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Magnoliophyta, Arly National Park, Tapoa, Burkina Faso

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ABSTRACT: The Arly National Park of southeastern Burkina Faso is in the center of the WAP complex, the largest continuous system of protected areas in West Africa. Although well known for its large mammal populations, its flora has largely been unexplored until recently. The plant species composition is typical for sudanian savanna areas with a high share of grasses and legumes and similar to other protected areas of the complex, the neighbouring Pama reserve and W National Park. It has more species in common with the classified forest of Kou in SW Burkina Faso than with the geographically closer Sahel reserve. The 490 species belong to 280 genera and 83 families. The most important life forms are phanerophytes and therophytes.

INTRODUCTION

For Burkina Faso, only very few comprehensive assessments of local floras have been published (*e.g.*, Guinko and Thiombiano 2005; Ouoba *et al.* 2006; Gnomou *et al.* 2008). There is virtually no information available about the flora of the country's protected areas, although this knowledge is important for the conservation of endangered species and habitats and the management of these protected areas. Even on the larger scale of West Africa, local assessments of the flora are mainly restricted to the forest region (Jongkind *et al.* 1999; Jongkind 2007a, b; Aké Assi *et al.* 2005; Ekpe 2005; Holié and Delamou 2004; 2006; Couch and Williams 2006; Luke 2007; Siaw and Dabo 2007). Following a recent publication on the partial faunal reserve of Pama (Mbayngone *et al.* 2008) this paper continues to close gaps in knowledge on the plant diversity of West African protected areas by providing a comprehensive checklist of Arly National Park.

MATERIALS AND METHODS

Study Area

The Arly National Park (Figure 1) resulted from the merging of the total reserve of Madjoari and the total reserve of Arly in 1978 (Ouattara 1994) and is presently a protected area of IUCN category II. The forestry authorities have further increased the area to include a part of the Gobnangou mountain chain. The park covers now an area of 120.000 ha and is part of the so-called WAP complex (W-Arly-Pendjari), a large transfrontier complex of nature reserves consisting of Arly National Park, the neighbouring Pendjari National Park south of the Pendjari river in Benin, the W National Park shared by Benin, Burkina Faso and Niger, several partial faunal reserves and hunting zones. Hunting is forbidden in Arly National Park and by lack of infrastructure there is only limited ecotourism possible at present. The whole complex is well-known for its wildlife including large populations of elephants and lions (Lamarque 2004; Balança *et al.* 2007). It has a much denser

vegetation than the surrounding areas, where agriculture has encroached on savannas and forests and tall perennial grasses almost disappeared, so that its borders are even visible from space (*e.g.* in the map in UNEP 2008).

Among the reserves of the WAP complex, Arly has a high habitat diversity, including extensive gallery forests of the Arly and Pendjari rivers (Figure 2), sandstone hills of the Gobnangou chain (Figure 3), sudanian savannas dominated by tall perennial grasses and closed woodlands.

The park has been inventoried for birds (Green and Sayer 1979) and large mammals (Green 1979) but detailed plant information is up to now restricted on studies on woody plant structure (Ouédraogo *et al.* 2008) and regeneration (Ouédraogo *et al.* 2009).

Data collection

The species listed here were compiled mainly from the surveys by O. Ouédraogo in the years 2004 to 2007 covering all habitat types of the park, complemented by several herb layer relevés conducted by M. Schmidt in

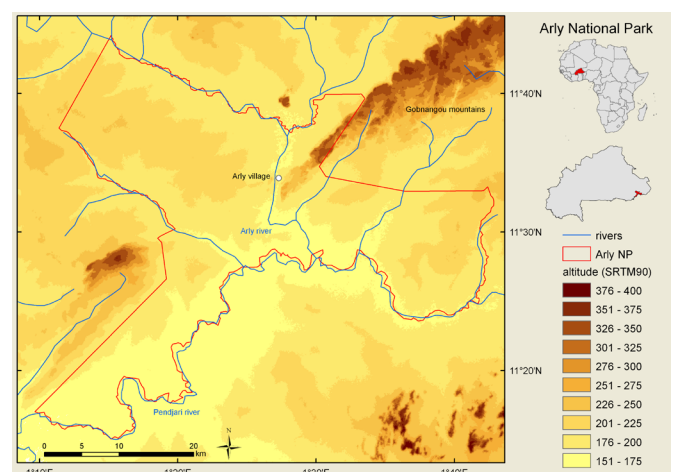


FIGURE 1. Map of Arly National Park with boundary and watercourses. Altitudinal information is taken from SRTM 90 data.

2002 (Schmidt 2006), rapid assessments of an expedition in late 2008 and specimen data from the herbarium of the University of Ouagadougou (OUA) and the Herbarium Senckenbergianum (FR). The species names and synonymy follow the African Flowering Plants Database (Gautier *et al.* 2006), families are assigned according to Brummit (1992), but family names like Compositae or Gramineae are replaced by the standard names referring to the type genus. Species have been determined using Hutchinson and Dalziel (1954-1972), Berhaut (1971-1988), Arbonnier (2002), Akoègninou *et al.* (2006) and the West African Plants Database (<http://westafricanplants.senckenberg.de>, Brunken *et al.* 2008).

Life form information has been assembled from Guinko (1984), Aké Assi (2001; 2002) and supplemented by own observations. The more detailed information in the mentioned literature has been reduced to the main types, as defined by Raunkiaer (1905), in order to have a comparable definition of life forms.

The chorological types refer to the phytochoria of White (1983), also used in other studies of the region (Sinsin 2001; Mbayngone *et al.* 2008).

Data analysis

The comparisons with other reserves in Burkina Faso are based on the publications of Guinko and Thiombiano (2005) for the *Forêt Classée de la Kou*, Mbayngone *et al.* (2008) for the *Reserve partielle de la faune de Pama*, Schmidt *et al.* (2008) for the *Reserve sylvo-pastorale et partielle de faune du Sahel* and Arbonnier *et al.* (2002) for the Niger part of the *Parc National de la W du Niger*. The nomenclature has been harmonized using the synonymy of the African Flowering Plants Database (Gautier *et al.* 2006), therefore slight differences from the original publications are possible. Calculation of species in common and exclusive to certain reserves has been done in Microsoft Excel, calculation of Sørensen indices and clustering has been done in Community Analysis Package (v.4, Pisces Conservation Ltd.).

RESULTS AND DISCUSSION

The Arly National Park contributes highly to the conservation of the country's flora. We found 490 species (Table 1) which represent about 30% of all vascular plants inventoried in Burkina Faso (Schmidt *et al.* 2010). The Park's flora consists of 280 genera belonging to 83 families. The ten most species rich families are Fabaceae (95 species), followed by Poaceae (88), Cyperaceae (27), Rubiaceae (22), Combretaceae (19), Euphorbiaceae (14), Acanthaceae (13), Convolvulaceae (13), Malvaceae (12) and Asteraceae (11) (Figure 4).

The family composition (Figure 4) is very similar to the family composition of the nearby Pama reserve (Mbayngone *et al.* 2008). The most striking difference is the higher family richness in Arly (83 as compared to 73) and the higher species richness in some families, especially the Combretaceae.

Similar to the family composition of the Pama reserve and W National Park, the dominance of grasses and legumes in Arly National Park is very typical of savannas (Bourlière and Hadley 1970) and is found throughout Burkina Faso (Schmidt *et al.* 2005; Schmidt *et al.* 2010), up

to the very North (Schmidt *et al.* 2008) and in the nearby Atakora mountains of Benin (Wala *unpublished data*).

The ten most species rich genera are *Indigofera* (18 species), *Combretum* (11), *Cyperus* (11), *Ipomoea* (9), *Acacia* (8), *Crotalaria* (8), *Andropogon* (7), *Eragrostis* (7), *Hyparrhenia* (7) and *Tephrosia* (7). Altogether they constitute 19% of the National Park's flora.

The life form composition (Figure 5) is dominated by phanerophytes (40%) and therophytes (33%), followed by chamaephytes (10%), hemicryptophytes (9%), geophytes (5%), hydrophytes (2%) and helophytes (1%). This is a typical pattern for the North Sudanian Zone (Hahn-Hadjali *et al.* 2006). Towards the Sahel the portion of therophytes increases at the expense of the phanerophytes (Schmidt *et al.* 2005). In the South Sudanian Zone phanerophytes are even more important (Koulibaly *et al.* 2006).

The chorological spectrum of the flora (Figure 6) is characterized by a high proportion of species specific to savanna regions (sudanian, sudano-zambesian) and a high proportion of wide-spread species (pantropical, paleotropical, pluriregional african, afrotropical). Sudano-guinean and guineo-congolian elements are mainly confined to the gallery forests.

The comparison of published inventories of protected areas of the region (Figure 7, Table 1) includes two



FIGURE 2. Gallery forest along the Arly river with *Ziziphus spina-christi* at the edge of the water.



FIGURE 3. Sandstone hills of the Gobnangou mountains near the eastern entrance to the Arly NP.

neighbouring areas of the so-called WAP complex - the Pama reserve (Mbayngone *et al.* 2008) and the Niger part of the W transboundary park (Arbonnier *et al.* 2002), another sudanian site in the SW of Burkina Faso - the classified forest of Kou (Guinko and Thiombiano 2005) and the country's largest protected area - the Sahel reserve (Schmidt *et al.* 2008).

