

Magnoliophyta, Biosphere Reserve of Pendjari, Atacora Province, Benin

Emeline P. S. Assédé^{1*}, Aristide C. Adomou² and Brice Sinsin¹

¹ Université d'Abomey-Calavi, Faculté des Sciences Agronomiques, Département d'Aménagement et de Gestion de l'Environnement. 01 BP 526. Cotonou, Bénin.

² Université d'Abomey-Calavi, Faculté des Sciences et Techniques, Département de Biologie Végétale. 01 BP 4521. Cotonou, Bénin.

* Corresponding author. E-mail: emimiss@yahoo.fr

ABSTRACT: The Biosphere Reserve of Pendjari is an example of best management practice of protected areas in West Africa with typical Sudanian savanna vegetation. It is part of the vast and transboundary protected areas of W, Pendjari and Arly National Parks of Benin, Burkina Faso and Niger. This work provides an overview of the flora of the reserve by means of a thorough botanical inventory. The plant species composition is typical of Sudanian savanna. We recorded 684 plant species, which were distributed among 366 genera and 89 families. The two most species-rich families were Fabaceae (115) and Poaceae (112). The most important life forms were phanerophytes and therophytes. The chorological spectrum was dominated by Sudanian species. With *Ipomoea beninensis* Akoègninou, Lisowski and Sinsin, *Thunbergia atacorensis* Akoègninou and Lisowski and *Cissus kouandeensis* A.Chev., three endemic species of Benin were recorded, demonstrating the importance of the reserve for plant conservation.

INTRODUCTION

Protected areas are the cornerstone of global conservation strategies (Clerici *et al.* 2007). They constitute a unique laboratory for research on the functioning and the complexity of ecosystems, as nature reserves preserve the essential of the biodiversity (Sinsin 1993). Up to now however, informations on the flora of West African protected areas are scarce.

The Biosphere Reserve of Pendjari is part of the vast and transboundary protected areas of the WAP complex, including the Pendjari, Arly and W National Parks of Benin, Burkina Faso and Niger. It is one exemple of best management practice of protected areas in West Africa with high floristic potential (Tiomoko 2007; Vodouhê *et al.* 2010).

Many studies were conducted in the Biosphere Reserve of Pendjari on its wildlife resources (Sinsin *et al.* 2002; Nago *et al.* 2006; Kassa *et al.* 2007; Djossa *et al.* 2008a) and its management (IUCN 2002). Most investigations on the flora have been partial, only considering a portion of the ecosystems and very few have been published (Djossa *et al.* 2008b; 2011; Déléké Koko *et al.* 2011; Houéhanou *et al.* 2011). However, any effective and sustainable management of the vegetation requires a good knowledge of the flora.

The present paper is an overview of the floristic diversity of the Biosphere Reserve of Pendjari based on a thorough botanical survey of the major plant formations, relevant collections and previous publications.

MATERIALS AND METHODS

Study site

The Biosphere Reserve of Pendjari (BRP) is located in the extreme Northwest of Benin Republic (Figure 1) in the Sudanian region (White 1983; Adomou *et al.* 2006) between the latitudes 10°30' and 11°30' N and the

longitudes 00°50' and 2°00' E. From game reserve in 1954, the BRP has been upgraded to Biosphere Reserve in 1986. It is part of the W-Arly-Pendjari (WAP) national parks, a transfrontier network of reserves between the republics of Niger, Burkina-Faso, and Benin. The BRP covers an area of 4,661.4 km² and consists of two important components: the National Park of Pendjari or core zone (2,660.4 km²) and the hunting zones (hunting zone of Pendjari: 1,750 km² and hunting zone of Konkombri: 251 km²). The core zone is a strictly protected area where the vegetation is less disturbed; only ecotourism is allowed. The core zone and the hunting zone are surrounded by a buffer zone named control occupation zone, a zone where human activities are under control. Soils are ferruginous with generally very flat topography and the altitude range is 150-200 m above sea level. The vegetation of the BRP is a mosaic of savannas, woodlands, dry forests, and riparian forest along rivers (Figure 4). The Pendjari River is the only important one that carries water along the reserve (Delvingt *et al.* 1989). It is bordered by the most important riparian gallery forest in the northern part of the reserve (Figure 4A).

Data collection

The list of species was established from floristic surveys conducted from 2006 to 2010. Data were supplemented by specimen data from the National Herbarium of Benin (Benin) and the data bases of the Laboratory of Applied Ecology of the University of Abomey-Calavi (Benin).

The vegetation and soil maps of the Biosphere Reserve of Pendjari (Willaine and Volkoff 1967; König 2005) were used as the basis for site selection covering all vegetation types. At each site, we selected representative and homogeneous sample stands, following the variations in dominant species. 2-3 floristic inventories were performed following Braun Blanquet's approach (Braun-

Blanquet 1932). Species were identified using Hutchinson and Dalziel (1954-1972), Akoègninou *et al.* (2006) and Lisowski (2009) as well as the National Herbarium of Benin. Voucher specimens were provided for most species.

Data analysis

Life forms and chorological types were assigned on the basis of the life forms defined by Raunkiaer (1905) and the phytochoria defined by White (1983). Spectra were established through the calculation of the relative frequency of each species' life form and chorotype using the number of species.

The floristic similarity between the complete BRP, the hunting zone, core zone and control occupation zone was assessed using Jaccard's Index (I_j). The comparison with Arly National Park, partial faunal reserve of Pama in Burkina Faso and W National Park in Benin are based on the publications of Ouédraogo *et al.* (2011), Mbayngone *et al.* (2008) and Arbonnier *et al.* (2002).

RESULTS AND DISCUSSION

A total of 684 plant species distributed over 366 genera and 89 families was recorded (Table 2). With this figure, the Biosphere Reserve of Pendjari (BRP) conserves 24% of the national flora (Akoègninou *et al.* 2006).

The National Park of Pendjari (that is the core zone) presented 397 plant species (58% of the reserve's flora) belonging to 234 genera (64% of the reserve's genera) and 82 families (92% of the reserve's families). The northern part of the core zone contains the two most important

forest ecosystems of the reserve: the dense dry forest of Bondjagou (16% of the BRP species) and the gallery forest along the Pendjari River (Figure 4A). The presence of these two ecosystems should mark a significant difference between the floristic composition of the core zone and the hunting zone. However, the stream network emerging from the Pendjari River creates some less dense gallery patterns allowing the establishment of dry and riparian forest species in the hunting zone. Thus, 477 species (70% of the reserve's flora) belonging to 275 genera (75% of the reserve's genera) and 87 plant families (98% of the reserve's families) are inventoried in the hunting zone. It is the most representative component of the Biosphere Reserve of the Pendjari with 80% of core zone species ($I_j = 79\%$) and 77% of control occupation zone species ($I_j = 76\%$) (Table 3). The control occupation zone is a mosaïque of field and fallows along the edge of the hunting zone. This narrow band (control occupation zone) assimilated to land use area is inhabited by 373 species (55% of the reserve's flora), 196 genera (54% of the reserve's genera) and 75 families (84% of the reserve's families). The families and genera recorded in the BRP are less diversified (Table 1). The two most important families of the Biosphere Reserve of Pendjari are Fabaceae (115 species), and Poaceae (112 species). Similar to the reserve, the two most species-rich families of core zone, hunting zone and control occupation zone are Fabaceae and Poaceae. The genera *Combretum* (14 species), *Crotalaria* (14) and *Indigofera* (14 species) are found to be the three most species-rich genera of the BRP. However, *Crotalaria* is replaced by *Acacia* within the

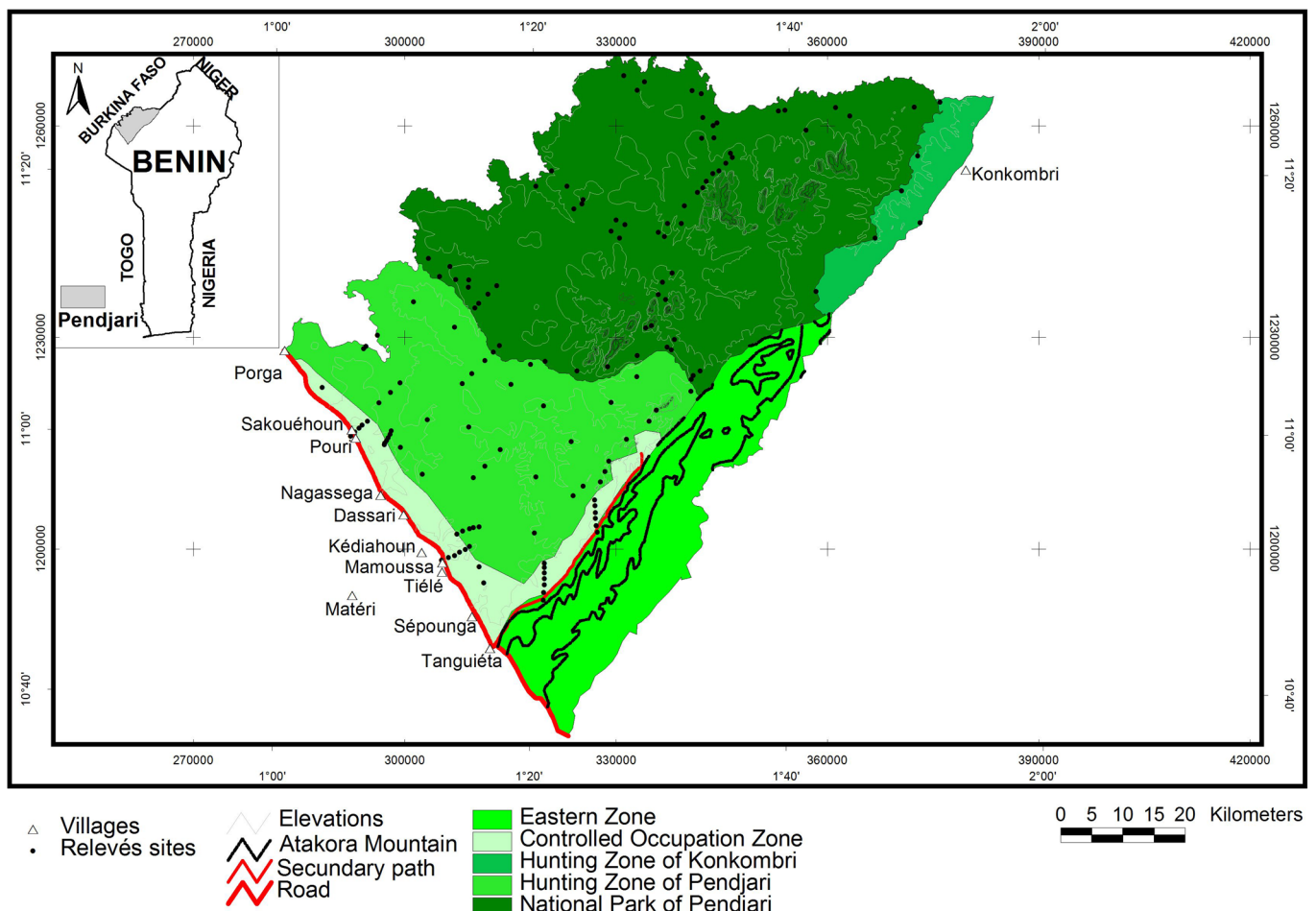


FIGURE 1. Map of Biosphere Reserve of Pendjari.

reserve components (core zone, hunting zone and control occupation zone) (Table 2).

The common species of the Biosphere Reserve of Pendjari include *Terminalia avicennioides*, *Terminalia macroptera*, *Terminalia laxiflora*, *Combretum collinum*, *Combretum glutinosum*, *Vitellaria paradoxa*, *Andropogon gayanus*, *Pseudocedrela kotschyi*, *Detarium microcarpum*, *Burkea africana* and *Crossopteryx febrifuga*. Plant species such as *Aneilema beninense*, *Protea madiensis*, *Saba*

comorensis, *Scadoxus multiflorus* and *Uraria picta* are rare in the Biosphere Reserve of Pendjari. *Borassus aethiopicum* is confined to the northern part of the core zone while *Protea madiensis* is solely recorded in the hunting zone. BRP provides habitat for *Ipomoea beninensis* (Figure 5B), *Thunbergia atacorensis* (Figure 5A) and *Cissus kouandeensis* (Akoegninou and Lisowski 2004), the endemic plant species from Benin. Some plant species are featured in Figures 5-8.

