	1	10	N	10	48	E
Ecucu (Litoral)	1	56	N	9	49	E
Emangós (Litoral)	1	23	N	9	48	E
Engong (Centro-Sur)	1	36	N	10	19	E
Esamalang (Centro-Sur)	1	33	N	10	12	E
Estación Ecofac (Centro-Sur)	1	39	N	10	18	E
Etembue (Litoral)	1	17	N	9	25	E
Eviám ((Centro-Sur)	1	10	N	10	47	E
Evinayong (Centro-Sur)	1	27	N	10	34	E
Fuego, pico del (Annobon)	1	25	S	5	38	E
Gran Caldera de Luba (Bioko Sur)	3	20	N	8	30	E
Iladyi, cascadas del río (Bioko Sur)	3	19	N	8	40	E
Kukumankok (Wele-Nzas)	1	18	N	10	50	E
La Vigatana (Bioko Norte)	4	42	N	8	47	E
Laña, cascada del río (Centro-Sur)	1	35	N	10	2	E
Las Carboneras, finca (Bioko Norte)	3	45	N	8	47	E
Las Costeras (Bioko Sur)	3	20	N	8	43	E
Lombé, laguna (Bioko Sur)	3	24	N	8	34	E
Loreto, lago (Bioko Sur)	3	24	N	8	40	E
Los Loros, islote (Bioko Sur)	3	32	N	8	34	E
Luba (Bioko Sur)	3	27	N	8	33	E
Mafanebú (Centro-Sur)	1	10	N	11	0	E
Malabo, aeropuerto (Bioko Norte)	3	46	N	8	44	E
Marcelino Puente, finca (Bioko Sur)	3	26	N	8	37	E
Maule de Gaesa (Bioko Sur)	3	25	N	8	41	E
Mbeayop (Centro-Sur)	1	3	N	10	37	E
Mbong-Biwogo (Wele-Nzas)	1	32	N	11	12	E
Mbubuin (Litoral)	2	0	N	9	55	E
Mepemba (Litoral)	1	32	N	9	36	E
Minkan (Litoral)	1	52	N	9	58	E
Mioco, fuentes de (Bioko Sur)	3	21	N	8	40	E
Misergue (Centro-Sur)	1	24	N	10	15	E
Mitom (Litoral)	1	28	N	9	48	E
Moca (Bioko Sur)	3	20	N	8	40	E
Moca (Centro-Sur)	1	38	N	10	19	E
Moeri (Bioko Sur)	3	28	N	8	39	E
Moka (see Moca)						
Mongo (Centro-Sur)	1	52	N	10	11	E
Mongola (Wele-Nzas)	1	46	N	10	41	E
Monkey Bush (Bioko Sur)	3	26	N	8	37	E
Monte Alén (Centro-Sur)	1	37	N	10	19	E
Montes de Oca (Bioko Norte)	3	38	N	8	38	E
Mopobill, río (Bioko Norte)	3	46	N	8	44	E
Mosumu (Centro-Sur)	1	44	N	10	4	E
Muasa, monte (Bioko Sur)	3	18	N	8	40	E
Musola (Bioko Sur)	3	26	N	8	37	E
Ndjiaikom (Litoral)	2	2	N	9	56	E
Ncó (Litoral)	1	32	N	9	54	E

Locality and province	Coordinates					
Nfamam (Centro-Sur)	1	24	N	10	21	
Niefang (Centro-Sur)	1	50	N	10	14	E
Nkumekien (Centro-Sur)	1	34	N	10	22	E
Nsuameyong (Wele-Nzas)	1	50	N	10	52	E
Palé (Annobon)	1	24	S	5	38	E
Piedra Nzas (Wele-Nzas)	1	25	N	11	2	E
Rebola (Bioko Norte)	3	43	N	8	50	E
Riaba (Bioko Sur)	3	23	N	8	46	E
Riasaca (Bioko Sur)	3	20	N	8	42	E
Rilaja (Bioko Sur)	3	25	N	8	38	E
Ruiché (Bioko Sur)	3	24	N	8	33	E
Santa Isabel, pico (see Basilé, pico)						
Santa Mina (Annobón)	1	27	S	5	38	E
Santiago de Baney (Bioko Norte)	3	42	N	8	53	E
Sendjc (Litoral)	1	30	N	9	51	E
Senge (Litoral)	1	33	N	9	50	E
Serrano, pico (Bioko Sur)	3	21	N	8	37	E
Servicio Agronómico de Malabo (Bioko Norte)	3	45	N	8	47	E
Servicio Agronómico de Musola (Bioko Sur)	3	26	N	8	37	E
Teixeira, finca (Bioko Sur)	3	26	N	8	33	E
Tica (Litoral)	2	15	N	9	48	E
Toho, río (Bioko Norte)	3	33	N	8	52	E
Ureca (Bioko Sur)	3	15	N	8	35	E
Utonde (Litoral)	1	56	N	9	49	E
Veiga y Avendaño (Bioko Sur)	3	27	N	8	28	E
Wele, cascada del río (Centro-Sur)	1	36	N	10	3	E

1951 : 194, 1959 : 57 ; ADAMS 1957 : 491 ; BENL 1991 : 28).

### *Asplenium aethiopicum* (Burm.f.) Bech.

*A. aemilii-guineae* Alston, *A. furcatum* Thunb.

BIOKO NORTE : pico Basilé, *Fernández Casas & al.* 10146 (MA-424261) ; *Guinea* 2856 (MA-427938) ; *Pérez Viso* 1466 (MA-638488). BIOKO SUR : Moca, *Benl* 610 (BC-621324) ; Moca, ascensión al pico Serrano, *Guinea* 1950 (MA-387484 type material of *A. aemilii-guineae*). CENTRO-SUR\* : P. N. Monte Alén, lago Atok, *Pérez Viso* 1031a (MA-638581) ; Añisok, *Pérez Viso* 1361 (MA-638600) ; Nsung, carretera M. Alén-Evinayong, *Pérez Viso* 1672 (MA-643194) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1787 (MA-643192).

Previously recorded from Bioko (ALSTON 1951 : 196, 1959 : 59 ; ADAMS 1957 : 487, 491 ; BENL 1991 : 24-25. Sub *A. furcatum* : MILDBRAED 1922 : 176. Sub *A. aemilii-guineae* : ALSTON 1951 : 194, 1959 : 59 ; ADAMS 1957 : 487, 491 ; GUINEA 1968 : 131 ; BENL 1991 : 25-26). According to BENL (1991 : 25) MILDBRAED'S

(1922 : 176) record from Bioko of *A. affine* Sw., based on *Mildbraed* 6381 must refer to this taxon.

### *Asplenium africanum* Desv.

*A. sinuatum* P. Beauv., *A. currori* Hook.

ANNOBÓN : SW of Crater Lake, *Wrigley* 202 (K). BIOKO NORTE : carretera Malabo-aeropuerto, *Benl* 249 (BC-621323) ; Malabo-pico Basilé, *Carvalho* 2136 (MA-419387). CENTRO-SUR : P. N. Monte Alén, Mosumu, *Aedo & al.* 5113 (MA-638683), Evinayong, *Guinea* 81 (MA-389181), *Guinea* 82 (MA-389182) ; *Pérez Viso* 628 (MA-638521) ; P. N. Monte Alén, Asok, senda que va hacia el río Laña, *Pérez Viso* 895 (MA-638536) ; Añisok, *Pérez Viso* 1375 (MA-638602), *Pérez Viso* 1378 (MA-638604), *Pérez Viso* 1381 (MA-638607). LITORAL : Bata-Bome, praderas gramíneas, *Carvalho* 5394 (MA-598454) ; Bata-Senge-Mitom-Emangós, estrada kms. 68-69 después de Emangós, *Carvalho* 6475 (MA-620758).

Previously recorded from Annobón (MILDBRAED 1922 : 159 ; ALSTON 1944 : 74 ; SOBRINHO 1953 : 178), Bioko (MILDBRAED 1922 : 176 ; ADAMS 1957 : 483, 487 ; ALSTON 1959 : 55 ;

BENL 1975 : 132, 1991 : 6. Sub *A. currori* : ADAMS 1957 : 483) and Río Muni (GUINEA 1946 : 143, 184i. Sub *A. sinuatum* : GUINEA 1946 : 156).

**Asplenium anisophyllum** Kunze

*A. geppii* Carruth.

BIOKO SUR : Lago de Moca, *Adams 1114* (MA-427943), *Guinea 2237* (MA-387563) ; Malabo Moca, camino para lago Biaó, *Carvalho 2299* (MA-419396) ; Pico, *Benl 367* (BC-621319). CENTRO-SUR\* : Ebian, entre Aconibe y Acurenam, *Pérez Viso 1421* (MA-638706) ; *Pérez Viso 1432* (MA-638710), *Pérez Viso 1783* (MA-643189).

Previously recorded from Annobón (Sub *A. geppii* : ALSTON 1944 : 78), and Bioko (Sub *A. aff. boltonii* : BENL 1991 : 12-13. Sub *A. geppii* : ALSTON 1951 : 194, 1959 : 56 ; ADAMS 1957 : 487).

**Asplenium annetii** (Jeanp.) Alston

BIOKO SUR : Belebú-Balachá, *Benl 443* (BC-621322) ; Musola, *Guinea 1136* (MA-390637) ; *Guinea 1137* (MA-390636).

Previously recorded from Bioko (ALSTON 1951 : 193, 1959 : 56 ; ADAMS 1957 : 487 ; BENL 1991 : 10).

**Asplenium annobonense** Mildbr. ex Viane

It has been recorded from Annobón : Nord-Kraterrand, *Mildbraed 6509* (B, HBG) (MILDBRAED 1922 : 159 ; VIANE & REICHSTEIN 1992 : 158). We have failed to examine any herbarium material of this species.

**Asplenium barteri** Hook.

*A. barteri* var. *acuta* Hieron.

BIOKO NORTE : Rebola, *Benl 283* (BC-621321) ; Malabo, pico Basilé, *Carvalho 2134* (MA-419394) ; Monte Balea, *Guinea 442* (MA-388967). CENTRO-SUR\* : P. N. Monte Alén, Mosumu, camino desde la cabaña de las cascadas hasta el cayuco que atraviesa el Wele, *Aedo & al. 5168* (MA-638672) ; P. N. Monte Alén, lago Atok, *Pérez Viso 1025* (MA-638541) ; P. N. Monte Alén, Mosumu, alrededores de las cascadas del río Laña, *Pérez Viso 1300* (MA-638595) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1801* (MA-643191), *Pérez Viso 1815* (MA-643190).

LITORAL : Bata-Senge-Mitom-Emangós, estrada kms. 68-69 después de Emangós, *Carvalho 6478* (MA-620756).

Previously recorded from Bioko (MILDBRAED 1922 : 176 ; ALSTON 1951 : 194, 1959 : 56 ; ADAMS 1957 : 483, 487 ; BENL 1991 : 13-14).

**Asplenium biafranum** Alston & Ballard ex Ballard

*Asplenium serra* auct.

BIOKO : Fernando Poo, *Mann 346* (K). BIOKO SUR : Moca, *Adams 1124* (MA-427946) ; Biaó, *Benl 87* (BC-621320).

Previously recorded from Bioko (ADAMS 1957 : 491 ; ALSTON 1959 : 57 ; BENL 1991 : 23. Sub *A. serra* : HOOKER 1864 : 235 ; MILDBRAED 1922 : 176).

**Asplenium buettneri** Hieron.

BIOKO SUR : Belebú-Balachá, *Benl 456* (BC-621317) ; Ureca, *Escarré 2014* (BCC).

Previously recorded from Bioko (BENL 1991 : 26. Sub *Asplenium cuneatum* Lam. : ADAMS 1957 : 487).

**Asplenium cancellatum** Alston

BIOKO SUR : between Moca and Iladyi fall, *Adams 1056* (MA-388974) ; Residencias de Moca und Riasaca, *Benl 584* (BC-621318). CENTRO-SUR\* : Bata-Monte Alén, margenes de río Oton Asok, *Carvalho 5327* (MA-598165).

Previously recorded from Bioko (BENL 1991 : 21-22).

**Asplenium carvalhoanum** Herrero, Aedo, Velayos & Viane

LITORAL : Cogo, entre el poblado de Emangós y Ncó, *Carvalho 6417* (MA-620514).

This species, found during the fieldworks of this study, has been recently described (HERRERO & al., 2001).

**Asplenium dregeanum** Kunze

*A. brachypteron* Kunze

BIOKO NORTE : Monte Balea, *Guinea* 487 (MA-427935); regreso del pico Basilé, *Guinea* 2974 (MA-427934). BIOKO SUR : Moca, *Adams* 1030 (MA-427945); monte Bacá, *Benl* 545 (BC-621316); Musola, *Guinea* 1228 (MA-186381); finca Puente, *Guinea* 1699 (MA-427933). CENTRO-SUR\* : P. N. Monte Alén, 3 km W de la station Ecofac, *Lejoly* 99/047 (MA-621779); P. N. Monte Alén, Engong, camino del Lago, *Velayos & al.* 9510 (MA-638772).

Previously recorded from Bioko (ALSTON 1951 : 193, 1959 : 60; ADAMS 1957 : 483, 486, 487, 491; BENL 1991 : 28-29. Sub *A. brachyp-teron* : MILDBRAED 1922 : 176).

***Asplenium emarginatum* P. Beauv.**

BIOKO NORTE : Basilé, *Benl* 216 (BC-621315). LITORAL\* : Bata-Bome, praderas de Bome, *Carvalho* 5494 (MA-599381).

Previously recorded from Bioko (ADAMS 1957 : 482; ALSTON 1959 : 56; BENL 1991 : 10-11).

***Asplenium erectum* Bory ex Willd.**

*A. erectum* var. *usambarensis* (Hieron.) Schelpe, *A. usambarensis* Hieron., *A. quintasii* Gand.

BIOKO NORTE : regreso del pico Basilé, *Guinea* 295 (MA-387533), *Guinea* 2954 (MA-387531), *Guinea* 2955 (MA-387532), *Guinea* 2980 (MA-186371), *Guinea* 2988 (MA-387541). BIOKO SUR : lago de Biaó, *Adams* 1112 (MA-427936); valle de Moca, *Benl* 334 (BC-621314).

Previously recorded from Bioko (HOOKER 1864 : 234; MILDBRAED 1922 : 176. Sub *A. usambarensis* : MILDBRAED 1922 : 176. Sub var. *usambarensis* : BENL 1991 : 16-17. Sub *A. quintasii* : ALSTON 1951 : 194, 1959 : 57; ADAMS 1957 : 486, 491).

***Asplenium friesiorum* C. Chr.**

*Asplenium serra* auct.

BIOKO NORTE : pico Basilé, *Benl* FP 588 (BM).

Previously recorded from Bioko (BENL 1991 : 22-23).

***Asplenium gemmiferum* Schrad.**

BIOKO SUR : Moca, *Adams* 1034 (MA-427944).

Previously recorded from Bioko (ADAMS 1957 : 487; ALSTON 1959 : 56; BENL 1991 : 11-12).

***Asplenium hemitomum* Hieron.**

*A. dimidiatum* auct.

BIOKO NORTE : ascensión al refugio del pico Basilé, *Guinea* 2628 (MA-387539). BIOKO SUR : Moca, *Benl* 581 (BC-621312); Malabo-Luba-Moca, *Carvalho* 2422 (MA-424253). CENTRO-SUR : Añisok-Mongola, *Pérez Viso* 1476 (MA-638494); P. N. Monte Alén, camino a Esamalang pasado el cruce a Moca desde el Lago, *Velayos & al.* 9556 (MA-638783). LITORAL : Bata-Bicomo, estrada kms. 9-10, *Carvalho* 5207 (MA-598157).

Previously recorded from Bioko (MILDBRAED 1922 : 176; ALSTON 1951, 1959 : 59; ADAMS 1957 : 491; BENL 1991 : 20-21) and Río Muni (GUINEA 1946 : 157, sub *A. dimidiatum*).

***Asplenium hypomelas* Kuhn**

*Davallia nigrescens* Hook.

BIOKO SUR : Moca, *Adams* 1041 (MA-427942); finca Puente, *Guinea* 1800 (MA-387538).

Previously recorded from Bioko (ALSTON 1951 : 193, 1959 : 60; ADAMS 1957 : 487; BENL 1991 : 31-32. Sub *Davallia nigrescens* : HENRIQUES 1887 : 150).

***Asplenium inaequilaterale* Willd.**

BIOKO SUR : Moca, *Adams* 1035 (MA-427941), *Benl* 614 (BC-621311).

Previously recorded from Bioko (ADAMS 1957 : 486; ALSTON 1959 : 57; BENL 1991 : 17-18).

***Asplenium isabelense* Brause**

BIOKO NORTE : pico Basilé, *Mildbraed* 6413 (BM photo).

Previously recorded from Bioko (MILDBRAED 1922 : 176; ADAMS 1957 : 487; ALSTON 1959 : 56; BENL 1991 : 8).

***Asplenium longicauda* Hook.**

BIOKO NORTE : Monte Balea, *Guinea* 538 (MA-390639); Pico, *Benl* 432 (BC-621310).

Previously recorded from Bioko (HENRIQUES 1887 : 152 ; MILDBRAED 1922 : 176 ; ALSTON 1951 : 193, 1959 : 56 ; ADAMS 1957 : 483, 487 ; BENL 1991 : 9), and Río Muni (GUINEA 1946 : 225).

#### **Asplenium macrophlebium Baker**

BIOKO : Fernando Poo, *Mann 338* (K). CENTRO-SUR\* : P. N. Monte Alén, Engong, camino de el Lago, *Velayos & al. 9500* (MA-638771), *Velayos & al. 9511* (MA-638773).

Previously recorded from Bioko (ADAMS 1957 : 487 ; ALSTON 1959 : 56 ; BENL 1991 : 14-15).

#### **Asplenium mannii Hook.**

BIOKO SUR : Moca, *Adams 1128* (MA-427940) ; monte Bacá, *Benl 558* (BC-621309).

Previously recorded from Bioko (GUINEA 1946 : 225 ; ADAMS 1957 : 491 ; ALSTON 1959 : 60 ; BENL 1991 : 30-31).

#### **Asplenium megalura Hieron.**

BIOKO : Bioko, *Benl 618* (BC-621307). BIOKO SUR : Between Residencias de Moca and Riasaca, *Benl 583* (BC-621308).

Previously recorded from Bioko (BENL 1991 : 23-24).

#### **Asplenium monanthes L.**

##### ***A. monanthes* Murray**

BIOKO NORTE : pico Basilé, *Mann 667* (K).

Previously recorded from Bioko (MILDBRAED 1922 : 176 ; GUINEA 1946 : 225 ; ADAMS 1957 : 491 ; ALSTON 1959 : 57 ; BENL 1991 : 18-19. Sub *A. monanthes* : HOOKER 1864 : 234).

#### **Asplenium nigritianum Hook.**

ANNOBÓN : W of Crater lake, *Wrigley 38* (K).

Previously recorded from Annobón (MILDBRAED 1922 : 159 ; ALSTON 1944 : 79 ; TARDIEU-BLOT 1953 : 197), and Bioko (TARDIEU-BLOT 1953 : 197). According to ALSTON (1956 :

10), and FIGUEIREDO (1998 : 50), the record from Bioko is a mistake.

#### **Asplenium paucijugum Ballard**

##### ***A. variabile* var. *paucijugum* (Ballard) Alston**

CENTRO-SUR : Evinayong, *Guinea 80* (MA-389183) ; P. N. Monte Alén, Monte Alén, subida al mirador, *Velayos & al. 9293* (MA-638792).

Previously recorded from Bioko (ADAMS 1957 : 487 ; BENL 1991 : 8-9. Sub *A. variabile* var. *paucijugum* : ALSTON 1959 : 56), and Río Muni (GUINEA 1946 : 225).

#### **Asplenium preussii Hieron.**

BIOKO SUR : Pico, *Benl 428* (BC-621306) ; granja Agrícola de Musola, *Carvalho 2728* (MA-419389).

Previously recorded from Bioko (ADAMS 1957 : 491 ; ALSTON 1959 : 49, 60 ; BENL 1991 : 30).

#### **Asplenium protensum Schrad.**

BIOKO NORTE : pico Basilé, *Guinea 2947* (MA-186373), *Guinea 2986* (MA-387540) ; *Pérez Viso 1470* (MA-638490). BIOKO SUR : lago de Biaó, *Adams 1110* (MA-427939) ; Pico, *Benl 345* (BC-621305).

Previously recorded from Bioko (HOOKER 1864 : 235 ; MILDBRAED 1922 : 176 ; ALSTON 1951 : 193-194, 1959 : 57 ; ADAMS 1957 : 487, 491 ; BENL 1991 : 19-20).

#### **Asplenium sandersonii Hook.**

##### ***A. vagans* Baker**

ANNOBÓN : W of Crater lake, *Wrigley & Melville 36* (K). BIOKO NORTE : Basupú del Este, *Benl 267* (BC-621301). CENTRO-SUR\* : Evinayong, *Guinea 1237* (MA-389179) ; P. N. Monte Alén, lago Atok, *Pérez Viso 1024* (MA-638540), *Pérez Viso 1038* (MA-638582) ; Ebalowa, carretera Vicurga-Evinayong, *Pérez Viso 1710* (MA-643193) ; P. N. Monte Alén, Monte Alén, subida al mirador, *Velayos & al. 9275* (MA-638790).

Previously recorded from Annobón (MILDBRAED 1922 : 159 ; ALSTON 1944 : 80), and Bioko (BENL 1991 : 27. Sub *A. vagans* : ADAMS 1957 : 483 ; ALSTON 1959 : 59). Although there is no previous record from Río Muni, the GUINEA'S



(1946 : 224) record based on *Guinea 1237* (MA-389179), sub *A. formosum* Willd. must refer to this taxon.

***Asplenium subaequilaterale* (Baker) Hieron.**

*A. subhemitomum* Brause

BIOKO NORTE : pico Basilé, *Mann 379* (K) ; BIOKO SUR : Moka, *Adams 1096* (K).

Previously recorded from Bioko (ALSTON 1959 : 59 ; BENL 1991 : 20. Sub *A. subhemitomum* : ADAMS 1957 : 483, 487, 491).

***Asplenium theciferum* (Kunth) Mett.**

*A. cornutum* Alston, *A. theciferum* var. *cornutum* (Alston) Benl

BIOKO SUR : Moca, *Adams 1097* (MA-387565), *Benl 311* (BC-621303), *Benl 563* (BC-621302) ; Las Costeras, Moca, *Guinea 2141* (MA-387537). LITORAL\* : Bata-Senge-Mitom-Emangós, estrada kms. 64-65, a 5 kms de Emangós hacia Cogo, *Carvalho 6458* (MA-620833).

Previously recorded from Bioko (BENL 1991 : 32-33. Sub *A. cornutum* : ALSTON 1956 : 8, 1959 : 60 ; ADAMS 1957 : 483, 487, 491. Sub var. *cornutum* : BENL 1991 : 33-34).

***Asplenium unilaterale* Lam.**

BIOKO SUR : Loretto lake, Moca, *Adams 1022* (MA-387564) ; Musola servicio agronómico, *Guinea 1434* (MA-387534) ; finca Puente, *Guinea 1804* (MA-387211) ; Pico, *Benl 381* (BC-621304).

Previously recorded from Bioko (ALSTON 1951 : 193, 1959 : 57 ; ADAMS 1957 : 486, 491 ; BENL 1991 : 15-16).

***Asplenium variabile* Hook.**

*A. repandum* Mett. ex Kuhn

BIOKO NORTE : monte Balea, *Guinea 393* (MA-387535) ; BIOKO SUR : pantano del km 35, carretera del Ouest, *Benl 526* (BC-621300). CENTRO-SUR\* : P. N. Monte Alén, Mosumu, cataratas del Laña, *Aedo & al. 5155* (MA-638673), *Pérez Viso 1282* (MA-638693) ; P. N. Monte Alén, lago Atok, *Pérez Viso 1088* (MA-638588) ; P. N. Monte Alén, senda que va desde el lago Atok hasta Moca, *Pérez Viso 1340* (MA-638597).

Previously recorded from Bioko (HENRIQUES 1887 : 152 ; MILDBRAED 1922 : 176 ; ALSTON 1951 : 193, 1959 : 56 ; ADAMS 1957 : 483, 487 ; BENL 1991 : 7. Sub *A. repandum* : MILDBRAED 1922 : 176).

BLECHNACEAE

***Blechnum attenuatum* (Sw.) Mett.**

*B. attenuatum* var. *holstii* Hieron., *B. giganteum* (Kaulf.) Schldl.

BIOKO NORTE : carretera del pico Basilé, km 9-10, sendero a la derecha, *Carvalho 3759* (MA-556071). BIOKO SUR : Moca, cascada do rio Iladyi, *Carvalho 2777* (MA-424254) ; Moca, camino de Ureca, *Fernández Casas 11768* (MA-556029) ; Las Cascadas, Moca, *Guinea 2152* (MA-387578).

Previously recorded from Annobón (ALSTON 1944 : 80. Sub *B. giganteum* : MILDBRAED 1922 : 159), and Bioko (MILDBRAED 1922 : 176 ; ALSTON 1951 : 196, 1959 : 74 ; SCHELPE 1952 : 493 ; ADAMS 1957 : 487 ; BENL 1988 : 63-64 ; FERNÁNDEZ CASAS 1992 : 36. Sub *B. giganteum* : MILDBRAED 1922 : 176. Sub var. *holstii* : SCHELPE 1952 : 493).

***Stenochlaena mildbraedii* Brause**

It has been recorded from Bioko Sur : Musola, *Adams s.n., Mildbraed 6995* (B) (MILDBRAED 1922 : 177 ; ADAMS 1957 : 483 ; BENL 1988 : 64-65). We have failed to examine any herbarium material of this species.