Most similar are Pama and Arly, grouping together with the W Park. As the geographic position in the center might suggest, Arly is more similar to either Pama or W Park, than these are to each other and has the fewest species exclusively found within its area. The mentioned three areas of the WAP complex are most similar to the Kou forest, the closer they are geographically. The environmental differences and larger distance to the other reserves makes the Sahel reserve the most distinctive in species composition. Although it has the lowest total species richness of the larger reserves (Kou forest is very small), it has the highest number of "exclusive" species.

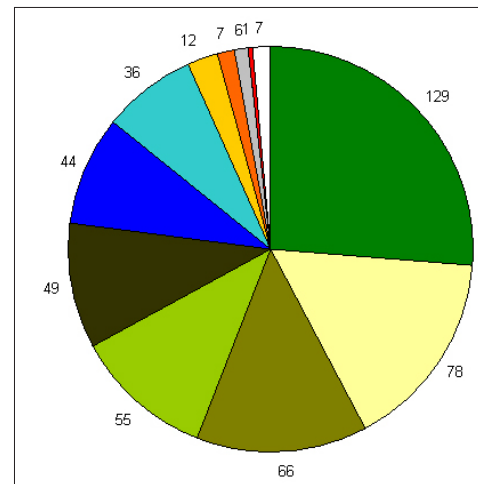


FIGURE 5. Life form composition: Number of species per life form. ■ = Sudanian; □ = Pantropical; ■ = Sudano-zambesian; ■ = Paleotropical; ■ = Afrotropical; ■ = Pluriregional African; ■ = Sudano-Guinean and Guinean-Congolian; ■ = Afro-American; ■ = Afro-Malagasy; ■ = Cultivated; ■ = Cosmopolitan; □ = Unknown.

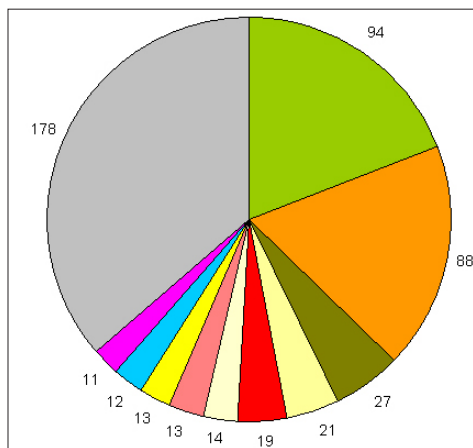


FIGURE 4. Family composition: Number of species within the ten largest families and the remaining 73 families. ■ = Fabaceae; ■ = Poaceae; ■ = Cyperaceae; ■ = Rubiaceae; ■ = Combretaceae; ■ = Euphorbiaceae; ■ = Acanthaceae; ■ = Convolvulaceae; ■ = Malvaceae; ■ = Asteraceae; ■ = Others.

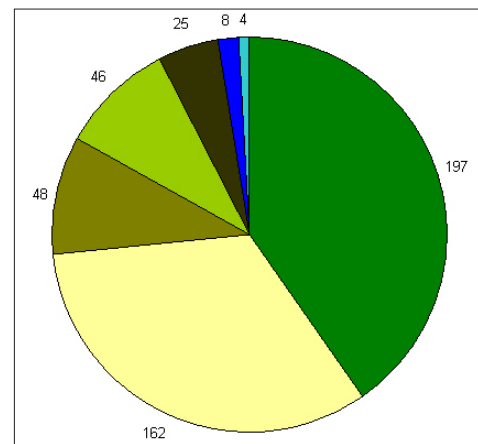


FIGURE 6. Chorological spectrum of the flora. ■ = phanerophyte; ■ = therophyte; ■ = chamaephyte; ■ = hemicryptophyte; ■ = geophyte; ■ = hydrophyte; ■ = helophyte.

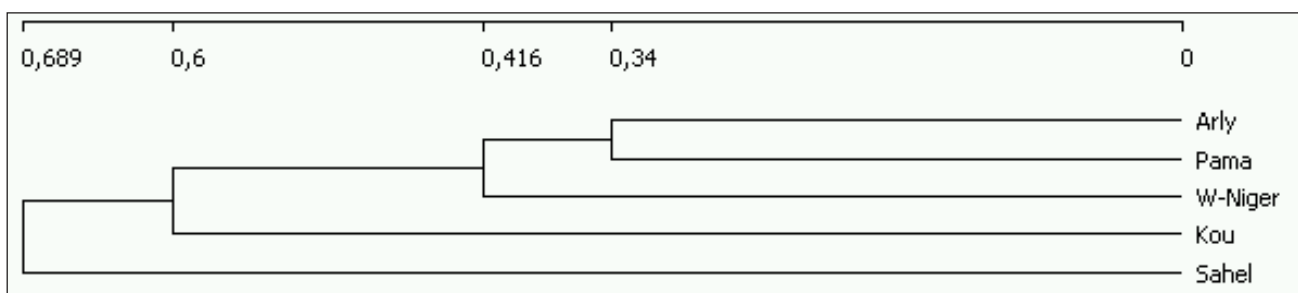


FIGURE 7. Dendrogram of the protected areas (average linkage, 1 - Sørensen, calculated with Community Analysis Package).

TABLE 1. Comparison of the protected areas: Sørensen index, species in common between two areas, species only found in the respective area, total species richness. Due to the use of a consistent synonymy, species richness might differ slightly from the original publications.

	SØRENSEN INDEX				SPECIES IN COMMON				EXCLUSIVE SPECIES	SPECIES RICHNESS
	Arly	Kou	Pama	Sahel	Arly	Kou	Pama	Sahel		
Arly									69	490
Kou	0,42				162				81	276
Pama	0,66	0,43			311	156			72	450
Sahel	0,36	0,14	0,33		150	43	132		130	347
W-Niger	0,62	0,35	0,55	0,42	310	137	263	178	116	509

TABLE 2. Magnoliophyta of the Arly National Park, ordered by family and species. Life form, chorological information and voucher specimens are provided for each species (life forms: [c] chamaephyte, [g] geophyte, [hl] helophyte, [hc] hemicyptophyte, [hy] hydrophyte, [p] phanerophyte, [t] therophyte; chorology: [S] sudanian, [Pan] pantropical, [SZ] sudano-zambesian, [Paleo] paleotropical, [TA] afrotropical, [PRA] pluriregional African, [SG-GC] sudano-guinean and guineo-congolian, [AA] afro-american, [AM] afro-malagasy, [Cu] cultivated, [Cosm] cosmopolitan).

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
ACANTHACEAE			
<i>Blepharis linariifolia</i> Pers.	t	SZ	O. Ouédraogo 266
<i>Blepharis maderaspatensis</i> (L.) Heyne ex Roth	p	Pan	O. Ouédraogo 198
<i>Dicliptera paniculata</i> (Forssk.) I.Darbysh.	t	PRA	
<i>Dyschoriste heudelotiana</i> (Nees) Kuntze	c	TA	O. Ouédraogo 217
<i>Dyschoriste nagchana</i> (Nees) Bennet	c	Pan	O. Ouédraogo 87, Küppers 1145
<i>Hygrophila auriculata</i> (Schumach.) Heine	t	Pan	
<i>Hygrophila senegalensis</i> T.Anderson	t	SZ	O. Ouédraogo 142, 143, 147, 226, 320
<i>Justicia flava</i> (Forssk.) Vahl	p	SZ	O. Ouédraogo 273
<i>Justicia ladanooides</i> Lam.	t	TA	O. Ouédraogo 334
<i>Lepidagathis anobrya</i> Nees	p	S	O. Ouédraogo 152, 159
<i>Lepidagathis collina</i> (Endl.) Milne-Redh.	p	S	O. Ouédraogo 312
<i>Monechma ciliatum</i> (Jacq.) Milne-Redh.	c	TA	
<i>Nelsonia canescens</i> (Lam.) Spreng.	c	Pan	O. Ouédraogo 84, 85, 168
ALISMACEAE			
<i>Sagittaria guayanensis</i> Kunth	hy	Pan	
AMARANTHACEAE			
<i>Achyranthes aspera</i> L.	t	Pan	O. Ouédraogo 201
<i>Alternanthera nodiflora</i> R. Br.	t	SZ	O. Ouédraogo 166
<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	c	Pan	O. Ouédraogo 98, 99, 100, 172
<i>Celosia trigyna</i> L.	t	PRA	O. Ouédraogo 289
<i>Pandiaka angustifolia</i> (Vahl) Hepper	t	SZ	
<i>Pupalia lappacea</i> (L.) Juss.	p	Pan	O. Ouédraogo 54, 55, 247
ANACARDIACEAE			
<i>Lannea acida</i> A. Rich.	p	S	
<i>Lannea barteri</i> (Oliv.) Engl.	p	S	Küppers 1135
<i>Lannea microcarpa</i> Engl. & K. Krause	p	SZ	
<i>Ozoroa insignis</i> Delile	p	S	
<i>Sclerocarya birrea</i> (A. Rich.) Hochst.	p	S	
ANNONACEAE			
<i>Annona senegalensis</i> Pers.	p	S	Küppers 1147, 1155
<i>Uvaria chamae</i> P. Beauv.	p	PRA	O. Ouédraogo 110, 111
<i>Xylopia parviflora</i> (A.Rich.) Benth.	p	GC	Schmidt <i>et al.</i> 6244
ANTHERICACEAE			
<i>Chlorophytum limosum</i> (Baker) Nordal	g	?	O. Ouédraogo 26,27
APOCYNACEAE			
<i>Baissea multiflora</i> A. DC.	p	SZ	Küppers 1152, Schmidt <i>et al.</i> 6250
<i>Strophanthus sarmentosus</i> DC.	p	GC	Schmidt 843
ARACEAE			
<i>Culcasia saxatilis</i> A.Chev.	p	SG	O. Ouédraogo 330, 351
<i>Stylochaeton hypogaeus</i> Lepr.	g	S	
<i>Stylochaeton lancifolius</i> Kotschy & Peyr.	g	S	
ARECACEAE			
<i>Borassus aethiopicum</i> Mart.	p	SZ	
ASCLEPIADACEAE			
<i>Brachystelma exile</i> Bullock	g	S	O. Ouédraogo 495
<i>Caralluma adscendens</i> (Roxb.) Haw.	c	SZ	
<i>Cryptolepis oblongifolia</i> (Meisn.) Schltr.	p	PRA	O. Ouédraogo 391