TABLE 1. The most species-rich families and genera of the Biosphere Reserve of Pendjari. Cntr.occ.zone = Control occupation zone

RESERVE	CORE ZONE		HUNTING ZONE		CNTR. OCC. ZONE		
FAMILY							
Fabaceae	115	Fabaceae	67	Fabaceae	77	Poaceae	64
Poaceae	112	Poaceae	50	Poaceae	75	Fabaceae	63
Asteraceae	46	Rubiaceae	23	Rubiaceae	25	Rubiaceae	20
Malvaceae	32	Combretaceae	21	Combretaceae	20	Combretaceae	17
GENUS							
<i>Combretum</i>	14	<i>Combretum</i>	14	<i>Combretum</i>	13	<i>Indigofera</i>	12
<i>Crotalaria</i>	14	<i>Acacia</i>	10	<i>Indigofera</i>	12	<i>Combretum</i>	10
<i>Indigofera</i>	14	<i>Indigofera</i>	9	<i>Acacia</i>	10	<i>Acacia</i>	8

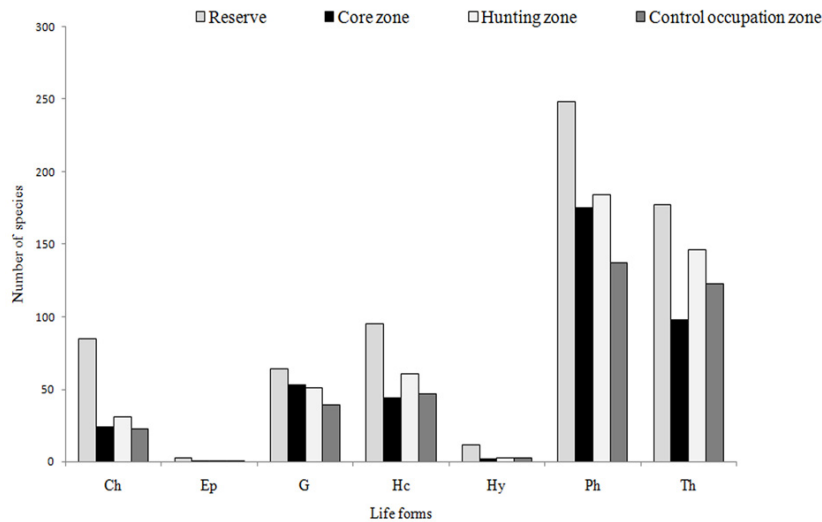


FIGURE 2. Life-form spectrum of the flora. Ph: Phanerophyte, Th: Therophyte, Hc: Hemicryptophyte, Ch: Chamaephyte, G: Geophyte and Ep: Epiphyte.

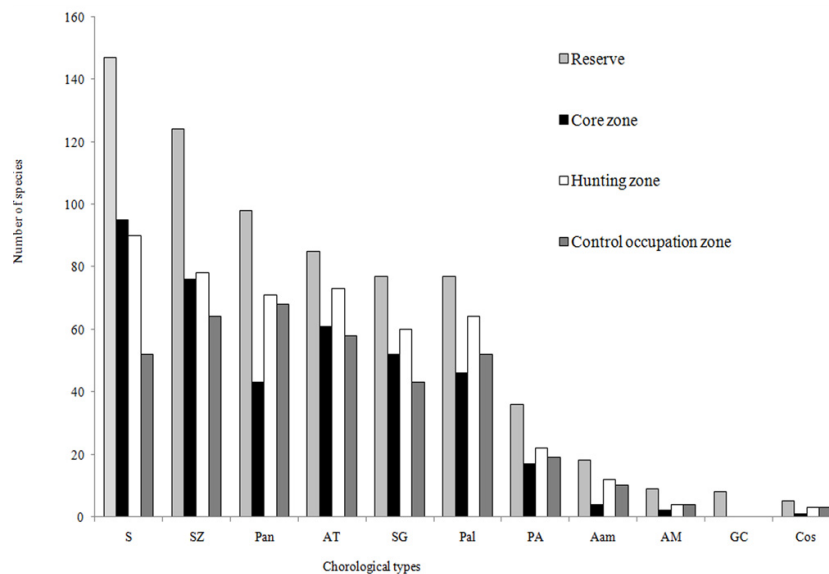


FIGURE 3. Chorological spectrum of the flora. S: Sudanian, SZ: Sudano-Zambezean, SG: Sudano/Guinean transition, AT: Tropical Africa, Pal: Paletropical, Pan: Pantropical, PA: Pluri-regional African, Aam: Afro-american, GC: Guineo-Congolian, Cos: Cosmopolitan.

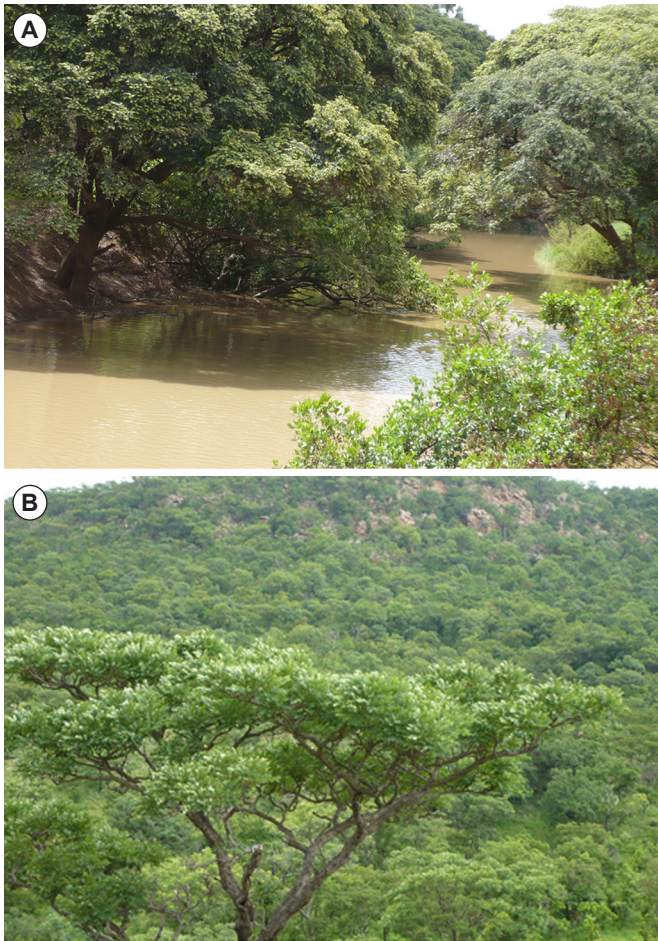


FIGURE 4. Panoramic view of Biosphere Reserve of Pendjari. A) Forest gallery in northern part of the BRP; B) Savanna ecosystems in core zone of the BRP.



FIGURE 5. Endemic species of Benin. A) *Thunbergia atacorensis*; B) *Ipomoea beninensis*.

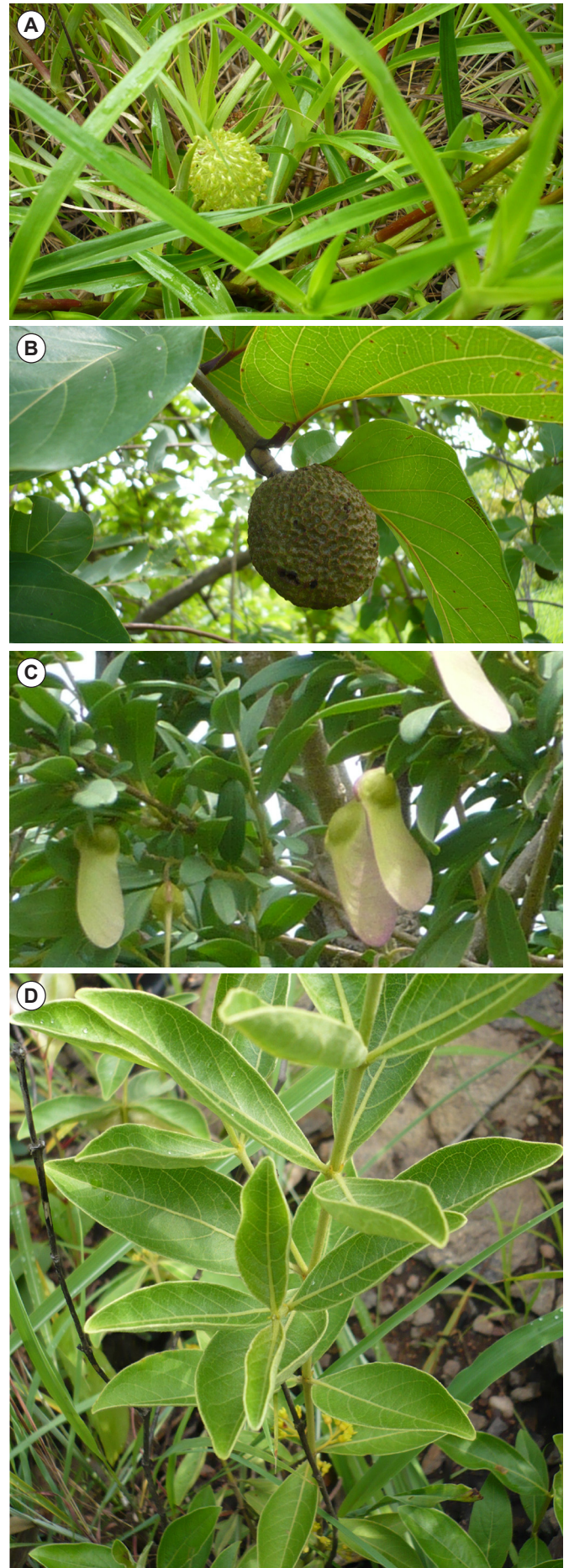


FIGURE 6. Common species to the core zone, hunting zone and control occupation zone of the Biosphere Reserve of Pendjari. A) *Aneilema lanceolatum*; B) *Mitragyna inermis*; C) *Securidaca longipedunculata*; D) *Fadogia agrestis*.

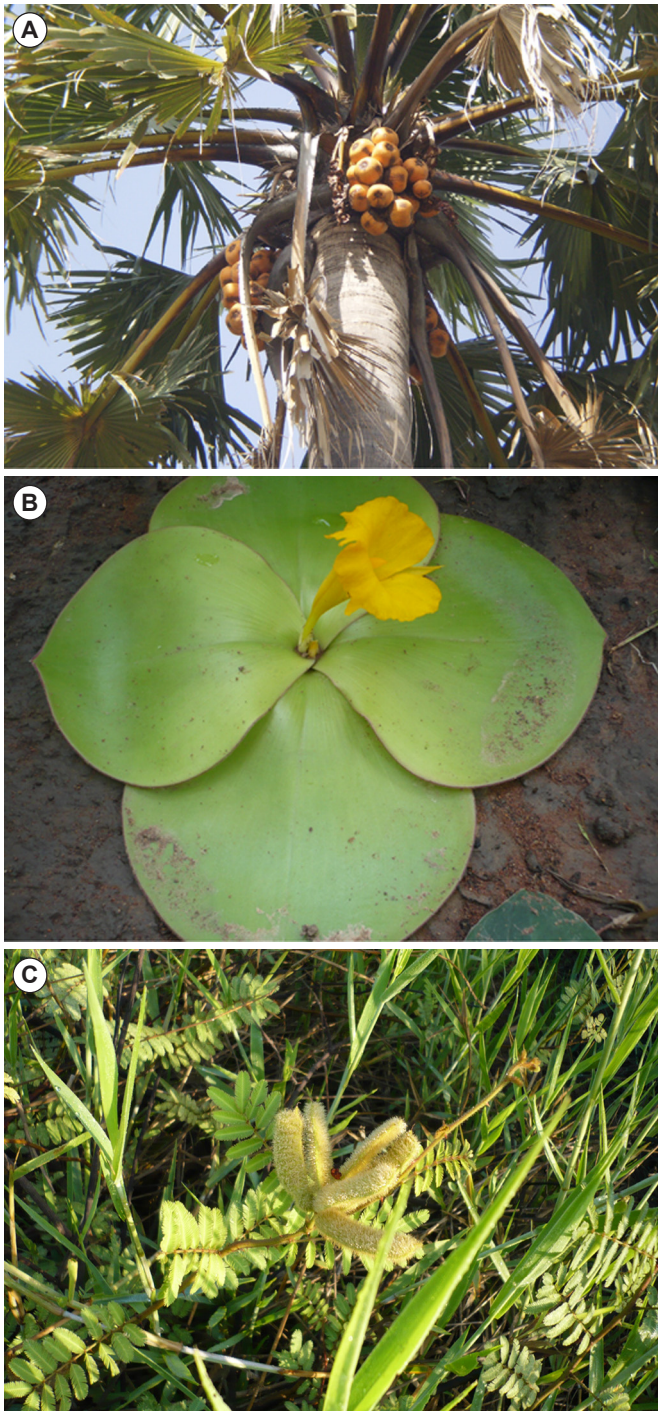


FIGURE 7. Species only collected in the core zone of the Biosphere Reserve of Pendjari. A) *Borassus aethiopum*; B) *Costus spectabilis*; C) *Mimosa pigra*.

