NEW PTERIDOPHYTE RECORDS FROM GABON, WEST AFRICA, WITH A PRELIMINARY SPECIES LIST FOR HAUT-OGOOUÉ PROVINCE

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ABSTRACT

Seven new pteridophyte species records for Gabon are reported. A preliminary list of pteridophyte species of Haut-Ogooué province is also presented.

INTRODUCTION

The pteridophytes of central eastern Gabon have received little attention up to the present time. The only flora of Gabonese pteridophytes (Tardieu-Blot, 1964b) contains few references to collecting sites in the eastern portion of the country, and most of the more recent work has been confined to the north-eastern region (Hallé & Le Thomas, 1970; Hladík & Hallé, 1973; Florence & Hladík, 1980) and the centre of the country (Tutin et al., 1994). However, the central eastern region, including Haut-Ogooué province and adjacent parts of Ogooué-Lolo province, has diverse habitats, including some which are absent from the remainder of the country (Caballé, 1983). In addition, recent systematic advances, notably in the genus Triplophyllum (Holttum, 1986; Pichi Sermolli, 1991), necessitate a reappraisal of pteridophyte distributions across Africa, a task which has only just begun.

Here I report the results of collecting trips made during a 20 month stay (November 1990-June 1992) at the Centre International de Recherche Médicale (CIRM), Franceville (FCV), the capital of Haut-Ogooué province, Gabon. Six new records and one new species were recorded for Gabon. Two additional species which were recently recorded for the first time in Gabon, from the Réserve de la Lopé in the centre of the country (Moyen-Ogooué Province) (Tutin et al., 1994), were also found in the area covered in the present study.

SITES STUDIED

Floristically, the whole of Gabon lies within the Guinea-Congolian centre of endemism (White, 1983). The vegetation in the central eastern region under study varies from closed canopy moist forest in the north and west to a mosaic of savanna, gallery forest and moist forest in the centre and southwest to large expanses of savannah (the plateaux Batéké) with associated gallery forest in the southeast. Characteristic trees in these forests are members of the Caesalpiniaceae, including Okoumé, Aucoumea klaineana, an important economic species, in the western half
Map 1a. Map of Gabon. Vertically hatched region is enlarged below.

1b. Collecting sites in Haut-Ogooué and Ogooué-Lolo provinces (Table 1). Franceville is site number 5. Moanda is just north of site 1, and Mounana is 10km SW of site 1.
of this area (Caballé, 1983; Wilks, 1990). In closed canopy forest, the majority of species of pteridophytes were found along watercourses. Microhabitats yielding interesting pteridophytes included waterfalls, rock outcrops and entrances to caves. The taxonomic treatment follows Johns (1991). Voucher specimens have been deposited at Royal Botanic Gardens, Kew (K, *Triplophyllum*, *Tectaria*, *Lastreopsis*) and the Natural History Museum, London (BM; all other genera). Habitat descriptions are followed by the numbers of collecting sites and representative collections made by the author.

Collecting localities are given in Map 1 and Table 1. The altitude of all collecting sites varies from 500m – 700m. All previously published pteridophyte records for Haut-Ogooué province are from Tardieu-Blot (1964b), and these are mentioned in the text.

Information on type specimens from literature has been included; the types have not been examined. Herbarium acronyms follow Holmgren *et al.* (1990).