CYATHEACEAE

***Cyathea camerooniana* Hook.**

*Alsophila camerooniana* (Hook.) R. M. Tryon, *Alsophila camerunensis* Diels, *C. camerooniana* var. *aethiopica* (Welw. ex Hook.) Holttum, *C. camerooniana* var. *congi* (H. Christ) Holttum, *C. camerooniana* var. *zenkeri* (Hieron. ex Diels) Tardieu, *Alsophila zenkeri* Hieron. ex Diels

BIOKO NORTE : Monte Balea, *Guinea 388* (MA-412201) ; carretera del pico Basilé, km 3-4, *Carvalho 2161* (MA-556088) ; Malabo, Riaba, km 21-22, cerca de Cupapa, *Carvalho 3231* (MA-556081) ; entre Malabo y Riaba, km 22, *Fernández Casas 11627* (MA-555985). BIOKO SUR : Malabo, Moca, km 63, *Carvalho*

2476 (MA-556084); Gran Caldera de Luba, en dirección al monte Pizarro, *Carvalho 4267* (MA-555965); Moca, monte Muasa, cerca de las cascadas del Iladyi, *Carvalho 4461* (MA-555945); Las Costeras, carretera de Moca a Concepción, *Guinea 2088* (MA-213437), *Guinea 2086* (MA-412200), *Guinea 2090* (MA-412199); entre Moca y el lago Biaó, *Fernández Casas & al. 10388* (MA-424260); cerca de Moca, en el collado hacia el cruce, *Fernández Casas 11490* (MA-555967); Moca, camino de Ureca, donde comienza el bosque, *Fernández Casas 11737* (MA-556030); camino del lago Loreto, *Fernández Casas 11866b* (MA-555890). CENTRO-SUR: Bata-Niefang-Monte Alén, Llegada de río Otom-Asok, *Carvalho 5356* (MA-598275); Bata-Mongo, estrada kms. 88-89 desde Bata a explotación forestal de Alosa, *Carvalho 5502* (MA-598764); Bata-Niefang, estrada km 35, Comayá, *Carvalho 5890* (MA-599786); Evinayong, *Guinea 54* (MA-386665), *Guinea 57* (MA-386682), *Guinea 245* (MA-213436); Mafanebú, *Guinea 55* (MA-386664), *Guinea 192* (MA-386684), *Guinea 193* (MA-386683); P. N. Monte Alén, senda que va desde Moca hacia Bong, Monte Alén, *Pérez Viso 749* (MA-638528); Eviam, Matroguisa, entre Acrenam y Aconibe, *Pérez Viso 1754* (MA-643198); P. N. Monte Alén, Monte Alén, subida al mirador, *Velayos & al. 9265* (MA-638785) P. N. Monte Alén, Engong, camino del Lago, *Velayos & al. 9492* (MA-638768). WELE-NZAS\*: Aconibe, *Pérez Viso 2126* (MA-643199). UNKNOWN PROVINCE: *Guinea 301* (MA-386671); *Guinea 310* (MA-386670); *Guinea 320* (MA-386681).

Previously recorded from Bioko (MILDBRAED 1922: 176; GUINEA 1946: 142; ALSTON 1951: 189, 1959: 29; ADAMS 1957: 482, 486; HOLTUM 1981: 479. Sub *A. camerooniana*: BENL 1975: 132, 1978: 26-27; FERNÁNDEZ CASAS 1992: 36, 1994: 31), and Río Muni (GUINEA 1946: 222. Sub *A. zenkeri*: GUINEA 1946: 222. Sub var. *aethiopica*: HOLTUM 1981: 480. Sub var. *congi*: HOLTUM 1981: 481. Sub var. *zenkeri*: HOLTUM 1981: 481).

### **Cyathea dregei** Kunze

*Alsophila dregei* (Kunze) R. M. Tryon

BIOKO SUR: Moca, monte Muasa, cerca de las cascadas del Iladyi, *Carvalho 4558* (MA-555943); Moca, camino de Ureca, donde comienza el bosque, *Fernández Casas 11738* (MA-556031).

Previously recorded from Bioko (Sub *A. dregei*: BENL 1978: 28-29; FERNÁNDEZ CASAS

1992: 36. Sub *Dryopteris squamiseta*: FERNÁNDEZ CASAS 1992: 37).

### **Cyathea manniana** Hook.

*Alsophila manniana* (Hook.) R. M. Tryon, *Cyathea usambarensis* Hieron.

BIOKO NORTE: pico Basilé, *Pérez Viso 1472* (MA-638492). BIOKO SUR: near Iladyi waterfall, *Adams 1081* (MA-213444); Luba-Moca, estrada km 13 do cruce, *Carvalho 2648* (MA-419390); entre Moca y Riaba, por el camino viejo, *Fernández Casas 11838* (MA-556028); Luba, Riaba, cerca de Rilaja, *Fernández Casas 10063* (MA-555974); Moca, *Fernández Casas 11709* (MA-555982); Belebú Balachá, *Fernández Casas 12128* (MA-555987); Musola, Monkey Bush, *Guinea 1006* (MA-213445), *Guinea 1012* (MA-412198). CENTRO-SUR\*: P. N. Monte Alén, Engong, camino del Lago, *Velayos & al. 9480* (MA-638764).

Previously recorded from Annobón (MILDBRAED 1922: 159; ALSTON 1944: 60; GUINEA 1946: 222), and Bioko (HENRIQUES 1887: 149; MILDBRAED 1922: 176; GUINEA 1946: 222; ALSTON 1951: 189, 1959: 29; ADAMS 1957: 482, 486, 491. Sub *A. manniana*: BENL 1975: 132, 1978: 27-28; FERNÁNDEZ CASAS 1992: 36). GUINEA (1946: 222) recorded *C. usambarensis* from Bioko, probably based on *Guinea 239* (MA-388968). This is a sterile fragment lacking the main characters to be identify.

### **Cyathea obtusiloba** (Hook.) Domin

CENTRO-SUR: Monte Chime, *Guinea 53* (MA-386666).

Previously recorded from Río Muni (ALSTON 1956: 12; HOLTUM 1981: 478).

### DAVALLIACEAE

### **Davallia denticulata** (Burm. f.) Mett. ex Kuhn

*D. chaerophylloides* (Poir.) Steud., *D. elegans* Sw.

BIOKO NORTE: Malabo, pueblo de Basilé, *Carvalho 4116* (MA-555942). BIOKO SUR: Luba, finca Teixeira, *Carvalho 2516* (MA-556083); Luba, Bococo, cerca del patio Drumen, *Carvalho 3602* (MA-556076). CENTRO-SUR\*: Bata-Niefang, estrada km 35, en las proximidades del río Comayá, *Carvalho 5759* (MA-599108); Añisok, *Pérez Viso 1362* (MA-638601).

LITORAL : Bata, entre Bata e Asonga, estrada km 2, *Carvalho* 4872 (MA-597390).

Previously recorded from Annobón (Sub *D. chaerophylloides* : ALSTON 1944 : 72), and Bioko (Sub *D. chaerophylloides* : ADAMS 1957 : 483 ; ALSTON 1959 : 53 ; BENL 1982 : 27 ; FERNÁNDEZ CASAS 1992 : 37. Sub *D. elegans* : HENRIQUES 1887 : 150).

**Davallia repens** (L. f.) Kuhn

LITORAL\* : Bata-Senge-Mitom-Emangós, estrada kms. 59-60, estrada para Emangós y Cogo, *Carvalho* 6462 (MA-620861).

Not previously recorded from Equatorial Guinea. Widespread through Continental Asia, Malesia, Australia, and Pacific Islands. Well known from Madagascar and adjacent islands, and in Tropical Central Africa from Cameroon, Gabon, and São Tomé and Príncipe (TARDIEU-BLOT 1953 : 63, 1964a : 120, 1964b : 92 ; NOOTEBOOM 1994 : 200 ; FIGUEIRIDO 1998 : 51).

DENNSTAEDTIACEAE

**Blotiella currorii** (Hook.) R. M. Tryon

*Lonchitis currori* (Hook.) Mett.

BIOKO : Fernando Poo, *Guinea* 1420 (MA-387741). BIOKO NORTE : Malabo-pico Basilé, estrada km 4, *Carvalho* 2128 (MA-419465). BIOKO SUR : Belebú-Balachá, *Benl* 442 (BC-621297). CENTRO-SUR : Bata-Niefang-Monte Alén. Llegada de río Otom-Asok, *Carvalho* 5352 (MA-598280) ; Bata-Niefang, estrada km 35, en la zona de Adjape y del río Sama, *Carvalho* 5870 (MA-609859) ; Bata-Niefang, estrada km 35, Comayá, *Carvalho* 5879 (MA-609863) ; Evinayong, *Guinea* 85 (MA-227858), *Guinea* 87 (MA-389175) ; P. N. Monte Alén, Nfamam, *Pérez Viso* 992 (MA-638537) ; P. N. Monte Alén, lago Atok, *Pérez Viso* 1026 (MA-638580), *Pérez Viso* 1063 (MA-638583), *Pérez Viso* 1085 (MA-638697) ; P. N. Monte Alén, Santa Cruz, *Pérez Viso* 1208 (MA-638516) ; P. N. Monte Alén, Bong, senda que va hacia el lago Atok, *Pérez Viso* 1320 (MA-638594) ; Añisok-Mongola, *Pérez Viso* 1492 (MA-638509) ; Engong, *Pérez Viso* 1721 (MA-643155) ; P. N. Monte Alén, Engong, camino del Lago, *Velayos & al.* 9498 (MA-638770).

Previously recorded from Bioko (BENL 1988 : 29-30. ADAMS 1957 : 482, 486. Sub

*Lonchitis currori* : MILDBRAED 1922 : 177), and Río Muni (Sub *Lonchitis currori* : GUINEA 1946 : 184i, 226).

**Blotiella glabra** (Bory) R. M. Tryon

*Lonchitis glabra* Bory

BIOKO SUR : near Moca, *Adams* 1100 (MA-387570) ; Pico, *Benl* 377 (BC-621298).

Previously recorded from Bioko (BENL 1988 : 31-32. Sub *Lonchitis glabra* : HOOKER 1864 : 234).

**Blotiella mannii** (Baker) Pic. Serm.

*Lonchitis mannii* (Baker) Alston

BIOKO : Fernando Poo, *Mann s.n.* (K). CENTRO-SUR\* : Ebian, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1751 (MA-643134)

Previously recorded from Bioko (BENL 1988 : 30-31. Sub *Lonchitis mannii* : ALSTON 1959 : 34).

**Blotiella reducta** (C. Chr.) R. M. Tryon

*Lonchitis reducta* C. Chr.

BIOKO : Fernando Poo, *Mann s.n.* (BM).

Previously recorded from Bioko (BENL 1988 : 32-33. Sub *L. reducta* : ALSTON 1959 : 34).

**Blotiella tisserantii** (Alston & Tardieu ex Tardieu) Pic. Serm.

*Lonchitis tisserantii* Alston & Tardieu ex Tardieu

BIOKO : Fernando Poo, *Mann* 350 (K) ; BIOKO SUR : Belebú Balachá de Riaba, *Escarré* 2021 (BCC).

Previously recorded from Bioko (BENL 1988 : 33-34. Sub *L. tisserantii* : ALSTON 1959 : 34).

**Histiopteris incisa** (Thunb.) J. Sm.

BIOKO SUR : near Loretto lake, Moca, *Adams* 1008 (MA-390642) ; Mioko Heights between Moca and Moca lake, *Adams* 1103 (MA-390635). CENTRO-SUR : Evinayong, *Guinea* 88 (MA-386652), *Guinea* 89 (MA-386657) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1834 (MA-643149).

Previously recorded from Bioko (ADAMS 1957 : 491 ; ALSTON 1959 : 34 ; BENL 1988 : 25-26), and Río Muni (GUINEA 1946 : 225-226).

**Hypolepis rugosula** (Labill.) J. Sm.

*Polypodium rugosulum* Labill., *H. rugosula* var. *africana* C. Chr., *Dryopteris punctata* (Thunb.) C. Chr.

BIOKO SUR : Mioko heights, near Moca, *Adams 1105* (MA-412208).

Previously recorded from Bioko (Sub *H. rugosula* var. *africana* : ADAMS 1957 : 481, 486, 491 ; ALSTON 1959 : 33 ; BENL 1988 : 28. Sub *P. rugosulum* : HOOKER 1864 : 236. Sub *D. punctata* : MILDBRAED 1922 : 176).

**Hypolepis sparsisora** (Schrad.) Kuhn

*H. anthriscifolia* C. Presl

BIOKO : Fernando Poo, *Guinea s.n.* (MA-186721). BIOKO NORTE : regreso del pico Basilé, *Guinea 2998* (MA-213816).

Previously recorded from Bioko (ALSTON 1951 : 196, 1959 : 33 ; ADAMS 1957 : 491 ; BENL 1988 : 27-28. Sub *H. anthriscifolia* : GUINEA 1946 : 225).

**Lonchitis occidentalis** Baker

*Anisosorus occidentalis* (Baker) C. Chr.

BIOKO SUR : Malabo, Moca, km 65, *Carvalho 2608* (MA-556087). CENTRO-SUR : P. N. Monte Alén, Esamalang, carretera de Mosumu, *Pérez Viso 1182* (MA-638593).

Previously recorded from Bioko (HENRIQUES 1887 : 151 ; MILDBRAED 1922 : 177 ; BENL 1988 : 34-35 ; FERNÁNDEZ CASAS 1992 : 38. Sub *A. occidentalis* : ADAMS 1957 : 486 ; ALSTON 1959 : 33), and Río Muni (GUINEA 1946 : 226, 232b).

**Microlepia speluncae** (L.) T. Moore

BIOKO : Banapá, *Malest 2201* (BCC) ; BIOKO SUR : Musola, *Malest 2207* (BCC), *Escarré 2007* (BCC) ; Concepción, *Escarré 2003* (BCC). CENTRO-SUR\* : Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1822* (MA-643170)

Previously recorded from Bioko (ADAMS 1957 : 486 ; GUINEA 1968 : 131 ; BENL 1988 : 23-24).

**Pteridium aquilinum** (L.) Kuhn  
subsp. *aquilinum*

BIOKO NORTE : carretera del pico Basilé, km 15-16, *Carvalho 3700* (MA-512409) ; carretera del pico Basilé, km 18, *Carvalho 3713* (MA-512332). CENTRO-SUR : Bindeng, explotación forestal de Matroguisa (Niefang), *Pérez Viso 2407* (MA-643205). LITORAL : Bata-Praderas de Bome, praderas gramíneas, *Carvalho 5918* (MA-609905).

Previously recorded from Bioko (GUINEA 1951 : 332 ; ADAMS 1957 : 486 ; ALSTON 1959 : 33 ; BENL 1988 : 35-36 ; FERNÁNDEZ CASAS 1992 : 40), and Río Muni (GUINEA 1946 : 86, 184j, 216d).

## DRYOPTERIDACEAE

**Athyrium ammfolium** (Mett.) C. Chr.

*Asplenium aspidioides* auct.

BIOKO NORTE : regreso del pico Basilé, *Guinea 2987* (MA-186552) ; BIOKO SUR : near Iladyi waterfall, *Adams 1071* (MA-387569).

Previously recorded from Bioko (ALSTON 1951 : 192, 1959 : 64 ; ADAMS 1957 : 486, 491 ; BENL 1988 : 39-40).

**Callipteris prolifera** (Lam.) Bory

*Diplazium proliferum* (Lam.) Kaulf.

BIOKO NORTE : Río Co, *Benl 159* (BC-621338). BIOKO SUR : río Musola near mouth, *Benl 21* (BC-621339).

Previously recorded from Annobón (Sub *D. proliferum* : MILDBRAED 1922 : 159 ; ALSTON 1944 : 74), and Bioko (BENL 1988 : 37-38. Sub *D. proliferum* : GUINEA 1946 : 224 ; ADAMS 1957 : 482 ; ALSTON 1959 : 65, 132 ; BENL 1975 : 132).

**Ctenitis cirrhosa** (Schumach.) Ching

*Diplazium cirrhosa* (Schumach.) Kuntze

BIOKO SUR : Maule and Parador de Musola, *Benl 321* (BC-621336).

Previously recorded from Bioko (ADAMS 1957 : 486 ; BENL 1991 : 41. Sub *D. cirrhosa* : MILDBRAED 1922 : 176).

**Ctenitis lanuginosa** (Willd. ex Kaulf.) Copel.

*Dryopteris lanuginosa* (Willd.) C. Chr

BIOKO SUR : fuente de Mioco, *Benl* 589 (BC-621334).

Previously recorded from Bioko (ADAMS 1957 : 486 ; ALSTON 1959 : 73 ; BENL 1991 : 41-42. Sub *D. lanuginosa* : GUINEA 1946 : 223).

**Cystopteris fragilis** (L.) Bernh.

BIOKO : Fernando Poo, *Mann s.n* (K).

Previously recorded from Bioko (ALSTON 1959 : 64).

**Didymochlaena truncatula** (Sw.) J. Sm.  
*Didymochlaena lunulata* Desv.

BIOKO NORTE : carretera del pico Basilé, km 6, *Carvalho* 2245 (MA-556086) ; regreso del pico Basilé, *Guinea* 2971 (MA-387566). BIOKO SUR : Loretto lake, Moca, *Adams* 1014 (MA-186700) ; entre el cruce de Moca y Riaba, km 7, *Fernández Casas* 11593 (MA-555986) ; cerca de Moca, fuente de Mioco, *Fernández Casas* 11902 (MA-556023) ; Musola, camino de Monkey Bush, *Guinea* 1036 (MA-186699), *Guinea* 1037 (MA-412192), *Guinea* 1041 (MA-387486) ; Musola, alrededores del servicio Agrónomo, *Guinea* 1038 (MA-387488).

Previously recorded from Bioko (MILDBRAED 1922 : 176 ; ALSTON 1951 : 190, 1959 : 69 ; ADAMS 1957 : 486, 491 ; BENL 1975 : 132, 1991 : 35-36 ; FERNÁNDEZ CASAS 1992 : 37. Sub *D. lunulata* : HENRIQUES 1887 : 153).

**Diplazium nemorale** (Baker) Schelpe  
*Diplazium hylophilum* (Hieron.) C. Chr.

BIOKO : Fernando Poo, *Mann s.n* (K).

Previously recorded from Bioko (BENL 1988 : 41-42. Sub *D. hylophilum* : ADAMS 1957 : 486, ALSTON 1959 : 65).

**Diplazium sammatii** (Kuhn) C. Chr.

LITORAL\* : Bata-Praderas de Bome, praderas gramíneas, *Carvalho* 5921 (MA-609909).

Not previously recorded on Equatorial Guinea, although well known from West and Central Tropical Africa (Liberia, Guinea, Ivory Coast, Ghana, Benin, Nigeria, Cameroon, Gabon, Central African Republic, Congo and Zaire,

Sudan) (TARDIEU-BLOT 1953 : 165, 1964a : 233, 1964b : 145 ; ALSTON 1959 : 64).

**Diplazium welwitschii** (Hook.) Diels  
*D. silvaticum* (Bory) Sw., *D. variinerve* Hieron.  
ex Mildbr.

BIOKO NORTE : Monte Balea, *Benl* 513 (BC-621337). CENTRO-SUR : Bata-Monte Alén, área de Parque Nacional, entre esta zona e río Oton Asok, *Carvalho* 5323 (MA-598168) ; Evinayong, *Guinea* 76 (MA-386685), *Guinea* 271 (MA-385253) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1780 (MA-643178), *Pérez Viso* 1812 (MA-643179) ; P. N. Monte Alén, Engong, camino del Lago, *Velayos & al.* 9483 (MA-638762).

Previously recorded from Bioko (ADAMS 1957 : 482 ; ALSTON 1959 : 65 ; BENL 1988 : 41. Sub *D. variinerve* : MILDBRAED 1922 : 176), and Río Muni (Sub *D. silvaticum* : GUINEA 1946 : 184i, 224).

**Dryoathyrium boryanum** (Willd.) Ching  
*Athyrium glabratum* (Mett. ex Kuhn) Alston,  
*Dryopteris glabrata* (Mett. ex Kuhn) Kuntze

BIOKO SUR : Musola Monkey Bush, *Guinea* 945 (MA-387544) ; Balachá de Riaba, *Guinea* 1536 (MA-387543).

Previously recorded from Bioko (BENL 1988 : 38-39. Sub *A. glabratum* : ADAMS 1957 : 486, 491 ; ALSTON 1959 : 64. Sub *D. glabrata* : ALSTON 1951 : 190).

**Dryopteris manniana** (Hook.) C. Chr.

BIOKO SUR : Loretto lake, Moca, *Adams* 1020 (MA-412194). CENTRO-SUR\* : P. N. Monte Alén, Engong, camino hacia Lovayat, *Pérez Viso* 841 (MA-638703)

Previously recorded from Bioko (ADAMS 1957 : 486, 491 ; ALSTON 1959 : 70 ; BENL 1991 : 38).

**Dryopteris pantheri** (Krasser) C. Chr.

BIOKO NORTE : pico Basilé, *Fernández Casas* 10144 (MA-555978), *Guinea* 2771 (MA-412196, K), *Guinea* 2773 (MA-412195), *Guinea* 2853 (MA-186566), *Pérez Viso* 1465 (MA-638487).

Previously recorded from Bioko (ALSTON 1959 : 70 ; BENL 1991 : 36-37 ; FERNÁNDEZ CASAS 1992 : 37, 1994 : 31). ALSTON'S (1951 : 190) record of *D. inaequalis* (Schltdl.) Kuntze based on *Guinea* 2769, 2771, 2773 must refer to this taxon.

**Dryopteris squamiseta** (Hook.) Kuntze

BIOKO NORTE : Pico Basilé, *Mann* 380 (K).

Previously recorded from Bioko (ADAMS 1957 : 486 ; ALSTON 1959 : 70 ; BENL 1991 : 39). The record of FERNÁNDEZ CASAS 1992 : 37 (*Carvalho* 4558, MA-555943) is *Cyathea dregei*.

**Lastreopsis barteriana** (Hook.) Tardieu  
*Ctenitis barteriana* (Hook.) Alston

BIOKO : Fernando Poo, *Henderson s.n.* (K). CENTRO-SUR\* : Bata-Niefang, estrada km 35, en dirección de Adjape a la zona de Comayá, *Carvalho* 5780 (MA-610064).

Previously recorded from Bioko (BENL 1991 : 53-54. Sub *C. barteriana* : ADAMS 1957 : 482 ; ALSTON 1959 : 73).

**Lastreopsis currorii** (Mett. ex Kuhn) Tindale  
*Ctenitis currorii* (Mett. ex Kuhn) Tardieu

BIOKO NORTE : Monte Balea, *Benl* 507 (BC-621363. CENTRO-SUR\* : Evinayong, *Guinea* 62 (MA-389207), *Guinea* 65 (MA-186708), *Guinea* 308 (MA-389208), *Guinea* 479 (MA-389209) ; Nsung, carretera M. Alén-Evinayong, *Pérez Viso* 1669 (MA-643168) ; Engong, *Pérez Viso* 1720 (MA-643171) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1779 (MA-643167).

Previously recorded from Bioko (BENL 1991 : 51-52. Sub *C. currorii* : ADAMS 1957 : 482, 486).

**Lastreopsis nigrítiana** (Mett. ex Baker) Tindale  
*Ctenitis pubigera* Alston, *Dryopteris tomentella* C. Chr., *Dryopteris nigrítiana* (Mett. ex Baker) Kuntze

BIOKO : Fernando Poo, *Mann* 352 (K).

Previously recorded from Bioko (BENL 1991 : 51. Sub *D. nigrítiana* : MILDBRAED 1922 : 176. Sub *C. pubigera* : ALSTON 1959 : 73).

**Lastreopsis subsimilis** (Hook.) Tindale  
*Ctenitis subsimilis* (Hook.) Tardieu

BIOKO SUR : Ureca, *Escarré* 3675 (BCC).

Previously recorded from Bioko (BENL 1991 : 50. Sub *C. subsimilis* : ADAMS 1957 : 482 ; ALSTON 1959 : 73).

**Lastreopsis vogelii** (Hook.) Tindale

BIOKO SUR : Bocoricho, laguna Lombé, *Benl* 486 (BC-621362). CENTRO-SUR\* : Bata-Niefang, estrada km 35, entre río Sama y río Comayá, *Carvalho* 5774 (MA-599095) ; Nsung, carretera M. Alén-Evinayong, *Pérez Viso* 1677 (MA-643172).

Previously recorded from Bioko (BENL 1991 : 52-53).

**Polystichum wilsonii** H. Christ

*P. fuscopaleaceum* Alston, *P. aculeatum* var. *mildbraedii* Brause, *Aspidium aculeatum* auct.

BIOKO NORTE : carretera del pico Basilé, km 23, junto a la cumbre, *Carvalho* 3652 (MA-512420) ; carretera del pico Basilé, km 18-19, nacimiento del río Cope, *Carvalho* 3682 (MA-512427) ; pico Basilé, *Pérez Viso* 1467 (MA-638489).

Previously recorded from Bioko (Sub *P. fuscopaleaceum* : ADAMS 1957 : 491, ALSTON 1959 : 70, BENL 1991 : 39-40 ; FERNÁNDEZ CASAS 1992 : 40. Sub *A. aculeatum* : HOOKER 1864 : 235. Sub *P. aculeatum* var. *mildbraedii* : MILDBRAED 1922 : 177).

**Tectaria angelicifolia** (Schumach.) Copel.

BIOKO : Fernando Poo, *Guinea s.n.* (BCC).

Previously recorded from Bioko (ADAMS 1957 : 483 ; ALSTON 1959 : 74 ; BENL 1991 : 55-56).

**Tectaria barteri** (J. Sm.) Copel.  
*Aspidium barteri* J. Sm.

BIOKO NORTE : Rebola, *Benl* 158 (BC-621404).

Previously recorded from Bioko (ALSTON 1959 : 74 ; ADAMS 1957 : 483 ; BENL 1991 : 54-55. Sub *A. barteri* : MILDBRAED 1922 : 176).

**Tectaria camerooniana** (Hook.) Alston

BIOKO SUR : Balachá de Riaba, *Guinea 1477* (MA-387728);

Previously recorded from Bioko (ALSTON 1951 : 191, 1959 : 74 ; ADAMS 1957 : 486 ; BENL 1991 : 56-57).

**Tectaria fernandensis** (Baker) C. Chr.

*A. cicutarium* auct.

BIOKO SUR : Ruiché, *Benl 489* (BC-621402) ; Musola, *Guinea 1437* (MA-387729), *Benl 37a* (BC-621403). CENTRO-SUR\* : Bata-Niefang, estrada km 35, entre río Sama y río Comayá, *Carvalho 5832* (MA-609818), *Carvalho 5842* (MA-609122) ; Evinayong, cascada del río Laña, *Guinea 94* (MA-386661) ; P. N. Monte Alén, Mosumu, *Pérez Viso 1253* (MA-638698) *Pérez Viso 1265* (MA-638513), *Pérez Viso 1281* (MA-638692) ; P. N. Monte Alén, Engong, camino del Lago, *Velayos & al. 9497* (MA-638769). LITORAL : Bata-Mbubuin, estrada km 30, Mbubuin, *Carvalho 5120* (MA-598928).