The comparison of the three zones of the reserve (core zone, hunting zone and control occupation zone) revealed a high similarity in term of life forms and chorological types. The life form composition (Figure 2) is dominated by phanerophytes in the BRP (36%) as well as CZ (44%), HZ (38%) and COZ (37%). Similar results were found by Wala (2004) in the nearby Atakora mountains in northern Benin, Schmidt (2006) in Burkina Faso, Mbayngone *et al.* (2008) in the partial faunal reserve of Pama and Ouédraogo *et al.* (2011) in Arly National Park. The pattern observed seems to be characteristic of the North Sudanian Zone (Hahn-Hadjali *et al.* 2006). Despite the prevalence of savannah ecosystems (Figure 4B), there is a higher share of phanerophytes in both the core and hunting zones due to the presence of gallery and dry forests. The

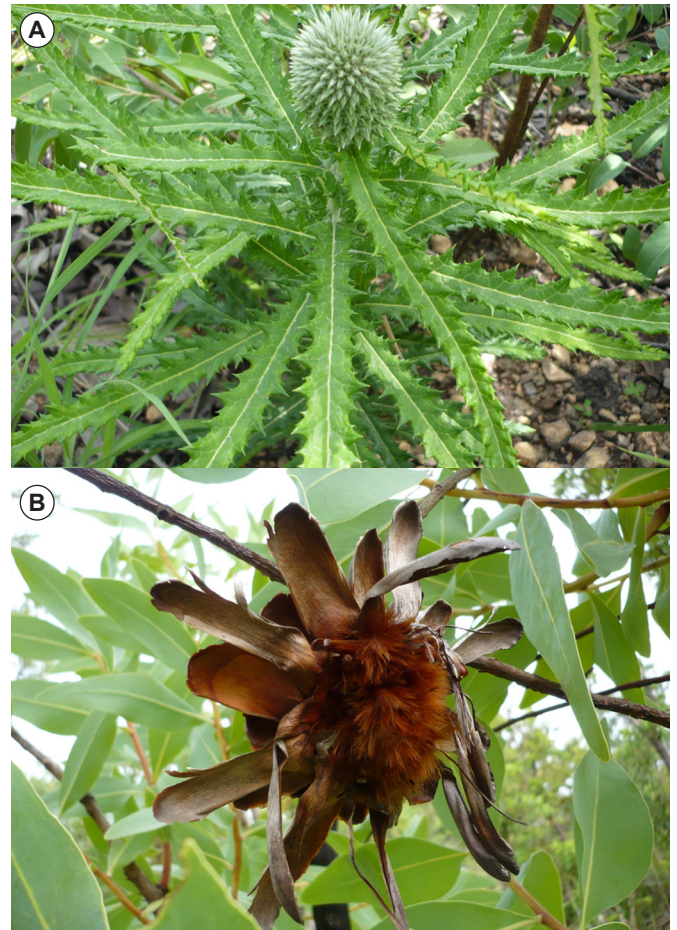


FIGURE 8. Species only collected in the hunting zone of the Biosphere Reserve of Pendjari. A) *Echinops longifolius*; B) *Protea madiensis*.

abundance of phanerophytes in the COZ is essentially due to the presence of fallows and the regrowth from stumps left during vegetation clearing. The promotion of traditional agroforestry practices as a natural resource management strategy in the BRP (Vodouhê *et al.* 2011) mitigated anthropogenic effects in the COZ. Chorological spectra (Figure 3) are characterized by a predominance of Sudanian species (Sudanian and Sudano-Zambesian) except for the COZ where anthropogenic activities promoted widespread species.

The Atakora mountain chain, in the east of the Biosphere Reserve of Pendjari (PAG2 2005) is a key element which marked the difference between the floristic composition of the Biosphere reserve of Pendjari and nearby reserves (Arly National Park, partial faunal reserve of Pama in Burkina Faso and W National Park in Benin). In absence of Atakora mountain species, similarity (even if low) is found between the Biosphere Reserve of Pendjari and Arly National Park ($I_j = 54.3\%$), the Biosphere reserve of Pendjari and the partial faunal reserve of Pama ($I_j = 51\%$). 79% of BRP families and 61% of BRP genera are recorded in Arly National Park while 44% of BRP families and 55% of BRP genera are recorded in the partial faunal reserve of Pama. Considering the Atakora mountain species, there is little similarity between the Biosphere Reserve of Pendjari and Arly National Parks in the one hand ($I_j = 38\%$), the Biosphere Reserve of Pendjari and the partial faunal reserve of Pama in the other ($I_j = 33.4\%$). This is mainly related to the important role of the Atakora mountains in the preservation of particular ecosystems

(Wala 2004). That area has high topodiversity. Although part of the sudanian zone (White 1986), the Atakora mountains have a high share of Guinean species: 9.3% of the Atakora mountain flora belongs to the Guineo-Congolian zone (Wala 2004).

As compared to the flora of the nearby W National Park

(Arbonnier *et al.* 2002), there are 25% more species in the Biosphere Reserve of Pendjari. This is probably due to the higher habitat diversity along the Atakora mountains and by this way, higher plant diversity. The Atakora mountains belong to the more species-rich southern domain of the Sudanian zone (Wala 2004).

TABLE 2. Magnoliophyta of the Biosphere Reserve of Pendjari with their binomial, life-form (LF) and family. (life-forms: mPh: mesophanerophyte [8-30 m], mph: microphanerophyte [2-8 m], nph: nanophanerophyte [0.5-2 m], Ch: chamaephyte, Hc: Hemicryptophyte, Th: Therophyte, G: Geophyte [Gb: with bulb, Gr: with rhizome and Gt: with tuber], L: Liana and Ep: Epiphyte).

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
Acanthaceae		
<i>Asystasia gangetica</i> (L.) T.Anderson	Th	Houngnon 3583
<i>Blepharis linariifolia</i> Pers.	Th	Houngnon 4142
<i>Blepharis maderaspatensis</i> (L.) Heyne ex Roth	Ch	Houngnon 6394
<i>Dyschoriste perrottetii</i> (Nees) Kuntze	nph	Akoègninou 6171
<i>Hygrophila micrantha</i> (Nees) T.Anderson	Th	Sinsin 2599
<i>Hygrophila pobeguinii</i> Benoist	Th	Yédomon. 136
<i>Hypoestes cancellata</i> Nees	nph	Akoègninou 5661
<i>Hypoestes verticillaris</i> (L.f.) Sol. ex Roem. and Schult.	Ch	Sinsin 2382
<i>Justicia insularis</i> T.Anderson	Ch	Pauwels 8210
<i>Lepidagathis anobrya</i> Nees	Th	
<i>Lepidagathis collina</i> (Endl.) Milne-Redh.	Th	Houngnon 7396
<i>Monechma ciliatum</i> (Jacq.) Milne-Redh.	Th	Assédé 30
<i>Monechma depauperatum</i> (T.Anderson) C.B.Clarke	Ch	Assédé 87
<i>Nelsonia canescens</i> (Lam.) Spreng.	LHc	Sinsin 2393
<i>Phaulopsis barberi</i> T.Anderson	Ch	Sinsin 2368
<i>Phaulopsis imbricata</i> (Forssk.) Sweet	Ch	
<i>Thunbergia atacorensis</i> Akoègninou and Lisowski	Lnph	Lisowski 990
Aizoaceae		
<i>Trianthema portulacastrum</i> L.	Th	
Alismataceae		
<i>Burnatia enneandra</i> Micheli	Gt	Sinsin 3614
Amaranthaceae		
<i>Achyranthes aspera</i> L. var. <i>aspera</i>	Th	Assédé 80
<i>Amaranthus spinosus</i> L.	Th	
<i>Celosia trigyna</i> L.	LTh	Houngnon 4114
<i>Gomphrena celosoides</i> Mart.	Th	
<i>Pandiaka angustifolia</i> (Vahl) Hepper	Th	Sinsin 3657
<i>Pandiaka involucrata</i> (Moq.) Hook.f.	Ch	Assédé 70
<i>Pupalia lappacea</i> (L.) Juss.	Ch	Assédé 27
Amaryllidaceae		
<i>Crinum distichum</i> Herb.	Gb	Sinsin 3616a
<i>Crinum zeylanicum</i> (L.) L.	Gb	Burg 1428
<i>Pancratium tenuifolium</i> Hochst. ex A.Rich.	Gb	
<i>Scadoxus multiflorus</i> (Martyn) Raf.	Gb	Assédé 22
Anacardiaceae		
<i>Haematostaphis barberi</i> Hook.f.	mph	Akoègninou 6160
<i>Lannea acida</i> A.Rich. [sensu lato]	mPh	Sinsin 2375
<i>Lannea barberi</i> (Oliv.) Engl.	mph	
<i>Lannea microcarpa</i> Engl. and K.Krause	mPh	Assede 13
<i>Lannea velutina</i> A.Rich.	mPh	Assede 5
<i>Ozoroa insignis</i> Delile	mph	Sokpon 256
<i>Ozoroa pulcherrima</i> (Schweinf.) R. and A.Fernandes	mph	Sokpon 1575
<i>Rhus natalensis</i> Bernh. ex Krauss	mph	Sokpon 1260
<i>Sclerocarya birrea</i> (A.Rich.) Hochst.	mPh	Houngnon 7722
<i>Spondias mombin</i> L.	mPh	
<i>Xylopia parviflora</i> (A.Rich.) Benth.	mPh	Assédé 31
Annonaceae		
<i>Annona senegalensis</i> Pers. ssp. <i>senegalensis</i>	nph	Essou 1996

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Hexalobus monopetalus</i> (A.Rich.) Engl. and Diels	mph	Burg 1477
<i>Uvaria chamae</i> P.Beauv.	Lmph	Essou 2043
Anthericaceae		
<i>Chlorophytum affine</i> Baker	Gt	Sinsin 3641
<i>Chlorophytum blepharophyllum</i> Schweinf. ex Baker	Gr	Assédé 41
<i>Chlorophytum gallabatense</i> Schweinf. ex Baker	Gt	Sinsin 3663
<i>Chlorophytum geophilum</i> Peter ex Poelln.	Gt	Sinsin 3636
<i>Chlorophytum macrophyllum</i> (A.Rich.) Aschers.	Hc	Sinsin 2919
<i>Chlorophytum pusillum</i> Schweinf. ex Baker	Gr	Chevalier 24108
<i>Chlorophytum stenopetalum</i> Baker	Gr	
Apiaceae		
<i>Steganotaenia araliacea</i> Hochst.	mph	Akoègninou 6167
Apocynaceae		
<i>Ancylobotrys amoena</i> Hua	Lmph	Akoègninou 2421
<i>Calotropis procera</i> (Aiton) W.T.Aiton	mPh	Sinsin 591
<i>Cryptolepis oblongifolia</i> (Meisn.) Schltr.	Ch	Sinsin 3163
<i>Holarrhena floribunda</i> (G.Don) Durand and Schinz	mPh	Akoègninou 4876
<i>Oxystelma bornouense</i> R.Br.	Lnph	Assédé 75
<i>Periploca nigrescens</i> Afzel.	Lmph	
<i>Raphionacme brownii</i> Scott-Elliot	Gt	Sinsin 2713
<i>Raphionacme excisa</i> Schltr.	Gt	Sinsin 2721
<i>Saba comorensis</i> (Boj.) Pichon	Lmph	Maesen 6914
<i>Strophanthus hispidus</i> DC.	Lmph	
<i>Strophanthus sarmentosus</i> DC.	Lmph	Assédé 78
<i>Tacazzea apiculata</i> Oliv.	Lmph	Essou 911
<i>Tylophora sylvatica</i> Decne.	Lnph	Essou 1603
Araceae		
<i>Amorphophallus abyssinicus</i> (A.Rich.) N.E.Br.	Gt	Assédé 69
<i>Amorphophallus dracontioides</i> (Engl.) N.E.Br.	Gt	
<i>Stylochaeton hypogaeus</i> Lepr.	Gt	Assédé 6
<i>Stylochaeton lancifolius</i> Kotschy and Peyr.	Gt	Sinsin 1995
Areaceae		
<i>Borassus aethiopum</i> Mart.	mPh	Houngnon 3546
<i>Hyphaene thebaica</i> (L.) Mart.	mPh	
<i>Raphia sudanica</i> A.Chev.	mPh	Houngnon 4437
Asparagaceae		
<i>Asparagus africanus</i> Lam.	Ch	Assédé 8
Asteraceae		
<i>Acanthospermum hispidum</i> DC.	Th	Kreis 14
<i>Adenostemma caffrum</i> DC.	Th	Houngnon 1374
<i>Ageratum conyzoides</i> L.	Th	Sokpon 297
<i>Aspilia angustifolia</i> Oliv. and Hiern	Th	Lisowski D-988
<i>Aspilia bussei</i> O.Hoffm. and Muschl.	Th	Sinsin 859
<i>Aspilia ciliata</i> (Schumach.) Wild	Th	Lisowski D-897
<i>Aspilia helianthoides</i> (Schumach. and Thonn.) Oliv. and Diern	Ch	
<i>Aspilia kotschyi</i> (Sch. Bip) Oliv. var. <i>kotschyi</i>	Th	Assédé 95
<i>Aspilia rudis</i> Oliv. and Hiern ssp. <i>rudis</i>	Ch	Lisowski D-934
<i>Bidens bipinnata</i> L.	Th	Houinato 627
<i>Bidens biternata</i> (Lour.) Merr. and Sherff	Th	Sokpon 278
<i>Bidens borianiana</i> (Sch.Bip. ex Schweinf. and Asch.) Cuf.	Th	Veeschkens s.n.
<i>Blumea adamsii</i> J.-P.Lebrun and Stork	Ch	Sokpon 513
<i>Blumea axillaris</i> (Lam.) DC.	Th	Sinsin 1573
<i>Blumea crispata</i> (Vahl) Merxm. and Roessler var. <i>crispata</i>	Ch	Lisowski D-922
<i>Blumea laciniata</i> (Roxb.) DC.	Th	Sinsin 884
<i>Blumea oloptera</i> DC.	Ch	Sinsin 1661
<i>Chrysanthellum indicum</i> DC.	Th	
<i>Cosmos sulphureus</i> Cav.	Th	Houngnon 1396a
<i>Crassocephalum togoense</i> C.D.Adams	Th	Sinsin 1128