**Table 1.** Collecting sites

<table>
<thead>
<tr>
<th>No.</th>
<th>LOCALITY</th>
<th>PROVINCE</th>
<th>LONG</th>
<th>LAT</th>
<th>HABITAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 km S of Moanda</td>
<td>Haut-Ogooué</td>
<td>13° 3'E</td>
<td>1° 15'S</td>
<td>Rock outcrop</td>
</tr>
<tr>
<td>2</td>
<td>Monts Miyama, 3 km S of Mvengué</td>
<td>Haut-Ogooué</td>
<td>13° 26'E</td>
<td>1° 46'S</td>
<td>Gallery forest</td>
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<tr>
<td>3</td>
<td>Poubara falls 15 km S of Franceville</td>
<td>Haut-Ogooué</td>
<td>13° 33'E</td>
<td>1° 46'S</td>
<td>Gallery forest with waterfalls</td>
</tr>
<tr>
<td>4</td>
<td>4 km E of Poubara falls</td>
<td>Haut-Ogooué</td>
<td>13° 35'E</td>
<td>1° 46'S</td>
<td>Gallery forest</td>
</tr>
<tr>
<td>5</td>
<td>CIRM, Franceville</td>
<td>Haut-Ogooué</td>
<td>13° 35'E</td>
<td>1° 37'S</td>
<td>Secondary forest</td>
</tr>
<tr>
<td>6</td>
<td>6 km NW of Franceville</td>
<td>Haut-Ogooué</td>
<td>13° 34'E</td>
<td>1° 33'S</td>
<td>Secondary forest</td>
</tr>
<tr>
<td>7</td>
<td>Djoumou falls, 8 km SE of Franceville</td>
<td>Haut-Ogooué</td>
<td>13° 39'E</td>
<td>1° 42'S</td>
<td>Gallery forest with waterfalls</td>
</tr>
<tr>
<td>8</td>
<td>Near Kelle, 15 km E of Franceville</td>
<td>Haut-Ogooué</td>
<td>13° 44'E</td>
<td>1° 37'S</td>
<td>Forest</td>
</tr>
<tr>
<td>9</td>
<td>Near Okoumbi, 30 km NE of Franceville</td>
<td>Haut-Ogooué</td>
<td>13°42'E</td>
<td>1° 25'S</td>
<td>Forest</td>
</tr>
</tbody>
</table>
Table 1 continued. Collecting sites.

<table>
<thead>
<tr>
<th>No.</th>
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<th>LONG</th>
<th>LAT</th>
<th>HABITAT</th>
</tr>
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<tbody>
<tr>
<td>11</td>
<td>11 km E of Bongoville</td>
<td></td>
<td>13° 57'E</td>
<td></td>
<td>Rock outcrops in savannah</td>
</tr>
<tr>
<td>12</td>
<td>Near Ndoumou, 10 km SE of Bangoué-ville</td>
<td>Haut-Ogooué</td>
<td>13° 51'E</td>
<td>1° 47'S</td>
<td>Gallery forest</td>
</tr>
<tr>
<td>13</td>
<td>Near Boumango</td>
<td>Haut-Ogooué</td>
<td>13° 34'E</td>
<td>2° 00'S</td>
<td>Gallery forest</td>
</tr>
<tr>
<td>14</td>
<td>Near Okondja</td>
<td>Haut-Ogooué</td>
<td>13° 51'E</td>
<td>1° 47'S</td>
<td>Forest</td>
</tr>
<tr>
<td>15</td>
<td>Near Kessipougou, 20 km SE of Lastoursville</td>
<td>Ogooué-Lolo</td>
<td>12° 57'E</td>
<td>0° 41'S</td>
<td>Forest with caves</td>
</tr>
</tbody>
</table>

NEW SPECIES RECORDS FOR GABON

   Bare earth on steep exposed slopes underneath cliffs (sites 1 ; 2: *Mundy* 196; 11). The dimorphic fronds of this species, with sterile fronds appressed to the substrate and erect fertile fronds, are characteristic (Fig. 1). This is the first *Cheilanthes* recorded from Gabon, and represents a northern and western extension of the known range of this species, which has previously been recorded from Congo, Zaire and Zambia (Ballard, 1957).

   Found in two habitats - sloping ground in forest, and rotting tree trunks beneath bamboo (sites 10: *Mundy* 331; 13: *Mundy* 306, respectively). This species shares the simple upper pinnae of some specimens of *P. burtoni* Baker, but differs from the latter in the presence of irregularly anastomosing veins near the margins of the pinnae. Previously described from Sudan, Congo and Uganda (Schelpe, 1969).