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Leptadenia hastata</i> (Pers.) Decne.	p	PRA	O. Ouédraogo 31, 32, 33
<i>Oxystelma bornouense</i> R.Br.	p	TA	O. Ouédraogo 300
<i>Raphionacme brownii</i> Scott-Elliot g, S]			
<i>Tacazzea apiculata</i> Oliv.	p	TA	O. Ouédraogo 454
ASPARAGACEAE			
<i>Asparagus africanus</i> Lam.	g	Pal	
ASTERACEAE			
<i>Acanthospermum hispidum</i> DC.	t	Pan	
<i>Aspilia bussei</i> O.Hoffm. & Muschl.	t	S	
<i>Aspilia paludosa</i> Berhaut	t	S	O. Ouédraogo 168, 225
<i>Bidens borianiana</i> (Sch.Bip. ex Schweinf. & Asch.) Cufod.	t	S	O. Ouédraogo 200
<i>Bidens engleri</i> O.E.Schulz	t		O. Ouédraogo 203
<i>Bidens ternata</i> (Chiov.)Sherff	t	S	
<i>Pseudoconyza viscosa</i> (Mill.) D'Arcy	t	SG	
<i>Herderia truncata</i> Cass.	t	SG	O. Ouédraogo 134
<i>Pentanema indicum</i> (L.) Y.Ling	t	TA	
<i>Tridax procumbens</i> L.	c	Pan	
<i>Vernonia nigritiana</i> Oliv. & Hiern	hc	SZ	O. Ouédraogo 20, 21, 22, 23, 24
BIGNONIACEAE			
<i>Stereospermum kunthianum</i> Cham	p	SZ	
BOMBACACEAE			
<i>Adansonia digitata</i> L.	p	S	
<i>Bombax costatum</i> Pellegr. & Vuillet	p	S	
<i>Ceiba pentandra</i> (L.) Gaertn.	p	Pan	
BORAGINACEAE			
<i>Coldenia procumbens</i> L.	t	SZ	O. Ouédraogo 137, 138, 139
<i>Heliotropium indicum</i> L.	t	Pan	O. Ouédraogo 90, 91, 92
<i>Heliotropium strigosum</i> Willd.	c	Paleo	O. Ouédraogo 76, 165, 170, 174, 367
BURSERACEAE			
<i>Boswellia dalzielii</i> Hutch.	p	S	
<i>Commiphora africana</i> (A.Rich.) Engl.	p	Pal	
BUTOMACEAE			
<i>Butomopsis latifolia</i> (D.Don) Kunth	hl	Paleo	O. Ouédraogo 335
CAMPANULACEAE			
<i>Sphenoclea zeylanica</i> Gaertn.	t	Pan	
CAPPARIDACEAE			
<i>Cadaba farinosa</i> Forssk.	p	Paleo	
<i>Capparis sepiaria</i> L.	p	SZ	
<i>Capparis tomentosa</i> Lam.	p	S	
<i>Cleome viscosa</i> L.	t	SG	
<i>Crateva adansonii</i> DC.	p	Pal	
<i>Maerua angolensis</i> DC.	p	TA	Küppers 705
CARYOPHYLLACEAE			
<i>Polycarpaea corymbosa</i> (L.) Lam.	t	Pal	
<i>Polycarpaea eriantha</i> Hochst. ex A.Rich.	t	SZ	
<i>Polycarpaea linearifolia</i> (DC.) DC.	t	TA	O. Ouédraogo 221, 244, 328
CELASTRACEAE			
<i>Gymnosporia senegalensis</i> (Lam.) Loes.	p	SZ	
<i>Loeseneriella africana</i> (Willd.) N.Hallé	p	TA	O. Ouédraogo 67, 68, 69
<i>Salacia owabiensis</i> Hoyle	p	GC	A. Ouédraogo 315

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
CHRYSOBALANACEAE			
<i>Parinari congensis</i> Didr.	p	GC	O. Ouédraogo 118, 119, 120, Thiombiano et al. 3287
<i>Parinari curatellifolia</i> Planch. ex Benth.	p	SZ	
COCHLOSPERMACEAE			
<i>Cochlospermum planchonii</i> Hook. f.	p	S	
<i>Cochlospermum tinctorium</i> A.Rich.	p	S	Thiombiano et al. 3282
COMBRETACEAE			
<i>Anogeissus leiocarpa</i> (DC.) Guill. & Perr.	p	SZ	Schmidt et al. 6255, 6256, 6269
<i>Combretum aculeatum</i> Vent.	p	SZ	
<i>Combretum acutum</i> M.A.Lawson	p	S	O. Ouédraogo 95, 96, 97
<i>Combretum adenogonium</i> Steud. ex A. Rich.	p	S	Thiombiano et al. 2047
<i>Combretum collinum</i> Fresen.	p	TA	
<i>Combretum glutinosum</i> Perr. ex DC.	p	S	
<i>Combretum micranthum</i> G.Don	p	S	
<i>Combretum molle</i> R.Br. ex G.Don	p	TA	Thiombiano et al. 2011
<i>Combretum nigricans</i> Lepr. ex Guill. & Perr.	p	S	
<i>Combretum nioroense</i> Aubrév. ex Keay	p	S	O. Ouédraogo 503, Küppers 1148, Thiombiano 2009
<i>Combretum paniculatum</i> Vent.	p	PRA	
<i>Combretum sericeum</i> G.Don	hc	S	O. Ouédraogo 108, 109
<i>Guiera senegalensis</i> J.F.Gmel.	p	SZ	
<i>Pteleopsis suberosa</i> Engl. & Diels	p	PRA	Thiombiano et al. 3284
<i>Terminalia avicennioides</i> Guill. & Perr.	p	S	O. Ouédraogo 163, 186
<i>Terminalia laxiflora</i> Engl.	p	S	O. Ouédraogo 502
<i>Terminalia macroptera</i> Guill. & Perr.	p	S	
<i>Terminalia mollis</i> M.A.Lawson	p	PRA	A. Ouédraogo 33
<i>Terminalia schimperiana</i> Hochst.	p	SG	
COMMELINACEAE			
<i>Aneilema paludosum</i> A.Chev.	hl	SZ	O. Ouédraogo 270, 347
<i>Commelina benghalensis</i> L.	c	Pal	
<i>Commelina erecta</i> L.	t	Pan	
<i>Commelina nigritana</i> Benth.	t	TA	O. Ouédraogo 314
<i>Cyanotis longifolia</i> Benth.	hc	SG	
<i>Murdannia simplex</i> (Vahl) Brenan	p	Pal	O. Ouédraogo 311
CONVALLARIACEAE			
<i>Eriospermum flagelliforme</i> (Baker) J.C.Manning	g	TA	O. Ouédraogo 180, 181
CONVOLVULACEAE			
<i>Evolvulus alsinoides</i> (L.) L.	c	Pan	
<i>Ipomoea aquatica</i> Forssk.	hy	Pan	O. Ouédraogo 188
<i>Ipomoea argenteaurata</i> Hallier f.	p	S	O. Ouédraogo 183
<i>Ipomoea coscinosperma</i> Hochst. ex Choisy	t	SZ	
<i>Ipomoea eriocarpa</i> R.Br.	t	Pal	Küppers 1146
<i>Ipomoea heterotricha</i> Didr.	t	SZ	
<i>Ipomoea involucreta</i> P.Beauv.	t	TA	O. Ouédraogo 460
<i>Ipomoea marginata</i> (Desr.) Verdc.	p	?	O. Ouédraogo 280, 283, 285
<i>Ipomoea vagans</i> Baker	t	S	O. Ouédraogo 237
<i>Ipomoea verticillata</i> Forsk.	p	S	O. Ouédraogo 303
<i>Merremia hederacea</i> (Burm. f.) Hallier f.	p	Pan	O. Ouédraogo 164, 366, Schmidt et al. 6246
<i>Merremia kentrocaulos</i> (C.B.Clarke) Hallier f.	p	Pal	O. Ouédraogo 470
<i>Merremia pinnata</i> (Hochst. ex Choisy) Hallier f.	t	PRA	O. Ouédraogo 256, Schmidt et al. 6235
CRASSULACEAE			