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Dicoma sessiliflora</i> Harv.	Hc	De Souza 354d
<i>Echinops longifolius</i> A.Rich.	Gr	Lisowski 0-933
<i>Eclipta prostrata</i> (L.) L.	Th	Sinsin 689
<i>Elephantopus mollis</i> Kunth	Th	
<i>Emilia abyssinica</i> (Sch.Bip. ex A.Rich.) C.Jeffrey	Th	Lisowski 0-916
<i>Herderia truncata</i> Cass.	Th	De Souza 378c
<i>Kleinia abyssinica</i> (A.Rich.) A.Berger	Th	Sinsin 3668
<i>Launaea nudicaulis</i> (L.) Hook.f.	Ch	Houngnon 1471a
<i>Melanthera elliptica</i> O.Hoffm.	Hc	Houngnon 6672
<i>Melanthera scandens</i> (Schumach. and Thonn.) Roberty	Hc	
<i>Pentanema indicum</i> (L.) Ling	Th	Zon 334
<i>Pulicaria crispa</i> (Forssk.) Oliv.	Th	Akoègninou 2564
<i>Synedrella nodiflora</i> (L.) Gaertn.	Th	Assédé 98
<i>Tridax procumbens</i> L.	Th	
<i>Vernonia ambigua</i> Kotschy and Peyr.	Th	Lisowski D-1003
<i>Vernonia camporum</i> A.Chev.	nph	Houngnon 4709
<i>Vernonia cinerea</i> (L.) Less.	Th	
<i>Vernonia colorata</i> (Willd.) Drake	nph	De Souza 398a
<i>Vernonia galamensis</i> (Cass.) Less.	Th	Akoègninou 2549
<i>Vernonia glaberrima</i> Welw. ex O.Hoffm.	nph	Houngnon 399b
<i>Vernonia migeodii</i> S.Moore	nph	Pauwels 8174
<i>Vernonia nestor</i> S.Moore	nph	Essou 2328
<i>Vernonia nigritiana</i> Oliv. and Hiern	Hc	Houngnon 6191
<i>Vernonia perrottetii</i> Sch.Bip. ex Walp.	Th	Houngnon 404c
<i>Vernonia pumila</i> Kotschy and Peyr.	Hc	Lisowski D-958
<i>Vernonia purpurea</i> Sch.Bip. ex Walp.	Hc	Sokpon 404
Bignoniaceae		
<i>Kigelia africana</i> (Lam.) Benth.	mPh	Maesen 6475
<i>Stereospermum kunthianum</i> Cham.	mPh	Akoègninou 4543
Boraginaceae		
<i>Coldenia procumbens</i> L.	Th	Sinsin 2553
<i>Heliotropium indicum</i> L.	Th	Houngnon 7711
<i>Heliotropium strigosum</i> Willd.	Th	Sinsin 3605
Burseraceae		
<i>Commiphora pedunculata</i> (Kotschy and Peyr.) Engl.	nph	Houngnon 209a
Capparaceae		
<i>Boscia angustifolia</i> A.Rich.	mph	
<i>Cadaba farinosa</i> Forssk.	Lmph	Houngnon 3913
<i>Capparis sepiaria</i> L. var. <i>fischeri</i> (Pax) De Wolf	mph	Houngnon 3888
<i>Capparis tomentosa</i> Lam.	mph	Houngnon 215c2
<i>Cleome gynandra</i> L.	Th	Sokpon 1520
<i>Cleome viscosa</i> L.	Th	
<i>Crateva adansonii</i> DC. ssp. <i>adansonii</i>	mph	Sinsin 861
<i>Maerua angolensis</i> DC.	mph	Houngnon 5062
<i>Maerua oblongifolia</i> (Forssk.) A.Rich.	mph	Sinsin 3626b
Caryophyllaceae		
<i>Polycarpaea corymbosa</i> (L.) Lam. [sensu lato]	Th	Essou 2290.
<i>Polycarpaea eriantha</i> Hochst. ex A.Rich.	Th	Pauwels 8207
<i>Polycarpaea linearifolia</i> (DC.) DC.	Th	Houngnon 7397
Celastraceae		
<i>Gymnosporia senegalensis</i> (Lam.) Loes.	mph	Houngnon 7699
Celtidaceae		
<i>Celtis toka</i> (Forssk.) Hepper and J.R.I.Wood	mPh	Houngnon 1824a
Ceratophyllaceae		
<i>Ceratophyllum demersum</i> L.	Hy	Assédé 96
Chrysobalanaceae		
<i>Neocarya macrophylla</i> (Sabine) Prance ex F.White	mph	Assédé 45
<i>Parinari curatellifolia</i> Planch. ex Benth.	mph	Sinsin 2473

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
Clusiaceae		
<i>Garcinia livingstonei</i> T.Anderson	mPh	Assédé 35
Cochlospermaceae		
<i>Cochlospermum planchonii</i> Hook.f.	Gr	Sokpon 298
<i>Cochlospermum tinctorium</i> A.Rich.	Gr	Sinsin 2082
Colchicaceae		
<i>Gloriosa superba</i> L.	LGt	Pauwels 7835
<i>Iphigenia ledermannii</i> Engl. and K.Krause	Gt	Sinsin 3622
Combretaceae		
<i>Anogeissus leiocarpa</i> (DC.) Guill. and Perr.	mPh	Lejoly 96/640
<i>Combretum aculeatum</i> Vent.	Lnph	Houngnon 305
<i>Combretum acutum</i> Lawson	mph	Sinsin 2606
<i>Combretum adenogonium</i> Steud. ex A.Rich.	mPh	Sinsin 2363
<i>Combretum collinum</i> Fresen.	mph	Essou 2008
<i>Combretum glutinosum</i> Perr. ex DC.	mph	Sinsin 2583
<i>Combretum indicum</i> (L.) DeFilipps	LmPh	Houngnon 5065
<i>Combretum lecardii</i> Engl. and Diels	Lnph	Assédé 11
<i>Combretum micranthum</i> G.Don	mph	Sokpon 264
<i>Combretum molle</i> R.Br. ex G.Don	mph	Pauwels 8226
<i>Combretum nigricans</i> Lepr.ex Guill. and Perr. var. <i>elliottii</i> (Engl. and Diels) Aubrév.	mph	Sinsin 3669
<i>Combretum niroense</i> Aubrév. ex Keay	mph	Assédé 19
<i>Combretum paniculatum</i> Vent.	LmPh	Sinsin 593
<i>Combretum sericeum</i> G.Don	nph	Burg 1484
<i>Combretum tomentosum</i> G.Don	LmPh	Assédé 14
<i>Guiera senegalensis</i> J.F.Gmel.	nph	Sinsin 2560
<i>Pteleopsis suberosa</i> Engl. and Diels	mph	Maesen 7000
<i>Terminalia avicennioides</i> Guill. and Perr.	mph	Essou 2010
<i>Terminalia glaucescens</i> Planch. ex Benth.	mPh	Sinsin 3423
<i>Terminalia laxiflora</i> Engl.	mPh	Essou 2007
<i>Terminalia macroptera</i> Guill. and Perr.	mPh	Essou 2111
<i>Terminalia mollis</i> M.A.Lawson	mph	Sinsin 3639
Commelinaceae		
<i>Aneilema beniniense</i> (P.Beauv.) Kunth	Gr	Adjakidjè 2983
<i>Aneilema lanceolatum</i> Benth. ssp. <i>lanceolatum</i>	Gr	Houngnon 7758
<i>Aneilema umbrosum</i> (Vahl) Kunth	Hc	Sinsin 3693
<i>Commelina africana</i> L.	Gr	Sokpon 734
<i>Commelina aspera</i> Benth.	Th	Sokpon 206
<i>Commelina benghalensis</i> L.	Hc	Kreis 101
<i>Commelina diffusa</i> Burm.f.	Hc	Maesen 7445
<i>Commelina erecta</i> L.	Th	Akoègninou 2522
<i>Commelina nigritana</i> Benth.	Hc	Houngnon 7538
<i>Cyanotis lanata</i> Benth.	Ch	Morton A4514
<i>Cyanotis longifolia</i> Benth. var. <i>longifolia</i>	Hc	Pauwels 8160
<i>Floscopa glomerata</i> (Willd. ex Schult and Schult.f.) Hassk. ssp. <i>lelyi</i> (Hutch.) Brenan	Ch	Lejoly and Barbier
Connaraceae		
<i>Rourea coccinea</i> (Thonn. ex Schumach.) Benth.	LCh	Assédé 57
Convolvulaceae		
<i>Evolvulus alsinoides</i> (L.) L.	Ch	Adjakidjè 1725
<i>Ipomoea argentaurata</i> Hallier f.	Gr	Pauwels 7929
<i>Ipomoea beninensis</i> Akoègninou, Lisowski and Sinsin	LGr	Sinsin 2462
<i>Ipomoea blepharophylla</i> Hallier f.	Gr	Sinsin 493
<i>Ipomoea eriocarpa</i> R.Br.	nph	Sinsin 864
<i>Ipomoea fulvicaulis</i> (Choisy) Hallier f.	LCh	Chevalier 24138
<i>Ipomoea heterotricha</i> F.Didr.	Th	Sinsin 883
<i>Ipomoea involucreta</i> P.Beauv.	Hc	
<i>Ipomoea mauritiana</i> Jacq.	Lmph	Sokpon 328
<i>Merremia aegyptia</i> (L.) Urban	LTh	
<i>Merremia dissecta</i> (Jacq.) Hallier f.	LHc	Adjakidjè 2448

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Merremia kentrocaulos</i> (C.B. Clarke) Rendle	Lnph	Maesen 6923
<i>Merremia pterygocaulos</i> (Steud. ex Choisy) Hallier f.	LHc	Houngnon 440a
Cucurbitaceae		
<i>Cucumis maderaspatanus</i> L.	Th	Akoègninou 2799
<i>Trochomeria macrocarpa</i> (Sond.) Hook.f.	Gt	Assédé 88
Cyperaceae		
<i>Afrotrilepis pilosa</i> (Boeck.) J.Raynal	Hc	
<i>Bulbostylis hispidula</i> (Vahl) R.W.Haines	Hc	Assédé 48
<i>Cyperus cuspidatus</i> Kunth	Th	
<i>Cyperus cyperoides</i> (L.) Kuntze s.l.	Gb	Assédé 16
<i>Cyperus difformis</i> L.	Th	Pauwels 8201
<i>Cyperus esculentus</i> L.	Hc	Assédé 73
<i>Cyperus haspan</i> L.	Th	
<i>Cyperus iria</i> L.	Th	Assédé 104
<i>Cyperus latifolius</i> Poir.	Hc	Sinsin 3615
<i>Cyperus rotundus</i> L.	Gt	Assédé 91
<i>Cyperus tenuiculmis</i> Boeck. s.l.	Hc	
<i>Fimbristylis dichotoma</i> (L.) Vahl	Hc	Assédé 39
<i>Fimbristylis ferruginea</i> L.	Hc	Assédé 29
<i>Fimbristylis littoralis</i> L.	Hc	Assédé 17
<i>Fuirena stricta</i> Steud.	Hc	Sinsin 3207
<i>Fuirena umbellata</i> Rottb.	Gr	Sinsin 516, 1489
<i>Kyllinga bulbosa</i> Beauv.	Gt	Assédé 9
<i>Kyllinga odorata</i> Vahl	Gr	Sinsin 3607
<i>Kyllinga pumila</i> Michx.	Th	Akoègninou 4577
<i>Mariscus longibracteatus</i> Cherm.	Gt	Assédé 20
<i>Oxycaryum cubense</i> (Poepp. and Kunth) Lye	Hc	Sinsin 1638
<i>Rhynchospora corymbosa</i> (L.) Britt.	Hc	Assédé 103
<i>Scleria achtenii</i> De Wild.	Gr	Sinsin 3154
Dioscoreaceae		
<i>Dioscorea abyssinica</i> Hochst. ex Kunth	Gt	De Souza 614b
<i>Dioscorea bulbifera</i> L.	Gt	Sokpon 271
<i>Dioscorea cayenensis</i> Lam.	Gt	Sokpon 235
<i>Dioscorea dumetorum</i> (Kunth) Pax	Gt	Essou 2175
<i>Dioscorea lecardii</i> De Wild.	Gb	Pauwels 8139
<i>Dioscorea praehensilis</i> Benth.	Gb	Chevalier 24148
<i>Dioscorea quartiniana</i> A.Rich.	Gt	Essou 2792
<i>Dioscorea sansibarensis</i> Pax	Gt	Houngnon 623a
Dipterocarpaceae		
<i>Monotes kerstingii</i> Gilg	mph	Sinsin 3127
Droseraceae		
<i>Drosera indica</i> L.	Th	Assédé 105
Ebenaceae		
<i>Acalypha ciliata</i> Forssk.	Th	Houngnon 6464
<i>Croton lobatus</i> L.	Th	
<i>Diospyros mespiliformis</i> Hochst. ex A.DC.	mPh	Akoègninou 2570
<i>Euphorbia convolvuloides</i> Hochst. ex Benth.	Th	Burg 1471
<i>Euphorbia heterophylla</i> L.	Ch	Assédé 92
<i>Phyllanthus pentandrus</i> Schumach. and Thonn.	nph	Sokpon 1528
<i>Ricinus communis</i> L.	nph	
Eriocaulaceae		
<i>Eriocaulon afzelianum</i> Wikstr. ex Körn.	Hy	
<i>Eriocaulon fulvum</i> N.E.Br.	Hy	
Euphorbiaceae		
<i>Acalypha ceraceopunctata</i> Pax	mph	Houngnon 1532a
<i>Alchornea cordifolia</i> (Schumach. and Thonn) Müll.Arg.	mph	
<i>Bridelia ferruginea</i> Benth.	mph	Assédé 24
<i>Bridelia micrantha</i> (Hochst.) Baill.	mPh	