   Terrestrial in forest (site 13: *Mundy* 308, 309). This species differs from the sympatric *A. hemitomum* Hieron. in the presence of a creeping rhizome, terminal buds on the rachis, and in the more obvious veins. It has previously been recorded from Nigeria, Cameroon, Zaire and Uganda (Tardieu-Blot, 1964a; Johns, 1991).
Figure 1. Specimens of *Cheilanthes similis* F.Ballard, showing short-stiped sterile fronds and long-stiped fertile fronds. From left to right, specimens are *Mundy* 249, 250 and 196. Scale bar = 5cm.
Growing on rocks at the entrance to a cave in forest (site 15: *Mundy* 267 - 269). This species is identified by the combination of a long-creeping rhizome, absence of terminal buds, and the midvein of the pinna following the inferior pinna margin for the proximal 50% of the pinna. Widely recorded from Tropical Africa and Asia (e.g. Tardieu-Blot, 1964a).

Terrestrial in forest, associated with *Asplenium emarginatum* P. Beauv. in an unusual microhabitat, where a gentle flow of surface water allowed limited accumulation of organic material over the rocky substrate (site 4: *Mundy* 126). This species is easily separated from the three other members of the *Cyclosorus* group in the area on the basis of the erect rhizome, rounded segments, venation pattern, and the less deeply cut pinnae than *Christella dentata* (Forssk.) Brownsey & Jermy. It has previously been reported from Kenya and Tanzania (Johns, 1991).

*Aspidium magnificum* Bonap., Notes Ptérid. 16: 183. 1925.
Terrestrial on banks or on rocks in forest (site 15: *Mundy* 270, 271). Easily distinguished from other members of the genus in Gabon by its large size (laminae up to 100cm long x 60-70cm wide); also, by lack of buds in contrast to *T. fernandensis* (Baker) C.Chr. Previously recorded from Cameroon and Tanzania (Tardieu-Blot, 1964a; Johns, 1991).

7. *Triplophyllum* sp.
The single specimen from the current area was terrestrial on a slope in forest (site 15: *Mundy* 278). This species has frond dissection similar to *T. jenseniae* (C.Chr.) Holttum, but extensive anastomosis of veins, as in *T. buchholzii* (Kuhn) Holttum (Mundy & Edwards, in prep). It was also collected at a single site in Moyen-Ogooué Province (4km from Ndjole on road to Bifoun, 10° 50'E  0° S: *Mundy* 356).

**PRELIMINARY SPECIES LIST FOR HAUT-OGOOUÉ PROVINCE**

**LYCOPODIACEAE**

Found at a single site, an exposed marshy area at the base of a cliff (site 2: *Mundy* 193-195).
Abundant in disturbed habitats, especially roadsides (sites 1 - 3, 5 - 8, 11).

**SELAGINELLACEAE**

Damp areas in forest, often near waterfalls (sites 1; 3: *Mundy* 70-72; 4; 5; 7; 8; 12).

Damp areas in forest, often associated with the previous species (sites 1; 3: *Mundy* 69; 5: *Mundy* 93; 7 - 9).

*S. myosorus* (Sw.) Alston, J. Bot. 72:64. 1932.
Common at savannah/forest boundaries and in secondary growth. This species appears to be a good marker for old logging roads, the only place where it was found in closed canopy forest (sites 1; 2; 3: *Mundy* 64; 4-9; 12-14).

*S. tenerrima* A.Braun ex Kuhn, Filic. afr. 193. 1868. Type: Angola, Golungo Alto, *Welwitsch 45* (?).
Rock crevices (site 2: *Mundy* 191,192).

Marshy areas, including the splash zone of waterfalls (sites 3: *Mundy* 65; 5: *Mundy* 90).