Previously recorded from Annobón (ALSTON 1944 : 67. Sub *A. cicutarium* : MILDBRAED 1922 : 159), and Bioko (ADAMS 1957 : 483, 486 ; ALSTON 1959 : 74 ; BENL 1991 : 57-58).

**Triplophyllum dimidiatum** (Mett. ex Kuhn) Holttum

LITORAL : Bata-Niefang, estrada km 32, Minkan, bosque primário do río Ecucu, *Carvalho 4740* (MA-597898). Bata-Niefang, margenes del río Comayá, *Carvalho 5646* (MA-598570).

Previously recorded from Río Muni (HOLTUM 1986 : 253).

**Triplophyllum fraternum** (Mett. ex Kuhn) Holttum

*Dryopteris fraternum* (Mett. ex Kuhn) Alston, *Nephrodium fraternum* (Mett. ex Kuhn) Hieron., *Ctenitis fraterna* subsp. *biokoensis* Pic. Serm.

BIOKO NORTE : Ad Clarence, *Vogel 121* (K). CENTRO-SUR : Bata-Niefang, estrada km 35, entre río Sama y río Comayá, *Carvalho 5661* (MA-599364) ; Evinayong, cascada del río Laña, *Guinea 66* (MA-386680), *Guinea 69* (MA-386672), *Guinea 249* (MA-186707), P. N. Monte Alén, Mosumu, alrededores de

las cataratas del río Laña, *Pérez Viso 1283* (MA-638694) ; P. N. Monte Alén, Mosumu, alrededores de las cataratas del río Laña, *Pérez Viso 1287* (MA-638695) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1749* (MA-643213), *Pérez Viso 1752* (MA-643173). LITORAL : Bata-Mbubuin, estrada km 30, Mbubuin, *Carvalho 5121* (MA-598929) ; Sendjc-Bisun, *Pérez Viso 1613* (MA-643169).

Previously recorded from Bioko (HOLTUM 1986 : 254 ; BENL 1991 : 48-49. Sub *N. fraternum* : GUINEA 1946 : 222. Sub subsp. *biokoensis* : PICH SERMOLLI 1985 : 10), and Río Muni (Sub *D. fraternum* : GUINEA 1946 : 223).

**Triplophyllum jenseniae** (C. Chr.) Holttum

*Ctenitis jenseniae* (C. Chr.) Tardieu, *Dryopteris jenseniae* C. Chr.

BIOKO SUR : Musola, alrededores del Servicio Agronómico, *Guinea 946* (MA-387547).

Previously recorded from Bioko (BENL 1991 : 47-48. Sub *C. jenseniae* : ADAMS 1957 : 486. Sub *D. jenseniae* : ALSTON 1951 : 190).

**Triplophyllum pilosissimum** (T. Moore) Holttum

*Ctenitis variabilis* (Hook.) Tardieu, *Dryopteris variabilis* (Hook.) Alston

BIOKO : Fernando Poo, *Barter s.n.* (K). LITORAL : Bata-Senge, estrada km 42-43, Senge a estrada de la empresa maderera SINOSA, *Carvalho 6304* (MA-620658). CENTRO-SUR : P. N. Monte Alén, Mosumu, desde la cabaña hasta las cataratas del Laña, *Aedo & al. 5131* (MA-638679) ; P. N. Monte Alén, Mosumu, alrededores de las cataratas del río Laña, *Pérez Viso 1263* (MA-638515) ; P. N. Monte Alén, Engong, camino del Lago, *Velayos & al. 9482* (MA-638763).

Previously recorded from Bioko (BENL 1991 : 44-45. Sub *C. variabilis* : ADAMS 1957 : 482) and Río Muni (Sub *D. variabilis* : GUINEA 1946 : 156).

**Triplophyllum protensum** (Sw.) Holttum

*Ctenitis protensa* (Sw.) Ching, *Nephrodium subquinquefidum* (P. Beauv.) Hook.

BIOKO : Fernando Poo, *Mann 127* (K). CENTRO-SUR : Bata-Niefang-Monte Alén, subida a Monte Alén

en dirección a río Otom-Asok, *Carvalho 5366* (MA-599645); Añisok-Mongola, *Pérez Viso 996* (MA-638538), *Pérez Viso 1478* (MA-638496), *Pérez Viso 1480* (MA-638498), *Pérez Viso 1485* (MA-638501), *Pérez Viso 1493* (MA-638510), *Pérez Viso 1494* (MA-638511). WELE-NZAS : Bimbile, *Guinea 58* (MA-386679), *Guinea 137* (MA-186706).

Previously recorded from Bioko (BENL 1991 : 45-46. Sub *C. protensa* : ADAMS 1957 : 482 ; ALSTON 1959 : 71) and Río Muni (Sub *N. subquinquefidum* : GUINEA 1946 : 223).

**Triplophyllum securidiforme** (Hook.) Holttum  
*Ctenitis securidiformis* (Hook.) Copel.,  
*Dryopteris securidiformis* (Hook.) C. Chr.,  
*Triplophyllum securidiforme* var. *nanum* (Bonap.)  
Holttum

BIOKO NORTE : Monte Balea, *Guinea 415* (MA-186559), *Guinea 421* (MA-387545), *Guinea 425* (MA-387546). BIOKO SUR : bosque de la carretera de San Carlos, *Guinea 746* (MA-387548). CENTRO-SUR : Bata-Monte Alén, margens de río Oton Asok, *Carvalho 5329* (MA-598163); Bata-Niefang, estrada km 35, Comayá, *Carvalho 5620* (MA-598812); camino de la cascada del río Laña, *Guinea 294* (MA-386673); P. N. Monte Alén, Engong, camino hacia el lago Atok, *Pérez Viso 795* (MA-638699); P. N. Monte Alén, río Bong, *SP 82* (MA-638517); P. N. Monte Alén, lago Atok, *Pérez Viso 1084* (MA-638587); Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1760* (MA-643176), *Pérez Viso 1807* (MA-643175); P. N. Monte Alén, cabaña del Lago, *Velayos & al. 9529* (MA-638787). LITORAL : Bata-Senge-Mitom-Emangós, entre el poblado de Emangós y Ncó, *Carvalho 6415* (MA-620773); Bata-Senge-Mitom-Emangós, estrada kms. 70-71 en dirección a Cogo y después de Emangós, *Carvalho 6483* (MA-620714).

Previously recorded from Bioko (HOLTUM 1986 : 242 ; BENL 1991 : 43-44. Sub var. *nanum* : HOLTUM 1986 : 243. Sub *C. securidiformis* : ADAMS 1957 : 482, 483, 486 ; ALSTON 1959 : 73 ; GUINEA 1968 : 130. Sub *D. securidiformis* : MILDBRAED 1922 : 176 ; ALSTON 1951 : 190) and Río Muni (Sub *D. securidiformis* : GUINEA 1946 : 223).

**Triplophyllum troupinii** (Pic. Serm.) Holttum

CENTRO-SUR : Evinayong, *Guinea 52, 79* (BM).

Previously recorded from Río Muni (HOLTUM 1986 : 244).

**Triplophyllum varians** (T. Moore) Holttum  
*Tectaria sparsiflora* (Hook.) Alston

CENTRO-SUR : Bata-Monte Alén, monte escolhido pela Televisao de una antena en cumbre, *Carvalho 5112* (MA-610099); alrededor del Servicio Agronómico de Evinayong, *Guinea 67* (MA-386654), *Guinea 82* (MA-634134), *Guinea 322* (MA-386655), *Guinea 473* (MA-386649); P. N. Monte Alén, Engong, camino hacia Lovayat, *Pérez Viso 854* (MA-638533); P. N. Monte Alén, Moca, *Pérez Viso 871* (MA-638535); P. N. Monte Alén, Monte Alén, subida al mirador, *Velayos & al. 9272* (MA-638789), *Velayos & al. 9281* (MA-638796), *Velayos & al. 9285* (MA-638791). LITORAL : Bata-Senge, estrada km 27, zona forestal de Eboga, *Carvalho 6239* (MA-620302). WELE-NZAS : Aconibe, *Pérez Viso 2132* (MA-643177). UNKNOWN PROVINCE : Guinea continental española, alrededores de Sinarpog, *Guinea 273* (MA-213020), *Guinea 275* (MA-213031).

Previously recorded from Río Muni (HOLTUM 1986 : 251. Sub *T. sparsiflora* : GUINEA 1946 : 184i, 225, 232b).

**Triplophyllum vogelii** (Hook.) Holttum  
*Ctenitis vogelii* (Hook.) Ching, *Ctenitis lanigera*  
(Mett. ex Kuhn) Tardieu, *Ctenitis subcoriacea* (C.  
Chr.) Alston

BIOKO NORTE : río Borabaabo, *Benl 233* (BC-621335). CENTRO-SUR\* : Añisok-Mongola, *Pérez Viso 1485a* (MA-638502), *Pérez Viso 1488* (MA-638504); Engong, *Pérez Viso 1719* (MA-643174).

Previously recorded from Bioko (BENL 1991 : 46-47. Sub *C. lanigera* : ADAMS 1957 : 482 ; BENL 1975 : 132. Sub *C. subcoriacea* : ADAMS 1957 : 482 ; ALSTON 1959 : 73. Sub *C. vogelii* : ADAMS 1957 : 482 ; ALSTON 1959 : 71).

GLEICHENIACEAE

**Dicranopteris linearis** (Burm. f.) Underw.  
*Gleichenia linearis* (Burm.f.) C.B. Clarke

ANNOBÓN : cumbre del pico do Fogo, *Carvalho 3086* (MA-556035). BIOKO NORTE : cerca de Bariobe, *Fernández Casas 11520* (MA-555966). BIOKO SUR : Granja Agronómica de Musola, Moca, km 18-19,



*Carvalho 3824* (MA-556070); Moca, *Fernández Casas 10248* (MA-555975), *Fernández Casas 11710* (MA-555981). CENTRO-SUR : río Muni, Bata-Niefang, km 32-33, *Carvalho 4591* (MA-555944); P. N. Monte Alén, Mosumu, *Pérez Viso 648* (MA-638526); P. N. Monte Alén, Misergue, senda hacia el río Laña, *Pérez Viso 1162* (MA-638591); Mufu, cerca de Oveu (Acurenam), *Pérez Viso 2102* (MA-643204). LITORAL : Bata-Senge-Mitom-Emangós, estrada kms. 66-67 después de Emangós, *Carvalho 6497* (MA-620705).

Previously recorded from Annobón (FERNÁNDEZ CASAS 1992 : 37. Sub *G. linearis* : MILDBRAED 1922 : 160; ALSTON 1944 : 93; SOBRINHO 1953 : 178), Bioko (BENL 1978 : 23-24; FERNÁNDEZ CASAS 1992 : 37. Sub *G. linearis* : ADAMS 1957 : 483, 491; ALSTON 1959 : 22), and Río Muni (FERNÁNDEZ CASAS 1992 : 37. Sub *G. linearis* : GUINEA 1946 : 227).

## GRAMMITACEAE

***Xiphopteris cultrata* (Bory ex Willd.) Schelpe**  
*Xiphopteris elastica* (Bory ex Willd.) Alston  
*Polypodium elasticum* Bory ex Willd.

BIOKO NORTE : pico Basilé, *Mann 337* (K).

Previously recorded from Bioko (BENL 1982 : 22-23. Sub *P. elasticum* : MILDBRAED 1922 : 177. Sub *X. elastica* : ADAMS 1957 : 483, ALSTON 1959 : 45).

***Xiphopteris flabelliformis* (Poir.) Schelpe**  
*Xiphopteris rigescens* (Bory ex Willd.) Alston

BIOKO NORTE : pico Basilé, *Escarré 3664* (BCC).

Previously recorded from Bioko (BENL 1982 : 22. Sub *X. rigescens* : ADAMS 1957 : 492; ALSTON 1959 : 45). The record of FERNÁNDEZ CASAS (1992 : 41) (*Carvalho 3637*, MA-512415) is *X. oosora*.

***Xiphopteris oosora* (Baker) Alston**

BIOKO NORTE : carretera del pico Basilé, km 13-14, *Carvalho 3637* (MA-512415).

Previously recorded from Bioko (ADAMS 1957 : 492; ALSTON 1959 : 45; JOHANSSON 1974 : 26; BENL 1982 : 21. Sub *Xiphopteris flabelliformis* : FERNÁNDEZ CASAS 1992 : 41).

***Xiphopteris serrulata* (Sw.) Kaulf.**

*Polypodium serrulatum* (Sw.) Mett., *P. duale* auct.

BIOKO SUR : río Iladyi, *Benl 175* (BC-621418). CENTRO-SUR\* : Bata-Niefang, estrada km 35, zona de Comayá, *Carvalho 5880* (MA-593435).

Previously recorded from Annobón (Sub *P. serrulatum* : MILDBRAED 1922 : 160. Sub *P. duale* : ALSTON 1944 : 88), and Bioko (ADAMS 1957 : 492; ALSTON 1959 : 45; JOHANSSON 1974 : 26; BENL 1975 : 132, 1982 : 20-21).

***Xiphopteris villosissima* (Hook.) Alston**

*Polypodium villosissimum* Hook.

BIOKO NORTE : carretera del pico Basilé, km 13-14, *Carvalho 3639* (MA-512411).

Previously recorded from Bioko (ADAMS 1957 : 492; ALSTON 1959 : 45; JOHANSSON 1974 : 26; BENL 1982 : 23-24; FERNÁNDEZ CASAS 1992 : 41. Sub *P. villosissimum* : MILDBRAED 1922 : 177; GUINEA 1946 : 226).

## HYMENOPHYLLACEAE

***Hymenophyllum capillare* Desv.**

It has been recorded from Bioko Sur : rim of Biaó crater, *Wrigley 480b* (K). (BENL 1980 : 7-8). We have failed to examine any herbarium material of this species.

***Hymenophyllum hirsutum* (L.) Sw.**

*Hymenophyllum ciliatum* Sw., *H. ciliatum* var. *boryanum* (Willd.) Mett. ex Kuhn

BIOKO SUR : near Iladyi waterfall, *Adams 1068* (MA-387551). CENTRO-SUR\* : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al. 5126* (MA-638680); P. N. Monte Alén, senda que va desde el lago Atok hasta Moca, *Pérez Viso 1339* (MA-638596).

Previously recorded from Annobón (Sub *H. ciliatum* : MILDBRAED 1922 : 159; GUINEA 1946 : 221. Sub *H. ciliatum* var. *boryanum* : ALSTON 1944 : 59), and Bioko (ADAMS 1957 : 483, 487; ALSTON 1959 : 32; BENL 1975 : 132, 1980 : 9-10; FERNÁNDEZ CASAS 1992 : 38. Sub *H. ciliatum* : MILDBRAED 1922 : 175).

**Hymenophyllum kuhnii** C. Chr.

*H. polyanthos* var. *kuhnii* (C. Chr.) Schelpe, *H. polyanthos* auct., *H. sphaerocarpum* auct.

BIOKO NORTE : carretera del pico Basilé, km 3-4, *Carvalho 4485* (MA-555946). BIOKO SUR : Moca, cascadas del río Iladyi, márgenes del río Sité, *Carvalho 3887* (MA-556069) ; cerca y al sur de Moca, camino de las cascadas de Iladyi, *Fernández Casas 10427* (MA-555977). CENTRO-SUR\* : Añisok, *Pérez Viso 1388* (MA-638610), *Pérez Viso 1392* (MA-638612).

Previously recorded from Annobón (ALSTON 1944 : 59 ; ALSTON 1959 : 32. Sub *H. polyanthos* : MILDBRAED 1922 : 159), and Bioko (ADAMS 1957 : 487 ; ALSTON 1959 : 32. Sub *H. polyanthos* : MILDBRAED 1922 : 175. *H. sphaerocarpum* : MILDBRAED 1922 : 175. Sub var. *kuhnii* : BENL 1975 : 132, 1980 : 6-7 ; FERNÁNDEZ CASAS 1992 : 38).

**Hymenophyllum mildbraedii** (Brause ex Brause & Hieron.) Alston

*Trichomanes mildbraedii* Brause ex Brause & Hieron.

ANNOBÓN : Annobón, *Mildbraed 6701* (BM) ; Santa Mina, *Mildbraed s.n.* (BM photo).

Previously recorded from Annobón (ALSTON 1944 : 59 ; GUINEA 1946 : 222, 1968 : 134. Sub *T. mildbraedii* : MILDBRAED 1922 : 159).

**Hymenophyllum splendidum** Bosch

BIOKO NORTE : pico Basilé, *Adams 1137* (MA-387549). BIOKO SUR : Moca, cascadas del río Iladyi, *Carvalho 3878* (MA-556068), *Carvalho 3885* (MA-556067).

Previously recorded from Bioko (MILDBRAED 1922 : 175 ; ADAMS 1957 : 487 ; ALSTON 1959 : 32 ; BENL 1980 : 8-9 ; FERNÁNDEZ CASAS 1992 : 38).

**Hymenophyllum triangulare** Baker

BIOKO NORTE : carretera del pico Basilé, km 9-10, sendero 4 km a la derecha, *Carvalho 3611* (MA-556075). BIOKO SUR : near Iladyi waterfall, *Adams 1072* (MA-387550) ; Moca, camino de las Cascadas, *Guinea 2165* (MA-213767).

Previously recorded from Bioko (MILDBRAED 1922 : 175 ; ALSTON 1951 : 189, 1959 : 32 ; ADAMS 1957 : 487 ; BENL 1980 : 5-6 ; KORNAS *et al.* 1990 : 156 ; FERNÁNDEZ CASAS 1992 : 38).

**Trichomanes africanum** Christ

CENTRO-SUR\* : Evinayong, *Guinea 515* (MA-634133).

Previously recorded from Annobón (ALSTON 1944 : 57 ; ADAMS 1957 : 483 ; ALSTON 1959 : 31), and Bioko (ALSTON 1959 : 31 ; BENL 1980 : 23-24).

**Trichomanes ballardianum** Alston

CENTRO-SUR\* : Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1759* (MA-643166).

Not previously recorded from Equatorial Guinea. Scattered through West and Central Tropical Africa (Ghana, Nigeria, Cameroon, Gabon, Congo, and Zaire) (ALSTON 1959 : 30 ; TARDIEU-BLOT 1964a : 80, 1964b : 60 ; EDWARDS 1998 : 191 ; EDWARDS *et al.* 2000 : 197).

**Trichomanes borbonicum** Bosch

BIOKO SUR : near Iladyi waterfall, *Adams 1079* (MA-387733). CENTRO-SUR\* : Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1811* (MA-643158).

Previously recorded from Bioko (ADAMS 1957 : 487, 492 ; ALSTON 1959 : 31 ; BENL 1980 : 23-24).

**Trichomanes chevalieri** Christ

BIOKO SUR : Ureca, *Thorold 22* (BM).

Previously recorded from Bioko (ADAMS 1957 : 483 ; ALSTON 1959 : 31 ; BENL 1980 : 20-21).

**Trichomanes clarenceanum** Ballard

*Trichomanes dilatatum* (Bosch) Kuhn

BIOKO NORTE : pico Basilé, *Adams 1160* (MA-387735).

Previously recorded from Bioko (ADAMS 1957 : 487 ; ALSTON 1959 : 30 ; BENL 1980 : 19-20. Sub *T. dilatatum* : GUINEA 1946 : 221).

**Trichomanes crispiforme** Alston*T. crispum* auct.

LITORAL\* : Bata-Senge-Mitom-Emangós, estrada kms. 66-67 después de Emangós, *Carvalho 6495* (MA-620707).

Previously recorded from Annobón (ALSTON 1944 : 57. Sub *T. crispum* : MILDBRAED 1922 : 159 ; ALSTON 1959 : 31).

**Trichomanes erosum** Willd.

*Trichomanes aerugineum* Bosch, *Trichomanes erosum* var. *aerugineum* (Bosch) Bonap., *Trichomanes benlii* (Pic. Serm.) Benl, *Trichomanes chamaedrys* Taton

BIOKO NORTE : pico Basilé, *Adams 1163* (MA-387731). CENTRO-SUR\* : P. N. Monte Alén, Mosumu, cataratas del Laña, *Aedo & al. 5156* (MA-638678) ; Añisok, *Pérez Viso 1390* (MA-638611) ; Ebian, entre Aconibe y Acurenam, *Pérez Viso 1433* (MA-638482) ; Eviyam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1755* (MA-643209), *Pérez Viso 1789* (MA-643156) ; P. N. Monte Alén, Engong, camino del Lago, *Velayos & al. 9513* (MA-638774) ; P. N. Monte Alén, cabaña del Lago, *Velayos & al. 9525* (MA-638778), *Velayos & al. 9533* (MA-638779), *Velayos & al. 9534* (MA-638780). LITORAL : Bata-Senge-Mitom-Emangós, estrada kms. 59-60, *Carvalho 6464* (MA-620859), estrada kms. 67-68, *Carvalho 6523* (MA-620926) ; río Campo, a 39 km de la entrada desde la carretera de Niefang, cerca de Bongoro, *Pérez Viso 2238* (MA-643159).

Previously recorded from Annobón (ALSTON 1944 : 57 ; ALSTON 1959 : 30), and Bioko (GUINEA 1946 : 221 ; ADAMS 1957 : 483 ; ALSTON 1959 : 30 ; BENL 1980 : 16. Sub *T. chamaedrys* : ALSTON 1959 : 30 ; Sub var. *aerugineum* : BENL 1980 : 17. Sub *T. aerugineum* : ADAMS 1957 : 492 ; ALSTON 1959 : 30. Sub *T. benlii* : BENL 1991 : 80).

**Trichomanes fallax** Christ

It has been recorded from Bioko Sur : *Adams 1070* (GC). (ADAMS 1957 : 487 ; BENL 1980 : 21). We have failed to examine any herbarium material of this species.

**Trichomanes giganteum** Bory ex Willd.

BIOKO NORTE : pico Basilé, *Mann 669* (K).

Previously recorded from Bioko (MILDBRAED 1922 : 175 ; ADAMS 1957 : 487, 492 ; ALSTON 1959 : 31).

**Trichomanes guineense** Afzel. ex Swartz

LITORAL : Bata-Monson-Dibolo, estrada kms. 45-46, *Carvalho 4824* (MA-597746).

Previously recorded from Bioko (BENL 1980 : 13-14), and Río Muni (GUINEA 1946 : 156).

**Trichomanes liberiense** Copel.

CENTRO-SUR\* : Ebalowa, carretera Vicurga-Evinayong, *Pérez Viso 1711* (MA-643165) ; Eviyam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1782* (MA-643164).

Not previously recorded from Equatorial Guinea. Scattered through West and Central Tropical Africa (Liberia, Ivory Coast, Ghana, Nigeria, Cameroon, and Zaire) (ALSTON 1959 : 30 ; TARDIEU-BLOT 1953 : 41, 1964a : 80 ; EDWARDS 1998 : 191).

**Trichomanes mannii** Hook.*T. musolense* Brause

BIOKO NORTE : pico Basilé, *Adams 1148* (MA-387736). CENTRO-SUR\* : Akok, entre Acurenam y Aconibe, *Pérez Viso 2034* (MA-643208).

Previously recorded from Bioko (GUINEA 1946 : 221 ; ADAMS 1957 : 487 ; ALSTON 1959 : 30 ; BENL 1980 : 17-18. Sub *T. musolense* : MILDBRAED 1922 : 176).

**Trichomanes melanotrichum** Schldtl.

*Trichomanes pyxidiferum* var. *melanotrichum* (Schldtl.) Schelpe, *T. pyxidiferum* auct.

CENTRO-SUR : P. N. Monte Alén, Mosumu, cataratas del Laña, *Aedo & al. 5158* (MA-638677) ; Evinayong, *Guinea 515* (MA-386647) ; P. N. Monte Alén, cabaña del Lago, *Velayos & al. 9521* (MA-638777) ; LITORAL : Bata-Senge-Mitom-Emangós, estrada kms. 59-60, estrada para Emangós y Cogo, *Carvalho 6461* (MA-620862).

Previously recorded from Annobón (Sub *T. pyxidiferum* : MILDBRAED 1922 : 159), Bioko (ADAMS 1957 : 487, 492. Sub *T. pyxidiferum* :

HENRIQUES 1887 : 150 ; MILDBRAED 1922 : 176.  
Sub var. *melanotrichum* : BENL 1980 : 24-25v),  
and Río Muni (GUINEA 1946 : 221).

**Trichomanes mettenii** C. Chr.

*Trichomanes subsessile* Mett. ex Kuhn

BIOKO SUR : Moka, *Wrigley 597* (K).

Previously recorded from Annobon  
(MILDBRAED 1922 : 159 ; ALSTON 1944 : 57 ;  
ALSTON 1959 : 31), Bioko (MILDBRAED 1922 :  
175 ; BENL 1980 : 19), and Río Muni (Sub T. *sub-*  
*sessile* : GUINEA 1946 : 157).

**Trichomanes radicans** Sw.

BIOKO SUR : near Moca lake, *Adams 1118* (MA-  
387732).

Previously recorded from Bioko (HENRIQUES  
1887 : 150 ; BENL 1980 : 14-15).

**Trichomanes rigidum** Sw.

*T. rigidum* var. *annobonense* Hieron. ex Mildbr.,  
nom. nud., *Trichomanes cupressoides* Desv.

BIOKO SUR : Moca, *Adams 1037* (MA-387734).  
CENTRO-SUR\* : Eviam, Matroguisa, entre Acurenam y  
Aconibe, *Pérez Viso 1808* (MA-643207) ; P. N. Monte  
Alén, Monte Alén, subida al mirador, *Velayos & al.*  
*9268* (MA-638786) ; P. N. Monte Alén, Engong,  
camino del Lago, *Velayos & al. 9515* (MA-638775) ;  
P. N. Monte Alén, camino a Esamalang pasado el cruce  
a Moca desde el Lago, *Velayos & al. 9550* (MA-  
638782).

Previously recorded from Annobón (Sub T.  
*rigidum* var. *annobonensis* : MILDBRAED 1922 :  
159. Sub T. *cupressoides* : ALSTON 1944 : 57 ;  
ALSTON 1959 : 31), and Bioko (MILDBRAED 1922 :  
176 ; BENL 1980 : 12-13. Sub T. *cupressoides* :  
ADAMS 1957 : 483, 487 ; ALSTON 1959 : 31).

ISOETACEAE

**Isoetes biafrana** Alston

BIOKO SUR : Lago Moca, *Guinea 2234* (BCC).