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Bridelia scleroneura</i> Müll.Arg.	mph	Pauwels 8077
<i>Euphorbia hirta</i> L.	Th	Assédé 106
<i>Euphorbia poissonii</i> Pax	nph	
<i>Euphorbia polycnemoides</i> Hochst. ex Boiss.	Th	Akoègninou 5600
<i>Flueggea virosa</i> (Roxb. ex Willd.) Voigt	mph	De Souza 607b
<i>Hymenocardia acida</i> Tul.	mph	Sinsin 695
<i>Margaritaria discoidea</i> (Baill.) Webster	mPh	Assédé 32
<i>Phyllanthus amarus</i> Schumach. and Thonn.	Th	
<i>Phyllanthus muellerianus</i> (O.Ktze.) Exell	Lmph	Sokpon 233
<i>Phyllanthus reticulatus</i> Poir. var. <i>reticulatus</i>	Lmph	Assédé 38
<i>Phyllanthus sublanatus</i> Schumach. and Thonn.	Th	Sinsin 863
<i>Sapium grahami</i> (Stapf.) Prain.	Gt	Assédé 55
<i>Sebastiania chamaelae</i> (L.) Müll.Arg.	Ch	
<i>Tragia senegalensis</i> Müll.Arg.	Th	Sinsin 2131
Fabaceae		
<i>Abrus fruticosus</i> Wall. ex Wight and Arn.	Lmph	Assédé 62
<i>Acacia amythetophylla</i> Steud. ex A.Rich.	mPh	Houngnon 1245a
<i>Acacia ataxacantha</i> DC.	Lmph	Essou 2214
<i>Acacia dudgeonii</i> Craib ex Holland	mph	Essou 2105
<i>Acacia gerrardii</i> Benth.	mPh	de Souza 927a
<i>Acacia gourmaensis</i> A.Chev.	mph	Akoègninou 2766
<i>Acacia hockii</i> De Wild.	mph	Sokpon 260
<i>Acacia macrostachya</i> Reichenb. ex DC.	mph	Adjakidjè 5213
<i>Acacia senegal</i> (L.) Willd.	mph	Houngnon 928a
<i>Acacia seyal</i> Delile var. <i>seyal</i>	mph	Sinsin 2580
<i>Acacia sieberiana</i> DC. var. <i>villosa</i> A.Chev.	mPh	Maesen 6934
<i>Adenodolichos paniculatus</i> (Hua) Hutch. and Dalziel	Ch	Delvaux 35
<i>Aeschynomene crassicaulis</i> Harms	Hy	Houngnon 4491
<i>Aeschynomene indica</i> L.	mph	Houngnon 1261k
<i>Aeschynomene lateritia</i> Harms	Th	Pauwels 7964
<i>Afzelia africana</i> Smith.	mPh	Sinsin 2513
<i>Aganope stuhlmannii</i> (Taub.) Adema	mPh	Adjakidjè 1857
<i>Albizia adianthifolia</i> (Schumach.) W.F.Wright	mPh	Akoègninou 3820
<i>Albizia chevalieri</i> Harms	mph	Houngnon 1248a
<i>Alysicarpus glumaceus</i> (Vahl) DC.	Ch	Adjakidjè 2470
<i>Alysicarpus ovalifolius</i> (Schumach.) J.Léonard	Th	Houngnon 1660e
<i>Alysicarpus rugosus</i> (Willd.) DC.	Th	Akoègninou 4232
<i>Berlinia grandiflora</i> (Vahl) Hutch. and Dalziel	mPh	Adjakidjè 3371
<i>Bobgunnia madagascariensis</i> Desv.	mph	Essou 2028
<i>Burkea africana</i> Hook.	mPh	Akoègninou 1744
<i>Cajanus kerstingii</i> Harms	Ch	Houngnon 3912
<i>Cajanus scarabaeoides</i> (L.) Thouars var. <i>scarabaeoides</i>	Ch	Houngnon 3132
<i>Calopogonium mucunoides</i> Desv.	nph	Kreis 212
<i>Cassia sieberiana</i> DC.	mPh	Essou 2092
<i>Chamaecrista mimosoides</i> (L.) Greene	Ch	De Souza 253b
<i>Chamaecrista rotundifolia</i> (Pers.) Greene	Ch	
<i>Cordyla pinnata</i> (Lepr. ex A.Rich.) Milne-Redh.	mPh	Houngnon 261a
<i>Crotalaria calycina</i> Schrank	Ch	Maesen 7232
<i>Crotalaria cephalotes</i> Steud. ex A.Rich.	Ch	Assédé 71
<i>Crotalaria comosa</i> Baker	Ch	
<i>Crotalaria glauca</i> Willd.	Ch	Pauwels 8171
<i>Crotalaria goreensis</i> Guill. and Perr.	Ch	Assédé 77
<i>Crotalaria graminicola</i> Taub. ex Baker f.	Ch	
<i>Crotalaria hyssopifolia</i> Klotzsch	Ch	Houngnon 7528
<i>Crotalaria lachnophora</i> A.Rich.	Ch	Assédé 93
<i>Crotalaria leprieurii</i> Guill. and Perr.	Ch	Pauwels 8001
<i>Crotalaria macrocalyx</i> Benth.	Ch	Assédé 101
<i>Crotalaria microcarpa</i> Hochst. ex Benth.	Ch	

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Crotalaria ononoides</i> Benth.	Ch	Adjakidjè 2243
<i>Crotalaria pallida</i> Aiton var. <i>pallida</i>	Ch	Assédé 110
<i>Crotalaria retusa</i> L.	Ch	Akoègninou 6035
<i>Dalbergia melanoxylon</i> Guill. and Perr.	mph	Chevalier 24117
<i>Daniellia oliveri</i> (Rolfe) Hutch. and Dalziel	mPh	Assédé 84
<i>Desmodium gangeticum</i> (L.) DC. var. <i>maculatum</i> (L.) Baker	Ch	
<i>Desmodium hirtum</i> Guin. and Perr.	Th	Assédé 79
<i>Desmodium laxiflorum</i> DC.	Ch	Maesen 6927
<i>Desmodium scorpiurus</i> (Desv.) Sw.	LHc	Assédé 89
<i>Desmodium velutinum</i> (Wild.) DC.	nph	Pauwels 8227
<i>Detarium microcarpum</i> Guill. and Perr.	mph	De Souza 268a
<i>Detarium senegalense</i> J.F.Gmel.	mPh	Assédé 108
<i>Dichrostachys cinerea</i> (L.) Wight and Arn.	mph	Essou 2250
<i>Entada africana</i> Guill. and Perr.	mph	Sinsin 1165
<i>Eriosema andohii</i> Milne-Redh.	mph	Sokpon 878
<i>Eriosema glomeratum</i> (Guill. and Perr.) Hook.f. var. <i>glomeratum</i>	nph	Maesen 6910
<i>Eriosema griseum</i> Baker var. <i>togense</i> (Taub.) Jacq.-Fél.	nph	Akoègninou 4195
<i>Eriosema psoraleoides</i> (Lam.) G.Don	Ch	Houngnon 3524
<i>Eriosema pulcherrimum</i> Taub.	Gr	Sinsin 3118
<i>Erythrina senegalensis</i> DC.	mph	Houinato 568
<i>Erythrophleum africanum</i> (Welw. ex Benth.) Harms	mPh	Houngnon 7773
<i>Indigofera bracteolata</i> DC.	nph	Pauwels 8243
<i>Indigofera dendroides</i> Jacq.	Th	Assédé 94
<i>Indigofera garckeana</i> Vatke	nph	Pauwels 8176
<i>Indigofera geminata</i> Baker	nph	Pauwels 8257
<i>Indigofera hirsuta</i> L. var. <i>hirsuta</i>	Th	Adjakidjè 2389
<i>Indigofera leprieurii</i> Baker f.	Th	Houngnon 7712
<i>Indigofera leptoclada</i> Harms	Ch	Houngnon 7696
<i>Indigofera microcarpa</i> Desv.	Th	Sinsin 2602/2603
<i>Indigofera nigricans</i> Vahl ex Pers.	Ch	Sinsin 1275
<i>Indigofera nigritana</i> Hook.f.	Ch	Sinsin 2564,2601
<i>Indigofera paniculata</i> Vahl ex Pers. ssp. <i>paniculata</i>	Ch	Pauwels 8118
<i>Indigofera polysphaera</i> Baker.	nph	Houngnon 6247
<i>Indigofera pulchra</i> Willd.	nph	Sinsin 1497
<i>Indigofera stenophylla</i> Guill. and Perr. var. <i>stenophylla</i>	Ch	Pauwels 8233
<i>Isoberlinia doka</i> Craib and Stapf.	mPh	Assédé 74
<i>Isoberlinia tomentosa</i> (Harms) Craib and Stapf.	mPh	
<i>Lonchocarpus laxiflora</i> Guill. and Perr.	mPh	Assédé 18
<i>Melliniella micrantha</i> Harms	Th	Houngnon 4086
<i>Microcharis longicalyx</i> (J.B.Gillett) Schrire	Th	Sinsin 1936
<i>Mimosa invisa</i> Mart. var. <i>invisa</i>	nph	Assédé 49
<i>Mimosa pigra</i> L.	nph	Houngnon 7709
<i>Parkia biglobosa</i> (Jacq.) R.Br. ex Benth.	mPh	Akoègninou 6204
<i>Pericopsis laxiflora</i> (Benth. ex Baker) Meeuwen	mph	Pauwels 8225
<i>Piliostigma reticulatum</i> (DC.) Hochst.	mph	Adjakidjè 5163
<i>Piliostigma thonningii</i> (Schumach.) Milne-Redh.	mph	Zon 320
<i>Prosopis africana</i> (Guill. and Perr.) Taub.	mPh	Essou 2110
<i>Pterocarpus erinaceus</i> Poir.	mPh	Akoègninou 2012
<i>Pterocarpus santalinoides</i> L'Hér. ex DC.	mPh	Assédé 53
<i>Pueraria phaseoloides</i> (Roxb.) Benth. var. <i>javanica</i> (Benth.) Baker	Ch	
<i>Rhynchosia minima</i> (L.) DC. var. <i>minima</i>	Hc	Assédé 58
<i>Rhynchosia nyasica</i> Baker	Hc	Akoègninou 6188
<i>Senna alata</i> (L.) Roxb.	mph	Assédé 43
<i>Senna obtusifolia</i> (L.) H.S.Irwin and Barneby	Ch	
<i>Sesbania rostrata</i> Brem. and Oberm.	nph	Sinsin 2578
<i>Stylosanthes erecta</i> Beauv.	Ch	Assédé 60
<i>Stylosanthes fruticosa</i> (Retz.) Alston	Ch	
<i>Tamarindus indica</i> L.	mPh	De Souza 282b