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Kalanchoe laciniata</i> (L.) DC.	t	Pan	O. Ouédraogo 499
CUCURBITACEAE			
<i>Cucumis maderaspatanus</i> L.	hc	Pal	
<i>Luffa cylindrica</i> (L.) M.J.Roem.	t	AA	O. Ouédraogo 370, Schmidt 844
CYPERACEAE			
<i>Abildgaardia abortiva</i> (Steud.) Lye	hc	PRA	
<i>Abildgaardia coleotricha</i> (Hochst. ex A.Rich.) Lye	t	SG	
<i>Abildgaardia filamentosa</i> (Vahl) Lye	hc	S	Schmidt et al. 6236
<i>Abildgaardia hispidula</i> (Vahl) Lye	hc	PRA	
<i>Cyperus cuspidatus</i> Kunth	t	Pan	O. Ouédraogo 275
<i>Cyperus difformis</i> L.	t	Pan	O. Ouédraogo 305, 340
<i>Cyperus digitatus</i> Roxb.	g	PRA	O. Ouédraogo 121, 122, 123, 175
<i>Cyperus haspan</i> L.	t	Pan	O. Ouédraogo 58, 59, 60
<i>Cyperus imbricatus</i> Retz.	hc	Pan	O. Ouédraogo 126, 127, 128
<i>Cyperus iria</i> L.	t	Pal	O. Ouédraogo 374
<i>Cyperus maculatus</i> Boeckeler	g	PRA	O. Ouédraogo 173, 176
<i>Cyperus podocarpus</i> Boeckeler	t	S	O. Ouédraogo 199, 202
<i>Cyperus pustulatus</i> Vahl	t	PRA	O. Ouédraogo 204
<i>Cyperus reduncus</i> Hochst. ex Boeckeler	t	Pan	O. Ouédraogo 8, 9, 10
<i>Cyperus rotundus</i> L.	g	TA	
<i>Eleocharis acutangula</i> (Roxb.) Schult.	hl	Pan	
<i>Fimbristylis dichotoma</i> (L.) Vahl	hc	Pan	
<i>Fimbristylis ferruginea</i> (L.) Vahl	hc	Pan	O. Ouédraogo 212
<i>Kyllinga erecta</i> Schumach.	g	AM	O. Ouédraogo 56
<i>Lipocarpa chinensis</i> (Osbeck) J.Kern	t	Pal	O. Ouédraogo 304
<i>Lipocarpa filiformis</i> (Vahl) Kunth	t	Pal	
<i>Lipocarpa kernii</i> (Raymond) Goetgh.	t	?	O. Ouédraogo 306
<i>Mariscus cylindristachyus</i> Steud.	hc	Pan	O. Ouédraogo 250, Küppers 1138
<i>Pycnus macrostachyos</i> (Lam.) J. Raynal	t	Pan	O. Ouédraogo 271, 323
<i>Schoenoplectiella senegalensis</i> (Hochst. ex Steud.) Lye	t	Pal	O. Ouédraogo 222, 254
<i>Scleria pergracilis</i> (Nees) Kunth	t	Pal	
<i>Scleria sphaerocarpa</i> (E.A.Rob.) Napper	t	SZ	O. Ouédraogo 141
DIOSCOREACEAE			
<i>Dioscorea bulbifera</i> L.	g	Pan	
<i>Dioscorea dumetorum</i> (Kunth) Pax	g	SZ	
<i>Dioscorea minutiflora</i> Engl.	g	GC	O. Ouédraogo 327
<i>Dioscorea sagittifolia</i> Pax	g	S	O. Ouédraogo 263
DRACAENACEAE			
<i>Sansevieria liberica</i> Hort. ex Gérôme & Labroy	c	TA	O. Ouédraogo 450
DROSERACEAE			
<i>Drosera indica</i> L.	t	Pal	
EBENACEAE			
<i>Diospyros mespiliformis</i> Hochst. ex A..DC.	p	Pal	Schmidt et al. 6263, 6268
EUPHORBIACEAE			
<i>Antidesma venosum</i> E. Mey. ex Tul.	p	PRA	
<i>Bridelia ferruginea</i> Benth.	p	SZ	
<i>Bridelia scleroneura</i> Muell.Arg.	p	S	
<i>Caperonia serrata</i> (Turcz.) C.Presl	t	S	
<i>Croton nigritanus</i> Scott-Elliot	p	GC	O. Ouédraogo 190, 329
<i>Euphorbia convolvuloides</i> Hochst. ex Benth.	hc	S	

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Euphorbia sudanica</i> A.Chev.	p	S	
<i>Euphorbia thymifolia</i> L.	c	Pan	O. Ouédraogo 31, 82, 83
<i>Flueggea virosa</i> (Roxb. ex Willd.) Voigt	p	Pal	
<i>Hymenocardia acida</i> Tul.	p	TA	
<i>Phyllanthus amarus</i> Schum. & Thonn.	p	Pan	
<i>Phyllanthus reticulatus</i> Poir.	p	TA	O. Ouédraogo 93, 94
<i>Tragia laminularis</i> Müll.Arg.	p	S	O. Ouédraogo 475
<i>Tragia senegalensis</i> Müll.Arg.	p	S	
FABACEAE			
<i>Abrus melanospermus</i> Hassk.	p	TA	O. Ouédraogo 135, 136, Küppers 1158
<i>Acacia dudgeonii</i> Craib ex Holland	p	S	
<i>Acacia erythrocalyx</i> Brenan	p	TA	
<i>Acacia gerrardii</i> Benth.	p	S	O. Ouédraogo 518, Neumann 668, Thiombiano 3289
<i>Acacia gourmaensis</i> A. Chev.	p	S	
<i>Acacia hockii</i> De Wild.	p	PRA	
<i>Acacia macrostachya</i> Rchb. ex DC.	p	SZ	
<i>Acacia seyal</i> Delile	p	S	
<i>Acacia sieberiana</i> DC.	p	TA	
<i>Aeschynomene crassicaulis</i> Harms	t	S	O. Ouédraogo 372
<i>Aeschynomene indica</i> L.	c	Pal	O. Ouédraogo 469
<i>Aeschynomene sensitiva</i> Sw.	c	AA	
<i>Afzelia africana</i> Sm. ex Pers.	p	SZ	O. Ouédraogo 34, Küppers 704
<i>Albizia chevalieri</i> Harms	p	S	
<i>Alysicarpus ovalifolius</i> (Schum. & Thonn.) J. Léonard	c	Pal	
<i>Alysicarpus rugosus</i> (Willd.) DC.	t	AM	
<i>Burkea africana</i> Hook.	p	TA	
<i>Cajanus kerstingii</i> Harms	p	S	O. Ouédraogo 245
<i>Cassia sieberiana</i> DC.	p	SZ	Küppers 1136
<i>Chamaecrista absus</i> (L.) H.S.Irwin & Barneby	p	Pal	
<i>Chamaecrista nigricans</i> (Vahl) Greene	p	Pal	
<i>Chamaecrista pratensis</i> (R.Vig.) Du Puy	p	Pal	
<i>Crotalaria atrorubens</i> Hochst. ex Benth.	c	S	O. Ouédraogo 316
<i>Crotalaria goreensis</i> Guill. & Perr.	c	TA	O. Ouédraogo 369
<i>Crotalaria hyssopifolia</i> Klotzsch	t	S	O. Ouédraogo 332
<i>Crotalaria leprieurii</i> Guill. & Perr.	t	SZ	O. Ouédraogo 224
<i>Crotalaria macrocalyx</i> Benth.	t	S	O. Ouédraogo 4, 5, 6, 7
<i>Crotalaria microcarpa</i> Hochst. ex Benth.	c	S	O. Ouédraogo 337, 350
<i>Crotalaria naragutensis</i> Hutch.	c	S	
<i>Crotalaria retusa</i> L.	t	Pan	
<i>Daniellia oliveri</i> (Rolfe) Hutch. & Dalziel	p	SZ	Thiombiano <i>et al.</i> 3286
<i>Desmodium gangeticum</i> (L.) DC.	c	Pal	O. Ouédraogo 265
<i>Desmodium hirtum</i> Guill. & Perr.	t	PRA	O. Ouédraogo 246
<i>Desmodium ospriostreblum</i> Chiov.	t	Cul	O. Ouédraogo 399
<i>Desmodium setigerum</i> (E.Mey.) Benth. ex Harv.	c	PRA	O. Ouédraogo 132, 133
<i>Desmodium velutinum</i> (Willd.) DC.	c	Pan	
<i>Detarium microcarpum</i> Guill. & Perr.	p	S	
<i>Dialium guineense</i> Willd.	p	GC	O. Ouédraogo 519, Küppers 1151, 1154
<i>Dichrostachys cinerea</i> (L.) Wright & Arn.	p	Pan	
<i>Entada africana</i> Guill. & Perr.	p	PRA	
<i>Eriosema glomeratum</i> (Guill. & Perr.) Hook	p	TA	O. Ouédraogo 390