Previously recorded from Bioko (ALSTON  
1956 : 15, 1959 : 14 ; BENL 1988 : 3).

**Isoetes spinulospora** Jermy & Schelpe

BIOKO SUR : lago de Biaó, *Melville 490a* (K).

Previously recorded from Bioko (BENL  
1988 : 4).

LOMARIOPSIDACEAE

**Bolbitis acrostichoides** (Afzel. ex Sw.) Ching

BIOKO SUR : Ureca, *Guinea 2382bis* (MA-  
213839). CENTRO-SUR\* : P. N. Monte Alén, Mosumu,  
desde la cabaña hasta las cataratas del Laña, *Aedo & al.*  
*5150* (MA-638674) ; Bata-Niefang, estrada km 35,  
entre río Sama y río Comayá, *Carvalho 5821* (MA-  
610049).

Previously recorded from Bioko (ALSTON  
1951 : 192, 1959 : 69 ; ADAMS 1957 : 482 ; BENL  
1991 : 61-62).

**Bolbitis auriculata** (Lam.) Alston

*Leptochilus auriculatus* var. *undulato-crenata*  
Hieron.

BIOKO SUR : Musola, Monkey Bush, *Guinea 942*  
(MA-213837), *Guinea 972* (MA-213838). CENTRO-  
SUR\* : Bata-Niefang, estrada km 35, en dirección de  
Adjape a la zona de Comayá, *Carvalho 5782* (MA-  
610067).

Previously recorded from Bioko (ALSTON  
1951 : 191, 1959 : 68 ; ADAMS 1957 : 482, 486 ;  
GUINEA 1968 : 130 ; BENL 1991 : 59-60. Sub *L.*  
*auriculatus* var. *undulato-crenata* : MILDBRAED  
1922 : 177).

**Bolbitis fluviatilis** (Hook.) Ching

*Leptochilus fluviatilis* (Hook.) C. Chr.

BIOKO NORTE : Monte Balea, *Guinea 420* (MA-  
213836). CENTRO-SUR\* : P. N. Monte Alén, Mosumu,  
camino de las cataratas, *Aedo & al. 5119* (MA-  
638681) ; Bata-Niefang, estrada km 35, en dirección de  
Adjape a la zona de Comayá, *Carvalho 5784* (MA-  
610061) ; Bata-Niefang, estrada km 35, en zonas de  
Adjape a la zona de Comayá, *Carvalho 5807* (MA-  
610017) ; Eviam, Matroguisa, entre Acurenam y  
Aconibe, *Pérez Viso 1810* (MA-643140) ; P. N. Monte  
Alén, río Bong, *SP 78* (MA-638518). LITORAL : Bata-  
Senge-Mitom-Emangós, estrada kms. 64-65, a 3-4 kms  
de Emangós hacia Cogo, *Carvalho 6457* (MA-620832).  
WELE-NZAS : Bimbile, *Guinea 91-855* (MA-389206).

Previously recorded from Bioko (ALSTON 1951 : 192, 1959 : 68 ; ADAMS 1957 : 482, 486 ; BENL 1991 : 60-61. Sub *L. fluviatilis* : MILDBRAED 1922 : 177). Although there is no previous record from Río Muni, the GUINEA'S (1946 : 226) record (Sub *B. auriculata* (Lam.) Alston) must refer to this taxon.

**Bolbitis salicina** (Hook.) Ching

BIOKO NORTE : río Borabaabo (Borabecho), *Malesit* 235 (BC-621293).

Previously recorded from Bioko (ADAMS 1957 : 482 ; BENL 1991 : 62-63).

**Elaphoglossum acrostichoides** (Hook. & Grev.) Schelpe

BIOKO NORTE : regreso del pico Basilé, *Guinea* 2939 (MA-387511).

Previously recorded from Bioko (BENL 1991 : 71-72). ALSTON'S (1951 : 198, 1959 : 66) record of *E. preussii* Hieron. is based on *Guinea* 2939 and must refer to this taxon.

**Elaphoglossum aubertii** (Desv.) T. Moore  
*Acrostichum aubertii* Desv.

BIOKO : Fernando Poo, *Adams* 1171 (MA-213504). BIOKO NORTE : regreso del pico Basilé, *Guinea* 2941 (MA-213503), *Guinea* 2944 (MA-387490).

Previously recorded from Bioko (MILDBRAED 1922 : 176 ; ALSTON 1951 : 198, 1959 : 66 ; ADAMS 1957 : 491 ; BENL 1991 : 75-76. Sub *A. aubertii* : HOOKER 1864 : 237 ; HENRIQUES 1887 : 156).

**Elaphoglossum barteri** (Baker) C. Chr.

LITORAL\* : Bata-Senge-Mitom-Emangós, estrada kms. 66-67 después de Emangós, *Carvalho* 6498 (MA-620704).

Not previously recorded from Equatorial Guinea, although well known from West and Central Tropical Africa (Guinea, Sierra Leona, Liberia, Ivory Coast, Nigeria, Cameroon) (TARDIEU-BLOT 1953 : 104, 1964a : 298 ; ALSTON 1959 : 66 ; Schelpe 1969 : 30 ; EDWARDS 1998 : 192). Our Equatorial Guinea record seems to be the southeast boundary of this species.

**Elaphoglossum cinnamomeum** (Baker) Diels  
*E. clarenceanum* (Baker) C. Chr.

BIOKO NORTE : Pico, *Benl* 425 (BC-621347).

Previously recorded from Bioko (GUINEA 1946 : 226 ; ADAMS 1957 : 487, 491 ; ALSTON 1959 : 66 ; BENL 1991 : 77-78. Sub *E. clarenceanum* : MILDBRAED 1922 : 177).

**Elaphoglossum hybridum** (Bory) Brack.  
*Acrostichum hybridum* Bory

BIOKO : Fernando Poo, *Mann* 663 (K).

Previously recorded from Bioko (MILDBRAED 1922 : 177 ; ADAMS 1957 : 487 ; ALSTON 1959 : 66 ; BENL 1991 : 74-75. Sub *A. hybridum* : HOOKER 1864 : 236).

**Elaphoglossum isabelense** Brause  
*E. conforme* (Sw.) Schott

BIOKO SUR : near Iladyi waterfall, *Adams* 1075 (MA-387492).

Previously recorded from Bioko (MILDBRAED 1922 : 177 ; ADAMS 1957 : 487 ; ALSTON 1959 : 66 ; JOHANSSON 1974 : 25 ; BENL 1991 : 73. Sub *E. conforme* : MILDBRAED 1922 : 177).

**Elaphoglossum kuhnii** Hieron.

*E. splendens* (Bory) Brack., *Acrostichum splendens* Bory

BIOKO NORTE : pico Basilé, *Adams* 1173 (MA-387499).

Previously recorded from Bioko (MILDBRAED 1922 : 177 ; ADAMS 1957 : 491 ; ALSTON 1959 : 66 ; BENL 1991 : 76-77. Sub *E. splendens* : MILDBRAED 1922 : 177. Sub *A. splendens* : HOOKER 1864 : 237).

**Elaphoglossum salicifolium** (Willd. ex Kaulf.) Alston  
*E. viscosum* var. *salicifolium* (Willd. ex Kaulf.) Hieron.

BIOKO SUR : near Moca lake, *Adams* 1111 (MA-387495) ; Moca, carretera de Concepción, Las Costeras, *Guinea* 2143a (MA-390641).

Previously recorded from Bioko (ALSTON 1951 : 198, 1959 : 66 ; ADAMS 1957 : 487, 491 ; BENL 1991 : 73-74. Sub *E. viscosum* var. *salicifolium* : MILDBRAED 1922 : 177). ADAMS' (1957 : 491) record of *E. welwitschii* (Baker) C. Chr. is based on Adams 1111 and must refer to this taxon.

**Lomariopsis decrescens** (Baker) Kuhn  
*Stenochlaena decrescens* (Baker) Underw.

BIOKO SUR : above Belebú Balachá de Riaba path to río Lombé, *Benl 465* (BC-621359) ; Bocoricho, laguna Lombé, *Benl 485* (BC-621360).

Previously recorded from Bioko (ADAMS 1957 : 486 ; ALSTON 1959 : 67 ; BENL 1991 : 68-69. Sub *S. decrescens* : MILDBRAED 1922 : 177).

**Lomariopsis guineensis** (Underw.) Alston  
*Stenochlaena guineensis* Underw., *Acrostichum sorbifolium* auct.

BIOKO NORTE : Monte Balea, *Guinea 414* (MA-390638). WELE-NZAS : Aconibe, *Pérez Viso 2122* (MA-643132).

Previously recorded from Bioko (ALSTON 1951 : 196, 1959 : 67 ; ADAMS 1957 : 483, 487 ; BENL 1991 : 64-65. Sub *A. sorbifolium* : HOOKER 1864 : 237 ; HENRIQUES 1887 : 156. Sub *S. guineensis* : MILDBRAED 1922 : 177), and Río Muni (Sub *S. guineensis* : GUINEA 1946 : 157).

**Lomariopsis hederacea** Alston

CENTRO-SUR : Bata-Monte Alén, camino de campo, *Carvalho 5461* (MA-610083) ; Bata-Niefang, estrada km 35, entre la zona de Adjape y el río Sama, *Carvalho 5817* (MA-610045) ; Evinayong, *Guinea 75* (MA-634131) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1766* (MA-643135).

Previously recorded from Bioko (ADAMS 1957 : 483 ; ALSTON 1959 : 67 ; BENL 1991 : 70), and Río Muni (GUINEA 1946 : 224).

**Lomariopsis mannii** (Underw.) Alston  
*Stenochlaena mannii* Underw.

BIOKO : Fernando Poo, *Mann 354* (K). CENTRO-SUR\* : P. N. Monte Alén, senda que va desde el lago Atok hasta Moca, *Pérez Viso 1347* (MA-638599).

Previously recorded from Bioko (ADAMS 1957 : 487 ; ALSTON 1959 : 67 ; BENL 1991 : 69-70. Sub *S. mannii* : MILDBRAED 1922 : 177).

**Lomariopsis muriculata** Holttum

UNKNOWN PROVINCE (RÍO MUNI) : Nkolentangan, *Tessmann 300* (K).

Previously recorded from Bioko (ADAMS 1957 : 487 ; BENL 1991 : 65).

**Lomariopsis rossii** Holttum

BIOKO : Fernando Poo, *Mann 374, 444* (K). CENTRO-SUR\* : Bata-Monte Alén, NO local chamado campo, *Carvalho 5492* (MA-599378).

Previously recorded from Bioko (BENL 1991 : 67-68).

**Lomariopsis warneckei** (Hieron.) Alston  
*Lomariopsis nigrescens* Holttum

BIOKO : Fernando Poo, *Mann s.n.* (K). CENTRO-SUR\* : P. N. Monte Alén, cataratas del río Wele, Mosumu, *Pérez Viso 1605* (MA-638704). LITORAL : Bata-Bome, praderas gramíneas, *Carvalho 5277* (MA-598103).

Previously recorded from Bioko (BENL 1991 : 66-67. Sub *L. nigrescens* : ADAMS 1957 : 483 ; ALSTON 1959 : 67).

LYCOPODIACEAE

**Huperzia brachystachys** (Baker) Pic. Serm.  
*Lycopodium brachystachys* (Baker) Alston

BIOKO SUR : carretera del valle de Moca, *Benl 314a* (BC-621350).

Previously recorded from Bioko (BENL 1978 : 9. Sub *Lycopodium brachystachys* : ALSTON 1959 : 12). According to ALSTON (1959 : 12), ALSTON'S (1951 : 199) record based on *Guinea 2685* (BM) of *L. gnidioides* L. f. must refer to this taxon. The records from Bioko of FERNÁNDEZ CASAS 1992 : 37 (*Carvalho 3659*, MA-556074 ; *Fernández Casas 11227*, MA-555969 ; *Fernández Casas 11238*, MA-555968 ; *Fernández Casas 11978*, MA-555988) are *H. mildbraedii*.

**Huperzia mildbraedii** (Herter) Pic. Serm.*Lycopodium mildbraedii* Herter

BIOKO NORTE : carretera del pico Basilé, km 18-19, *Carvalho 3659* (MA-556074); carretera del pico Basilé, km 20, *Fernández Casas 11227* (MA-555969), *Fernández Casas 11238* (MA-555968); pico Basilé, *Guinea 2686* (MA-186504), *Guinea 2688* (MA-387725), *Guinea 2689* (MA-387726). BIOKO SUR : desembocadura del lago Biaó, *Fernández Casas 11978* (MA-555988).

Previously recorded from Bioko (BENL 1978 : 10. Sub *H. brachystachys* : FERNÁNDEZ CASAS 1992 : 37. Sub *Lycopodium mildbraedii* : MILDBRAED 1922 : 177 ; ADAMS 1957 : 483, 492).

**Huperzia ophioglossoides** (Lam.) Rothm.*Lycopodium ophioglossoides* Lam.

BIOKO NORTE : carretera del pico Basilé, km 18-19, nacimiento del río Cope, *Carvalho 3675* (MA-556073).

Previously recorded from Annobón (Sub *L. ophioglossoides* : ALSTON 1944 : 96), and Bioko (BENL 1978 : 8 ; FERNÁNDEZ CASAS 1992 : 37. Sub *Lycopodium ophioglossoides* : GUINEA 1946 : 228 ; ADAMS 1957 : 492 ; ALSTON 1959 : 12). The record from Bioko of FERNÁNDEZ CASAS 1992 : 37 (*Fernández Casas 10165*, MA-424258) is *Lycopodium clavatum*.

**Huperzia phlegmaria** (L.) Rothm.*Lycopodium phlegmaria* L.

BIOKO NORTE : Malabo-Riaba, km 12, *Carvalho 3562* (MA-556079). LITORAL\* : Bata-Senge, estrada km 40 no local da ponte sobre el río Benito, *Carvalho 5026* (MA-599217).

Previously recorded from Bioko (BENL 1978 : 9 ; FERNÁNDEZ CASAS 1992 : 38. Sub *Lycopodium phlegmaria* : GUINEA 1968 : 131).

**Huperzia verticillata** (L. f.) Trevis.*Lycopodium verticillatum* L. f.

BIOKO SUR : Between Residencias de Moca and Riasaca, *Benl 578* (BC-621348).

Previously recorded from Bioko (BENL 1978 : 8. Sub *Lycopodium verticillatum* : ADAMS 1957 : 492, 1959 : 12).

**Lycopodiella affinis** (Bory) Pic. Serm.

LITORAL\* : Bata-Mepemba, pradera gramínea de Eyang-Mbaha, situada en km 33-34, *Carvalho 4960* (MA-599212) ; Bata-Praderas de Bome, praderas gramíneas, *Carvalho 5858* (MA-609970) ; Etembue, *Guinea 95* (MA-386660), *Guinea 945* (MA-385254) ; Bata, praderas de Bome, *Pérez Viso 1735* (MA-643188).

Although there is no previous record from Equatorial Guinea, the GUINEA's (1946 : 23, 175, 228) record of *Lycopodium sarcocaulon* A. Braun & Welw. ex Kuhn based on *Guinea 95, 945* must refer to this taxon. Widespread in Tropical Africa (Sierra Leona, Liberia, Ivory Coast, Nigeria, Cameroon, Angola, Sudan, Zaire, Uganda, Burundi, Tanzania, Zambia, Malawi, Zimbabwe, and Mozambique), and Mascarene Islands (TARDIEU-BLOT 1964a : 17 ; ALSTON 1959 : 12 ; SCHELPE 1970 : 21 ; SCHELPE 1977 : 22 ; LAWLARÉE 1989 : 22 ; JOHNS 1991 : 106).

**Lycopodiella cernua** (L.) Pic. Serm.*Lycopodium cernuum* L.

ANNOBÓN : cumbre del pico do Fogo, *Carvalho 3085* (MA-556082). BIOKO NORTE : Malabo, Basilé, km 13, cerca de Basilé, *Carvalho 2092* (MA-556089) ; Malabo, Basilé, cerca de Basilé, *Fernández Casas 10105* (MA-555979). BIOKO SUR : between Moca and Iladyi fall, *Adams 1049* (MA-387730). CENTRO-SUR : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al. 5106* (MA-638688) ; P. N. Monte Alén, Mosumu, *Pérez Viso 624* (MA-638701), *Pérez Viso 643* (MA-638524) ; P. N. Monte Alén, Misergue, senda hacia el río Laña, *Pérez Viso 1153* (MA-638589) ; Añisok-Mongola, *Pérez Viso 1483* (MA-638499). LITORAL : Bata-río Utonde, Bosque primario con margen de río Utonde ao campo de Aviação, *Carvalho 4910* (MA-597519) ; desembocadura del río Campo, *Pérez Viso 2166* (MA-643187).

Previously recorded from Annobón (FERNÁNDEZ CASAS 1992 : 38 ; FERNÁNDEZ CASAS & MORALES 1995 : 234), Bioko (BENL 1978 : 11 ; FERNÁNDEZ CASAS 1992 : 38, 1994 : 31. Sub *Lycopodium cernuum* : MILDBRAED 1922 : 177 ; ADAMS 1957 : 482, 491 ; ALSTON 1959 : 12 ; HENRIQUES 1887 : 158), and Río Muni (Sub *Lycopodium cernuum* : GUINEA 1946 : 184i).

**Lycopodium clavatum L.***Lycopodium clavatum* var. *borbonicum* Bory

BIOKO NORTE : carretera del pico Basilé, km 19-20, *Carvalho 3585* (MA-556077); pico Basilé, *Fernández Casas & al. 10165* (MA-424258), *Guinea 2728* (MA-301374). BIOKO SUR : ascensión al pico Serrano, Moca, *Guinea 1973* (MA-387727); Malabo, Moca, km 73-74, *Carvalho 3579* (MA-556078).

Previously recorded from Bioko (MILDBRAED 1922 : 177 ; ALSTON 1951 : 198, 1959 : 12 ; ADAMS 1957 : 491 ; GUINEA 1968 : 131. Sub *Lycopodium clavatum* var. *borbonicum* : BENL 1978 : 10-11 ; FERNÁNDEZ CASAS 1992 : 38).

## MARATTIACEAE

**Marattia fraxinea J. Sm.**

BIOKO NORTE : Malabo, pico Basilé, estrada km 3, *Carvalho 2153* (MA-419828); cerca de Rebola, km 20-21, *Fernández Casas 11284* (MA-512643). BIOKO SUR : Moca, lago Biaó, *Fernández Casas 10390* (MA-533849, MA-525880); Malabo-Riaba, km 43-44, *Fernández Casas 11541* (MA-513490); Moca, camino de Ureca, *Fernández Casas 11777* (MA-513211); Belebú Balachá, *Fernández Casas 12149* (MA-513235); bosque de la carretera de San Carlos, *Guinea 733* (MA-387672), *Guinea 734* (MA-213951); Musola, camino de Monkey Bush, *Guinea 1027* (MA-387673); Moca, carretera a Concepción, bosque de Las Costeras, *Guinea 2098* (MA-387671). CENTRO-SUR : Evinayong, proximidades de la cascada del río Laña, antiguo camino de Cogo, *Guinea 323* (MA-386650), *Guinea 508* (MA-213952); P. N. Monte Alén, Engong, camino hacia el lago Atok, *Pérez Viso 768* (MA-638532); Ebalowa, carretera Vicurga-Evinayong, *Pérez Viso 1707* (MA-643200); P. N. Monte Alén, Monte Alén, subida al mirador, *Velayos & al. 9264* (MA-638784); P. N. Monte Alén, Nkumekien, *Velayos & al. 9323* (MA-638794).

Previously recorded from Annobón (MILDBRAED 1922 : 160 ; ALSTON 1944 : 94), Bioko (ALSTON 1951 : 196, 198, 1959 : 20 ; ADAMS 1957 : 482, 486, 491 ; BENL 1980 : 3-4 ; FERNÁNDEZ CASAS 1992 : 38), and Río Muni (GUINEA 1946 : 227, 232d). The record from Bioko of FERNÁNDEZ CASAS 1992 : 38 (*Fernández Casas 10116*, MA-419862) is *Nephrolepis biserrata*.

## NEPHROLEPIDACEAE

**Nephrolepis biserrata (Sw.) Schott***Nephrolepis acuta* (Schkuhr) C. Presl

ANNOBÓN : Palé, entre el río Luba da Queque y el arroyo Jada, *Carvalho 3129* (MA-512296). BIOKO NORTE : cerca de Rebola, Baney, *Fernández Casas & al. 10116* (MA-419862). BIOKO SUR : Malabo, Luba, cerca de Basacato del Oeste, *Carvalho 2376* (MA-512237); bosque de la carretera de San Carlos, km 35, *Guinea 707* (MA-387724); Luba, Veiga y Avenaño, en el límite entre Batete y Luba, *Fernández Casas 12026* (MA-513361); Luba, Ruiché, *Fernández Casas 11333* (MA-512789); Malabo, Riaba, km 43-44, *Fernández Casas 11539* (MA-513511). CENTRO-SUR : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al. 5111* (MA-638685); P. N. Monte Alén, Mosumu, desde la cabaña hasta las cataratas del Laña, *Aedo & al. 5138* (MA-638676); Evinayong, *Guinea 478* (MA-213964), *Guinea 498* (72) (MA-386687); P. N. Monte Alén, 5 km au NO de Engong, *Lejoly 99/101* (MA-621707); P. N. Monte Alén, Engong, camino hacia el lago Atok, *Pérez Viso 764* (MA-638700), *Pérez Viso 767* (MA-638529); P. N. Monte Alén, Esamalang, carretera de Mosumu, *Pérez Viso 1180* (MA-638592); Ebian, entre Aconibe y Acurenam, *Pérez Viso 1430* (MA-638709); Añisok-Mongola, *Pérez Viso 1479* (MA-638497), *Pérez Viso 1487* (MA-638503), *Pérez Viso 1491* (MA-638506), *Pérez Viso 1495* (MA-638507); P. N. Monte Alén, Nkumekien, *Pérez Viso 1499* (MA-638512); Misergue-Churu, *Pérez Viso 1655* (MA-643137); P. N. Monte Alén, Nkumekien, *Velayos & al. 9308* (MA-638793); P. N. Monte Alén, Engong, camino del Lago, *Velayos & al. 9486* (MA-638766). LITORAL : Bata-Senge, estrada km 40, Senge, *Carvalho 5156* (MA-599633); Bata, cerca del puerto, *Pérez Viso 1455* (MA-638484), *Pérez Viso 1459* (MA-638485); Sendjc-Bisun, *Pérez Viso 1614* (MA-643138); río Campo, a 39 km de la entrada desde la carretera de Niefang, cerca de Bongoro, *Pérez Viso 2194* (MA-643136).

Previously recorded from Annobón (MILDBRAED 1922 : 159 ; ALSTON 1944 : 71 ; FERNÁNDEZ CASAS 1992 : 39), Bioko (ADAMS 1957 : 483 ; ALSTON 1951 : 192, 1959 : 52 ; BENL 1975 : 132, 1982 : 36-37 ; FERNÁNDEZ CASAS 1992 : 39), and Río Muni (GUINEA 1946 : 168k, 184f. Sub *N. acuta* : GUINEA 1946 : 224).



**Nephrolepis delicatula** Decne.

BIOKO NORTE : Basilé, *Benl FP 346* (M). BIOKO SUR : Moca, *Benl FP 328, 565* (M).

Previously recorded from Bioko (BENL 1982 : 40-41).

**Nephrolepis pumicicola** Ballard

BIOKO NORTE : cerca de Baney, km 3, *Carvalho 2097* (MA-512260) ; carretera del pico Basilé, km 12-13, *Carvalho 3558* (MA-511899). BIOKO SUR : Moca, *Adams 1084* (MA-387723) ; Moca, en el mismo pueblo, *Carvalho 2426* (MA-525893, MA-533920) ; Luba, Riaba, km 12, *Carvalho 2591* (MA-512081) ; puerto de Musola, Maule de Gaesa, *Fernández Casas 10092* (MA-512934, MA-533379) ; al sur de Moca, camino de las cascadas de Iladyi, *Fernández Casas 10421* (MA-525873) ; laguna próxima al cruce de Moca, *Fernández Casas 12210* (MA-512839) ; Musola, *Guinea 1244* (MA-387627). LITORAL\* : cortina litoral de río Benito, *Guinea 1028* (MA-386669).

Previously recorded from Bioko (ADAMS 1957 : 486, 491 ; ALSTON 1959 : 50 ; BENL 1975 : 132, 1982 : 37-38 ; FERNÁNDEZ CASAS 1992 : 39). Although there is no previous record from Río Muni, the GUINEA'S (1946 : 88a) record of *N. cordifolia* (L.) C. Presl based on *Guinea 1028* must refer to this taxon.

**Nephrolepis undulata** (Afzel. ex Sw.) J. Sm.

BIOKO NORTE : carretera del pico Basilé, km 6-7, *Carvalho 2501* (MA-512116) ; Malabo, Riaba, puente sobre el río Toho, *Carvalho 4103* (MA-513927) ; carretera del pico Basilé, km 23-24, *Carvalho 4580* (MA-511591). BIOKO SUR : Ureca, *Guinea 2541* (MA-387626). LITORAL\* : cortina litoral Benito, *Guinea 74* (MA-386667).

Previously recorded from Bioko (ADAMS 1957 : 483, 487, 491 ; ALSTON 1951 : 192 ; ALSTON 1959 : 50 ; BENL 1982 : 39-40 ; FERNÁNDEZ CASAS 1992 : 39). According to BENL (1980 : 40) MILDBRAED'S (1922 : 177) record from Bioko (based on *Mildbraed 6326*) must refer to this taxon.

## OLEANDRACEAE

**Arthropteris cameroonensis** Alston

BIOKO SUR : Moca, *Adams 1083* (MA-387576) ; Musola, *Guinea 1368* (MA-213962), *Guinea 1395* (MA-387575). WELE-NZAS\* : Inselberg de Piedra Nzás, *Lejoly 99/163* (MA-621701) ; Piedra Nzás, dalle rocheuse de Nchoh Biworo, *Lejoly 99/245* (MA-621776).

Previously recorded from Bioko (ALSTON 1951 : 192, 1959 : 52 ; ADAMS 1957 : 486, 491 ; BENL 1975 : 132, 1982 : 33).