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Tephrosia bracteolata</i> Guill. and Perr.	nph	Pauwels 8155
<i>Tephrosia elegans</i> Schumach.	nph	Pauwels 8006
<i>Tephrosia flexuosa</i> G.Don	Th	Pauwels 8194
<i>Tephrosia linearis</i> (Willd.) Pers.	Th	Adjakidjè 5204
<i>Tephrosia mossiensis</i> A.Chev.	Ch	Pauwels 8215
<i>Tephrosia nana</i> Schweinf.	Ch	Sokpon 1124
<i>Tephrosia pedicellata</i> Baker	Ch	Pauwels 8213
<i>Tephrosia platycarpa</i> Guill. and Perr.	Ch	Akoègninou 3435
<i>Tephrosia villosa</i> (L.) Pers. ssp. <i>ehrenbergiana</i> (Schweinf.) Brummitt	Ch	Maesen 6562
<i>Teramnus labialis</i> (L.f.) Spreng.	nph	Sinsin 2470
<i>Uraria picta</i> (Jacq.) DC.	Gr	Assédé 25
<i>Vigna pubigera</i> Baker var. <i>pubigera</i>	Ch	
<i>Vigna racemosa</i> (G.Don) Hutch. and Dalziel	Ch	Assédé 34
<i>Zornia glochidiata</i> Rchb. ex DC.	Th	
Flacourtiaceae		
<i>Flacourtia indica</i> (Burm.f.) Merr.	mPh	Houngnon 6606
<i>Pentadesma butyracea</i> Sabine	mPh	Assédé 42
<i>Oncoba spinosa</i> Forssk.	mph	Adjakidjè 3388
Flagellariaceae		
<i>Flagellaria guineensis</i> Schumach.	Lnph	Assédé 54
Gentianaceae		
<i>Canscora diffusa</i> (Vahl) R.Br. ex Roem. and Schult.	Th	Akoègninou 2572
<i>Canscora decussata</i> (Roxb.) Roem. and Schult.	Th	Assédé 33
Hyacinthaceae		
<i>Albuca nigritana</i> (Baker) Troupin	Gb	Assédé 26
<i>Drimia altissima</i> (L.f.) Ker-Gawl.	Gt	Sinsin 2387
<i>Drimia indica</i> (Roxb.) J.P.Jessop	Gt	Sinsin 2388
<i>Drimia glaucescens</i> (Engl. and K.Krause) H.Scholz	Gb	Adjakidjè 3518
Hydrophyllaceae		
<i>Hydrolea glabra</i> Schum. and Thonn.	Th	Akoègninou 2567
<i>Hydrolea macrosepala</i> A.W. Benn.	Th	Houngnon 7401
Lamiaceae		
<i>Basilicum polystachyon</i> (L.) Moench	Th	Assédé 28
<i>Becium grandiflorum</i> (Lam.) Picc.-Serm. var. <i>obovatum</i> (E.Mey. ex Benth.) Sebald	Hc	Akoègninou 6189
<i>Englerastrum gracillimum</i> Th.C.E.Fries	Th	Adjakidjè 2452
<i>Hoslundia opposita</i> Vahl.	mph	
<i>Hyptis suaveolens</i> (L.) Poit.	Ch	
<i>Leucas martinicensis</i> (Jacq.) R.Br.	Th	Assédé 59
<i>Orthosiphon rubicundus</i> (D.Don) Benth.	Hc	
<i>Platostoma africanum</i> P.Beauv.	Th	Assédé 102
<i>Tinnea barteri</i> Gürke	Ch	Pauwels 8166
Lentibulariaceae		
<i>Utricularia inflexa</i> Forssk.	Hy	Assédé 85
<i>Utricularia rigida</i> Benj.	Hy	Assédé 66
Loganiaceae		
<i>Anthocleista djalonensis</i> A.Chev.	mPh	Assédé 107
<i>Spigelia anthelmia</i> L.	Hy	
<i>Strychnos innocua</i> Delile	mph	Chevalier 24502
<i>Strychnos nigritana</i> Baker.	LmPh	Assédé 67
<i>Strychnos spinosa</i> Lam.	mph	
Loranthaceae		
<i>Agelanthus dodoneifolius</i> (DC.) Polh. and Wiens	Ep	Maesen 6933
<i>Tapinanthus globiferus</i> (A.Rich.) Van Tieghem.	Ep	Chevalier 24308
<i>Tapinanthus ophiodes</i> (Sprague) Danser	Ep	Chevalier 24371
Lythraceae		
<i>Ammannia baccifera</i> L.	Ch	Sinsin 2604
Malpighiaceae		
<i>Acridocarpus spectabilis</i> (Nied.) Doorn-Hoekm.	mph	Houngnon 881a

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
Malvaceae		
<i>Abutilon mauritianum</i> (Jacq.) Medik.	Ch	Assédé 72
<i>Adansonia digitata</i> L.	mPh	Houngnon 187a
<i>Bombax costatum</i> Pellegr. and Vuillet	mPh	Sokpon 1765
<i>Cienfuegosia heteroclada</i> Sprague	Hc	Maesen 6939
<i>Cola laurifolia</i> Mast.	mPh	Akoègninou 2589
<i>Corchorus aestuans</i> L.	Ch	Assédé 68
<i>Corchorus olitorius</i> L.	Ch	Houngnon 5585
<i>Corchorus tridens</i> L.	Ch	Houngnon 6423
<i>Corchorus trilocularis</i> L.	Ch	Assédé 90
<i>Dombeya quinqueseta</i> (Delile) Exell.	mph	Sinsin 2551
<i>Grewia barteri</i> Burret	mph	De Souza 1837
<i>Grewia cissoïdes</i> Hutch. and Dalziel	nph	Adjakidjè 3387
<i>Grewia flavescens</i> Juss.	mph	Assédé 1
<i>Grewia lasiodiscus</i> K.Schum.	mph	Houngnon 7428
<i>Grewia mollis</i> Juss.	mph	Grewia mollis
<i>Hibiscus articulatus</i> Hochst. ex A.Rich.	Ch	Assédé 99
<i>Hibiscus asper</i> Hook.f.	Th	Sokpon 1208
<i>Hibiscus congestiflorus</i> Hochr.	Th	Maesen 6926
<i>Hibiscus sidiformis</i> Baill.	Th	Sinsin 3600
<i>Malvastrum coromandelianum</i> (L.) Garcke	Ch	Assédé 65
<i>Sida acuta</i> Burm.f. ssp. <i>acuta</i>	Ch	Akoègninou 5159
<i>Sida alba</i> L.	Ch	De Souza 872a
<i>Sida garckeana</i> Pol.	Ch	873a
<i>Sida linifolia</i> Juss. ex Cav.	Ch	Sinsin 2567
<i>Sida rhombifolia</i> L. ssp. <i>rhombifolia</i>	Ch	Adjakidjè 2362
<i>Sida urens</i> L.	Hc	Sinsin 2480
<i>Sterculia setigera</i> Delile	mPh	Sinsin 2371
<i>Triumfetta cordifolia</i> A. Rich.	mph	Akoègninou 5945
<i>Triumfetta rhomboïdea</i> Jacq.	nph	Akoègninou 3491
<i>Urena lobata</i> L.	Ch	Assédé 40
<i>Waltheria indica</i> L.	nph	Sinsin 2595
<i>Wissadula amplissima</i> (L.) R.E.Fries var. <i>rostrata</i> (Schumach. and Thonn.) R.E.Fries	nph	Sinsin 2559
Melastomataceae		
<i>Dissotis irvingiana</i> Hook.	G	
Meliaceae		
<i>Azadirachta indica</i> A.Juss.	mPh	Assédé 36
<i>Ekebergia capensis</i> Sparrm.	mPh	
<i>Khaya senegalensis</i> (Desr.) A.Juss.	mPh	Sinsin 2436
<i>Pseudocedrela kotschyi</i> (Schweinf.) Harms	mPh	Ayichédéhou 1422
<i>Trichilia emetica</i> Vahl.	mPh	Assédé 47
<i>Trichilia retusa</i> Oliv.	mPh	Assédé 12
Menispermaceae		
<i>Cissampelos mucronata</i> A.Rich.	LCh	De Souza 916a
Molluginaceae		
<i>Mollugo nudicaulis</i> Lam.	Th	Houngnon 4489
Moraceae		
<i>Ficus abutilifolia</i> (Miq.) Miq.	mph	Sinsin 2365
<i>Ficus capreifolia</i> Delile	mph	Assédé 37
<i>Ficus exasperata</i> Vahl	mPh	
<i>Ficus glumosa</i> Delile	mPh	Sinsin 2372
<i>Ficus ingens</i> (Miq.) Miq.	mPh	Sinsin 2670
<i>Ficus sur</i> Forssk.	mPh	Sinsin 2430
<i>Ficus sycomorus</i> L.	mPh	Adjakidjè 3196
<i>Ficus thonningii</i> Blume	mPh	Essou 2066
<i>Ficus trichopoda</i> Baker	mPh	Sokpon 245
<i>Ficus vallis-choudae</i> Delile	mPh	Sinsin 2380
<i>Ficus vogeliana</i> (Miq.) Miq.	mPh	Sokpon 251

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
Myrtaceae		
<i>Syzygium guineense</i> (Willd.) DC.var. <i>guineense</i>	mph	Houngnon 7713
Nyctaginaceae		
<i>Boerhavia diffusa</i> L.	Th	Assédé 46
<i>Boerhavia erecta</i> L.	Th	
Nymphaeaceae		
<i>Nymphaea lotus</i> L.	Hy	Assédé 7
<i>Nymphaea maculata</i> Schumach. and Thonn.	Hy	Sokpon 594
<i>Nymphaea micrantha</i> Guill. and Perr.	Hy	Assédé 4
Olacaceae		
<i>Ximenia americana</i> L.	nph	Akoègninou 2447
Onagraceae		
<i>Ludwigia abyssinica</i> A.Rich.	Th	Assédé 50
<i>Ludwigia decurrens</i> Walt.	Th	
<i>Ludwigia hyssopifolia</i> (G.Don) Exell	Th	Assédé 109
<i>Ludwigia octovalvis</i> (Jacq.) Raven ssp. <i>brevisepala</i> (Brenan) Raven	Th	Maesen 7076
<i>Ludwigia senegalensis</i> (De.) Troch.	Th	Maesen 7225
Ophioglossaceae		
<i>Ophioglossum costatum</i> R.Br.	Gr	Assédé 97
Opiliaceae		
<i>Opilia amentacea</i> Roxb.	Lmph	Assédé 76
Orchidaceae		
<i>Nervilia bicarinata</i> (Blume) Schltr.	Gt	Akoègninou 2436
<i>Eulophia guineensis</i> Lindl.	Th	Houngnon 7769
<i>Eulophia leonensis</i> Rolfe	Th	Akoègninou 2465
Passifloraceae		
<i>Passiflora foetida</i> L.	Lnph	Assédé 82
Pedaliaceae		
<i>Ceratotheca sesamoides</i> Endl.	Th	Sinsin 3166
<i>Martynia annua</i> L.	Th	Assédé 52
<i>Sesamum indicum</i> L.	Th	
Poaceae		
<i>Acroceras zizanioides</i> (Kunth) Dandy.	Ch	Houngnon 647b
<i>Alloteropsis paniculata</i> (Benth.) Stapf	Th	Froment 1028
<i>Anadelphia afzeliana</i> (Rendle) Stapf	Hc	Houngnon 1723a
<i>Andropogon canaliculatus</i> Schumach.	Hc	Sinsin 3652
<i>Andropogon chinensis</i> (Nees) Merr.	Hc	Sinsin 3143
<i>Andropogon gayanus</i> Kunth	Hc	Houngnon 4143
<i>Andropogon perligulatus</i> Stapf	Hc	McDonald 384b
<i>Andropogon pseudapricus</i> Stapf	Hc	Houngnon 4706
<i>Andropogon schirensis</i> Hochst. ex A.Rich.	Hc	Pauwels 8240
<i>Andropogon tectorum</i> Schumach. and Thonn.	Hc	Houngnon 4083
<i>Anthephora cristata</i> (Döll) Hack. ex De Wild. and T.Durand	Th	Adjakidjè 656d
<i>Aristida adscensionis</i> L.	Th	Pauwels 7409
<i>Aristida kerstingii</i> Pilger	Th	Delvaux 116
<i>Aristida stipoides</i> Lam.	Hc	Assédé 23
<i>Beckeropsis unisetata</i> (Nees) K.Schum.	Hc	Houngnon 1348a
<i>Bewsia biflora</i> (Rack.) Gooss.	Hc	Adjanohoun 461
<i>Brachiaria deflexa</i> (Schumach.) Robyns	Th	Chevalier 23887
<i>Brachiaria jubata</i> (Fig. and De Not.) Stapf	Hc	Houngnon 1745
<i>Brachiaria lata</i> (Schumach.) C.E.Hubb.	Th	Pauwels 7416
<i>Brachiaria serrata</i> (Thunb.) Stapf	Hc	Sinsin 1133
<i>Cenchrus biflorus</i> Roxb.	Th	Houngnon 42
<i>Chasmopodium caudatum</i> (Rack.) Stapf	Th	Sinsin 2362
<i>Chloris gayana</i> Kunth	Hc	Houngnon 678d
<i>Chloris pilosa</i> Schumach.	Th	Risopoulos 1197
<i>Ctenium canescens</i> Benth.	Hc	Essou 16
<i>Ctenium elegans</i> Kunth	Th	Lejoly 430