Streambank in forest (site 8: *Mundy* 185, 186).

**MARATTIACEAE**

Common along forest streambanks (sites 4 – 7; 8: *Mundy* 98, 117; 9).

**SCHIZAEACEAE**

*Lygodium microphyllum* (Cav.) R.Br., Prodr. 162. 1810
*Ugena microphylla* Cav., Icon. 6:76, t. 595 f. 2. 1801. Holotype: Philippines, Luzon, *Nee s.n.* (MA).
Moist areas at savannah/forest boundaries (sites 2: *Mundy* 197; 13).
Common in disturbed habitats (3; 4; 5: Mundy 11; 6 – 9; 12).

PARKERIACEAE

Ceratopteris thalictroides (L.) Brongn. var. cornuta (Beauv.) Schelpe, Contr. Bolus Herb. 1:46. 1969.
Pteris cornuta Beauv. Fl. Oware 1:63, t.37, f.2. 1809. Type: W. Africa, Oware, ‘dans eaux salée, non loin des bords de la mer’, Palisot de Beauvois s.n. (?).
Marshy area adjacent to a large river (site 13).

ADIANTACEAE

Pteris repens C.Chr., Index Filic. 606. 1906. Type: W. Africa, Gaboon River, Mann 1047 (?K).
Terrestrial on sloping ground in forest (sites 7: Mundy 36, 37; 8).
See notes under new species records (sites 1; 2: Mundy 196; 11).
Pellaea doniana J.Sm. in Hook., Sp. fil. 2:137, t. 125A. 1858. Type: Sao Tomé, G.Don s.n. (BM).
Terrestrial on moist rocky ground near a stream (site 4: Mundy 127). This species was recently reported for the first time in Gabon at the Réserve de la Lopé (Map 1b) in the centre of the country (Tutin et al., 1994). It is easily distinguished from the two other Gabonese species of Pellaea, P. goudotii (Kunze) C.Chr. and P. holstii (Hieron.), by its large size and broad pinnae, and it is terrestrial whilst the other species are largely confined to rock crevices. It has been reported from widely scattered sites in Africa, e.g. Guinea, Cameroon, Congo, Uganda, Tanzania, Kenya (Tardieu-Blot, 1964a; Johns, 1991).
Exposed rock crevices and ledges in open habitats (site 11: Mundy 252, 253).
Pityrogramma calomelanos (L.) Link var. calomelanos, Handbuch 3: 20. 1833.
Acrostichum calomelanos L., Sp. pl. 2:1072. 1753. Type: Tropical America, Herb. Linn. 1245 (LINN).
Disturbed habitats, usually near streams (sites 3 - 5, 7, 8).

Streambanks (sites 5: Mundy 85; 13).

VITTARIACEAE


Epiphytic, often on oil palms (sites 3: Mundy 74, 75; 5; 8).

V. owariensis Fée, Mém. foug. 3:21 t. 3 f. 2. 1851-2. Type: W. Africa, ‘Oware’, Palisot de Beauvois in Herb. Willdenow no. 20027/2 (B) and in Herb. Bory (P).

Epiphytic or in rock crevices (sites 5, 11: Mundy 298, 299).

PTERIDACEAE


Terrestrial in forest (sites 3, 4, 5: Mundy 77).


Terrestrial in forest. This species is very similar to P. atrovirens Willd., and may have been overlooked at other sites (site 5: Mundy 215).


See notes under new species records (sites 10: Mundy 331; 13: Mundy 306).


Terrestrial in forest (site 3: Mundy 327; 5: Mundy 350).


Terrestrial in forest (site 9: Mundy 332).


Marshy areas (sites 3; 5: Mundy 78; 12; 13).

HYMENOPHYLLACEAE


Streambank or streamside epiphyte (site 3: Mundy 73; 5; 7; 8).
Epiphytic, terrestrial or in rock crevices, always in humid areas (sites 4; 5: *Mundy* 81; 7; 8; 13).