**Arthropteris monocarpa** (Cordem.) C. Chr.

BIOKO SUR : between Moca and Iladyi fall, *Adams 1060* (MA-387577). CENTRO-SUR\* : P. N. Monte Alén, 3 km W de la station Ecofac, *Lejoly 99/040* (MA-621795) ; P. N. Monte Alén, lago Atok, *Pérez Viso 1014* (MA-638539) ; P. N. Monte Alén, senda que va desde el lago Atok hasta Moca, *Pérez Viso 1346* (MA-638598).

Previously recorded from Bioko (ADAMS 1957 : 487, 491 ; ALSTON 1959 : 52 ; BENL 1982 : 35-36).

**Arthropteris orientalis** (J.F. Gmel.) Posth.

*Dryopteris orientalis* (J.F. Gmel.) C. Chr.

BIOKO SUR : Musola, trocha del Servicio Agronómico, *Guinea 1135* (MA-387574).

Previously recorded from Annobón (ALSTON 1944 : 70. Sub *D. orientalis* : MILDBRAED 1922 : 159), and Bioko (ALSTON 1951 : 192, 1959 : 52 ; ADAMS 1957 : 483, 487 ; BENL 1982 : 34. Sub *D. orientalis* : MILDBRAED 1922 : 176).

**Arthropteris palisotii** (Desv.) Alston

BIOKO SUR : bosque del km 35 de la carretera de San Carlos, *Guinea 648* (MA-387572), *Guinea 649* (MA-387573). CENTRO-SUR\* : Bata-Niefang-Monte Alén, *Carvalho 5560* (MA-598773).

Previously recorded from Bioko (ALSTON 1959 : 52 ; ADAMS 1957 : 483, 487 ; BENL 1982 : 31-32). ALSTON'S (1951 : 192) record of *A. obliterated* (R. Br.) J. Sm., based on *Guinea 651* (MA-387572) must refer to this taxon. Additionally, according to BENL (1982 : 32) MILDBRAED'S (1922 : 176) record *A. obliterated* from Bioko is *A. palisotii*.

**Oleandra annetii** Tardieu

BIOKO SUR : Malabo, Moca, km 68, *Carvalho* 2400 (MA-525892, MA-533924); cerca y al sur de Moca, camino de las cascadas de Iladyi, *Fernández Casas* 10432 (MA-525882, MA-533858); finca Puente, *Guinea* 1648 (MA-387670).

Previously recorded from Bioko (BENL 1982 : 30. Sub *Oleandra distenta* : FERNÁNDEZ CASAS 1992 : 39).

**Oleandra distenta** Kunze

*O. nodosa* auct.

BIOKO NORTE : Malabo, pico Basilé, estrada km 16, *Carvalho* 2138 (MA-418171); carretera del pico Basilé, km 18-19, nacimiento del río Cope, *Carvalho* 3695 (MA-512416); carretera del pico Basilé, km 3-4, *Carvalho* 4482 (MA-511706); carretera del pico Basilé, *Fernández Casas* 10312 (MA-525881, MA-533857). CENTRO-SUR\* : Nsung, carretera M. Alén-Evinayong, *Pérez Viso* 1680 (MA-643196); Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1816 (MA-643195). LITORAL : Bata-Senge-río Benito, estrada km 38, *Carvalho* 4977 (MA-610103). WELENZAS : Aconibe, *Pérez Viso* 2115 (MA-643197).

Previously recorded from Annobón (ALSTON 1944 : 69. Sub *O. nodosa* : MILDBRAED 1922 : 159), and Bioko (ADAMS 1957 : 483, 492; ALSTON 1959 : 52; BENL 1975 : 132, 1982 : 28-29; FERNÁNDEZ CASAS 1992 : 39. Sub *O. nodosa* : MILDBRAED 1922 : 177). The records from Bioko of FERNÁNDEZ CASAS 1992 : 39 (*Carvalho* 2400, MA-525892, MA-533924; *Fernández Casas* 10432, MA-525882, MA-533858) are *O. annetii*.

## OPHIOGLOSSACEAE

**Ophioglossum gomezianum** Welw. ex A. Br.

It has been recorded from Bioko : *Baker* 1363 (K) (ALSTON 1959 : 19). We have failed to examine any herbarium material of this species.

**Ophioglossum reticulatum** L.

BIOKO NORTE : Malabo, hospital de Malabo, junto ao pavilhao, *Carvalho* 4404 (MA-492377); Misión Santa Isabel, *unknown collector* 768 (MA-213988). BIOKO SUR : Ureca, camino de Belebú Balachá, km 3, *Carvalho* 4285 (MA-514244); bosque del km 35 de la

carretera de San Carlos, *Guinea* 683 (MA-387669). LITORAL\* : Bata-Bicomo, *Carvalho* 4945 (MA-597247).

Previously recorded from Annobón (SOBRINHO 1953 : 178), and Bioko (HOOKER 1864 : 237; HENRIQUES 1887 : 157; MILDBRAED 1922 : 177; ALSTON 1951 : 198, 1959 : 19; ADAMS 1957 : 482; BENL 1982 : 3-4; FERNÁNDEZ CASAS 1994 : 32, 39).

## OSMUNDACEAE

**Osmunda regalis** L.

*O. regalis* var. *capensis* (C. Presl) Milde

BIOKO SUR : desembocadura del lago Biaó, *Fernández Casas* 11961 (MA-513445).

Previously recorded from Bioko (ADAMS 1957 : 486, 491; ALSTON 1959 : 20; BENL 1978 : 25; FERNÁNDEZ CASAS 1992 : 39. Sub *O. regalis* var. *capensis* : MILDBRAED 1922 : 177).

## POLYPODIACEAE

**Belvisia spicata** (L. f.) Mirb. ex Copel.

It has been recorded from Bioko Norte : pico Basilé, *Adams s.n.* (unknown herbarium) (ADAMS 1957 : 483; BENL 1982 : 12-13). We have failed to examine any herbarium material of this species.

**Drynaria laurentii** (H. Christ ex De Wild. & Durand) Hieron.

BIOKO NORTE : Malabo - Baney, km 12-13, *Carvalho* 4035 (MA-556032). CENTRO-SUR : Añisok, *Pérez Viso* 1380a (MA-638606); Ebian, entre Aconibe y Acurenam, *Pérez Viso* 1425 (MA-638707); Mufu, cerca de Oveu (Acurenam), *Pérez Viso* 2113 (MA-643147). LITORAL : Bata-Bome, praderas gramíneas del río Boara, *Carvalho* 4855 (MA-597910).

Previously recorded from Bioko (GUINEA 1946 : 226; BENL 1982 : 9-10; FERNÁNDEZ CASAS 1992 : 37), and Río Muni (GUINEA 1946 : 116, 143, 184i).

**Drynaria volkensii** Hieron.

BIOKO SUR : Moca, ascensión al pico Serrano, *Guinea* 1959 (MA-387568), *Guinea* 1960 (MA-220240).

Previously recorded from Bioko (ALSTON 1951 : 192, 1959 : 48 ; ADAMS 1957 : 483, 491 ; BENL 1982 : 11-12).

**Lepisorus excavatus** (Bory ex Willd.) Ching  
*Pleopeltis excavata* (Bory ex Willd.) Sledge,  
*Pleopeltis preussii* (Hieron.) Tardieu, *Polypodium preussii* Hieron., *Lepisorus preussii* (Hieron.) Pic. Serm.

ANNOBÓN : top of Pico Surcado, Wrigley 227 (K).  
BIOKO NORTE : carretera del pico Basilé, km 10-11, *Carvalho 3489* (MA-511896) ; carretera del Pico Basilé, camino de la Virgen de la Isla, *Carvalho 3647* (MA-512422), *Fernández Casas 11211* (MA-512653) ; pico Basilé, *Pérez Viso 1464* (MA-638486). BIOKO SUR : Moca, carretera a Riaba, Las Costeras, *Guinea 2143* (MA-387268). CENTRO-SUR\* : P. N. Monte Alén, Engong, camino hacia Lovayat, *Pérez Viso 849* (MA-638530).

Previously recorded from Annobón (Sub *Polypodium preussii* : MILDBRAED 1922 : 160 ; ALSTON 1944 : 89. Sub *L. preussii* : ZINK 1993 : 48), and Bioko (Sub *Pleopeltis excavata* : BENL 1982 : 16-17 ; FERNÁNDEZ CASAS 1992 : 40. Sub *Pleopeltis preussii* : ADAMS 1957 : 487, 492. Sub *Polypodium preussii* Hieron. : ALSTON 1951 : 198).

According to ZINK (1993) *L. preussii* differs from *L. excavatus* in scales color and shape. However, the specimens examined (including many representatives from West Tropical Africa labelled by Zink) cannot be clearly discriminated with this features. This suggest that *L. preussii* should be included under *L. excavatus*.

**Loxogramme lanceolata** (Sw.) C. Presl  
*Gymnogramme lanceolata* (Sw.) Hook., *Polypodium loxogramme* Mett.

BIOKO SUR : Moca, *Adams 1085* (MA-387567).

Previously recorded from Annobón (ALSTON 1944 : 90. Sub *P. loxogramme* : MILDBRAED 1922 : 160), and Bioko (ADAMS 1957 : 483, 487, 491 ; ALSTON 1959 : 48 ; BENL 1982 : 24-25. Sub *G. lanceolata* : HOOKER 1864 : 236 ; HENRIQUES 1887 : 155-456. Sub *P. loxogramme* : MILDBRAED 1922 : 177), and Río Muni (GUINEA 1946 : 226. Sub *P. loxogramme* : GUINEA 1946 : 184i).

**Loxogramme latifolia** Bonap.

*Loxogramme lanceolata* var. *latifolia* (Bonap.) Benl

BIOKO SUR : Moka, *Melville 624* (K). CENTRO-SUR\* : Añisok, *Pérez Viso 1382* (MA-638608).

Previously recorded from Bioko (Sub var. *latifolia* : BENL 1982 : 26).

**Microsorium punctatum** (L.) Copel.

*Polypodium punctatum* (L.) Sw., *Polypodium irioides* Poir.

BIOKO NORTE : carretera del pico Basilé, km 3-4, *Carvalho 4235* (MA-514150). BIOKO SUR : cerca de Belebú Balachá, *Carvalho 2279* (MA-512205) ; Ureca, *Guinea 2385* (MA-387630). CENTRO-SUR : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al. 5112* (MA-638684) ; Acurenam, Mbeayop, 1°03'N, 10°37'E, *Aedo & al. 5403* (MA-643162) ; Evinayong, *Guinea 93-497* (MA-389204) ; P. N. Monte Alén, Mosumu, *Pérez Viso 637* (MA-638523) ; P. N. Monte Alén, Engong, camino hacia Lovayat, *Pérez Viso 857* (MA-638534) ; Nsung, carretera M. Alén-Evinayong, *Pérez Viso 1671* (MA-643146). LITORAL : desembocadura del río Campo, *Pérez Viso 2152* (MA-643144) ; desembocadura del río Campo, *Pérez Viso 2152* (MA-643144).

Previously recorded from Annobón (Sub *P. punctatum* : MILDBRAED 1922 : 160. Sub *P. irioides* : ALSTON 1944 : 88), Bioko (ADAMS 1957 : 483 ; ALSTON 1959 : 49 ; BENL 1982 : 14-15 ; FERNÁNDEZ CASAS 1992 : 39. Sub *P. irioides* : ALSTON 1951 : 197) and Río Muni (Sub *P. punctatum* : GUINEA 1946 : 226). GUINEA's (1946 : 226) record of *P. phyllitidis* L. based on *Guinea 93-497* must refer to this taxon.

**Phymatosorus scolopendria** (Burm. f.) Pic. Serm.

*Polypodium phymatodes* L.

BIOKO NORTE : San Luis de Cupapa, *Fernández Casas 11498* (MA-512948). BIOKO SUR : Luba, Riaba, km 25 desde el cruce, plantaciones de Maule de Gaesa, *Carvalho 2071* (MA-512258) ; cerca de Moca, *Carvalho 2621* (MA-533921, MA-525894) ; Bombe, Moeri, km 58-59 desde Malabo, *Carvalho 4497* (MA-511703) ; cerca de Basacato del Oeste, *Fernández Casas 10058* (MA-512946) ; Luba, Ruiché, *Fernández Casas 11332a* (MA-513440) ; Luba, Veiga y Avendaño,

en el límite entre Batete y Luba, *Fernández Casas* 12036 (MA-513596); Musola, *Guinea* 1394 (MA-387629). CENTRO-SUR: pr. Acurenam, Mbeayop, *Aedo & al.* 5404 (MA-643161); P. N. Monte Alén, Mosumu, *Pérez Viso* 626 (MA-638519), *Pérez Viso* 627 (MA-638520); Nsung, carretera M. Alén-Evinayong, *Pérez Viso* 1667 (MA-643145); Ebalowa, carretera Vicurga-Evinayong, *Pérez Viso* 1701 (MA-643157); Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso* 1784 (MA-643141); P. N. Monte Alén, Monte Alén, carretera Monte Alén-Moca, *Velayos & al.* 9477 (MA-638765). LITORAL: Bata-Bome, praderas gramíneas del río Boara, *Carvalho* 4854 (MA-597911); cortina litoral Benito, *Guinea* 1022 (MA-389228). WELE-NZAS: ceito cúpula de Kukumankok, *Guinea* 18 (MA-186423); desembocadura del río Campo, *Pérez Viso* 2149 (MA-643142).

Previously recorded from Bioko (ADAMS 1957: 483, 487; ALSTON 1959: 49; JOHANSSON 1974: 26; BENL 1975: 132, 1982: 13-14; FERNÁNDEZ CASAS 1992: 40, 1996: 269. Sub *P. phymatodes*: MILDBRAED 1922: 177), and Río Muni (Sub *P. phymatodes*: GUINEA 1946: 88, 179, 184i, 184k).

#### **Platycerium stemaria** (P. Beauv.) Desv.

BIOKO NORTE: Malabo, finca das Carboneras, *Carvalho* 2603 (MA-419863); Servicio Agronómico de Santa Isabel, *Guinea* (MA-387103). CENTRO-SUR: Añisok, *Pérez Viso* 1379 (MA-638605), *Pérez Viso* 1380b (MA-638514). LITORAL: cortina litoral de río Benito, *Guinea* 861 (MA-389227), *Guinea* 863 (MA-214229). UNKNOWN PROVINCE: río Benito, Servicio Forestal, *Guinea* 2053 (MA-301368).

Previously recorded from Bioko (MILDBRAED 1922: 177; GUINEA 1946: 226, 1968: 130; ADAMS 1957: 480, 483; ALSTON 1959: 46; BENL 1975: 132, 1982: 9-10; FERNÁNDEZ CASAS 1992: 40), and Río Muni (GUINEA 1946: 143, 232g).

#### **Polypodium lanceolatum** L.

*Lepicystis lanceolata* (L.) Diels, *Pleopeltis lanceolata* (L.) Kaulf., *Pleopeltis macrocarpa* (Bory ex Willd.) Kaulf.

BIOKO NORTE: pico Basilé, *Guinea* 2768 (MA-186422). BIOKO SUR: subida pico Serrano, *Guinea* 1956 (MA-387631); above Moca, *Adams* 1101 (MA-387632).

Previously recorded from Bioko (ALSTON 1951: 198. Sub *L. lanceolata*: GUINEA 1968: 130. Sub *P. lanceolata*: ADAMS 1957: 492; ALSTON 1959: 49. Sub *P. macrocarpa*: BENL 1982: 15-16).

#### **Polypodium lycopodioides** L.

*Anapeltis lycopodioides* (L.) J. Sm., *Microgramma lycopodioides* (L.) Copel., *Anapeltis lycopodioides* var. *owariensis* (Desv.) Benl, *Microgramma owariensis* (Desv.) Alston

ANNOBÓN: Palé - San Pedro, márgenes del río Quepuchin, *Carvalho* 3091 (MA-556034). BIOKO NORTE: alrededores de Rebola, *Carvalho* 2005 (MA-556092); Malabo, pico Basilé, estrada km 4, *Carvalho* 2131 (MA-419393); subida al pico Basilé, *Fernández Casas & al.* 10285 (MA-424259); entre Malabo y Riaba, km 22, *Fernández Casas* 11645 (MA-555984). BIOKO SUR: puerto de Musola, Maule de Gaesa, pequeño cráter volcánico, *Fernández Casas* 10080 (MA-555973). CENTRO-SUR: P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al.* 5114 (MA-638682); Ebian, entre Aconibe y Acurenam, *Pérez Viso* 1420 (MA-638705); Añisok-Mongola, *Pérez Viso* 1496 (MA-638508). LITORAL: Bata-Bolondo, antiguo campo de aviacao de Bolondo, *Carvalho* 4755 (MA-597317); Bata-Senge-Mitom-Emangós, estrada kms. 68-69 después de Emangós, *Carvalho* 6477 (MA-620757); desembocadura del río Campo, *Pérez Viso* 2148 (MA-643143).

Previously recorded from Annobón (MILDBRAED 1922: 160; ALSTON 1944: 88; SOBRINHO 1953: 178. Sub *A. lycopodioides* var. *owariensis*: FERNÁNDEZ CASAS 1992: 36), Bioko (Sub *A. lycopodioides*: BENL 1982: 18-19. Sub *A.s lycopodioides* var. *owariensis*: FERNÁNDEZ CASAS 1992: 36. Sub *M. lycopodioides*: ADAMS 1957: 483. Sub *M. owariensis*: ALSTON 1959: 49), and Río Muni (GUINEA 1946: 157, 160).

#### PSILOACEAE

#### **Psilotum nudum** (L.) P. Beauv.

ANNOBÓN: laderas del pico do Fogo, *Carvalho* 3083 (MA-543122). LITORAL\*: Bata-Dibolo-Tica, estrada kms. 80-81, pequeño afluente del río Campo, *Carvalho* 4973 (MA-610105).

Previously recorded from Annobón (FERNÁNDEZ CASAS 1992 : 40 ; FERNÁNDEZ CASAS & MORALES 1995 : 234), and Bioko (BENL 1978 : 21-22).

## PTERIDACEAE

**Acrostichum aureum** L.

BIOKO NORTE : Malabo, Aeroporto, estrada km 6, margens do rio Mopobill, *Carvalho 2748* (MA-418055) ; entre Malabo y el aeropuerto, km 6, *Fernández Casas 11242* (MA-555971). BIOKO SUR : Luba, playa de Arenas Blancas, *Fernández Casas 10454* (MA-555976). LITORAL : Bata, desembocadura del río Ecuu, *Carvalho 5163* (MA-599480) ; cortina litoral de río Benito, *Guinea 916* (MA-389222), *Guinea 918* (MA-389223), *Guinea 925* (MA-389225), *Guinea 927* (MA-186689), *Guinea 977* (MA-389224), *Guinea 1045* (MA-186690) ; desembocadura del río Campo, *Pérez Viso 2173* (MA-643151).

Previously recorded from Bioko (ADAMS 1957 : 480 ; ALSTON 1959 : 36 ; GUINEA 1968 : 130 ; BENL 1975 : 131-132, 1988 : 22 ; FERNÁNDEZ CASAS 1992 : 35), and Río Muni (GUINEA 1946 : 24c, 167, 168j, 256g). The record of FERNÁNDEZ CASAS 1992 : 35 (*Fernández Casas 11899*, MA-556027) is *Coniogramme africana*.

**Adiantum mettenii** Kuhn

It has been recorded from Annobón : Lago A Pot, *Newton s.n* (LISU) (SOBRINHO 1953 : 178). We have failed to examine any herbarium material of this species.

**Adiantum philippense** L.

BIOKO NORTE : Malabo, Aeroporto, estrada km 6 patio Casa Joana, *Carvalho 2082* (MA-419392) ; camino de Riaba, junto al puente de Cope, *Fernández Casas & al. 10231* (MA-419809). BIOKO SUR : Luba, Batete, estrada km 4, *Carvalho 2294* (MA-424252) ; Malabo, Riaba, km 37-38, *Carvalho 3906* (MA-556066).

Previously recorded from Bioko (BENL 1980 : 26 ; FERNÁNDEZ CASAS 1992 : 35).

**Adiantum poiretii** Wikstr.

BIOKO NORTE : carretera del pico Basilé, km 12, *Carvalho 2266* (MA-556085) ; carretera del pico Basilé, km 18-19, nacimiento del río Cope, *Carvalho 3689* (MA-556072).

Previously recorded from Bioko (BENL 1980 : 27-28 ; FERNÁNDEZ CASAS 1992 : 35).

**Adiantum vogelii** Mett. ex Keyserl.

BIOKO NORTE : Malabo - aeropuerto, km 6, *Carvalho 2029* (MA-556091). LITORAL\* : Bata-Bicomo, margens do rio Ecuu no local da toma de água para la Central Eléctrica, *Carvalho 4818* (MA-597740).

Previously recorded from Bioko (ADAMS 1957 : 482 ; ALSTON 1959 : 39 ; BENL 1980 : 26-27 ; FERNÁNDEZ CASAS 1992 : 35-36).

**Afropteris repens** (C. Chr.) Alston  
*Pteris nitida* Mett. ex Kuhn

LITORAL : Bata- Río Campo, estrada kms 42-43, *Carvalho 4726* (MA-597971) ; cortina litoral del río Benito, *Guinea 84* (MA-389221), *Guinea 1033* (MA-186467), *Guinea 1231* (MA-389197) ; río Campo, a 39 km de la entrada desde la carretera de Niefang, cerca de Bongoro, *Pérez Viso 2184* (MA-643152), *Pérez Viso 2195* (MA-643153).

Previously recorded from Río Muni (ALSTON 1956 : 5. Sub *P. nitida* : GUINEA 1946 : 225).

**Anogramma leptophylla** (L.) Link

BIOKO NORTE : carretera del pico Basilé, km 27-28, *Carvalho 4317* (MA-555941) ; cumbre del pico Basilé, cruce a la Virgen de la Isla, *Fernández Casas 11213* (MA-555972).

Previously recorded from Bioko (FERNÁNDEZ CASAS 1992 : 36 ; FERNÁNDEZ CASAS & MORALES 1995 : 34).

**Coniogramme africana** Hieron.

*C. fraxinea* auct., *Gymnogramma javanica* Blume

BIOKO SUR : Moca, *Adams 1044* (MA-387542) ; Moca, *Fernández Casas 11708* (MA-555983) ; cerca de Moca, fuente de Mioco, *Fernández Casas 11899* (MA-556027).

Previously recorded from Bioko (ADAMS 1957 : 482, 486 ; ALSTON 1959 : 38 ; BENL 1980 : 29-30 ; FERNÁNDEZ CASAS 1992 : 37. Sub *C. fraxinea* : MILDBRAED 1922 : 176. Sub *Acrostichum aureum* : FERNÁNDEZ CASAS 1992 : 35. Sub *G. javanica* : HOOKER 1864 : 236 ; HENRIQUES 1887 : 155).

**Pellaea doniana** J. Sm. ex Hook.

BIOKO SUR : Concepción, *Maest* 2209 (BCC). CENTRO-SUR\* : Bicurga, *Lejoly* 99/475 (MA-621683). WELE-NZAS : Inselberg de Piedra Nzás, *Lejoly* 99/190 (MA-621712).

Previously recorded from Annobón (MILDBRAED 1922 : 159 ; ALSTON 1944 : 82 ; SOBRINHO 1953 : 178), and Bioko (BENL 1982 : 4-5).

**Pellaea holstii** Hieron.

WELE-NZAS\* : cerro cúpula de Asok, *Guinea* 170 (MA-389200), *Guinea* 346 (MA-186494) ; Piedra Nzás, dalle rocheuse d'Andom, *Lejoly* 99/227 (MA-621777).

Although there is no previous record from Equatorial Guinea, the GUINEA's (1946 : 184k) record based on *Guinea* 170, 346 (Sub *Pellaea* cf. *doniana*) refers to this taxon. Scattered through Central and East Tropical Africa (Cameroon, Gabon, Centro African Republic, and Tanzania) (TARDIEU-BLOT 1953 : 92, 1964a : 141, 1964b : 104 ; JOHNS 1991 : 20).

**Pityrogramma calomelanos** (L.) Link

ANNOBÓN : Palé, alrededores de Dyo Dyo, camino de San Pedro, *Carvalho* 3115 (MA-543121). BIOKO NORTE : cerca de Baney, km 5, *Carvalho* 2101 (MA-512264) ; Malabo-Basilé, cerca de Basilé, *Fernández Casas* 10106 (MA-525896, MA-533919) ; Malabo-Riaba, km 20, *Fernández Casas* 11378 (MA-512631) ; Malabo-Riaba, cerca de Baó Basuala, km 26,5, *Fernández Casas* 11510 (MA-513517) ; Servicio Agronómico de Santa Isabel, *Guinea* (MA-213736) ; Bahía de Venus, *Guinea* 202 (MA-387690). BIOKO SUR : Luba-Riaba, km 9-10 desde el cruce a Moca, *Carvalho* 4426 (MA-511780) ; Luba-Veiga y Avendaño, en el límite entre Batete y Luba, *Fernández Casas* 12018 (MA-513366). CENTRO-SUR\* : P. N.

Monte Alén, Mosumu, camino de las cataratas, *Aedo & al.* 5097 (MA-638690) ; P. N. Monte Alén, 3 km W de la station Ecofac, *Lejoly* 99/017 (MA-621782) ; P. N. Monte Alén, Mosumu, *Pérez Viso* 644 (MA-638525) ; Añisok-Mongola, *Pérez Viso* 1484 (MA-638500). LITORAL : desembocadura del río Campo, *Pérez Viso* 2167 (MA-643150).

Previously recorded from Annobón (FERNÁNDEZ CASAS 1992 : 40, FERNÁNDEZ CASAS & MORALES 1995 : 234), and Bioko (ALSTON 1951 : 196, 1959 : 38 ; ADAMS 1957 : 480, 482, 486, 491 ; BENL 1980 : 30-31 ; FERNÁNDEZ CASAS 1992 : 40).

**Pteris atrovirens** Willd.

BIOKO SUR : bosque del km 35 de la carretera de San Carlos, *Guinea* 652 (MA-387743). CENTRO-SUR : Bata-Niefang, estrada km 35, entre río Sama y río Comayá, *Carvalho* 5765 (MA-599065).

Previously recorded from Bioko (ALSTON 1951 : 197, 1959 : 42 ; ADAMS 1957 : 483 ; BENL 1975 : 132, 1988 : 16-17), and Río Muni (GUINEA 1946 : 156). The record of ALSTON (1951 : 197) (*Guinea* 1224, MA-387742) is *Pteris burtoni*.