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Ctenium newtonii</i> Hack.	Hc	Houngnon 685f
<i>Ctenium villosum</i> Herhaut	Th	Sinsin 1284
<i>Cymbopogon giganteus</i> (Hochst.) Chiov.	Hc	De Souza 687a
<i>Dactyloctenium aegyptium</i> (L.) Willd.	Th	Sinsin 1130
<i>Digitaria horizontalis</i> Willd. var. <i>porrhanta</i> (Steud.) Henr. ex Hubb. and Vaughan	Th	Sinsin 1123
<i>Digitaria longiflora</i> (Retz.) Pers.	Th	Sinsin 1271
<i>Diheteropogon amplexans</i> (Nees) Clayton var. <i>catangensis</i> (Chiov.) Clayton	Hc	Houngnon 6387
<i>Echinochloa colona</i> (L.) Link	Hc	Adakidjè s.n
<i>Echinochloa stagnina</i> (Retz.) P.Beauv.	Hc	Houngnon 695b
<i>Eleusine indica</i> (L.) Gaertn.	Th	Houngnon 696e
<i>Elionurus ciliaris</i> Kunth	Hc	Pauwels 8163
<i>Elionurus elegans</i> Kunth	Th	Akoègninou 3574
<i>Elionurus muticus</i> (Spreng.) Kuntze	Th	Lisowski 0-942
<i>Elytrophorus spicatus</i> (Willd.) A.Camus	Th	Houngnon 4058
<i>Eragrostis amabilis</i> (L.) Wight and Arn. ex Nees	Th	Houinato 250
<i>Eragrostis aspera</i> (Jacq.) Nees	Th	De Souza 702a
<i>Eragrostis atrovirens</i> (Desf.) Trin. ex Steud.	Hc	Pierret 003
<i>Eragrostis cilianensis</i> (Ali.) Lut.	Th	De Souza 703a
<i>Eragrostis gangetica</i> (Roxb.) Steud.	Th	Houngnon 699b
<i>Eragrostis tenella</i> (L.) Roem. and Schult.	Th	Assédé 15
<i>Eragrostis tremula</i> Steud.	Th	Pierret 006
<i>Eragrostis turgida</i> (Schumach.) De Wild.	Th	Sinsin 1158
<i>Euclasta condylotricha</i> (Steud.) Stapf	Th	Houngnon 4065
<i>Heteropogon contortus</i> (L.) P.Beauv.	Hc	Pauwels 7982
<i>Hyparrhenia barteri</i> (Rack.) Stapf	Th	Akoègninou 5543
<i>Hyparrhenia cyanescens</i> (Stapf) Stapf	Hc	Houngnon 1717
<i>Hyparrhenia glabriuscula</i> (A.Rich.) Stapf	Hc	Houngnon 1722b
<i>Hyparrhenia involucreta</i> Stapf var. <i>involucreta</i>	Th	Pauwels 8146
<i>Hyparrhenia rufa</i> (Nees) Stapf	Hc	Adjakidjè 2424
<i>Hyparrhenia subplumosa</i> Stapf	Hc	Pauwels 8183
<i>Hyparrhenia welwitschii</i> (Rendle) Stapf	Th	Houngnon 6193
<i>Hyperthelia dissoluta</i> (Nees ex Steud.) W.D.Clayton	Hc	Pauwels 8151
<i>Imperata cylindrica</i> (L.) P.Beauv.	Gr	Houngnon 3545
<i>Leersia hexandra</i> Sw.	Gr	Pauwels 7862
<i>Leptochloa caerulea</i> Steud.	Th	Houngnon 1277a
<i>Loudetia arundinacea</i> (Hochst. ex A.Rich.) Steud.	Hc	De Souza 718b
<i>Loudetia simplex</i> (Nees) C.E.Hubb.	Hc	De Souza 718a
<i>Loudetia togoensis</i> (Pilg.) C.E.Hubb.	Th	Delvaux 6
<i>Loudetiopsis scaettae</i> (A.Camus) W.D.Clayton	Hc	Risopoulos 1273
<i>Loudetiopsis thordii</i> (C.E.Hubb.) Phipps	Hc	McDonald 1501a
<i>Melinis repens</i> (Willd.) Zizka ssp. <i>repens</i>	Th	Dumont 10
<i>Melochia corchorifolia</i> L.	Th	Houngnon 6484
<i>Microchloa indica</i> (L.) P.Beauv.	Th	Pauwels 7436
<i>Mnesithea granularis</i> (L.) Koning and Sosef	Th	Sokpon 1253
<i>Monocymbium ceresiforme</i> (Nees) Stapf	Hc	McDonald 1271b
<i>Oplismenus burmannii</i> (Retz.) P.Beauv.	Th	Sinsin 421
<i>Oplismenus hirtellus</i> (L.) P.Beauv.	Hc	Houinato 578
<i>Oryza barthii</i> A.Chev.	Hc	McDonald 723c
<i>Oryza longistaminata</i> A.Chev. and Roehr.	Hc	Sinsin 3597
<i>Oxytenanthera abyssinica</i> (A.Rich.) Munro	mph	Chevalier 23887
<i>Panicum brevifolium</i> L.	Th	De Souza 726c
<i>Panicum maximum</i> Jacq.	Hc	Pauwels 7557
<i>Panicum pansum</i> Rendle	Th	Houngnon 1136b
<i>Panicum phragmitoides</i> Stapf	Hc	De Souza 725a
<i>Panicum repens</i> L.	Hc	Pauwels 7537
<i>Panicum subalbidum</i> Kunth	Th	Houngnon
<i>Panicum turgidum</i> Forssk.	Hc	Houngnon 1142b
<i>Paspalum conjugatum</i> Berg.	Hc	Adjakidjè 400a

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Paspalum scrobiculatum</i> L.	Hc	De Souza 736c
<i>Pennisetum pedicellatum</i> Trin.	Th	Kreis 44
<i>Pennisetum polystachion</i> (L.) Schult. ssp. <i>polystachion</i>	Hc	Schmelzer 1012
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Hc	Pauwels 7485
<i>Rhynchne triaristata</i> (Steud.) Stapf.	Th	Pauwels 8190
<i>Rottboellia cochinchinensis</i> (Lour.) W.D.Clayton	Th	Houngnon 4144
<i>Sacciolepis cymbiandra</i> Stapf	Hc	McDonald 1505a
<i>Sacciolepis micrococca</i> Mez	Th	McDonald 1506a
<i>Schizachyrium brevifolium</i> (Sw.) Nees var. <i>brevifolium</i>	Th	Houngnon 4027
<i>Schizachyrium nodulosum</i> (Rack.) Stapf	Th	Houngnon 4693
<i>Schizachyrium platyphyllum</i> (Franch.) Stapf	Hc	Houngnon 3936
<i>Schizachyrium sanguineum</i> (Retz.) Alston	Hc	Houngnon 673c
<i>Schizachyrium schweinfurthii</i> (Hack.) Stapf	Hc	Houngnon 4058
<i>Schizachyrium urceolatum</i> (Hack.) Stapf	Th	Houngnon 4079
<i>Schoenefeldia gracilis</i> Kunth	Th	Houngnon 1165b
<i>Setaria barbata</i> (Lam.) Kunth	Th	Sinsin 437
<i>Setaria longiseta</i> P.Beauv.	Hc	Houngnon 758c
<i>Setaria pumila</i> (Poir.) Roem. and Schult.	Th	Houngnon 759c
<i>Setaria sphacelata</i> (Schumach.) Stapf and C.E.Hubb.	Hc	Risopoulos 1194
<i>Sorghastrum bipennatum</i> (Hack.) Pilg.	Th	Houngnon 4134
<i>Sporobolus festivus</i> Hochst. ex A.Rich.	Hc	De Souza 761a
<i>Sporobolus pyramidalis</i> P.Beauv.	Hc	Chevalier 23484
<i>Thelepogon elegans</i> Roth ex Roem. and Schult.	Th	Pauwels 8177
<i>Trachypogon spicatus</i> (L.) Kuntze	Hc	Pauwels 8117
<i>Urelytrum annuum</i> Stapf	Th	Lisowski 0-948
<i>Urelytrum muricatum</i> C.E.Hubb.	Hc	Sinsin 1235
<i>Vetiveria fulvibarbis</i> (Trin.) Stapf.	Hc	Assédé 10
<i>Vetiveria nigritana</i> (Benth.) Stapf	Hc	McDonald 766c
Polygalaceae		
<i>Polygala atacorensis</i> Jacq.-Fél.	Th	Sokpon 282
<i>Polygala multiflora</i> Poir	Th	Assédé 64
<i>Securidaca longipedunculata</i> Fresen.	mph	
Pontederiaceae		
<i>Heteranthera callifolia</i> Rchb. ex Kunth	Hy	Sinsin 3602
<i>Eichhornia natans</i> (P.Beauv.) Solms Laub.	Hy	Assédé 51
Portulacaceae		
<i>Portulaca foliosa</i> Ker-Gawl	Th	Sinsin 893
<i>Portulaca grandiflora</i> Hook.	Th	Houngnon 7632
<i>Portulaca oleracea</i> L.	Th	
Proteaceae		
<i>Protea madiensis</i> Oliv. ssp. <i>madiensis</i>	mph	Essou 2240
Pteridaceae		
<i>Pellaea doniana</i> J.Sm. ex Hook.	nph	Sinsin 2850
<i>Adiantum lunulatum</i> Burm.f.	Ch	Sokpon 225
Rhamnaceae		
<i>Ziziphus abyssinica</i> A.Rich.	mph	Sokpon 274
<i>Ziziphus mauritiana</i> Lam.	mph	Assédé 2
<i>Ziziphus mucronata</i> Willd.	mph	Essou 2949
Rubiaceae		
<i>Breonadia salicina</i> (Vahl) Hepper and J.R.I.Wood	mPh	Burg 1476
<i>Clausena anisata</i> (Willd.) Hook.f. ex Benth.	mph	
<i>Crossopteryx febrifuga</i> (G. Don) Benth.	mph	Assédé 56
<i>Diodia sarmentosa</i> SW.	Th	Assédé 61
<i>Fadogia agrestis</i> Schweinf. ex Hiern	Ch	Sinsin 2472
<i>Fadogia cienkowskii</i> Schweinf. var. <i>cienkowskii</i>	nph	Sokpon 2202
<i>Fadogia erythrophloea</i> (K.Schum. and K.Krause) Hutch. and Dalziel	mph	Sinsin 2370
<i>Feretia apodanthera</i> Delile ssp. <i>apodanthera</i>	nph	Houngnon 7693
<i>Gardenia aqualla</i> Stapf and Hutch.	mph	Akoègninou 2749