Streambank, sometimes among rocks (sites 3 - 6; 7: *Mundy* 45, 46; 8).

*Trichomanes guineense* Afzel. ex Sw., J. Bot. (Schrader) 1800. 96. 1801. Holotype: Sierra Leone, Afzelius s.n. (S-PA).
Streambanks or other damp banks (sites 5: *Mundy* 87; 6; 7: *Mundy* 47; 8; 12; 14).

*Trichomanes mannii* Hook., Syn. fil. 75. 1867. Type: Fernando Po, *G. Mann* s.n. (?K).
Streamside epiphyte (5: *Mundy* 248).

Streamside epiphyte (sites 4; 7: *Mundy* 44; 12).

**GLEICHENIACEAE**

*Polypodium linearis*, Burm.f., Fl. indica 235. t. 67. f. 2. 1768. Holotype: Java, Santen s.n., Herb. Delessert (G).
Abundant in exposed disturbed areas, often forming large patches on hillsides excluding other vegetation, like other members of the family in the tropics (sites 1 - 9, 13, 14).

**POLYPODIACEAE**

**Drynaria laurentii** (Christ) Hieron. in Engl., Veg. Erde 9:57 f. 54. 1908.
Forest epiphyte, always seen growing above 10m (sites 4: *Mundy* 237; 8; 9; 13: *Mundy* 316).

**Platycerium stemaria** (Beauv.) Desv., Prodr. 213. 1827.
Epiphyte usually growing near water (sites 3, 8, 9, 12).


Common epiphyte of streamsides and marshy areas in forest (sites 3 - 5, 7 - 9, 13).


Polypodium scolopendria Burm.f., Fl. indica 232. 1768. Type: Ceylon, Herb. Hermann (?).

Common epiphyte of streamsides and marshy areas in forest (sites 3; 4; 5: Mundy 23; 6 – 9; 12; 13).


Polypodium owariense Desv., Mag. Freunde Naturl. 5:314. 1811. Type: Palisot de Beauvois s.n. (?).

Common epiphyte of streamsides and marshy areas in forest, frequently associated with the previous two species (sites 3 - 5; 7; Mundy 43; 8; 9; 13).

CYATHEACEAE


Cyathea camerooniana Hook., Syn. fil. 21. 1865. Type: Cameroon Mountains, G. Mann s.n. (K).

Common along stream and river banks in forest (sites 3; 4; 6; 7; 8: Mundy 99; 9, 12).


Cyathea manniana Hook., Syn. fil. 21. 1865. Type: Fernando Po and Cameroon Mountains, G. Mann s.n. (K).

Streambanks in forest, less common and less abundant than A. camerooniana (Hook.) R. M. Tryon (sites 4, 7, 8: Mundy 147).

DENNSTAEDTIACEAE

Microlepia speluncae (L.) T.Moore, Index fil. 93. 1857.


Marshy areas (sites 4: Mundy 129; 8; 9; 13).


Common in moist savannah and savannah/forest edges (sites 1 - 9, 12, 13).
**Histiopteris incisa** (Thunb.) J.Sm., Hist. fil. 295. 1875.  
Marshy ground in a waterfall splash zone (site 3).

Marshy ground in open areas in forest (site 3: *Mundy* 291; 7–9).

This plant was abundant at the transition between open marshy ground and forest in a waterfall splash zone (site 3: *Mundy* 68, 382). Its taxonomic status is uncertain, as it bears overall similarity to *Blotiella reducta*, but has abundant long hairs on the rachis, stipe and both surfaces of the lamina.

**DAVALLIACEAE**  
**Davallia chaerophylloides** (Poir.) Steud., Nom. encl. bot. 2:146. 1824.  
*Trichomanes chaerophylloides* Poir. in Lam., Enc. 8:80. 1808. Syntypes: Madagascar, Herb. de Candolle (G), Herb. Thouars (P).  
Epiphyte, often on oil palms (sites 3, 8, 9, 13).