**Pteris burtonii** Baker

BIOKO SUR : Musola, trocha del Servicio Agronómico, *Guinea* 1224 (MA-387742). CENTRO-SUR\* : Bata-Niefang-Monte Alén, subida a Monte Alén en dirección a río Otom-Asok, *Carvalho* 5365 (MA-599644) ; Evinayong, *Guinea* 59 (MA-386656) ; P. N. Monte Alén, lago Atok, *Pérez Viso* 1079 (MA-638585) ; P. N. Monte Alén, Bisun, *Pérez Viso* 1220 (MA-638696) ; P. N. Monte Alén, Mosumu, alrededores de las cataratas del río Laña, *Pérez Viso* 1285 (MA-638691) ; Añisok-Mongola, *Pérez Viso* 1489 (MA-638505) ; Misergue-Churu, *Pérez Viso* 1660 (MA-643148) ; P. N. Monte Alén, cabaña del Lago, *Velayos & al.* 9517 (MA-638776).

Previously recorded from Bioko (ADAMS 1957 : 486 ; ALSTON 1959 : 42 ; BENL 1988 : 7-8. Sub *Pteris atrovirens* : ALSTON 1951 : 197).

**Pteris dentata** Forssk.

*Pteris dentata* subsp. *flabellata* (Thunb.) Runemark, *Pteris flabellata* Thunb.

BIOKO NORTE : regreso del pico de Basilé, *Guinea* 2960 (MA-387693), *Guinea* 2963 (MA-387692).

Previously recorded from Bioko (MILDBRAED 1922 : 177 ; ALSTON 1951 : 197, 1959 : 42 ; ADAMS 1957 : 486, 491. Sub subsp. *flabellata* : BENL 1988 : 11-12. Sub *P. flabellata* : HOOKER 1864 : 234).

***Pteris hamulosa* (H. Christ) H. Christ**

BIOKO SUR : Maule, *Benl FP 53* (M).

Previously recorded from Bioko (BENL 1988 : 19-20).

***Pteris intricata* C. H. Wright**

BIOKO SUR : between Moca and Iladyi fall, *Adams 1057* (MA-387122); Moca, cascada do rio Iladyi, *Carvalho 2776* (MA-419468).

Previously recorded from Bioko (ADAMS 1957 : 486, 491 ; ALSTON 1959 : 42 ; BENL 1988 : 8).

***Pteris linearis* Poir.**

CENTRO-SUR\* : Bindeng, explotación forestal de Matroguisa (Niefang), *Pérez Viso 2402* (MA-643154). LITORAL : Utonde Adjap, *Guinea 90* (MA-386648).

Previously recorded from Bioko (ALSTON 1959 : 42 ; BENL 1975 : 132, 1988 : 18-19). ADAMS' (1957 : 486) record of *P. biaurita* L. has been identified by BENL (1988 : 18-19) as *P. linearis* (*Adams 1011*).

***Pteris manniana* Mett. ex Kuhn**

*Pteris camerooniana* Kuhn

BIOKO NORTE : Monte Balea, *Guinea 417* (MA-186474), *Guinea 433* (MA-387740). BIOKO SUR : near Loretto lake, Moca, *Adams 1016* (MA-387123); Balachá, *Guinea 1480* (MA-387739).

Previously recorded from Bioko (ALSTON 1959 : 40 ; BENL 1975 : 132, 1988 : 6. Sub *P. camerooniana* : MILDBRAED 1922 : 177 ; GUINEA 1946 : 225 ; ALSTON 1951 : 196-197, 1959 : 40 ; ADAMS 1957 : 483, 486).

***Pteris mildbraedii* Hieron.**

BIOKO NORTE : Monte Balea, *Guinea 537* (MA-387694).

Previously recorded from Bioko (ALSTON 1951 : 197, 1959 : 42 ; ADAMS 1957 : 483 ; BENL 1988 : 20-21).

***Pteris preussii* Hieron.**

It has been recorded from Bioko Sur : Iladyi River woodlands, *Adams s.n.* (unknown herbarium) (ADAMS 1957 : 486). We have failed to examine any herbarium material of this species.

***Pteris prolifera* Hieron.**

BIOKO SUR : Balachá, *Guinea 1496* (MA-390640). CENTRO-SUR\* : Bata-Monte Alén, margens de río Oton Asok, *Carvalho 5330* (MA-598179); Bata-Niefang, estrada km 35, en dirección de Adjape a la zona de Comayá, *Carvalho 5798* (MA-609961).

Previously recorded from Bioko (ALSTON 1951 : 197, 1959 : 40, ADAMS 1957 : 486, BENL 1988 : 11).

***Pteris pteridioides* (Hook) Ballard**

*Hypolepis pteridioides* Hook., *Pteris brevisora* Baker

BIOKO SUR : Moca, *Adams 1040* (MA-387124); finca Puente, *Guinea 1679* (MA-387737), *Guinea 1681* (MA-186468), *Guinea 1684* (MA-387738).

Previously recorded from Bioko (ALSTON 1951 : 197, 1959 : 42, ADAMS 1957 : 486, 491 ; BENL 1988 : 9. Sub *P. brevisora* : MILDBRAED 1922 : 177 ; GUINEA 1946 : 225. Sub *H. pteridioides* : HOOKER 1864 : 234).

***Pteris similis* Kuhn**

CENTRO-SUR\* : Bata-Niefang-Monte Alén, estrada km 100, proximidades de Engong, margens del río Lobo, *Carvalho 5915* (MA-609869).

Previously recorded from Bioko (ALSTON 1959 : 42 ; BENL 1988 : 18).

***Pteris togoensis* Hieron.**

*Pteris paucipinnata* Alston, *Pteris quadriaurita* auct.

BIOKO NORTE : pico Basilé, *Pérez Viso 1471* (MA-638491).

Previously recorded from Annobón (Sub *P. quadriaurita* : ALSTON 1944 : 84), Bioko (ALSTON 1959 : 42 ; BENL 1988 : 13-14. Sub *P. paucipinnata* : BENL 1988 : 14-15, 153. Sub *P. quadriaurita* : ADAMS 1957 : 483, 486), and Río Muni (Sub *P. quadriaurita* : GUINEA 1946 : 225).

***Pteris tripartita* Sw.**

*Pteris marginata* Bory

BIOKO : Fernando Poo, *Vogel s.n* (K).

Previously recorded from Bioko (BENL 1988 : 15-16. Sub *P. marginata* : ADAMS 1957 : 483), and Río Muni (GUINEA 1946 : 154).

SCHIZAEACEAE

***Lygodium microphyllum* (Cav.) R. Br.**

*Lygodium scandens* (L.) Sw.

LITORAL : Bata, entre Asonga e o Aeroporto, río Muni, caracolas da cooperación Asonga, *Carvalho 4636* (MA-597324) ; Bata, praderas de Bome, *Pérez Viso 1743* (MA-643201). UNKNOWN PROVINCE : río Benito, *Guinea 922* (MA-386659), *Guinea 925* (MA-213940).

Previously recorded from Equatorial Guinea (Sub *L. scandens* : GUINEA 1946 : 227).

***Lygodium smithianum* C. Presl ex Kuhn**

BIOKO NORTE : Malabo - aeropuerto, km 6, zona pantanosa junto a la playa, *Carvalho 3271* (MA-556080) ; entre Malabo y el aeropuerto, km 6, *Fernández Casas 11256* (MA-555970). CENTRO-SUR : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al. 5103* (MA-638689) ; Evinayong, proximidades de la cascada del río Laña, antiguo camino de Cogo, *Guinea 500* (MA-386653) ; P. N. Monte Alén, Misergue, senda hacia el río Laña, *Pérez Viso 1158* (MA-638590) ; Añisok-Mongola, *Pérez Viso 1477* (MA-638495) ; Misergue-Churu, *Pérez Viso 1665* (MA-643202) ; Bindeng, explotación forestal de Matroguisa (Niefang), *Pérez Viso 2404* (MA-643203). UNKNOWN PROVINCE : Bata-Monson, estrada kms. 41-42, explotación forestal de BISA, *Carvalho 4786* (MA-597929).

Previously recorded from Bioko (ADAMS 1957 : 483 ; ALSTON 1959 : 24 ; BENL 1975 : 132, 1978 : 22-23 ; FERNÁNDEZ CASAS 1992 : 38), and Río Muni (GUINEA 1946 : 184i, 227).

SELAGINELLACEAE

***Selaginella cathedriformis* Spring**

CENTRO-SUR : Mafanebú, *Guinea 96* (MA-389218), *Guinea 97* (MA-214388), *Guinea 188* (MA-186773) ; Misergue-Churu, *Pérez Viso 1647* (MA-643180). WELE-NZAS : Inselberg Dumu, *Lejoly 99/338* (MA-621693).

Previously recorded from Bioko (BENL 1978 : 15), and Río Muni (GUINEA 1946 : 228).

***Selaginella goudotiana* Spring**

*Selaginella abyssinica* Spring, *Selaginella goudotiana* var. *abyssinica* (Spring) Bizzarri, *Selaginella preussii* Hieron.

BIOKO SUR : Mioko heights, near Moca, *Adams 1104* (MA-387674).

Previously recorded from Bioko (Sub *S. abyssinica* : GUINEA 1946 : 228 ; ADAMS 1957 : 486, 491 ; ALSTON 1959 : 16 ; BENL 1975 : 132. var. *abyssinica* : BENL 1978 : 16-17), and Río Muni (Sub *S. preussii* : GUINEA 1946 : 229).

***Selaginella grillipes* Alston**

CENTRO-SUR\* : P. N. Monte Alén, Engong, subida a las praderas, *Pérez Viso 682* (MA-638527) ; Bata-Monte Alén, Margens de río Bomo, *Carvalho 5313* (MA-598223).

Not previously recorded from Equatorial Guinea. According to Alston (1957 : 32), and Tardieu-Blot (1964b : 16) this species is known from Gabon : Nyanga, entre Digoundou [2°51'00"S, 10°37'00"E] et Tono [3°02'00"S, 10°50'00"E], *Le Testu 1598*, type collection (BM) ; Ngounié, piste de Mimongo [1°38'00"S, 11°39'00"E] à Mbingou [1°53'00"S, 11°56'00"E], *Hallé & Cours 6159* (unknown herbarium) ; Nkan, NE Mela, mts. de Cristal [0°43'N, 9°40'E], *Hallé 4789* (K) ; Issiami, sur la Louessé, affluent du Niari [0°49'N, 10°34'E],



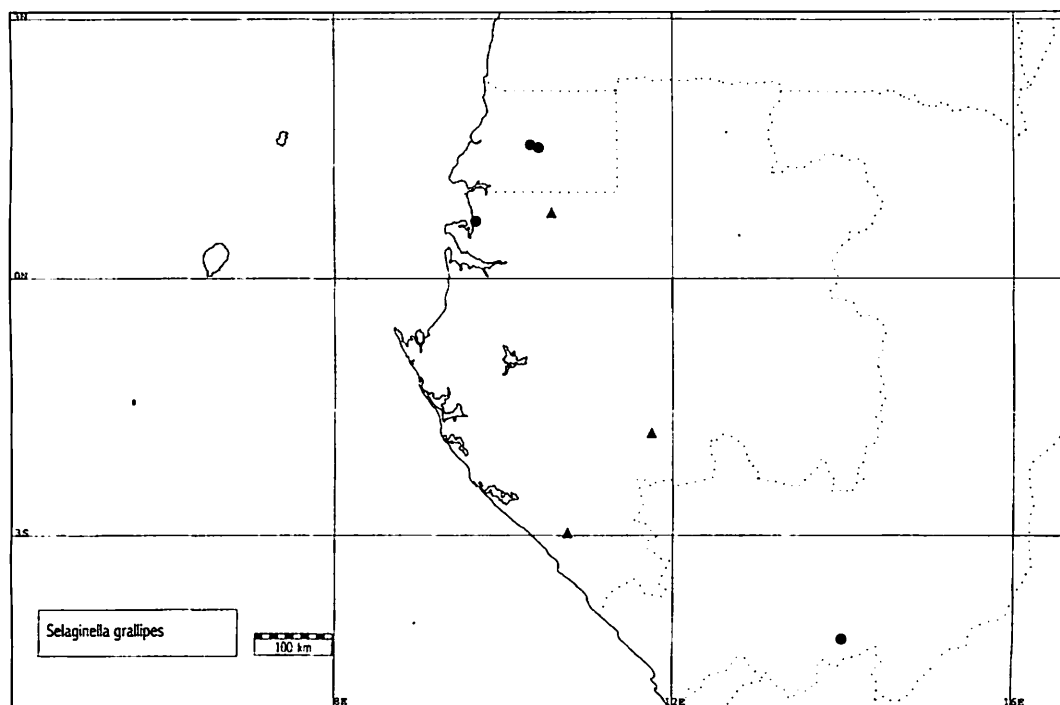


FIG. 2. —Distribution map of *Selaginella grallipes* based on literature records (triangles), and own data (circles)

*Baudon 750* (P), and Congo : foret a Manda entre Sibiti et Mongouzi [4°08'S, 14°00'E], *Nicklès 115* (BM). Figure 2 shows a general distribution map of this species.

#### *Selaginella kalbreyeri* Baker

BIOKO SUR : Río Mioco near carretera de Valle Moca between km 20 and 21, *Benl 338* (BC-621414).

Previously recorded from Bioko (BENL 1978 : 17-18).

#### *Selaginella kivuensis* Bizzarri

CENTRO-SUR\* : Bata-Niefang, estrada km 35, entre los ríos Sama y Comayá, *Carvalho 5823* (MA-610051).

Not previously recorded from Equatorial Guinea. According to BIZZARRI (1983 : 176, 1985 : 51) this species is also known from Zaire : Irangi [0°05'N, 29°11'E], *Cambridge Congo Exped. 326* (BR) ; zone Kabare, Maziba [1°28'S, 29°25'E], *Léonard 5048* (BR). Figure 3 shows a general distribution map of this species.

#### *Selaginella kraussiana* (Kunze) A. Braun

BIOKO SUR : near Iladyi waterfall, *Adams 1080* (MA-387675) ; ascensión al pico Serrano, *Guinea 2018* (MA-387676).

Previously recorded from Bioko (ALSTON 1951 : 199, 1959 : 16 ; ADAMS 1957 : 483, 486 ; BENL 1978 : 14-15).

#### *Selaginella molleri* Hieron.

BIOKO SUR : 2 miles SW of Lago Biaó, *Wrigley & Melville 662* (K).

Previously recorded from Bioko (BENL 1978 : 20).

#### *Selaginella molliceps* Spring

BIOKO NORTE : Monte Balea, *Guinea 495* (MA-387678). CENTRO-SUR\* : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al. 5109* (MA-638687) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1813* (MA-643181). WELE-NZAS : Mbong-Biwogo, entre Piedra Nzás et Acoaseng, *Lejoly 99/274* (MA-621771).

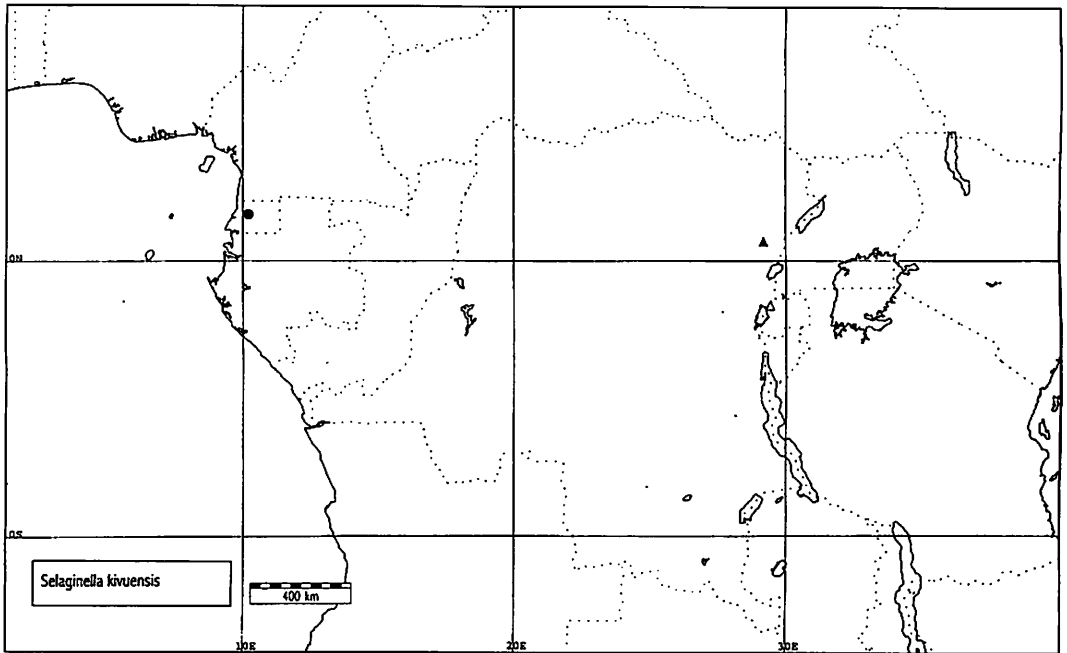


FIG. 3. —Distribution map of *Selaginella kivuensis* based on literature records (triangles), and own data (circles)

Previously recorded from Bioko (GUINEA 1946 : 159, 229 ; ALSTON 1951 : 199, 1959 : 17 ; ADAMS 1957 : 483 ; BENL 1978 : 20-21.

***Selaginella myosorus* (Sw.) Alston**  
*Selaginella scandens* (P. Beauv.) Spring

BIOKO NORTE : Malabo, cerca de Cupapa km 23, *Carvalho* 2699 (MA-424262) ; entre Malabo y Luba, km 26, cerca de Montes de Oca, *Fernández Casas & al.* 10334 (MA-419810) ; Malabo, Basilé, La Vigatana, *Fernández Casas* 10100 (MA-525895, MA-533925) ; carretera del pico Basilé, *Fernández Casas* 11237 (MA-512669) ; Malabo, Riaba, km 20, *Fernández Casas* 11387 (MA-512635) ; Rebola, *Lope del Val* 232 (MA-390632), 233 (MA-390633). BIOKO SUR : Malabo, Riaba, entre Bacake Grande y Bacake Pequeño, *Carvalho* 2384 (MA-512229) ; Belebú Balachá, *Fernández Casas* 12125 (MA-513228) ; Musola, Servicio Agronómico, *Guinea* 985 (MA-387677). CENTRO-SUR : pr. Acurenam, Mbeayop, 1°03'N, 10°37'E, *Aedo & al.* 5392 (MA-643160) ; Evinayong, *Guinea* 98 (MA-389229) ; P. N. Monte Alén, Mosumu, *Pérez Viso* 630 (MA-638522) ; Ebalowa, carretera Vicurga-Evinayong, *Pérez Viso* 1704 (MA-643184) ;

Mufu, cerca de Oveu (Acurenam), *Pérez Viso* 2103 (MA-643186). LITORAL : Bata, Bata-Asonga, caracolas da Cooperación, *Carvalho* 4651 (MA-597276) ; Utonde, *Guinea* 728 (MA-186766) ; costa, *Guinea* 975 (MA-186767) ; Sendjc-Bisun, *Pérez Viso* 1619 (MA-643185) ; río Campo, a 39 km de la entrada desde la carretera de Niefang, cerca de Bongoro, *Pérez Viso* 2196 (MA-643183).

Previously recorded from Bioko (ALSTON 1951 : 199, 1959 : 15 ; ADAMS 1957 : 483, 486 ; BENL 1978 : 13-14 ; FERNÁNDEZ CASAS 1992 : 41. Sub *S. scandens* : GUINEA 1946 : 229), and Río Muni (Sub *S. scandens* : GUINEA 1946 : 184i, 229).

***Selaginella soyauxii* Hieron.**

BIOKO SUR : Musola, Servicio Agronómico, *Guinea* 1090 (MA-387071), *Guinea* 1313 (MA-387679).

Previously recorded from Bioko (ALSTON 1951 : 199, 1959 : 16 ; ADAMS 1957 : 483, 486 ; BENL 1978 : 19).

**Selaginella squarrosa** Baker

ALSTON (1959 : 16) recorded this species from Equatorial Guinea, based on *Mann 1648*. No specimen of this collection is kept at BM or K. Probably this collection number is a mistake with *Mann 1638* (K) from "Sierra del Cristal". These mountains are on the boundary of Río Muni and Gabon.

**Selaginella versicolor** Spring

BIOKO NORTE : Malabo, pico Basilé, estrada km 3, *Carvalho 2155* (MA-419861). CENTRO-SUR\* : Bata-Monte Alén, margens de río Oton Asok, *Carvalho 5325* (MA-598167) ; Bata-Niefang, estrada km 35, en zonas de Adjape a la zona de Comayá, *Carvalho 5805* (MA-610015) ; P. N. Monte Alén, lago Atok, *Pérez Viso 1083* (MA-638586). LITORAL : Bata-Senge-Mitom-Emangós, estrada kms. 64-65, a 3-4 kms de Emangos hacia Cogo, *Carvalho 6456* (MA-620831).

Previously recorded from Bioko (ADAMS 1957 : 483, 486 ; ALSTON 1959 : 16 ; BENL 1975 : 132, 1978 : 15-16). According to BENL (1978 : 16) MILDBRAED'S (1922 : 178) record of *S. zenkeri* Hieron. must refer to this taxon.

**Selaginella vogelii** Spring

BIOKO NORTE : *Guinea 359* (MA-387680) ; Rebola, *Lope del Val 234* (MA-388948). BIOKO SUR : Luba, Riaba, estrada km 27, *Carvalho 2075* (MA-492349) ; Malabo, Riaba, junto al puente sobre el río Cope, *Carvalho 3727* (MA-512404). CENTRO-SUR : P. N. Monte Alén, Mosumu, cataratas del Laña, *Aedo & al. 5154* (MA-638788) ; Bata-Niefang, estrada km 35, en las zonas de Adjape y Akoga, *Carvalho 6024* (MA-609772) ; Evinayong, *Guinea 99* (MA-389230) ; P. N. Monte Alén, Nkumekien, *Velayos & al. 9341* (MA-638795). WELE-NZAS : Monument naturel de Piedra Nzás, dalle rocheuse de Ncoho Biworo, *Lejoly 99/253* (MA-621787).

Previously recorded from Bioko (ALSTON 1951 : 199, 1959 : 16 ; ADAMS 1957 : 483, 486 ; BENL 1975 : 132, 1978 : 18-19 ; FERNÁNDEZ CASAS 1992 : 41), and Río Muni (GUINEA 1946 : 159).

## THELYPTERIDACEAE

**Amauropelta bergiana** (Schltdl.) Holttum

*Thelypteris bergiana* (Schltdl.) Ching, *Dryopteris maranguensis* (Hieron.) C. Chr.

BIOKO NORTE : regreso del pico Basilé, *Guinea 2970* (MA-412197)

Previously recorded from Bioko (BENL 1988 : 48-49. Sub *Th. bergiana* : ADAMS 1957 : 487, 491 ; ALSTON 1959 : 61. Sub *D. maranguensis* : ALSTON 1951 : 189).

**Amphineuron terminans** (J. Sm. ex Hook.) Holttum

*Thelypteris wagneri* Fosber & Sacht

BIOKO : Fernando Poo, *Vogel s.n* (K).

Previously recorded from Bioko (BENL 1988 : 50-51).

**Christella dentata** (Forssk.) Brownsey & Jermy  
*Dryopteris dentata* (Forssk.) C. Chr., *Cyclosorus dentatus* (Forssk.) Ching, *Dryopteris molle* (Sw.) Hieron.

ANNOBÓN : Ambo, *Melville 144* (K). BIOKO NORTE : Basupú del Este, *Bent 256* (BC-621331). CENTRO-SUR\* : Acurenam, *Aedo & al. 5410* (MA-643163) ; Eviam, Matroguisa, entre Acurenam y Aconibe, *Pérez Viso 1825* (MA-643139). LITORAL : Utonde Adjap, *Guinea 68* (MA-386676) ; río Campo, a 29 km de la entrada desde la carretera de Niefang, cerca de Bongoro, *Pérez Viso 2206* (MA-643133).

Previously recorded from Annobón (Sub *D. molle* : MILDBRAED 1922 : 159. Sub *D. dentata* : ALSTON 1944 : 61 ; GUINEA 1946 : 223), and Bioko (BENL 1988 : 53-54).

**Christella hispidula** (Decne.) Holttum  
*Cyclosorus hispidulus* (Decne.) Ching, *Cyclosorus quadrangularis* (Fée) Tardieu

BIOKO SUR : Maule and Parador de Musola, *Bent 322* (BC-621330).

Previously recorded from Bioko (BENL 1988 : 51-52. Sub *C. quadrangularis* : ADAMS 1957 : 486 ; ALSTON 1959 : 62).

**Cyclosorus interruptus** (Willd.) H. Itô

BIOKO SUR : bajada al lago de Biaó, *Escarré 2040* (BCC).

Previously recorded from Bioko (BENL 1988 : 56-57). ALSTON's (1951 : 190) record from Bioko of *Dryopteris gongylodes* (Schkuhr) Kuntze, based on *Guinea* 2224 must refer to this taxon.

**Cyclosorus striatus** (Schumach.) Ching  
*Dryopteris striata* (Schumach.) C. Chr.

BIOKO : Fernando Poo, *Vogel* 41 (K). LITORAL\* : Bata-Mepemba, Nasam, nas margens do rio Afumagang, *Carvalho* 4840 (MA-597727).

Previously recorded from Bioko (ADAMS 1957 : 491 ; ALSTON 1959 : 62 ; BENL 1988 : 55. Sub *D. striata* : ALSTON 1951 : 190). ALSTON's (1951 : 190) record from Bioko of *D. gongylodes* (Schkuhr) Kuntze, based on *Guinea* 2233 must refer to this taxon.

**Metathelypteris fragilis** (Baker) Holttum subsp. *guineensis* Benl

BIOKO SUR : Eastern affluent of Upper Río Iladyi, *Benl* FP 166 (K).

Previously recorded from Bioko (BENL 1988 : 43-44, 150).

**Pneumatopteris afra** (H. Christ) Holttum  
*Dryopteris afra* H. Christ, *Cyclosorus afra* (H. Christ) Ching, *Cyclosorus oppositifolius* auct.