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Eriosema griseum</i> Baker	c	GC	O. Ouédraogo 310
<i>Eriosema psoraleoides</i> (Lam.) G. Don	c	PRA	O. Ouédraogo 361
<i>Erythrina senegalensis</i> A.DC.	p	GC	
<i>Indigofera bracteolata</i> DC.	p	S	O. Ouédraogo 179, 261, 309
<i>Indigofera colutea</i> (Burm.f.) Merr.	t	Pal	
<i>Indigofera congesta</i> Welw. ex Baker	t	PRA	O. Ouédraogo 86
<i>Indigofera congolensis</i> De Wild. & T. Durand	t	TA	O. Ouédraogo 415
<i>Indigofera dendroides</i> Jacq.	t	TA	
<i>Indigofera geminata</i> Baker	t	S	
<i>Indigofera hirsuta</i> L.	t	Pan	O. Ouédraogo 288
<i>Indigofera leprieurii</i> Baker f.	t	SZ	
<i>Indigofera macrocalyx</i> Guill. & Perr.	c	S	O. Ouédraogo 36, 37
<i>Indigofera microcarpa</i> Desv.	t	AM	O. Ouédraogo 124, 125
<i>Indigofera omissa</i> J.B.Gillett	p	S	
<i>Indigofera paniculata</i> Vahl ex Pers.	t	TA	O. Ouédraogo 15, 290, 296, 302, Küppers 1159
<i>Indigofera pilosa</i> Poir.	t	SZ	O. Ouédraogo 11
<i>Indigofera secundiflora</i> Poir.	t	Pal	O. Ouédraogo 362
<i>Indigofera senegalensis</i> Lam.	t	S	O. Ouédraogo 197
<i>Indigofera stenophylla</i> Guill. & Perr.	t	S	
<i>Indigofera tinctoria</i> L.	p	PRA	
<i>Indigofera trichopoda</i> Lepr. ex Guill. & Perr.	t	S	Schmidt <i>et al.</i> 6267
<i>Isoberlinia doka</i> Craib & Stapf	p	S	
<i>Mimosa pigra</i> L.	p	Pan	Küppers 1153
<i>Parkia biglobosa</i> (Jacq.) Benth.	p	Pal	
<i>Pericopsis laxiflora</i> (Benth.) Meeuwen	p	S	
<i>Philenoptera laxiflora</i> (Guill. & Perr.) Roberty	p	PRA	A. Ouédraogo 300, Thiombiano <i>et al.</i> 3290
<i>Piliostigma reticulatum</i> (DC.) Hochst.	p	S	
<i>Piliostigma thonningii</i> (Schumach.) Milne-Redh.	p	TA	
<i>Prosopis africana</i> (Guill. & Perr.) Taub.	p	S	
<i>Pterocarpus erinaceus</i> Poir.	p	SZ	A. Ouédraogo 299
<i>Pterocarpus santalinoides</i> L'Hér. ex DC.	p	PRA	O. Ouédraogo 177, 192, A. Ouédraogo 31
<i>Rhynchosia minima</i> (L.) DC.	p	Pan	O. Ouédraogo 241
<i>Rhynchosia sublobata</i> (Schumach. & Thonn.) Meikle	p	PRA	
<i>Senna obtusifolia</i> (L.) H.S.Irwin & Barneby	p	Pan	
<i>Sesbania rostrata</i> Bremek. & Oberm.	t	S	
<i>Sesbania sesban</i> (L.) Merr.	p	Pal	
<i>Stylosanthes erecta</i> P.Beauv.	c	Gc	
<i>Tamarindus indica</i> L.	p	Pan	
<i>Tephrosia bracteolata</i> Guill. & Perr.	p	SZ	O. Ouédraogo 151
<i>Tephrosia elegans</i> Schumach.	p	SZ	O. Ouédraogo 307
<i>Tephrosia linearis</i> (Willd.) Pers.	t	AM	O. Ouédraogo 34, 38, 286
<i>Tephrosia mossiensis</i> A.Chev.	p	S	O. Ouédraogo 232
<i>Tephrosia nana</i> Kotschy ex Schweinf.	p	GC	O. Ouédraogo 233
<i>Tephrosia pedicellata</i> Baker	c	S	
<i>Uraria picta</i> (Jacq.) DC.	p	Pal	
<i>Vigna filicaulis</i> Hepper	p	SZ	O. Ouédraogo 140, 155, 214, 336
<i>Vigna heterophylla</i> A.Rich.	p	SZ	O. Ouédraogo 456
<i>Vigna longifolia</i> (Benth.) Verdc.	p	GC	
<i>Vigna multinervis</i> Hutch. & Dalziel	p	S	O. Ouédraogo 463
<i>Vigna racemosa</i> (G.Don) Hutch. & Dalziel	p	GC	O. Ouédraogo 356

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Vigna reticulata</i> Hook. f.	p	PRA	O. Ouédraogo 472
<i>Xeroderris stuhlmannii</i> (Taub.) Mendonca & E.C. Sousa	p	SZ	
<i>Zornia glochidiata</i> Reichb. ex DC.	t	TA	
FLACOURTIACEAE			
<i>Flacourtia indica</i> (Burm.f.) Merr.	p	Cul	
GUTTIFERAE			
<i>Garcinia livingstonei</i> T.Anderson	p	SZ	
<i>Psorospermum glaberrimum</i> Hochr.	p	S	O. Ouédraogo 520
HYACINTHACEAE			
<i>Albuca nigrifolia</i> (Baker) Troupin	g	S	
<i>Dipcadi tazazezanum</i> (Hochst. ex A.Rich.) Baker	g	S	O. Ouédraogo 182
HYDROCHARITACEAE			
<i>Ottelia ulvifolia</i> (Planch.) Walp.	hy	PRA	
HYPOXIDACEAE			
<i>Curculigo pilosa</i> (Schum. & Thonn.) Engl.	g	PRA	
LAMIACEAE			
<i>Englerastrum schweinfurthii</i> Briq.	t	S	O. Ouédraogo 517
<i>Hoslundia opposita</i> Vahl	p	AM	
<i>Hyptis spicigera</i> Lam.	p	Pan	
<i>Hyptis suaveolens</i> Poit.	c	Pan	
<i>Leucas martinicensis</i> (Jacq.) R.Br.	t	Pan	
<i>Ocimum obovatum</i> E.Mey. ex Benth.	hc	SZ	O. Ouédraogo 349
<i>Platostoma africanum</i> P.Beauv.	t	Pal	
<i>Plectranthus gracillimus</i> (T.C.E.Fr.) Hutch. & Dandy	t	S	
<i>Tinnea barteri</i> Gürke	p	SZ	
LENTIBULARIACEAE			
<i>Utricularia stellaris</i> L.f.	hy	?	
LILIACEAE			
<i>Drimia altissima</i> (L.f.) Ker Gawl.	g	S	O. Ouédraogo 338
<i>Scadoxus multiflorus</i> (Martyn) Raf.	g	TA	O. Ouédraogo 105, 106, 107, 178
LOGANIACEAE			
<i>Strychnos innocua</i> Delile	p	SZ	
<i>Strychnos spinosa</i> Lam.	p	AM	
LORANTHACEAE			
<i>Agelanthus dodoneifolius</i> (DC.) Polhill & Wiens	p	S	
LYTHRACEAE			
<i>Ammannia auriculata</i> Willd.	t	S	O. Ouédraogo 279
MALVACEAE			
<i>Cienfuegosia heteroclada</i> Sprague	c	S	O. Ouédraogo 490
<i>Hibiscus cannabinus</i> L.	t	Cul	O. Ouédraogo 364
<i>Hibiscus panduriformis</i> Burm.f.	t	Pal	O. Ouédraogo 282
<i>Hibiscus rostellatus</i> Guill. & Perr.	t	GC	O. Ouédraogo 363
<i>Hibiscus scotellii</i> Baker f.	p	GC	O. Ouédraogo 353
<i>Sida acuta</i> Burm. f.	c	Pan	
<i>Sida alba</i> L.	p	Pan	
<i>Sida linifolia</i> Juss. ex Cav.	p	AA	O. Ouédraogo 223
<i>Sida rhombifolia</i> L.	c	Pan	
<i>Sida urens</i> L.	c	Pan	
<i>Urena lobata</i> L.	c	Pan	O. Ouédraogo 195
<i>Wissadula rostrata</i> (Schumach.) Hook.f.	t	AA	