**NEPHROLEPIDACEAE**  
**Nephrolepis biserrata** (Sw.) Schott, Gen. fil. ad t. 3. 1834.  
Abundant in disturbed habitats; terrestrial or epiphytic (sites 1, 3-9, 12, 13).

**N. undulata** (Afzel. ex Sw.) J.Sm., Bot. Mag. 72, Companion:37. 1846.  
Common in moist savannah (sites 1; 3; 4: *Mundy* 130, 131; 6; 9; 12).

**OLEANDRACEAE**  
Epiphyte (sites 9; 10: *Mundy* 334; 13: *Mundy* 315). This species was growing over 8m above the ground in the two sites where it was seen, and could easily have been overlooked elsewhere.
ASPLENIACEAE


Common epiphyte (sites 3, 4, 5: *Mundy* 17, 21; 7 – 9; 12; 13).


Epiphyte in marshy area (site 13: *Mundy* 310, 311, 312).

*Asplenium emarginatum* P.Beauv., Fl. Oware 2:6 t. 61. 1807. Type: Île du Prince, *Palisot de Baeuvois* s.n. (?).

Terrestrial in forest, near rocks in moist situations (sites 3, 4: *Mundy* 123, 124). First recorded from Gabon by Florence & Hladik (1970). It is identified by the emarginate pinnae with buds. Widely recorded from Tropical Africa, from Guinea to Tanzania and south to Angola (Tardieu-Blot, 1964a; Johns, 1991).


See notes under new species records (site 13: *Mundy* 308, 309).


Epiphyte or occasionally terrestrial near water courses (site 3: *Mundy* 66; 4; 5; 7; 8).


Forest epiphyte (site 8: *Mundy* 118; 13).


Epiphytic or terrestrial in banks in marshy areas in forest (sites 4; 5: *Mundy* 21, 82; 13).

THELYPTERIDACEAE


*Polypodium dentatum* Forssk., Fl. aegypt.-arab. 185. 1775. Type: Arabia, *Forsskal* s.n. (C).

Terrestrial in forest (sites 3; 5: *Mundy* 243; 9; 13).


Marshy ground (sites 3; 4; 5: Mundy 13; 13).


Marshy ground, in more exposed conditions than *Cyclosorus striatus* (sites 4: Mundy 128; 5; 7; 8). Mounana, HO (Tardieu-Blot, 1964b).


See notes under new species records (site 4: Mundy 126).

**WOODSIACEAE**

**Diplazium sammatii** (Kuhn) C. Chr., Index Filic. 238. 1905.


Marshy areas in forest (sites 5: Mundy 3; 7; 13; 14). Mounana, HO (Tardieu-Blot, 1964b).


Common along streambanks in forest (sites 4; 7; 8: Mundy 150 – 152; 9; 12; 13).

**LOMARIOPSIDACEAE**

**Lomariopsis congoensis** Holttum, Kew Bull. 1939:622 f.8-9. 1940. Type: Angola (Cabinda), Mayumbe, R. Lufo, Grossweiler 8219 (BM).

Forest climber (sites 5; 8; 9; 11: Mundy 256, 301; 13). The first Gabonese record for this species from the Réserve de la Lopé was recently published (Tutin et al., 1994). Distinguished from other pinnate species by the characteristic dark, shiny rhizome scales; previously reported from Congo and Angola (Holttum, 1939) and Uganda (Johns 1991).
**L. guineensis** (Underw.) Alston. J. Bot. 72 (Suppl.):5. 1934.
Forest climber (sites 3: *Mundy 324*; 4: *Mundy 238*).

**L. palustris** (Hook.) Mett. ex Kuhn, Filic. afr. 53. 1868.
Climber along streamside and marshy areas (sites 4; 5: *Mundy 28*; 7; 8; 13).

Forest climber (site 8: *Mundy 376*).