BIOKO : Fernando Poo, *Vogel* 62 (K). BIOKO SUR : BOCOCO, *Benl* 194 (BC-621382). CENTRO-SUR\* : P. N. Monte Alén, Mosumu, camino de las cataratas, *Aedo & al.* 5110 (MA-638686) ; pr. Acurenam, Mbeayop, *Aedo & al.* 5397 (MA-643212) ; Evinayong, cascada del río Laña, *Guinea* 70 (MA-386674), *Guinea s.n.* (MA-634130) ; P. N. Monte Alén, Engong, camino hacia el lago Atok, *Pérez Viso* 788 (MA-638531). WELE-NZAS : Bimbile, *Guinea* 32 (MA-186660) ; P. N. Monte Alén, Engong, camino del Lago, *Velayos & al.* 9487 (MA-638767). UNKNOWN PROVINCE : carretera Oyap, *Guinea* 16 (MA-186661).

Previously recorded from Bioko (BENL 1988 : 57-58. Sub *D. afra* : MILDBRAED 1922 : 176. Sub *C. afra* : ADAMS 1957 : 482, 486, 491 ; ALSTON 1959 : 63 ;). The record of ALSTON (1959 : 62) based on *Vogel* 62, sub *Cyclosorus oppositifolius*, is *Pneumatopteris afra*.

**Pneumatopteris blastophora** (Alston) Holttum  
*Cyclosorus blastophorus* Alston

BIOKO : Fernando Poo, *Mann* 377 (K).

Previously recorded from Bioko (BENL 1988 : 60 ; Sub : *C. blastophorus* : ALSTON 1959 : 62).

**Pneumatopteris oppositifolia** (Hook.) Holttum  
*Cyclosorus oppositifolius* (Hook.) Tardieu

ANNOBÓN\* : towards Pico Surcado from San Pedro, *Wrigley* 231 (K).

Previously recorded from Bioko (BENL 1988 : 62).

**Pneumatopteris unita** (Kunze) Holttum  
*Cyclosorus costularis* (Baker) Ching

BIOKO SUR : fuente de Mioco, *Benl* 602 (BC-621381).

Previously recorded from Bioko (BENL 1988 : 61. Sub *C. costularis* : ADAMS 1957 : 486).

**Pneumatopteris venulosa** (Hook. ex Kuntze) Holttum

*Dryopteris venulosa* Hook. ex Kuntze, *Nephrodium venulosum* Hook., *Cyclosorus elatus* (Mett. ex Kuhn) Alston, *Dryopteris elata* (Mett. ex Kuhn) C. Chr.

BIOKO : Fernando Poo, *Mann s.n.* (K).

Previously recorded from Annobón (Sub *D. elata* : MILDBRAED 1922 : 159. Sub *D. venulosa* : ALSTON 1944 : 66. Sub *N. venulosum* : GUINEA 1946 : 223), and Bioko (BENL 1988 : 59. Sub *C. elatus* : ALSTON 1959 : 62. Sub *N. venulosum* : GUINEA 1946 : 223), and Río Muni (Sub *N. venulosum* : GUINEA 1946 : 223).

**Pseudocyclosorus pulcher** (Bory ex Willd.) Holttum

*Thelypteris zambesiaca* (Baker) Tardieu

BIOKO SUR : valle de Moca, *Benl* 327 (BC-621380).

Previously recorded from Bioko (HOLTTUM & GRIMES 1980 : 514 ; BENL 1988 : 46-47. Sub *Th.*

*zambesiaca* : ADAMS 1957 : 487 ; ALSTON 1959 : 61).

***Pseudophegopteris cruciata* (Willd.) Holttum**  
*Thelypteris cruciata* (Willd.) Tardieu

BIOKO SUR : Lago Loreto by path near crater lake, Adams 1018 (K).

Previously recorded from Bioko (BENL 1988 : 44-45. *T. cruciata* : ADAMS 1957 : 487, ALSTON 1959 : 61).

***Stegnogramma pozoi* (Lag.) K. Iwats.**  
*Gymnogramma totta* (Willd.) Schldtl., *Leptogramma pilosiuscula* (Wikstr.) Alston

BIOKO : Fernando Poo, Mann 358 (K).

Previously recorded from Bioko (BENL 1988 : 49-50. Sub *G. totta* : HOOKER 1864 : 236. Sub *L. pilosiuscula* : ADAMS 1957 : 482, ALSTON 1959 : 63).

VITTARIACEAE

***Antrophyum mannianum* Hook.**

BIOKO NORTE : pico Basilé, Adams 1158 (MA-390634) ; pico Basilé, descenso del Refugio, Guinea 2550 (MA-301337).

Previously recorded from Bioko (MILDBRAED 1922 : 176 ; ALSTON 1951 : 197, 1959 : 35 ; ADAMS 1957 : 487, 491 ; BENL 1975 : 132, 1982 : 6 ; GUINEA 1968 : 131), and Río Muni (GUINEA 1946 : 157).

***Vittaria guineensis* Desv.**

*Vittaria guineensis* var. *camerooniana* Schelpe

ANNOBÓN\* : S of Crater Lake, Melville 153 (K). BIOKO NORTE : regreso del pico Basilé, Guinea 2996 (MA-389311). BIOKO SUR : Moca, Adams 1039 (MA-389300) ; finca Puente, Guinea 1647 (MA-389299) ; lago de Moca, Guinea 2238 (MA-214688). CENTRO-SUR : Nsung, carretera M. Alén-Evinayong, Pérez Viso 1683 (MA-643206).

Previously recorded from Bioko (MILDBRAED 1922 : 177 ; ALSTON 1951 : 197, 1959 : 35 ; ADAMS 1957 : 483, 487, 492 ; BENL 1982 : 7. Sub

var. *camerooniana* : BENL 1982 : 8), and Río Muni (GUINEA 1946 : 157).

***Vittaria schaeferi* Hieron.**

CENTRO-SUR : Ebian, entre Aconibe y Acurenam, Pérez Viso 1436 (MA-638483) ; Añisok-Mongola, Pérez Viso 1474 (MA-638493).

Not previously recorded from Equatorial Guinea. According to TARDIEU-BLOT (1953 : 202, 1964a : 126) this species is known from Cameroon (Ebolowa [02°54'N 11°09'E], Annet 403 (unknown herbarium) ; Mont Manengouba [05°00'N 9°50'E], Schäfer 77 (P). Additionally two more localities have been gathered from the Tropicos database (<http://mobot.mobot.org/W3T/Search/pick.html>) : Cameroon Littoral, 04°49'N 09°42'E, Thomas & Macleod 5081 (MO), and Cameroon West, 05°25'N 010°04'E, Nkongme-neck 1649 (unknown herbarium). Figure 4 shows a general distribution map of this species.

DOUBTFUL OR ERRONEOUS RECORDS

*Acrostichum virens* Baker

No specimen supporting HENRIQUES' (1887 : 156) record from Bioko has been found. *Arthropteris oblitterata* (R. Br.) J. Sm.

The record from Bioko of ALSTON 1951 : 192 (*Guinea* 651, MA-387572) is *Arthropteris palisotii*. According to BENL (1982 : 32) MILDBRAED'S (1922 : 176) record from Bioko is *A. palisotii*. *Aspidium cameroonianum* Mett. ex Kuhn

No material has been found supporting this record from Río Muni by GUINEA (1946 : 156). *Asplenium aspidioides* Schldtl.

No material has been found supporting this record from Bioko (*Mann s.n.*) by HOOKER (1864 : 235). This taxon is a synonym of *Athyrium scandicium* (Willd.) C. Presl, an East African species. *Asplenium formosum* Willd.

The record from Río Muni based on *Guinea* 1237 (MA-389179) (GUINEA 1946 : 224) is *Asplenium sandersonii*. *Asplenium cuneatum* Lam.

According to BENL (1991 : 26), ADAMS' (1957 : 487) record from Bioko should be considered *A. buettneri*.

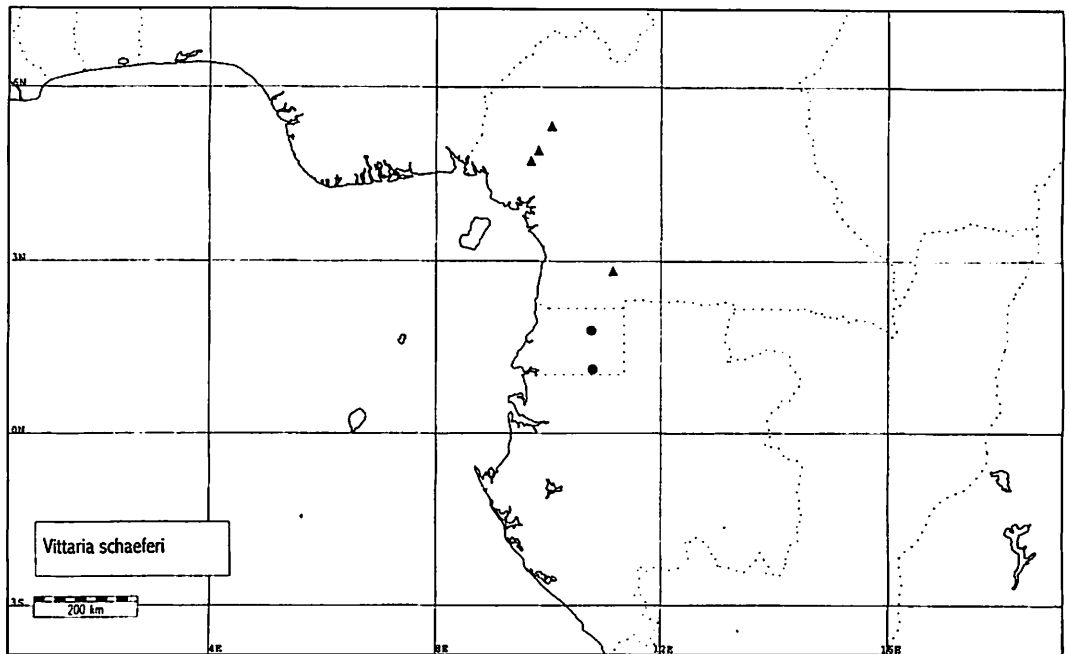


FIG. 4. —Distribution map of *Vittaria schaeferi* based on literature records (triangles), and own data (circles)

*Asplenium laserpitiifolium* Lam.

No material has been found supporting this record by GUINEA (1968 : 131).

*Asplenium uhligii* Hieron.

No material has been found supporting this record from Bioko by ALSTON (1959 : 59).

*Athyrium scandicinum* (Willd.) C. Presl

No material has been found supporting this record from Bioko (*Mann s.n.*) by MILDBRAED (1922 : 176).

*Diplazium decussatum*

GUINEA (1946 : 156) recorded *Diplazium decussatum* from Río Muni. It is, probably a mistake with *Asplenium decussatum* Sw. According to ALSTON (1959 : 65) the later is a synonym of *Diplazium proliferum*.

*Doryopteris gogyloides* Kuhn

It seems to be a GUINEA's (1946 : 232b) mistake with *Dryopteris gongylodes*.

*Doryopteris megaphylla* Kuhn

It seems to be a GUINEA's (1946 : 225) mistake with *Dryopteris megaphylla* C. Chr. No specimen supporting this record from Río Muni has been found.

*Doryopteris tomentella* Kuhn

It seems to be a mistake with *Dryopteris tomentella* C. Chr. No specimen supporting GUINEA's (1946 : 225) record from Río Muni has been found.

*Dryopteris cf. concolor* (Langsd. & Fisch.) Kuhn

No specimen supporting GUINEA's (1946 : 223) record has been found.

*Dryopteris gongylodes* (Schkuhr) Kuntze

No specimen supporting GUINEA's (1946 : 232b) record from Río Muni has been located. The two records from Bioko (ALSTON 1951 : 190) has been identified by BENL (1988 : 56-57) as *Cyclosorus interruptus* (Guinea 2224), and as *Cyclosorus striatus* (Guinea 2233).

*Cyclosorus oppositifolius* (Hook.) Tardieu

The record of ALSTON (1959 : 62) based on Vogel 62 (K) is *Cyclosorus afer*.

*Dryopteris inaequalis* (Schltdl.) Kuntze

The records from Bioko (ALSTON 1951 : 190) has been identified by BENL (1991 : 36-37) as *Dryopteris pentheri* (Guinea 2769, 2771, 2773). No specimen supporting MILDBRAED's (1922 : 176) record from Bioko has been located.

*Elaphoglossum preussii* Hieron.

ALSTON'S (1951 : 198, 1959 : 66) record of *E. preussii* (based on *Guinea* 2939) must refer to *Elaphoglossum acrostichoides*.

*Elaphoglossum welwitschii* (Baker) C. Chr.

ADAMS' (1957 : 491) record of *E. welwitschii* (Baker) C. Chr. (based on *Adams* 1111) must refer to *E. salicifolium*.

*Lindsaea ensifolia* Sw.

*Schizolegnia ensifolia* (Sw.) Alston, *Schizoloma ensifolia* (Sw.) J. Sm.

According to BENL (1988 : 7) there is no specimen supporting GUINEA'S (1949 : 73) record. Further mentions of this taxa (ADAMS 1957 : 483 ; ALSTON 1959 : 44) are also based on Guinea's record.

*Gymnopteris gabonensis* J. Sm.

No specimen supporting GUINEA'S (1946 : 226) record from Río Muni has been found.

*Lonchitis pubescens* Willd.

No specimen supporting HENRIQUES' (1887 : 151) record from Bioko has been found.

*Lycopodium adolfi-friderici* Herter

Probably MILDBRAED'S (1922 : 160) record from Annobón, and MILDBRAED (1922 : 177) and ADAMS' (1957 : 491) records from Bioko are a confusion with *Urostachys adolfi-friderici* Herter (*Huperzia standtii* (Nessel) Pic. Serm.). Anyway no specimen supporting these records has been found.

*Lycopodium gnidioides* L. f.

The record from Bioko (ALSTON 1951 : 199) was corrected to ALSTON (1959 : 12), as *Huperzia brachystachys* (*Guinea* 2685, BM).

*Lycopodium sarcocaulon* A. Braun & Welw. ex Kuhn

The record from Río Muni (GUINEA 1946 : 23, 175, 228) is *Lycopodiella affinis* (*Guinea* 95, 945).

*Nephrodium inaequale* Hook.

HOOKE (1864 : 236) recorded this species on Bioko and Cameroon Mountains. No specimen under this name has been found.

*Nephrolepis cordifolia* (L.) C. Presl

The record from Río Muni (GUINEA 1946 : 88a) is *Nephrolepis pumicicola* (based on *Guinea* 1028).

*Polypodium lineare* Thunb.

No specimen supporting HENRIQUES' (1887 : 155) record from Bioko has been found.

*Polypodium loriforme* Wall.

No specimen supporting HOOKE'S (1864 : 236) record from Bioko has been found.

*Polypodium phyllitidis* L.

The record from Río Muni (GUINEA 1946 : 226) is *Microsorium punctatum* (based on *Guinea* 93-497).

*Pseudophegopteris aubertii* (Desv.) Holttum

The specimen *Benl* FP 429 (K) from Bioko supporting BENL'S (1988 : 45-46) record shows intermediate features with *P. cruciata*. Holttum labelled this specimen in 1977 as "nearer to *Pseudophegopteris aubertii* (Desv.) than to *P. cruciata* (Willd.)".

*Pteris biaurita* L.

The record from Bioko (ADAMS 1957 : 486) has been identified by BENL (1988 : 18-19) as *Pteris linearis* (*Adams* 1011).

*Selaginella imbricata*

It seems to be a mistake by *S. umbricata* (Forssk.) Spring. No specimen supporting GUINEA'S (1946 : 184i) record from Río Muni has been found.

*Selaginella zenkeri* Hieron.

According to BENL (1978 : 16) MILDBRAED'S (1922 : 178) based on *Mildbraed* 6283 is *S. versicolor*.

*Trichomanes hookeri* C. Presl

No specimen supporting GUINEA'S (1946 : 157) record from Río Muni has been found.

*Trichomanes motleyi* Bosch

No specimen supporting MILDBRAED (1922 : 159) and GUINEA'S (1946 : 221) records from Bioko has been found.

*Vittaria owarensis* Fée

ALSTON (1959 : 35) suggests that this taxon grows in Annobón, probably based on MILDBRAED'S (1922 : 159) record. However, no specimens supporting such record has been found neither at K nor at BM.

## ACKNOWLEDGEMENTS

The authors are grateful to Agencia Española de Cooperación Internacional (AECI) for funding this

study. We wish to thank the people of Conservation et Utilisation Rationnelle des Ecosystèmes Forestiers d'Afrique Centrale (ECOFAC), Conservation et Utilisation Rationnelle des Ecosystèmes Forestiers de Guinée Ecuatoriale (CUREF) and herbarium BATA (Ministerio de Bosques) for their hospitality and support during fieldwork at Equatorial Guinea. P. Esono aids us with the not very easy toponymy. We also thank, for their assistance during our visit to the different herbaria : L. Rico and D. Zappi from K, A. Paul and C. Peña from BM, Á. Romo from BC, Ll. S. Goñalons and J. Ninot from BCC. J. Paiva from COI helps us with some Henriques' collections. R. Viane from GENT, kindly confirmed our *Asplenium* identifications. P. Edwards and M. Cheek (from K), E. Rico (from SALA), and an anonymous reviewer carefully read the early draft of the manuscript improving it with their valuable commentaries.

#### REFERENCES

- AEDO C., TELLERÍA M. T. & VELAYOS M., 1999. — Bases documentales para la Flora de Guinea Ecuatorial. Plantas vasculares y hongos. Consejo Superior de Investigaciones Científicas, Madrid.
- ADAMS C. D., 1957. — Observations on the fern Flora of Fernando Poo. I. A description of the vegetation with particular reference to the Pteridophyta. *J. Ecol.* **45** (3) : 479-494.
- ALSTON A. H. G., 1944. — Pteridophyta : 57-99. In : EXELL, A. W. Catalogue of the Vascular Plants of S. Tomé (with Príncipe and Annobon). Trustees of the British Museum, London.
- ALSTON A. H. G., 1951. — Pteridophyta Fernando-poanae. *Bol. Real Soc. Esp. Hist. Nat., Secc. Biol.* **49** (1-3) : 189-199.
- ALSTON A. H. G., 1956. — New African ferns. *Bol. Soc. Brot., Sér. 2* **30** : 5-27.
- ALSTON A. H. G., 1957. — Famille des Selaginellaceae. In : TARDIEU-BLOT M. L. & ALSTON A. H. G., Les Pteridophytes de l'Afrique intertropicale française. *Mém. Inst. Franç. Afrique Noire* **50** : 9-49.
- ALSTON A. H. G., 1959. — The ferns and fern-allies of West Tropical Africa. The Crown Agents for overseas Governments and Administrations, London.
- BENL G., 1975. — Impressions of a fern trip to Fernando Poo. *Boissiera* **24a** : 131-133.
- BENL G., 1978. — The Pteridophyta of Fernando Po. (Contributions to a Flora of the island). I : Lycopodiaceae, Selaginellaceae, Psilotaceae, Schizaeaceae, Gleicheniaceae, Osmundaceae, Cyatheaceae. *Acta Bot. Barcinon.* **31** : 1-31.
- BENL G., 1980. — The Pteridophyta of Fernando Po. (Contributions to a Flora of the island). II : Marattiaceae, Hymenophyllaceae, Adiantaceae, Hemionitidaceae. *Acta Bot. Barcinon.* **32** : 1-34.
- BENL G., 1982. — The Pteridophyta of Fernando Po. (Contributions to a Flora of the island). III : Ophioglossaceae, Sinopteridaceae, Vittariaceae, Polypodiaceae, Grammitaceae, Loxogramma-ceae, Davalliaceae, Oleandraceae, Nephrolepidaceae. *Acta Bot. Barcinon.* **33** : 1-46.
- BENL G., 1988. — The Pteridophyta of Bioko (Fernando Poo). (Contributions to a Flora of the island). IV : Isoëtaceae, Pteridaceae, Acrostichaceae, Dennstaedtiaceae, Hypolepidaceae, Athyriaceae, Thelypteridaceae, Blechnaceae. *Acta Bot. Barcinon.* **38** : 1-69.
- BENL G., 1991. — The Pteridophyta of Bioko (Fernando Poo). (Contributions to a Flora of the island). V : Aspleniaceae, Aspidiaceae, Lomariopsidaceae, Elaphoglossaceae. Addendum. Key to families. Acknowledgements. References. Index. *Acta Bot. Barcinon.* **40** : 1-106.
- BIZZARRI M. P., 1983. — Two new species of Selaginella (Selaginellaceae) from Zaire. *Bull. Jard. Bot. Nat. Belg.* **53** : 171-176.
- BIZZARRI M. P., 1985. — Selaginellaceae : 1-55. In : BAMPS P. (ed.). Flore d'Afrique Centrale (Zaire-Rwanda-Burundi). Jardin Botanique National du Belgique, Meise.
- EDWARDS P. J., 1998. — Ferns : 182-198. In : CABLE, S. & CHEEK, M. (eds.), The plants of Mount Cameroon. A Conservation Checklist. Royal Botanic Garden, Kew.
- EDWARDS P. J., ONANA J. M. & POLLARD B. J., 2000. — Filicopsida : 194-199. In : CHEEK M., ONANA J. M. & POLLARD B. J. (eds.). The plants of Mount Oku and the Ijim Ridge, Cameroon. A Conservation Checklist. Royal Botanic Garden, Kew.
- FERNÁNDEZ CASAS F. J., 1992. — Ad Guineae Aequatorialis floram texendam inventa varia. *Fontqueria* **33** : 33-85.
- FERNÁNDEZ CASAS F. J., 1994. — Ad Guineae Aequatorialis floram texendam inventa varia, II. *Fontqueria* **39** : 31-44.
- FERNÁNDEZ CASAS F. J. & MORALES VALVERDE, R., 1995. — Proyecto de una flora de la isla de Bioco (Guinea Ecuatorial). *Anales Jard. Bot. Madrid* **52** (2) : 230-240.



- FIGUEIRIDO E., 1998. — The pteridophytes of São Tomé and Príncipe (Gulf of Guinea). *Bull. Nat. Hist. Mus. Lond. (Bot.)* **28** : 41-66.
- GUINEA E., 1946. — Ensayo geobotánico de la Guinea Continental Española. Dirección General de Marruecos y Colonias, Madrid.
- GUINEA E., 1949. — En el país de los Bubis (relato ilustrado de mi primer viaje a Fernando Póo). Instituto de Estudios Africanos, Madrid.
- GUINEA E., 1951. — Asteraceae (Compositae) Fernando-pooanae. *Anales Jard. Bot. Madrid* **10** (1) : 301-340.
- GUINEA E., 1968. — Fernando Po. In : HEDBERG I. & HEDBERG O. (eds.). Conservation of vegetation in Africa South of the Sahara. *Acta Phytogeogr. Suec.* **54** : xi, 1-320.
- HENRIQUES J. A., 1887. — Contribuições para o estudo da Flora d'África. Flora de S. Thomé. *Bol. Soc. Brot.* **4** (3-4) : 129-221.
- HERRERO A., AEDO C., VELAYOS M. & VIANE R. L., 2001. — A new species of *Asplenium* (Aspleniaceae, Pteridophyta) from Equatorial Guinea. *Ann. Bot. Fenn.* **38** : 175-180.
- HOLTUM R. E., 1974. — Thelypteridaceae of Africa and adjacent islands. *S. African J. Bot.* **40** : 123-168.
- HOLTUM R. E., 1981. — The tree-ferns of Africa. *Kew Bull.* **36** (3) : 463-482.
- HOLTUM R. E., 1986. — Studies in the fern-genera allied to *Tectaria* V. *Triplophyllum*, a new genus of Africa and America. *Kew Bull.* **41** (2) : 237-260.
- HOLTUM R. E. & GRIMES J. W., 1980. — The genus *Pseudocyclosorus* Ching (Thelypteridaceae). *Kew Bull.* **34** (3) : 499-516.
- HOOKER J. D., 1864. — On the plants of the temperate regions of the Cameroons Mountains and Islands in the Bight of Benin ; collected by Mr. Gustav Mann, Government Botanist. *J. Proc. Linn. Soc., Bot.* **7** : 171-240.
- JOHANSSON D., 1974. — Ecology of vascular epiphytes in West African rain forest. *Acta Phytogeogr. Suec.* **59** : 1-129.
- JOHNS R. J., 1991. — Pteridophytes of Tropical East Africa. Royal Botanic Gardens, Kew.
- KRAMER K. U. & GREEN P. S., 1990. — Pteridophytes and Gymnosperms. In : KUBITZKI, K. (ed.), *The Families and Genera of Vascular Plants*. Springer-Verlag, Berlin.
- KORNAS J., DZWONKO Z. & PACYNA A., 1990. — Notes on African Hymenophyllaceae 4. *Hymenophyllum triangulare* Bak. subsp. *uluguruense* Kornas subsp. nov. (East Africa). *Bull. Jard. Bot. Belg.* **60** (1-2) : 155-168.
- LAWALRÉE A., 1989. — Lycopodiaceae. In : BAMPIS, P. (ed.), *Flore d'Áfrique Centrale (Zaire-Rwanda-Burundi)*. Jardin Botanique National du Belgique, Meise.
- MILDBRAED J., 1922. — Wissenschaftliche Ergebnisse der Zweiten Deutschen Zentral-Afrika-Expedition 1910-1911, Band II : Botanik. Verlag von Klinkhardt & Biermann, Leipzig.
- NOOTEBOOM H. P., 1994. — Notes on Davalliaceae II. A revision of the genus *Davallia*. *Blumea* **39** : 151-214.
- PÉREZ DEL VAL J., 1996. — Las aves de Bioko, Guinea Ecuatorial. Edileasa, León.
- PICHI SERMOLLI R. E. G., 1985. — On the taxonomy and nomenclature of some species of *Ctenitis* (Aspladiaceae) from Tropical Africa. *Webbia* **39** (1) : 1-28.
- SCHELPE E. A. C. L. E., 1952. — A revision of the African species of *Blechnum*. *J. Linn. Soc., Bot.* **53** (355) : 487-510.
- SCHELPE E. A. C. L. E., 1969. — Reviews of Tropical African Pteridophyta 1. *Contr. Bolus Herb.* **1** : 1-132.
- SCHELPE E. A. C. L. E., 1970. — Pteridophyta. In : EXELL, A. W. & LAUNERT, E. (ed.), *Flora Zambesiaca. The Crown Agents for overseas Governments and Administrations*, London.
- SCHELPE E. A. C. L. E., 1977. — Lycopodiaceae. In : FERNANDES R. B., LAUNERT E. & MENDES E. J. (ed.), *Conspectus Florae Angolensis*. Junta de Investigações Científicas do Ultramar, Lisboa.
- SOBRINHO L. G., 1953. — Vascular plants from Ano Bom and Príncipe islands collected by F. Newton and J. de Souza Junior. *Portugaliae Acta Biol., Sér. B, Sist.* **4**(1) : 177-190.
- TARDIEU-BLOT M. L., 1953. — Les Pteridophytes de l'Áfrique intertropicale française. *Mém. Inst. Franç. Afrique Noire* **28** : 1-241.
- TARDIEU-BLOT M. L., 1964a. — Pteridophytes. In : AUBRÉVILLE A. (ed.), *Flore du Cameroun* **3** : 372 p. Muséum National d'Historie Naturelle, Paris.
- TARDIEU-BLOT M. L., 1964b. — Pteridophytes. In : AUBRÉVILLE A. (ed.), *Flore du Gabon* **8** : 228 p. Muséum National d'Historie Naturelle, Paris.
- VIANE R. L. L. & REICHSTEIN T., 1992. — Notes about *Asplenium* II : some new names and combinations in *Asplenium* L. (Aspleniaceae, Pteridophyta). *Dodonaea* **59** : 157-165.
- WILKS C. & ISSEMBÉ Y., 2000. — Guide pratique d'identification : les arbres de la Guinée Équatoriale.