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
MARANTACEAE			
<i>Thalia geniculata</i> L.	hl	PRA	O. Ouédraogo 269
MARSILEACEAE			
<i>Marsilea minuta</i> L.	hy	?	O. Ouédraogo 301
MELIACEAE			
<i>Azadirachta indica</i> A. Juss.	p	Pal	
<i>Khaya senegalensis</i> (Desr.) A. Juss.	p	S	
<i>Pseudoceadrela kotschy</i> (Schweinf.) Harms	p	S	
<i>Trichilia emetica</i> Vahl	p	SZ	
MENISPERMACEAE			
<i>Cissampelos mucronata</i> A. Rich.	p	SZ	O. Ouédraogo 114, 115, Thiombiano <i>et al.</i> 3288
<i>Triclisia patens</i> Oliv.	p	GC	Schmidt <i>et al.</i> 6252
<i>Triclisia subcordata</i> Oliv.	p	GC	Küppers 1144, 1157
MOLLUGINACEAE			
<i>Glinus lotoides</i> L.	t	Pan	A. Ouédraogo 170
<i>Mollugo nudicaulis</i> Lam.	t	Pal	O. Ouédraogo 196, Schmidt <i>et al.</i> 6254
MORACEAE			
<i>Ficus abutilifolia</i> (Miq.) Miq.	p	S	A. Ouédraogo 31
<i>Ficus glumosa</i> Delile	p	S	
<i>Ficus ingens</i> (Miq.) Miq.	p	SZ	O. Ouédraogo 104, Küppers 1134, A. Ouédraogo 28
<i>Ficus sur</i> Forssk.	p	SG	
<i>Ficus sycomorus</i> L.	p	TA	
<i>Ficus thonningii</i> Blume	p	TA	
MYRTACEAE			
<i>Syzygium guineense</i> (Willd.) DC.	p	TA	O. Ouédraogo 346, 348, Küppers 1149, A. Ouédraogo 32
NYCTAGINACEAE			
<i>Boerhavia erecta</i> L.	t	Cosm	
NYMPHAEACEAE			
<i>Nymphaea lotus</i> L.	hy	Pan	
<i>Nymphaea micrantha</i> Guill. & Perr.	hy	GC	
OLACACEAE			
<i>Ximenia americana</i> L.	p	Pan	
OLEACEAE			
<i>Jasminum obtusifolium</i> Baker	p	S	
ONAGRACEAE			
<i>Ludwigia abyssinica</i> A. Rich.	p	AM	
<i>Ludwigia adscendens</i> (L.) H. Hara	c	PRA	O. Ouédraogo 88, 89
<i>Ludwigia hyssopifolia</i> (G. Don) Exell	t	S	O. Ouédraogo 459
<i>Ludwigia octovalvis</i> (Jacq.) P.H. Raven	c	PRA	O. Ouédraogo 339
ORCHIDACEAE			
<i>Eulophia guineensis</i> Lindl.	g	GC	
OXALIDACEAE			
<i>Biophytum umbraculum</i> Welw.	t	Pal	
PEDALIACEAE			
<i>Ceratotheca sesamoides</i> Endl.	t	SZ	O. Ouédraogo 210
PLUMBAGINACEAE			
<i>Plumbago zeylanica</i> L.	p	Pan	O. Ouédraogo 344
POACEAE			
<i>Acroceras amplexans</i> Stapf	t	S	
<i>Acroceras zizanioides</i> (Kunth) Dandy	c	Pan	O. Ouédraogo 207

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Anadelphia afzeliana</i> (Rendle) Stapf	hc	SZ	O. Ouédraogo 432
<i>Andropogon canaliculatus</i> Schumach.	hc	S	
<i>Andropogon chinensis</i> (Nees) Merr.	hc	Pal	O. Ouédraogo 25, 294, 297, 299
<i>Andropogon fastigiatus</i> Sw.	t	Pan	O. Ouédraogo 440
<i>Andropogon gayanus</i> Kunth	hc	S	O. Ouédraogo 272, 359
<i>Andropogon pseudapricus</i> Stapf	t	AA	O. Ouédraogo 313, 317
<i>Andropogon schirensis</i> Hochst. ex A.Rich.	hc	PRA	
<i>Andropogon tectorum</i> Schumach. & Thonn.	hc	S	O. Ouédraogo 236, 239, 277, Schmidt <i>et al.</i> 6231
<i>Aristida adscensionis</i> L.	t	Pan	O. Ouédraogo 16, 17, 18, 19
<i>Aristida kerstingii</i> Pilg.	t	S	
<i>Brachiaria falcifera</i> (Trin.) Stapf	hc	S	Küppers 1162
<i>Brachiaria jubata</i> (Fig. & De Not.) Stapf	hc	SZ	
<i>Brachiaria lata</i> (Schumach.) C.E.Hubb.	t	Pal	
<i>Brachiaria villosa</i> (Lam.) A.Camus	t	S	O. Ouédraogo 185, 243, 259
<i>Cenchrus biflorus</i> Roxb.	t	TA	O. Ouédraogo 508
<i>Chasmopodium caudatum</i> (Hack.) Stapf	t	SZ	
<i>Chloris pilosa</i> Schumach.	t	SZ	
<i>Chrysopogon nigritanus</i> (Benth.) Veldkamp	hc	SZ	O. Ouédraogo 515
<i>Ctenium newtonii</i> Hack.	hc	TA	O. Ouédraogo 227
<i>Cymbopogon caesius</i> (Nees ex Hook. & Arn.) Stapf	hc	TA	O. Ouédraogo 39, 278, 284
<i>Cymbopogon schoenanthus</i> (L.) Spreng.	hc	Pan	
<i>Dactyloctenium aegyptium</i> (L.) Willd.	t	Pan	
<i>Digitaria ciliaris</i> (Retz.) Koeler	t	Pan	O. Ouédraogo 251, 252
<i>Digitaria gayana</i> (Kunth) Stapf ex A.Chev.	t	Pan	O. Ouédraogo 258
<i>Diheteropogon amplexans</i> (Nees) Clayton	hc	Pan	O. Ouédraogo 257
<i>Echinochloa colona</i> (L.) Link	t	Pan	
<i>Echinochloa stagnina</i> (Retz.) P.Beauv.	t	PRA	O. Ouédraogo 331
<i>Eleusine indica</i> (L.) Gaertn.	t	Pan	
<i>Elionurus ciliaris</i> Kunth	hc	S	O. Ouédraogo 417
<i>Elytrophorus spicatus</i> (Willd.) A.Camus	t	Pal	O. Ouédraogo 319, 341, A. Ouédraogo 65
<i>Eragrostis ciliaris</i> (L.) R.Br.	t	Pal	O. Ouédraogo 12, 13, 14
<i>Eragrostis egregia</i> Clayton	hc	S	O. Ouédraogo 371
<i>Eragrostis gangetica</i> (Roxb.) Steud.	t	Pal	O. Ouédraogo 291, 333, 342
<i>Eragrostis japonica</i> (Thunb.) Trin.	t	TA	O. Ouédraogo 262
<i>Eragrostis tenella</i> (L.) P.Beauv. ex Roem. & Schult.	t	Pal	
<i>Eragrostis tremula</i> Hochst. ex Steud.	t	Pal	
<i>Eragrostis turgida</i> (Schumach.) De Wild.	t	S	
<i>Euclasta condylotricha</i> (Hochst. ex Steud.) Stapf	t	Pan	O. Ouédraogo 431
<i>Hackelochloa granularis</i> (L.) Kuntze	t	Pan	
<i>Heteropogon contortus</i> (L.) P.Beauv. ex Roem. & Schult.	hc	Pan	
<i>Heteropogon melanocarpus</i> (Elliott) Benth.	t	Pan	O. Ouédraogo 325, Schmidt <i>et al.</i> 6243
<i>Hyparrhenia barteri</i> (Hack.) Stapf	t	S	Schmidt 838
<i>Hyparrhenia cyanescens</i> (Stapf) Stapf	hc	GC	O. Ouédraogo 154, 160, 161, 321
<i>Hyparrhenia glabriuscula</i> (Hochst. ex A.Rich.) Stapf	hc	SZ	O. Ouédraogo 381
<i>Hyparrhenia involucrata</i> Stapf	t	S	O. Ouédraogo 396
<i>Hyparrhenia rufa</i> (Nees) Stapf	t	Pan	O. Ouédraogo 57
<i>Hyparrhenia smithiana</i> (Hook.f.) Stapf	hc	S	
<i>Hyparrhenia subplumosa</i> Stapf	hc	GC	Schmidt <i>et al.</i> 6239
<i>Hyperthelia dissoluta</i> (Nees ex Steud.) Clayton	hc	AA	
<i>Imperata cylindrica</i> (L.) P.Beauv.	g	Pan	