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
<i>Gardenia erubescens</i> Stapf and Hutch.	nph	Houngnon 6579
<i>Gardenia sokotensis</i> Hutch.	mph	Sokpon 263
<i>Gardenia ternifolia</i> Schumach. and Thonn. ssp. <i>ternifolia</i>	nph	Sinsin 2404
<i>Hymenodictyon floribundum</i> (Steud. and Hochst.) B.L.Rob.	mph	Burg 1455
<i>Ixora brachypoda</i> DC.	mPh	Akoègninou 2455
<i>Keetia cornelia</i> (Cham. and Schtdl.) Bridson	Lmph	Essou 2098
<i>Keetia venosa</i> (Oliv.) Bridson	mph	Houngnon 7500
<i>Kohautia tenuis</i> (Bowdich) Mabb.	Th	Lisowski 0-850
<i>Macrosphyra longistyla</i> (DC.) Hiern	mph	Houngnon 7779
<i>Mitracarpus hirtus</i> (L.) DC.	Th	Houngnon 6419
<i>Mitragyna inermis</i> (Willd.) Kuntze	mph	Pauwels 7421
<i>Morelia senegalensis</i> A.Rich. ex DC.	mph	Sinsin 2706
<i>Mussaenda elegans</i> Schumach. and Thonn.	mph	Sokpon 265
<i>Oldenlandia corymbosa</i> L.	Th	Houngnon 6064
<i>Oldenlandia herbacea</i> (L.) Roxb. var. <i>herbacea</i>	Th	Houngnon 7322
<i>Pavetta crassipes</i> K.Schum.	mph	Burg 1408
<i>Rytigynia senegalensis</i> Blume	Lmph	Sinsin 3671
<i>Sarcocephalus latifolius</i> (Sm.) E.A.Bruce	mph	Sinsin 2463
<i>Spermacoce filifolia</i> (Schumach. and Thonn.) J.-P. Lebrun and Stork	Th	Akoègninou 2763
<i>Spermacoce octodon</i> (Hepper) J.-P. Lebrun and Stork	Th	Sinsin 3145
<i>Spermacoce radiata</i> (DC.) Hiern.	Th	Akoègninou 3517
<i>Spermacoce stachydea</i> DC. var. <i>stachydea</i>	Th	Houngnon 6203
<i>Tricalysia okelensis</i> Hiern var. <i>okelensis</i>	mph	Pierret 15
Sapindaceae		
<i>Allophylus africanus</i> P.Beauv.	mph	Houngnon 4037
<i>Allophylus spicatus</i> (Poir.) Radlk.	mph	Sokpon 237
<i>Eriocoelum kerstingii</i> Gilg ex Engl.	mPh	Houngnon 4428
<i>Paullinia pinnata</i> L.	Lmph	Pauwels 8140
Sapotaceae		
<i>Vitellaria paradoxa</i> C.F.Gaertn. ssp. <i>paradoxa</i>	mPh	Akoègninou 4560
Scrophulariaceae		
<i>Cycnium adoense</i> E.Meyer ex Benth. ssp. <i>camporum</i> (Engl.) O.J.Hansen	Th	Akoègninou 2571
<i>Scoparia dulcis</i> L.	Th	Sinsin 850
<i>Sopubia simplex</i> (Hochst.) Hochst.	Hc	Lisowski 0-625a
<i>Striga asiatica</i> (L.) Kuntze	Th	Sinsin 1559
<i>Striga hermonthica</i> (Delile) Benth.	Th	Adjakidjè 2471
Simaroubaceae		
<i>Hannoa undulata</i> Planch.	mPh	Houngnon 3583
Smilacaceae		
<i>Smilax anceps</i> Willd.	LGr	Pauwels 7889
Solanaceae		
<i>Physalis angulata</i> L.	Th	Lisowski D-908
<i>Schwenckia americana</i> L.	Th	Sokpon 1527
Sphenocleaceae		
<i>Sphenoclea zeylanica</i> Gaertn.	Th	Eijnatten 2297
Taccaceae		
<i>Tacca leontopetaloides</i> (L.) O.Kuntze.	Gt	Pauwels 8115
Thymelaeaceae		
<i>Gnidia kraussiana</i> Meisn.	LHc	De Souza 1866b
Ulmaceae		
<i>Trema orientalis</i> (L.) Blume	mPh	Akoègninou 6055
Verbenaceae		
<i>Clerodendrum capitatum</i> (Willd.) Schumach. and Thonn.	nph	Lisowski 0-929
<i>Lantana ukambensis</i> (Vatke) Verdc.	Ch	Pauwels 8086
<i>Lippia chevalieri</i> Moldenke	nph	Zon 301
<i>Vitex chrysocarpa</i> Planch. ex Benth.	mph	Houngnon 6550
<i>Vitex doniana</i> Sweet	mPh	Akoègninou 2651
<i>Vitex madiensis</i> Oliv. ssp. <i>madiensis</i>	mph	Sinsin 817

TABLE 2. CONTINUED.

SCIENTIFIC NAME	LIFE FORM	VOUCHER SPECIMENS
Violaceae		
<i>Hybanthus enneaspermus</i> (L.) F.Muell. var. <i>enneaspermus</i>	Hc	Lisowski 0-666
Vitaceae		
<i>Ampelocissus bombycina</i> (Baker) Planch.	LmPh	Assédé 3
<i>Ampelocissus grantii</i> (Baker) Planch.	Lmph	Sinsin 3582
<i>Ampelocissus leonensis</i> (Hook.f.) Planch.	LmPh	Houngnon 4495
<i>Ampelocissus pentaphylla</i> (Guill. and Perr.) Gilg and Brandt	LmPh	Houngnon 4426
<i>Cayratia debilis</i> (Baker) Suess.	Th	Akoègninou 1689
<i>Cayratia gracilis</i> (Guill. and Perr.) Suess.	LTh	Houngnon 4054
<i>Cayratia ibuensis</i> (Hook.f.) Suess.	Lnph	Adjakidjè 2561
<i>Cissus aralioides</i> (Welw. ex Baker) Planch.	Lnph	Pauwels 8110
<i>Cissus cornifolia</i> (Baker) Planch.	Ch	Houngnon 60a
<i>Cissus kouandeensis</i> A.Chev.	Lnph	Houngnon 65a
<i>Cissus palmatifida</i> (Baker) Planch.	Lnph	Houngnon 4499
<i>Cissus populnea</i> Guill. and Perr.	LmPh	Houngnon 68d
<i>Cissus quadrangularis</i> L.	Lnph	Essou 2225
<i>Cissus rufescens</i> Guill. and Perr.	Lmph	Akoègninou 2903
<i>Cissus vogelii</i> Hook.f.	LHc	Akoègninou 2903
<i>Cyphostemma adenocaula</i> (Steud.) Desc.	Gr	Pauwels 8073
<i>Cyphostemma jatrophioides</i> (Welw. ex Baker) Desc.	Hc	Sinsin 2586
<i>Cyphostemma sokodense</i> (Gilg and Brandt) Desc.	Gr	Houngnon 1046
Zingiberaceae		
<i>Aframomum angustifolium</i> (Sonn.) K.Schum.	Gr	Chevalier 24210
<i>Costus afer</i> Ker Gawl.	Gr	Chevalier 23765
<i>Costus spectabilis</i> (Fenzl) K.Schum.	Gb	Burg 1443
<i>Siphonochilus aethiopicus</i> (Schumach.) B.L.Burt.	Gr	Chevalier 23902
Zygophyllaceae		
<i>Balanites aegyptiaca</i> (L.) Delile.	mph	Sinsin 2575

TABLE 3. Comparison of Biosphere Reserve of Pendjari components: Jaccard index. Cntr.occ.zone = Control occupation zone

	Core zone	Hunting zone	Cntr. occ. zone
Core zone		0.79	0.51
Hunting zone			0.76

ACKNOWLEDGMENTS: We are grateful to the project BIOTA-West III and CUD (Belgian local scholarship) for financial support. We thank farmers around the Biosphere Reserve of Pendjari for their great collaboration.

LITERATURE CITED

- Adomou, A.C., B. Sinsin and J.L.G. van der Maesen. 2006. Phytosociological and chorological approaches to phytogeography: a meso-scale study in Benin. *Systematics and Geography of Plants* 76: 155-178.
- Akoègninou, A. and S. Lisowski. 2004. Un *Ipomoea* (Convolvulaceae) nouveau et un *Thunbergia* (Acanthaceae) nouveau du Bénin. *Systematics and Geography of Plants* 74(2): 337-340.
- Akoègninou, A., W.J. van der Burg and L.J.G. van der Maesen. 2006. *Flore analytique du Bénin*. Leiden: Backhuys Publishers. 1034 p.
- Arbonnier, M. 2002. *Arbres, arbustes et lianes de l'Afrique de l'Ouest*. Paris: CIRAD. 574 p.
- Braun-Blanquet, J. 1932. *Plant sociology*. New York/ London: Macgran-Hill. 330 p.
- Clerici, N., A. Bodini, H. Eva, J. Grégoire, D. Dulieu and C. Paolini. 2007. Increased isolation of two Biosphere Reserves and surrounding protected areas (WAP ecological complex, West Africa). *Journal for Nature Conservation* 15: 26-40.
- Déléké Koko, I.K.E., J. Djègo, J. Gbénou, S.M. Hounzangbé-Adoté and B. Sinsin. 2011. Etude phytochimique des principales plantes galactogènes et emménagogues utilisées dans les terroirs riverains de la Zone cynégétique de la Pendjari. *International Journal of Biological and Chemical Sciences* 5(2): 618-633.
- Delvingt, W., J.C. Heymans and B. Sinsin. 1989. *Guide du Parc National de la Pendjari*. Bruxelles: CECA-CEE-CEA. 25 p.
- Djossa, B.A., J. Fahr, E.K.V. Kalko and B. Sinsin. 2008a. Fruit selection and effects of seed handling by flying foxes on germination rates of shea trees, a key resource in northern Benin, West Africa. *Ecotropica* 14: 37-48.
- Djossa, B., J. Fahr, T. Wiegand, B.E. Ayihouénou, E.K. Kalko and B. Sinsin. 2008b. Land use impact on *Vitellaria paradoxa* C.F. Gaertn. stand structure and distribution patterns: a comparison of Biosphere Reserve of Pendjari in Atacora district in Benin. *Agroforestry System* 72: 205-220.
- Hahn-Hadjali, K., M. Schmidt and A. Thiombiano. 2006. Phytodiversity dynamics in pastured and protected West African savannas; p. 351-359 In S.A. Ghazanfar and H.J. Beentje (ed.), *Taxonomy and ecology of African Plants: their conservation and sustainable use - Proceedings of the 17th AETFAT Congress Addis Abeba 21.-26.09.2003*. Kew: Kew Publishing.
- Houéhanou, T.D., V. Kindomihou and B. Sinsin. 2011. Effectiveness of conservation areas in protecting Shea trees against hemiparasitic plants (Loranthaceae) in Benin, West Africa. *Plant Ecology and Evolution* 144 (8): 267-274.
- Hutchinson J. and J.M. Dalziel. 1954-1972. *Flora of West Tropical Africa*. 2nd ed. Vol. I-III. London: Crown Agents for Oversea Governments and Administrations.
- IUCN 2002. *Evaluation of Nominations of Natural and Mixed Properties to the World Heritage List*. Gland/Switzerland: IUCN. 9
- Kassa, B., R. Lisbois and B. Sinsin. 2007. Diet and food preference of the waterbuck (*Kobus ellipsiprymnus defassa*) in the Pendjari National Park, Benin. *African Journal of Ecology* 46: 303-310.
- König, K. 2005. *Carte de Végétation du Parc National de la Pendjari et ses Zones Cynégétiques*. BIOTA W11, Institut de Géographie, Université de Frankfurt.
- Lisowski, S. 2009. *Flore (Angiospermes) de la République de Guinée: Première partie (texte)*. Jardin Botanique National de Belgique. 530 p.
- Mbayngone, E., M. Schmidt, K. Hahn-Hadjali, A. Thiombiano, S. Guinko. 2008. Magnoliophyta of the partial faunal reserve of Pama, Burkina Faso. *Check List* 4(3):251-266.
- Nago, G.A., O. Grell, B. Sinsin and M. Rödel. 2006. The amphibian fauna of Pendjari National Park and surroundings, northern Benin. *Salamandra* 42 (2/3):93-108.

- Ouédraogo, O., M. Schmidt, A. Thiombiano, K. Hahn, S. Guinko and G. Zizka. 2011. Magnoliophyta, Arly National Park, Tapoa, Burkina. *Check List* 7(1): 85-100.
- PAG2 (2005). *Plan d'aménagement et de gestion de la Réserve de Biosphère de la Pendjari 2004-2013*. Cotonou: Média Press. 83 pp.
- Raunkiaer, C. 1905. Types biologiques pour la géographie botanique. *Oversigt over Det kongelige Danske Videnskabernes Selskabs Forhandlinger* 5: 347-437.
- Schmidt, M. 2006. *Pflanzenvielfalt in Burkina Faso - Analyse, Modellierung und Dokumentation*. PhD thesis accessible at <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30-31987>. Frankfurt am Main: Goethe-Universität. 188 p.
- Sinsin, B. 1993. *Phytosociologie, écologie, valeur pastorale, production et capacité de charge des pâturages du périmètre Nikki-Kalalé au Nord-Bénin*. PhD thesis, Bruxelles: Université Libre de Bruxelles. 390 p.
- Sinsin, B., A.C. Tehou, I. Daouda and A. Saidou. 2002. Abundance and species richness of larger mammals in Pendjari National Park in Benin. *Mammalia* 66(3): 369-380.
- Tiomoko, D.A. 2007. *Impacts des recettes de la chasse safari sur la conservation participative de la Réserve de Biosphère de la Pendjari*. Mémoire de DEA, Abomey-Calavi : Université d'Abomey-Calavi. 41 p.
- Vodouhè, G.F., O. Coulibaly and B. Sinsin. 2010. Community Perception of Biodiversity Conservation within Protected Areas in Benin. *Forest Policy and Economics* 12: 505-512.
- Vodouhè, G.F., O. Coulibaly, G. Biaou and B. Sinsin. 2011. Traditional agroforestry and biodiversity conservation in Benin (West Africa). *Agroforestry systems* 82 : 1-13.
- Wala, K. 2004. *La végétation de la Chaîne d'Atakora au Bénin: diversité floristique, phytosociologie et impact humain*. PhD thesis, Lomé: Université de Lomé. 138 p.
- White, F. 1983. *The vegetation of Africa. A descriptive memoir to accompany the Unesco/AETFPA/UNSO vegetation map of Africa*. Paris: Orstom-Unesco. 356 p.
- Willaine, P. and B. Volkoff. 1967. *Carte pédologique du Dahomey à l'échelle de 1/1000 000*. Paris: ORSTOM.

RECEIVED: December 2011

ACCEPTED: July 2012

PUBLISHED ONLINE: August 2012

EDITORIAL RESPONSIBILITY: Marco Schmidt