Ministère des Affaires étrangères, Coopération et Développement, France, Paris.

## INDEX TO SCIENTIFIC NAMES

Accepted names are in **boldface**. Synonyms are in *italics*.

### Acrostichum

- aubertii* Desv., 165
- aureum** L., 173, 174
- hybridum* Bory, 165
- sorbifolium* auct., 166
- splendens* Bory, 165
- virens* Baker, 181

ADIANTACEAE. *see* PTERIDACEAE

### Adiantum

- mettenii** Kuhn, 173
- philippense** L., 173
- poiretii** Wikstr., 173
- vogelii** Mett. ex Keyserl., 173

### Afropteris

- repens** (C. Chr.) Alston, 173

### Alsophila

- camerooniana* (Hook.) R. M. Tryon, 153
- camerunensis* Diels, 153
- dregei* (Kunze) R. M. Tryon, 154
- manniana* (Hook.) R. M. Tryon, 154
- zenkeri* Hieron. ex Diels, 153

### Amauropelta

- bergiana** (Schltdl.) Holttum, 179

### Amphineuron

- terminans** (J. Sm. ex Hook.) Holttum, 179

### Anapeltis

- lycopodioides* (L.) J. Sm., 172
- lycopodioides* var. *owariensis* (Desv.) Benl, 172

### Anisosorus

- occidentalis* (Baker) C. Chr., 156

### Anogramma

- leptophylla** (L.) Link, 173

### Antrophyum

- mannianum** Hook., 181

### Arthropteris

- cameroonensis** Alston, 169
- monocarpa** (Cordem.) C. Chr., 169
- obliterata* (R. Br.) J. Sm., 169, 181
- orientalis* (J.F. Gmel.) Posth., 169
- palisotii** (Desv.) Alston, 169, 181

ASPIDACEAE. *see* DRYOPTERIDACEAE

### Aspidium

- aculeatum* auct., 158
- barteri* J. Sm., 158

*cameroonianum* Mett. ex Kuhn, 181

*cicutarium* auct., 159

### ASPLENIACEAE, 146

#### Asplenium

- abyssinicum** Fée, 146
- aemilii-guineae* Alston, 149
- aethiopicum** (Burm.f.) Bech., 149
- affine* Sw., 149
- africanum** Desv., 149
- anisophyllum** Kunze, 150
- annetii** (Jeanp.) Alston, 150
- annobonense** Mildbr. ex Viane, 150
- aspidioides* auct., 156
- aspidioides* Schltdl., 181
- barteri** Hook., 150
- barteri* var. *acuta* Hieron., 150
- biafranum** Alston & Ballard ex Ballard, 150
- boltonii*, 150
- brachypterum* Kunze, 150
- buettneri** Hieron., 150, 181
- cancellatum** Alston, 150
- carvalhoanum** Herrero *et al.*, 150
- cornutum* Alston, 153
- cuneatum* Lam., 181
- currori* Hook., 149
- decussatum* Sw., 182
- dimidiatum* auct., 151
- dregeanum** Kunze, 150
- emarginatum** P. Beauv., 151
- erectum** Bory ex Willd., 151
- erectum* var. *usambarensis* (Hieron.) Schelpe, 151
- formosum* Willd., 153, 181
- friesiorum** C. Chr., 151
- furcatum* Thunb., 149
- gemmiferum** Schrad., 151
- geppii* Carruth., 150
- hemitomum** Hieron., 151
- hypomelas** Kuhn, 151
- inaequilaterale* Willd., 151
- isabelense** Brause, 151
- laserpitiifolium* Lam., 182
- longicauda** Hook., 151
- macrophlebium** Baker, 152
- mannii** Hook., 152
- megalura** Hieron., 152
- monanthemum* Murray, 152
- monanthes** L., 152
- nigritianum** Hook., 152
- paucijugum** Ballard, 152
- preussii** Hieron., 152
- protensum** Schrad., 152
- quintasii** Gand., 151

- repandum* Mett. ex Kuhn, 153  
*sandersonii* Hook., 152, 181  
*serra* auct., 150, 151  
*sinuatum* P. Beauv., 149  
*subaequilaterale* (Baker) Hieron., 153  
*subhemitomum* Brause, 153  
*theciferum* (Kunth) Mett., 153  
*theciferum* var. *cornutum* (Alston) Benl, 153  
*uhligii* Hieron., 182  
*unilaterale* Lam., 153  
*usambarensis* Hieron., 151  
*vagans* Baker, 152  
*variabile* Hook., 153  
*variabile* var. *paucijugum* (Ballard) Alston, 152
- ATHYRIACEAE. *see* DRYOPTERIDACEAE
- Athyrium**  
*ammifolium* (Mett.) C. Chr., 156  
*glabratum* (Mett. ex Kuhn) Alston, 157  
*scandicinum* (Willd.) C. Presl, 181, 182
- Belvisia**  
*spicata* (L. f.) Mirb. ex Copel., 170
- BLECHNACEAE, 153
- Blechnum**  
*attenuatum* (Sw.) Mett., 153  
*attenuatum* var. *holstii* Hieron., 153  
*giganteum* (Kaulf.) Schldl., 153
- Blotiella**  
*currorii* (Hook.) R. M. Tryon, 155  
*glabra* (Bory) R. M. Tryon, 155  
*mannii* (Baker) Pic. Serm., 155  
*reducta* (C. Chr.) R. M. Tryon, 155  
*tisserantii* (Alston & Tardieu ex Tardieu) Pic. Serm., 155
- Bolbitis**  
*acrostichoides* (Afzel. ex Sw.) Ching, 164  
*auriculata* (Lam.) Alston, 164, 165  
*fluviatilis* (Hook.) Ching, 164  
*salicina* (Hook.) Ching, 165
- Callipteris**  
*prolifera* (Lam.) Bory, 156
- Christella**  
*dentata* (Forssk.) Brownsey & Jermy, 179  
*hispidula* (Decne.) Holttum, 179
- Coniogramme**  
*africana* Hieron., 173  
*fraxinea* auct., 173
- Ctenitis**  
*barteriana* (Hook.) Alston, 158  
*cirrrosa* (Schumach.) Ching, 156  
*currori* (Mett. ex Kuhn) Tardieu, 158  
*fraterni* subsp. *biokoensis* Pic. Serm., 159  
*jenseniae* (C. Chr.) Tardieu, 159  
*lanigera* (Mett. ex Kuhn) Tardieu, 160  
*lanuginosa* (Willd. ex Kaulf.) Copel., 156  
*protensa* (Sw.) Ching, 159  
*pubigera* Alston, 158  
*securidiformis* (Hook.) Copel., 160  
*subcoriacea* (C. Chr.) Alston, 160  
*subs similis* (Hook.) Tardieu, 158  
*variabilis* (Hook.) Tardieu, 159  
*vogelii* (Hook.) Ching, 160
- Cyathea**  
*camerooniana* Hook., 153  
*camerooniana* var. *aethiopica* (Welw. ex Hook.) Holttum, 153  
*camerooniana* var. *congi* (H. Christ) Holttum, 153  
*camerooniana* var. *zenkeri* (Hieron. ex Diels) Tardieu, 153  
*dregei* Kunze, 154  
*manniana* Hook., 154  
*obtusiloba* (Hook.) Domin, 154  
*usambarensis* Hieron., 154
- CYATHEACEAE, 153
- Cyclosorus**  
*afer* (H. Christ) Ching, 182  
*afra* (H. Christ) Ching, 180  
*blastophorus* Alston, 180  
*costularis* (Baker) Ching, 180  
*dentatus* (Forssk.) Ching, 179  
*elatus* (Mett. ex Kuhn) Alston, 180  
*hispidulus* (Decne.) Ching, 179  
*interruptus* (Willd.) H. Itô, 179, 183  
*oppositifolius* (Hook.) Tardieu, 180, 183  
*oppositifolius* auct., 180  
*quadrangularis* (Fée) Tardieu, 179  
*striatus* (Schumach.) Ching, 180, 183
- Cystopteris**  
*fragilis* (L.) Bernh., 157
- Davallia**  
*chaerophylloides* (Poir.) Steud., 154  
*denticulata* (Burm. f.) Mett. ex Kuhn, 154  
*elegans* Sw., 154  
*nigrescens* Hook., 151  
*repens* (L. f.) Kuhn, 155
- DAVALLIACEAE, 154
- DENNSTAEDTIACEAE, 155
- Dicranopteris**  
*linearis* (Burm. f.) Underw., 160
- Didymochlaena**  
*lunulata* Desv., 157  
*truncatula* (Sw.) J. Sm., 157
- Diplazium**  
*cirrrosa* (Schumach.) Kuntze, 156  
*decussatum*, 182

- hylophilum* (Hieron.) C. Chr., 157  
*nemorale* (Baker) Schelpe, 157  
*proliferum* (Lam.) Kaulf., 156, 182  
*sammatii* (Kuhn) C. Chr., 157  
*silvaticum* (Bory) Sw., 157  
*variinerve* Hieron. ex Mildbr., 157  
*welwitschii* (Hook.) Diels, 157
- Doryopteris*  
*gogyloides* Kuhn, 182  
*megaphylla* Kuhn, 182  
*tomentella* Kuhn, 182
- Drynaria**  
*laurentii* (H. Christ ex De Wild. & Durand) Hieron., 170  
*volkensii* Hieron., 170
- Dryoathyrium**  
*boryanum* (Willd.) Ching, 157
- DRYOPTERIDACEAE, 156**
- Dryopteris**  
*afra* H. Christ, 180  
*concolor* (Langsd. & Fisch.) Kuhn, 182  
*dentata* (Forssk.) C. Chr., 179  
*elata* (Mett. ex Kuhn) C. Chr., 180  
*fraternum* (Mett. ex Kuhn) Alston, 159  
*glabrata* (Mett. ex Kuhn) Kuntze, 157  
*gongylodes* (Schkuhr) Kuntze, 179, 180, 182  
*inaequalis* (Schltdl.) Kuntze, 157, 182  
*jenseniae* C. Chr., 159  
*lanuginosa* (Willd.) C. Chr., 156  
*manniana* (Hook.) C. Chr., 157  
*maranguensis* (Hieron.) C. Chr., 179  
*megaphylla* C. Chr., 182  
*molle* (Sw.) Hieron., 179  
*nigritiana* (Mett. ex Baker) Kuntze, 158  
*orientalis* (J.F. Gmel.) C. Chr., 169  
*pentheri* (Krasser) C. Chr., 157, 182  
*punctata* (Thunb.) C. Chr., 156  
*securidiformis* (Hook.) C. Chr., 160  
*squamiseta* (Hook.) Kuntze, 154, 158  
*striata* (Schumach.) C. Chr., 180  
*tomentella* C. Chr., 158, 182  
*variabilis* (Hook.) Alston, 159  
*venulosa* Hook. ex Kuntze, 180
- DYPTERIDACEAE. see POLYPODIACEAE**
- ELAPHOGLOSSACEAE. see LOMARIOPSIDACEAE**
- Elaphoglossum**  
*acrostichoides* (Hook. & Grev.) Schelpe, 165, 183  
*aubertii* (Desv.) T. Moore, 165  
*barteri* (Baker) C. Chr., 165  
*cinnamomeum* (Baker) Diels, 165  
*clarenceanum* (Baker) C. Chr., 165  
*conforme* (Sw.) Schott, 165
- hybridum** (Bory) Brack., 165  
*isabelense* Brause, 165  
*kuhnii* Hieron., 165  
*preussii* Hieron., 165, 183  
*salicifolium* (Willd. ex Kaulf.) Alston, 165, 183  
*splendens* (Bory) Brack., 165  
*viscosum* var. *salicifolium* (Willd. ex Kaulf.) Hieron., 165  
*welwitschii* (Baker) C. Chr., 165, 183
- Gleichenia**  
*linearis* (Burm.f.) C.B. Clarke, 160
- GLEICHENIACEAE, 160**
- GRAMMITACEAE, 161**
- Gymnogramma**  
*javanica* Blume, 173  
*lanceolata* (Sw.) Hook., 171  
*totta* (Willd.) Schltdl., 181
- Gymnopteris**  
*gabonensis* J. Sm., 183
- HEMIONITIDACEAE. see PTERIDACEAE**
- Histiopteris**  
*incisa* (Thunb.) J. Sm., 155
- Huperzia**  
*brachystachys* (Baker) Pic. Serm., 166, 183  
*mildbraedii* (Herter) Pic. Serm., 167  
*ophioglossoides* (Lam.) Rothm., 167  
*phlegmaria* (L.) Rothm., 167  
*standtii* (Nessel) Pic. Serm., 183  
*verticillata* (L. f.) Trevis., 167
- HYMENOPHYLLACEAE, 161**
- Hymenophyllum**  
*capillare* Desv., 161  
*ciliatum* Sw., 161  
*ciliatum* var. *boryanum* (Willd.) Mett. ex Kuhn, 161  
*hirsutum* (L.) Sw., 161  
*kuhnii* C. Chr., 162  
*mildbraedii* (Brause ex Brause & Hieron.) Alston, 162  
*polyanthos* auct., 162  
*polyanthos* var. *kuhnii* (C. Chr.) Schelpe, 162  
*sphaerocarpum* auct., 162  
*splendidum* Bosch, 162  
*triangulare* Baker, 162
- HYPOLEPIDACEAE. see DENNSTAETIDIACEAE**
- Hypolepis**  
*anthriscifolia* C. Presl, 156  
*pteridioides* Hook., 175  
*rugosula* (Labill.) J. Sm., 156  
*rugosula* var. *africana* C. Chr., 156  
*sparsisora* (Schrud.) Kuhn, 156
- ISOETACEAE, 164**
- Isoetes**

- biafrana** Alston, 164  
**spinulospora** Jermy & Schelpe, 164
- Lastreopsis**  
**barteriana** (Hook.) Tardieu, 158  
**currorii** (Mett. ex Kuhn) Tindale, 158  
**nigritiana** (Mett. ex Baker) Tindale, 158  
**subsimilis** (Hook.) Tindale, 158  
**vogelii** (Hook.) Tindale, 158
- Lepicystis**  
*lanceolata* (L.) Diels, 172
- Lepisorus**  
**excavatus** (Bory ex Willd.) Ching, 171  
**preussii** (Hieron.) Pic. Serm., 171
- Leptochilus**  
*auriculatus* var. *undulato-crenata* Hieron., 164  
*fluviatilis* (Hook.) C. Chr., 164
- Leptogramma**  
*pilosiuscula* (Wikstr.) Alston, 181
- Lindsaea**  
*ensifolia* Sw., 183
- LOMARIOPSIDACEAE, 164**
- Lomariopsis**  
**decrescens** (Baker) Kuhn, 166  
**guineensis** (Underw.) Alston, 166  
**hederacea** Alston, 166  
**mannii** (Underw.) Alston, 166  
**muriculata** Holttum, 166  
*nigrescens* Holttum, 166  
**rossii** Holttum, 166  
**warneckeii** (Hieron.) Alston, 166
- Lonchitis**  
*currorii* (Hook.) Mett., 155  
*glabra* Bory, 155  
*mannii* (Baker) Alston, 155  
**occidentalis** Baker, 156  
*pubescens* Willd., 183  
*reducta* C. Chr., 155  
*tisserantii* Alston & Tardieu ex Tardieu, 155
- LOXOGRAMMACEAE. see POLYPODIACEAE**
- Loxogramme**  
*lanceolata* (Sw.) C. Presl, 171  
*lanceolata* var. *latifolia* (Bonap.) Benl, 171  
**latifolia** Bonap., 171
- LYCOPODIACEAE, 166**
- Lycopodiella**  
**affinis** (Bory) Pic. Serm., 167, 183  
**cernua** (L.) Pic. Serm., 167
- Lycopodium**  
*adolphi-friderici* Herter, 183  
*brachystachys* (Baker) Alston, 166  
*cernuum* L., 167  
**clavatum** L., 167, 168  
*clavatum* var. *borbonicum* Bory, 168  
*gnidioides* L. f., 167, 183  
*mildbraedii* Herter, 167  
*ophioglossoides* Lam., 167  
*phlegmaria* L., 167  
*sarcocaulon* A. Braun & Welw. ex Kuhn, 167, 183  
*verticillatum* L. f., 167
- LYGODIACEAE. see SCHIZAEACEAE**
- Lygodium**  
**microphyllum** (Cav.) R. Br., 176  
*scandens* (L.) Sw., 176  
**smithianum** C. Presl ex Kuhn, 176
- Marattia**  
**fraxinea** J. Sm., 168
- MARATTIACEAE, 168**
- Metathelypteris**  
**fragilis** (Baker) Holttum subsp. **guineensis** Benl, 180
- Microgramma**  
*lycopodioides* (L.) Copel., 172  
*owariensis* (Desv.) Alston, 172
- Microlepia**  
**speluncae** (L.) T. Moore, 156
- Microsorium**  
**punctatum** (L.) Copel., 171, 183
- Nephrodium**  
*fraternum* (Mett. ex Kuhn) Hieron., 159  
*inaequale* Hook., 183  
*subquinquefidum* (P. Beauv.) Hook., 159  
*venulosum* Hook., 180
- NEPHROLEPIDACEAE, 168**
- Nephrolepis**  
*acuta* (Schkuhr) C. Presl, 168  
**biserrata** (Sw.) Schott, 168  
*cordifolia* (L.) C. Presl, 169, 183  
**delicatula** Decne., 169  
**pumicicola** Ballard, 169, 183  
**undulata** (Afzel. ex Sw.) J. Sm., 169
- Oleandra**  
**annetii** Tardieu, 170  
**distenta** Kunze, 170  
*nodosa* auct., 170
- OLEANDRACEAE, 169**
- OPHIOGLOSSACEAE, 170**
- Ophioglossum**  
**gomezianum** Welw. ex A. Br., 170  
**reticulatum** L., 170
- Osmunda**  
**regalis** L., 170  
*regalis* var. *capensis* (C. Presl) Milde, 170
- OSMUNDACEAE, 170**
- Pellaea**

- doniana* J. Sm. ex Hook., 174  
*holstii* Hieron., 174
- Phymatosorus**  
*scolopendria* (Burm. f.) Pic. Serm., 171
- Pityrogramma**  
*calomelanos* (L.) Link, 174
- Platycerium**  
*stemaria* (P. Beauv.) Desv., 172
- Pleopeltis**  
*excavata* (Bory ex Willd.) Sledge, 171  
*lanceolata* (L.) Kaulf., 172  
*macrocarpa* (Bory ex Willd.) Kaulf., 172  
*preussii* (Hieron.) Tardieu, 171
- Pneumatopteris**  
*afra* (H. Christ) Holttum, 180  
*blastophora* (Alston) Holttum, 180  
*oppositifolia* (Hook.) Holttum, 180  
*unita* (Kunze) Holttum, 180  
*venulosa* (Hook. ex Kuntze) Holttum, 180
- POLYPODIACEAE, 170**
- Polypodium**  
*duale* auct., 161  
*elasticum* Bory ex Willd., 161  
*irioides* Poir., 171  
*lanceolatum* L., 172  
*lineare* Thunb., 183  
*loriforme* Wall., 183  
*loxogramme* Mett., 171  
*lycopodioides* L., 172  
*phyllitidis* L., 171, 183  
*phymatodes* L., 171  
*preussii* Hieron., 171  
*punctatum* (L.) Sw., 171  
*rugosulum* Labill., 156  
*serrulatum* (Sw.) Mett., 161  
*villosissimum* Hook., 161
- Polystichum**  
*aculeatum* var. *mildbraedii* Brause, 158  
*fuscopaleaceum* Alston, 158  
*wilsonii* H. Christ, 158
- Pseudocyclosorus**  
*pulcher* (Bory ex Willd.) Holttum, 180
- Pseudophegopteris**  
*aubertii* (Desv.) Holttum, 183  
*cruciata* (Willd.) Holttum, 181, 183
- PSILOTACEAE, 172**
- Psilotum**  
*nudum* (L.) P. Beauv., 172
- PTERIDACEAE, 173**
- Pteridium**  
*aquilinum* (L.) Kuhn subsp. *aquilinum*, 156

**Pteris**

- atrovirens* Willd., 174  
*biaurita* L., 175, 183  
*brevisora* Baker, 175  
*burtonii* Baker, 174  
*camerooniana* Kuhn, 175  
*dentata* Forssk., 174  
*dentata* subsp. *flabellata* (Thunb.) Runemark, 174  
*flabellata* Thunb., 174  
*hamulosa* (H. Christ) H. Christ, 175  
*intricata* C. H. Wright, 175  
*linearis* Poir., 175, 183  
*magniana* Mett. ex Kuhn, 175  
*marginata* Bory, 176  
*mildbraedii* Hieron., 175  
*nitida* Mett. ex Kuhn, 173  
*paucipinnata* Alston, 175  
*preussii* Hieron., 175  
*prolifera* Hieron., 175  
*pteridioides* (Hook) Ballard, 175  
*quadriaurita* auct., 175  
*similis* Kuhn, 175  
*togoensis* Hieron., 175  
*tripartita* Sw., 176
- SCHIZAEACEAE, 176**
- Schizolegnia**  
*ensifolia* (Sw.) Alston, 183
- Schizoloma**  
*ensifolium* (Sw.) J. Sm., 183
- Selaginella**  
*abyssinica* Spring, 176  
*cathedrifolia* Spring, 176  
*goudotiana* Spring, 176  
*goudotiana* var. *abyssinica* (Spring) Bizzarri, 176  
*grallipes* Alston, 176  
*imbricata*, 183  
*kalbreyeri* Baker, 177  
*kivuensis* Bizzarri, 177  
*kraussiana* (Kunze) A. Braun, 177  
*molleri* Hieron., 177  
*molliceps* Spring, 177  
*myosorus* (Sw.) Alston, 178  
*scandens* (P. Beauv.) Spring, 178  
*soyauxii* Hieron., 178  
*squarrosa* Baker, 179  
*umbricata* (Forssk.) Spring, 183  
*versicolor* Spring, 179  
*vogelii* Spring, 179  
*zenkeri* Hieron., 179, 183
- SELAGINELLACEAE, 176**
- SINOPTERIDACEAE. see PTERIDACEAE**

**Stegnogramma****pozoi** (Lag.) K. Iwats., 181**Stenochlaena***decrescens* (Baker) Underw., 166*guineensis* Underw., 166*mannii* Underw., 166*mildbraedii* Brause, 153**Tectaria***angelicifolia* (Schumach.) Copel., 158*barteri* (J. Sm.) Copel., 158*camerooniana* (Hook.) Alston, 159*fernandensis* (Baker) C. Chr., 159*sparsiflora* (Hook.) Alston, 160**THELYPTERIDACEAE, 179*****Thelypteris****bergiana* (Schltdl.) Ching, 179*cruciata* (Willd.) Tardieu, 181*wagneri* Fosber & Sacht., 179*zambesiaca* (Baker) Tardieu, 180***Trichomanes****aerugineum* Bosch, 163*africanum* Christ, 162*ballardianum* Alston, 162*benlii* (Pic. Serm.) Benl., 163*borbonicum* Bosch, 162*chamaedrys* Taton, 163*chevalieri* Christ, 162*clarenceanum* Ballard, 162*crispiforme* Alston, 163*crispum* auct., 163*cupressoides* Desv., 164*dilatatum* (Bosch) Kuhn, 162*erosum* Willd., 163*erosum* Willd. var. *aerugineum* (Bosch) Bonap., 163*fallax* Christ, 163*giganteum* Bory ex Willd., 163*guineense* Afzel. ex Swartz, 163*hookeri* C. Presl, 183*liberiense* Copel., 163*mannii* Hook., 163*melanotrichum* Schltdl., 163*mettenii* C. Chr., 164*mildbraedii* Brause ex Brause & Hieron., 162*motleyi* Bosch, 183*musolense* Brause, 163*pyxidiferum* auct., 163*pyxidiferum* var. *melanotrichum* (Schltdl.) Schelpe, 163*radicans* Sw., 164*rigidum* Sw., 164*rigidum* var. *annobonense* Hieron. ex Mildbr., 164*sessile* Mett. ex Kuhn, 164***Triplophyllum****dimidiatum* (Mett. ex Kuhn) Holttum, 159*fraternum* (Mett. ex Kuhn) Holttum, 159*jenseniae* (C. Chr.) Holttum, 159*pilosissimum* (T. Moore) Holttum, 159*protensum* (Sw.) Holttum, 159*securidiforme* (Hook.) Holttum, 160*securidiforme* var. *nanum* (Bonap.) Holttum, 160*troupinii* (Pic. Serm.) Holttum, 160*varians* (T. Moore) Holttum, 160*vogelii* (Hook.) Holttum, 160***Urostachys****adolphi-friderici* Herter, 183***Vittaria****guineensis* Desv., 181*guineensis* var. *camerooniana* Schelpe, 181*owarensis* Fée, 183*schaeferi* Hieron., 181**VITTARIACEAE, 181****WOODSIACEAE. see DRYOPTERIDACEAE*****Xiphopteris****cultrata* (Bory ex Willd.) Schelpe, 161*elastica* (Bory ex Willd.) Alston, 161*flabelliformis* (Poir.) Schelpe, 161*oosora* (Baker) Alston, 161*rigescens* (Bory ex Willd.) Alston, 161*serrulata* (Sw.) Kaulf., 161*villosissima* (Hook.) Alston, 161