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Loudetia hordeiformis</i> (Stapf) C.E.Hubb.	t	S	O. Ouédraogo 40, 41, 42, 235, Schmidt <i>et al.</i> 6242
<i>Loudetia simplex</i> (Nees) C.E. Hubb.	hc	SZ	
<i>Loudetia togoensis</i> (Pilg.) C.E.Hubb.	t	S	O. Ouédraogo 393
<i>Loudetiopsis kerstingii</i> (Pilger) Conert	t	S	
<i>Microchloa indica</i> (L. f.) P.Beauv.	t	Pan	
<i>Monocymbium cerasiiforme</i> (Nees) Stapf	hc	S	O. Ouédraogo 308
<i>Oryza barthii</i> A.Chev.	t	S	O. Ouédraogo 194
<i>Oryza glaberrima</i> Steud.	t	Cul	O. Ouédraogo 267
<i>Oxytenanthera abyssinica</i> (A.Rich.) Munro	p	TA	
<i>Panicum anabaptistum</i> Steud.	c	S	
<i>Panicum fluviicola</i> Steud.	hc	PRA	O. Ouédraogo 358, Schmidt <i>et al.</i> 6238
<i>Panicum maximum</i> Jacq.	hc	Pan	O. Ouédraogo 255, 324
<i>Panicum pansum</i> Rendle	t	SZ	O. Ouédraogo 148, 149, 213, 238
<i>Panicum phragmitoides</i> Stapf	hc	S	O. Ouédraogo 61, 62, 63
<i>Paspalum scrobiculatum</i> L.	hc	Pal	O. Ouédraogo 293
<i>Pennisetum pedicellatum</i> Trin.	t	Pal	
<i>Pennisetum polystachion</i> (L.) Schult.	t	Pan	
<i>Pennisetum unisetum</i> (Nees) Benth.	hc	TA	O. Ouédraogo 43, 44, 46
<i>Rhynchachne triaristata</i> (Steud.) Stapf	t	SZ	O. Ouédraogo 357
<i>Rottboellia cochinchinensis</i> (Lour.) Clayton	t	Pan	
<i>Sacciolepis africana</i> C.E.Hubb. & Snowden	g	GC	
<i>Schizachyrium brevifolium</i> (Sw.) Nees ex Büse	t	Pan	
<i>Schizachyrium exile</i> (Hochst.) Pilg.	t	S	
<i>Schizachyrium nodulosum</i> (Hack.) Stapf	t	PRA	O. Ouédraogo 211
<i>Schizachyrium sanguineum</i> (Retz.) Alston	hc	Pan	O. Ouédraogo 153
<i>Schoenefeldia gracilis</i> Kunth	t	Pal	
<i>Setaria barbata</i> (Lam.) Kunth	t	Pan	O. Ouédraogo 276
<i>Setaria pumila</i> (Poir.) Roem. & Schult.	t	TA	
<i>Setaria sphacelata</i> (Schumach.) Stapf & C.E.Hubb. ex M.B.Moss	hc	TA	
<i>Sorghastrum bipennatum</i> (Hack.) Pilg.	t	SZ	
<i>Sporobolus festivus</i> Hochst. ex A.Rich.	hc	PRA	
<i>Sporobolus paniculatus</i> (Trin.) T.Durand & Schinz	t	AA	O. Ouédraogo 315
<i>Sporobolus pectinellus</i> Mez	t	S	
<i>Sporobolus pyramidalis</i> P.Beauv.	hc	AA	O. Ouédraogo 511, Küppers 1160
<i>Tripogon minimus</i> (A.Rich.) Hochst. ex Steud.	t	PRA	O. Ouédraogo 408
<i>Urelytrum annuum</i> Stapf	t	S	O. Ouédraogo 414
POLYGALACEAE			
<i>Polygala arenaria</i> Willd.	t	PRA	O. Ouédraogo 156
<i>Polygala multiflora</i> Poir.	t	S	O. Ouédraogo 189, Schmidt <i>et al.</i> 6233
<i>Securidaca longipedunculata</i> Fresen.	p	TA	
POLYGONACEAE			
<i>Persicaria decipiens</i> (R.Br.) K.L.Wilson	t	?	A. Ouédraogo 30
PONTEDERIAACEAE			
<i>Eichhornia natans</i> (P.Beauv.) Solms	hy	AA	O. Ouédraogo 206
RHAMNACEAE			
<i>Ziziphus abyssinica</i> A.Rich.	p	TA	
<i>Ziziphus mucronata</i> Willd.	p	PRA	
<i>Ziziphus spina-christi</i> (L.) Desf.	p	Paleo	Küppers 1133, Schmidt <i>et al.</i> 6259
RUBIACEAE			
<i>Crossopteryx febrifuga</i> (Afzel. ex G.Don) Benth.	p	TA	

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Fadogia agrestis</i> Schweinf. ex Hiern	c	S	
<i>Fadogia pobeguunii</i> Pobeg.	c	S	Schmidt 845
<i>Feretia apodanthera</i> Delile	p	S	
<i>Gardenia aqualla</i> Stapf & Hutch.	p	SZ	
<i>Gardenia erubescens</i> Stapf & Hutch.	p	S	
<i>Gardenia sokotensis</i> Hutch.	p	S	
<i>Gardenia ternifolia</i> Schumach. & Thonn.	p	Pal	
<i>Keetia cornelia</i> (Cham. & Schltld.) Bridson	p	GC	O. Ouédraogo 452
<i>Kohautia confusa</i> (Hutch. & Dalziel) Bremek.	t	S	O. Ouédraogo 1, 260, 365
<i>Mitragyna inermis</i> (Willd.) K.Schum.	p	SZ	Schmidt <i>et al.</i> 6258, 6260, 6261
<i>Morelia senegalensis</i> A.Rich. ex DC.	p	G	O. Ouédraogo 112, 113, 167, 169, Schmidt <i>et al.</i> 6248
<i>Oldenlandia corymbosa</i> L.	t	Pan	O. Ouédraogo 287
<i>Rytigynia senegalensis</i> Blume	p	S	
<i>Sarcocephalus latifolius</i> (Sm.) E.A.Bruce	p	SZ	
<i>Spermacoce chaetocephala</i> DC.	t	S	
<i>Spermacoce filifolia</i> (Schumach. & Thonn.) J.-P.Lebrun & Stork	t	PRA	
<i>Spermacoce hepperana</i> Verdc.	t	GC	
<i>Spermacoce radiata</i> (DC.) Hiern	t	SZ	
<i>Spermacoce ruelliae</i> DC.	t	S	
<i>Spermacoce stachydea</i> DC.	t	SZ	O. Ouédraogo 157, 158
SAPINDACEAE			
<i>Allophylus africanus</i> P.Beauv.	p	TA	O. Ouédraogo 103
<i>Cardiospermum halicacabum</i> L.	p	G	O. Ouédraogo 101, 102, 264
<i>Paullinia pinnata</i> L.	p	AA	Schmidt <i>et al.</i> 6262, 6271, 6272
SAPOTACEAE			
<i>Vitellaria paradoxa</i> C.F.Gaertn.	p	S	
SCROPHULARIACEAE			
<i>Bacopa crenata</i> (P.Beauv.) Hepper	t	GC	
<i>Buchnera hispida</i> Buch.-Ham. ex D.Don	t	Pal	O. Ouédraogo 48, 49, 50
<i>Rhamphicarpa fistulosa</i> (Hochst.) Benth.	c	PRA	O. Ouédraogo 248
<i>Scoparia dulcis</i> L.	c	PRA	O. Ouédraogo 249
<i>Striga asiatica</i> (L.) Kuntze	t	Pal	O. Ouédraogo 203
SOLANACEAE			
<i>Physalis angulata</i> L.	t	Cul	
<i>Schwenckia americana</i> L.	c	AA	O. Ouédraogo 184, 187, 345
STERCULIACEAE			
<i>Cola laurifolia</i> Mast.	p	GC	Küppers 1141, 1150, Thiombiano <i>et al.</i> 2039
<i>Dombeya quinqueseta</i> (Delile) Exell	p	TA	Thiombiano <i>et al.</i> 3281, 3283, A. Ouédraogo 292
<i>Melochia corchorifolia</i> L.	hl	Pal	
<i>Sterculia setigera</i> Delile	p	TA	
<i>Waltheria indica</i> L.	c	Pan	
TACCACEAE			
<i>Tacca leontopetaloides</i> (L.) Kuntze	g	Pal	
THYMELAEACEAE			
<i>Gnidia kraussiana</i> Meisn.	c	S	O. Ouédraogo 461
TILIACEAE			
<i>Corchorus fascicularis</i> Lam.	t	Pal	
<i>Corchorus olitorius</i> L.	t	Pal	O. Ouédraogo 343
<i>Grewia bicolor</i> Juss.	p	SZ	Hahn 410
<i>Grewia cissoides</i> Hutch. & Dalziel	c	S	O. Ouédraogo 501

TABLE 2. CONTINUED.

FAMILY AND SPECIES	LF	CHOR.	VOUCHER SPECIMENS
<i>Grewia flavescens</i> Juss.	p	Pal	
<i>Grewia lasiodiscus</i> K.Schum.	p	S	Küppers 1137
<i>Grewia mollis</i> Juss.	p	PRA	
<i>Triumfetta rhomboidea</i> Jacq.	c	Pan	
VERBENACEAE			
<i>Gmelina arborea</i> Roxb.	p	Cul	Küppers 1132
<i>Lantana ukambensis</i> (Vatke) Verdc.	c	SZ	
<i>Lippia chevalieri</i> Moldenke	p	SZ	
<i>Stachytarpheta indica</i> (L.) Vahl	t	AA	O. Ouédraogo 2, 3
<i>Vitex chrysocarpa</i> Planch. ex Benth.	p	SZ	Küppers 1140, Schmidt et al. 6257, 6264, 6265
<i>Vitex doniana</i> Sweet	p	TA	
<i>Vitex madiensis</i> Oliv.	p	SZ	
VIOLACEAE			
<i>Hybanthus enneaspermus</i> (L.) F.Muell.	t	Pan	O. Ouédraogo 51, 216, 325
VITACEAE			
<i>Ampelocissus leonensis</i> (Hook. f.) Planch.	p	S	O. Ouédraogo 322, 326
<i>Cissus cornifolia</i> (Baker) Planch.	c	S	
<i>Cissus populnea</i> Guill. & Perr.	p	S	
<i>Cissus quadrangularis</i> L.	p	Pal	O. Ouédraogo 70
<i>Cissus rufescens</i> Guill. & Perr.	p	PRA	
<i>Cyphostemma adenocaulis</i> (Steud. ex A.Rich.) Desc. ex Wild & R.B.Drumm.	p	S	
<i>Cyphostemma flavicans</i> (Baker) Desc.	hc	S	
ZINGIBERACEAE			
<i>Siphonochilus aethiopicus</i> (Schweinf.) B.L.Burt	g	TA	
ZYGOPHYLLACEAE			
<i>Balanites aegyptiaca</i> Delile	p	S	