**Bolbitis acrostichoides** (Afzel. ex Sw.) Ching, in C.Chr. Index filic. Suppl. 3:47. 1934.
Streamside rocks (sites 3, 4: *Mundy 227, 265*).

Although three species of *Bolbitis, B. acrostichoides, B. auriculata* (L.) Alston and *B. salicina* (Hook.) Ching, occur in the same general habitat, and they were sometimes found in different streams at the same site, no more than one species was ever found in the same stream.

**B. auriculata** (Lam.) Alston, J. Bot. 1934. Suppl. 3. 1934.
Streamside rocks (sites 3; 4: *Mundy 119*; 7; 8: *Mundy 103*).

**B. gaboonensis** (Hook.) Alston, Kew Bull. 1934. Suppl. 3. 1934.
Terrestrial in forest (sites 3; 4; 5: *Mundy 86*; 6; 7:*Mundy 42*; 8; 9:12).

**B. gemmifera** (Hieron.) C.Chr., Index filic. Suppl. 3:48. 1934.
Common terrestrial species in forest (sites 3: *Mundy 60*; 4: *Mundy 120*; 7 – 9; 12; 15). First recorded from Gabon by Florence and Hladik (1970). It is easily identified in this area by the pinnate fronds and the presence of buds on the terminal segments of the fronds. Reported from a large area of tropical Africa, from Guinea to Tanzania and south to Angola.


*Streamside rocks (site 7: *Mundy* 134, 170).*

**DRYOPTERIDACEAE**


Terrestrial along streambanks (sites 7: *Mundy* 133; 8).


Terrestrial on forest banks (sites 3: *Mundy* 321; 5).


Terrestrial on banks in marshy areas (sites 4, 5, 13, 14: *Mundy* 289,290).


Terrestrial along streambanks (sites 7; 8: *Mundy* 189; 12). Moanda, HO (Tardieu-Blot, 1964b).


Common terrestrial species in almost any situation in forest (sites 3; 5; 6: *Mundy* 303; 7; 9; 12; 13). This taxon was recently split into three (Pichi Sermolli, 1991) viz: *T. heudelotii* Pic.Serm., *T. subquinquefidum* (P. Beauv.) Pic.Serm. and *T. x protensum* (Afzel. ex. Sw.) Holttum (pro sp.). Specimens potentially referable to all three of these taxa were found in Haut-Ogooué, but as much more work on these specimens remains to be done, I have chosen to retain the earlier taxonomic arrangement for current purposes.


On rocks in or near streams (site 7: *Mundy* 218).
Terrestrial along streambanks (sites 4: *Mundy* 231; 8; 12).

Terrestrial in forest, not usually closely associated with streams (sites 5; 6; 8: *Mundy* 161, 379; 9; 12).

*Aspidium vogelii* Hook., Icon. pl. 10:t. 921. 1854. Type: Fernando Po, ‘ad rivuli litt. sax.’, *Vogel* 250, (K).  
Terrestrial in forest (sites 4; 5; 8: *Mundy* 187; 9: *Mundy* 338). Moanda, HO (Tardieu-Blot, 1964b).

Tectaria fernandensis (Baker) C.Chr., Index filic. Suppl. 3:179. 1934.  

Terrestrial along streambanks (sites 3, 7).

**SALVINIACEAE**  
Exposed swamp adjacent to Franceville town centre.

**DISCUSSION**  
The new species records bring the total number of pteridophyte species recorded from Gabon to about 140. The addition of nine of these species within the last six years suggests that much systematic work remains to be accomplished in the country as a whole. Very few pteridophytes had been previously recorded from Haut-Ogooué (Tardieu-Blot, 1964b), and all of these were also found in the present study. The species list presented here for Haut-Ogooué province is still only preliminary as the sites visited are concentrated near Franceville, and more time was spent at sites nearer to Franceville than ones at a greater distance.
ACKNOWLEDGMENTS

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