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LITERATURE CITED

- Aké Assi, L. 2001. *Flore de la Côte d'Ivoire: catalogue systématique, biogéographie et écologie*. I. Geneva: Editions des Conservatoire et Jardin Botaniques, Boissiera 57. 396 p.
- Aké Assi, L. 2002. *Flore de la Côte d'Ivoire: catalogue systématique, biogéographie et écologie*. II. Geneva: Editions des Conservatoire et Jardin Botaniques, Boissiera 58. 401 p.
- Aké Assi, L., A. Lebbie and E.K. Konan. 2005. La flore des Forêts Classées de la Haute Dodo et du Cavally, Côte d'Ivoire; p. 35-37 In L.E. Alonso, F.Lauginie and G.Rondeau (ed.). *A Rapid Biological Assessment of two Classified Forests in South-Western Côte d'Ivoire*. Washington, D.C.: Conservation International.
- 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 des zones sèches d'Afrique de l'Ouest*. Montpellier / Paris: CIRAD, MNHN. 573 p.
- Arbonnier, M., N. Barbier, G. De Wispelaere, D. Dulieu, J. Lejoly, A. Mahamane, J.M. Ouadba and M. Saadou. 2002. *Cartographie du couvert végétal du complexe du « W »*. Ouagadougou: ECOPAS. 27 p.
- Balança G., D. Cornélis and R.Wilson. 2007. *Les oiseaux du complexe WAP*. Montpellier: CIRAD. 199 p.
- Berhaut, J. 1971-1988. *Flore illustrée du Sénégal, Vol I-IX*. Dakar: Ministère du Développement rural et de l'hydraulique, Direction des Eaux et Forêts. 4397 p.
- Bourlière, F. and M. Hadley. 1970. The ecology of tropical savannas. *Annual Review of Ecology and Systematics* 1: 125-152.
- Brummitt, R.K. 1992. *Vascular Plant Families and Genera*. Royal Botanic Gardens, Kew: Kew Publishing. 804 p.
- Brunken, U., M. Schmidt, S. Dressler, T. Janssen, A. Thombiano and G. Zizka. 2008. *West African plants - A Photo Guide*. Electronic Database accessible at www.westafricanplants.senckenberg.de Forschungsinstitut Senckenberg, Frankfurt/Main.
- Couch, C. and C.T. Williams. 2006. Inventaire botanique rapide de la préfecture de Boké en Guinée; p. 33-37 In H.E. Wright, J. McCullough and M.S. Diallo (ed.). *A Rapid Biological Assessment of the Boké Préfecture, Northwestern Guinea*. Washington, DC.: Conservation International.
- Ekpe, P. 2005. Rapid assessment of Plant Biodiversity of sections of Draw River, Boi-Tano and Krokosua Hills; p. 28-32 In J. McCullough, J.Decher and D.Guba Kpelle (ed.). *A biological assessment of the terrestrial ecosystems of the Draw River, Boi-Tano, Tano Nimiri and Krokosua Hills forest reserves, southwestern Ghana*. Washington, DC.: Conservation International.
- Gautier, L., G.F. Smith, R. Spichiger, R.R. Klopper, S.J. Siebert and C. Chatelain. 2006. Merging tropical and southern African flowering plant data: the African plant database project; p. 629-642 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.
- Gnomou, A., A. Thiombiano, K. Hahn-Hadjali, B. Abadouabou, M. Sarr and S. Guinko. 2008. Le Parc Urbain Bangr-Wéooogo: une aire de conservation de la diversité floristique au coeur de la ville de Ouagadougou, Burkina Faso. *Flora et Vegetatio Sudano-Sambesica* 11: 35-48.
- Green, A.A. and J.A. Sayer. 1979. The birds of Pendjari and Arli National Parks. *Malimbus* 1: 14-28.
- Green, A.A. 1979. Density Estimate of the Larger Mammals of Arli-National-Park, Upper Volta. *Mammalia* 43: 59-70.
- Guinko, S. 1984. *La végétation de la Haute-Volta. Tome 1*. PhD thesis, Bordeaux: Université de Bordeaux III. 318 p.

- Guinko, S. and A. Thiombiano. 2005. *Florule de la Forêt Classée du Kou (Burkina Faso)*. Ouagadougou: Université de Ouagadougou. 145 p.
- 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.
- Holié, J.-L. and N.L. Delamou. 2004. A rapid botanical study of the Forêt Classée du Pic de Fon, Guinea; p. 42-46. In J. McCullough (ed.), *A Rapid Biological Assessment of the Forêt Classée du Pic de Fon, Simandou Range, Southeastern Republic of Guinea*. Washington, D.C.: Conservation International.
- Holié, J.-L. and N.L. Delamou. 2006. Une étude botanique rapide des Forêts Classées de Déré, Diécké et du Mont Béro au sud-est de la Guinée; p. 42-45 In H.E. Wright, J. McCullough, L.E. Alonso, and M.S. Diallo (ed.), *A Rapid Biological Assessment of Three Classified Forests in Southeastern Guinea*. Washington, DC: Conservation International.
- 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.
- Jongkind, C.C.H. 2007a. Rapid survey of the plants of North Lorma, Gola and Grebo National Forests; p. 21-24 In P. Hoke, R. Demey and A. Peal (ed.), *A rapid biological assessment of North Lorma, Gola and Grebo National Forests, Liberia*. Arlington.: Conservation International.
- Jongkind, C.C.H. 2007b. The botanical diversity of the Atewa Range; p. 41-42 In J. McCullough, L.E. Alonso, H.E. Nasrecki, H.E. Wright and Y. Osei-Owusu (ed.), *A Rapid Biological Assessment of the Atewa Range Forest Reserve, Eastern Ghana*. Arlington: Conservation International.
- Jongkind, C.C.H., M. Abu-Juam, M. van Bergen and J. Assi Yapó. 1999. A rapid botanical survey of Parc National de la Marahoué, Côte d'Ivoire; p. 43-45 In T.S. Schulenberg, C.A. Short and P.J. Stephenson (ed.), *A biological assessment of Parc National de la Marahoué, Côte d'Ivoire*. Arlington: Conservation International.
- Koulibaly, A., Goetze, D., Traoré, D. and S. Porembski. 2006. Protected versus exploited savannas: characteristics of the Sudanian vegetation in Ivory Coast. *Candollea* 61: 425-452
- Lamarque F. 2004. *Les grands mammifères du complexe WAP*. Montpellier: CIRAD. 39 p.
- Luke, W.R.Q. 2007. A Brief Botanical Survey at Lokutu; p. 19-20 In: T.M. Butynski and J. McCullough (ed.), *A rapid biological assessment of Lokutu, Democratic Republic of Congo*. Arlington: Conservation International.
- Mbayngone, E., M. Schmidt, K. Hahn-Hadjali, A. Thiombiano and S. Guinko. 2008. Magnoliophyta of the partial faunal reserve of Pama, Burkina Faso. *Check List* 4(3): 251-266.
- Ouattara, T.N. 1994. *Diagnostic des potentialités des zones d'extension pour le future*. Parc National d'Arly: Rapport de stage ENEF. 22 p.
- Ouédraogo, O., A. Thiombiano, K. Hahn-Hadjali and S. Guinko. 2008. Diversité et structure des groupements ligneux du Parc National d'Arly (Est du Burkina Faso). *Flora et Vegetatio Sudano-Sambesica* 11: 5-16.
- Ouédraogo, O., A. Thiombiano, K. Hahn-Hadjali and S. Guinko. 2009. Diversity and dynamics of the juvenile woody vegetation of the Arly National Park (Burkina Faso). *Candollea* 64: 257-278.
- Ouoba, P., A.M. Lykke, I.J. Boussim and S. Guinko. 2006. La flore médicinale de la forêt classée de Niangoloko. *Etudes flor. Vég. Burkina Faso* 10: 5-16.
- Raunkiaer, C. 1905. Types biologiques pour la géographie botanique. *Oversigt over Det kongelige Danske Videnskabernes Selskabs Forhandling* 5: 347-437.
- Schmidt, M. 2006. *Pflanzenvielfalt in Burkina Faso - Analyse, Modellierung und Dokumentation*. PhD thesis accessible at <http://publikationen.ub.uni-frankfurt.de/volltexte/2006/3198/>. Frankfurt am Main: Goethe-Universität. 188 p.
- Schmidt, M., K. König and J.V. Müller. 2008. Modelling species richness and life form composition in Sahelian Burkina Faso with remote sensing data. *Journal of Arid Environments* 72: 1506-1517.
- Schmidt, M., H. Kreft, A. Thiombiano and G. Zizka. 2005. Herbarium collections and field data-based plant diversity maps for Burkina Faso. *Diversity and Distributions* 11: 509-516.
- Schmidt, M., A. Thiombiano, A. Ouédraogo, S. Dressler, K. Hahn-Hadjali and G. Zizka. 2010. Assessment of the flora of Burkina Faso; p. 571-576. In X. van der Burgt, J. van der Maesen and J.M. Onana (ed.), *Systematics and Conservation of African Plants*. Kew: Kew Publishing.
- Siaw, D.E.K.A. and J. Dabo. 2007. A rapid botanical survey of the Atewa Range Forest Reserve, Ghana; p. 43-49 In J. McCullough, L.E. Alonso, H.E. Nasrecki, H.E. Wright, and Y. Osei-Owusu (ed.), *A Rapid Biological Assessment of the Atewa Range Forest Reserve, Eastern Ghana*. Arlington: Conservation International.
- Sinsin, B. 2001. Formes de vie et diversité spécifique des associations de forêts claires du nord du Bénin. *Systematics and Geography of Plants* 71:873-888.
- UNEP 2008. *Africa: Atlas of our changing environment. Division of early warning and Assessment*. Nairobi: UNEP. 374 p.
- White, F. 1983. The vegetation of Africa. *A descriptive memoir to accompany the Unesco/AETFAT/UNSO vegetation map of Africa*. Paris: Orstom-Unesco. 356 p.

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