

Practical identification guide to plants of northern and east-central Mali

especially Dogon country but includes species of northern Mali (Songhay-, Arabic-, and Tuareg-speaking zones)

compiled by Jeffrey Heath (Linguistics, University of Michigan)
mostly compiled around 2009, with some later updates

[note: **alphabetical list of genera** at the end of this document!]

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Preface

general. This “guide” is a compilation of (mostly published) information about plant species of northern and central Mali where I have been doing linguistic research for some years on languages including those of the Songhay, Dogon, and more recently Bozo language families, as well as Tamashek (Berber) and Bangime (isolate). The guide is designed for my own use and that of other fieldworkers in linguistics, anthropology, and ecology, but no guarantees are made. It includes species that I have seen, and others reported in the literature for the general area that I have tried to be on the lookout for but never encountered. All technical botanical information has been lifted from published sources and this guide should never be cited or relied on for any scientific purpose, though it may be useful as a starting point. Details (including location records) from the Bozo-speaking areas have not been fully integrated, and some of the links and references may be out of date. I have subsequently done comparable flora work in southwestern Burkina Faso and may do a similar guide for that zone at some point.

The main body of the guide is organized by botanical families in alphabetical order (“algae,” “ferns,” “fungi,” and “lichens” are treated for this purpose as families but are positioned up front). Within a family, the genera are usually listed alphabetically, but in large families (e.g. Fabaceae, Poaceae) there are subdivisions corresponding to subfamilies and tribes.

flora spreadsheet [\[link\]](#). The flora spreadsheet contains the native terms for plants in Dogon languages, along with the basic scientific terms (sortable by family, genus, and species). Importantly, it also includes the **five-digit codes** we use for taxa that have native-language names. These codes are included in file names of our images, and are therefore useful in searching for images. These five-digit codes can be gleaned from the Dogon flora spreadsheet [\[link\]](#). For the large family of legumes (Fabaceae), the family is subdivided into Caecaliinoideae, Faboideae (= Papilionoideae), and Mimosoideae.

photographic images.

Many species are illustrated by photographs and drawings on the web. We also have many of our own photos of plants in nature and of fresh specimens, as well as dried specimens of our own or from herbaria (some old images from Kew, many more recent ones from CIRAD-Montpellier). Images that were made in my project, in nature or our own collected specimens, are archived online in the collection “Mali flora images” at

<https://deepblue.lib.umich.edu/data>

Typical file names from the flowering plants list are:

- a) fl_Acanthaceae_Monechma_ndellense_spcm_2004_209_Anda_50016_JH.jpg
- b) fl_Acanthaceae_Blepharis_linariifolia_spcm_2004_261_Tupere_fl_50008_JH.jpg
- c) fl_Acanthaceae_Ruellia_patula_spcm_Niger_CIRAD_Montp_fl_fr_50019_JH.jpg

In the flowering plants list, after “fl” for flora and the family Acanthaceae comes the genus, e.g. Monechma, and the species, e.g. ndellense. The five-digit code such as “50016” is a reference for the taxon (it remains stable even if the species identification changes, either as a correction or due to a taxonomic revision). Other information that may occur late in the file name are our specimen number, the location, the part of the plant that is featured (“entire”, “fl[ower]”, “fr[uit]”,

"lf" (leaf), "br[anch]", "tr[unk]", "fol[iage]", "close" (close-up). "JH" occurs at the end of file names for images that we have copyright on.

Typical file names from the nonflowering plants list are:

d) fl_aa_fern_Actiniopteris_radiata_Kikara_50002_JH.jpg

e) fl_aa_lichen_Pseudevernia_furfuraceae_50680_JH.jpg

“_aa_” is included in order to alphabetize all of these items at the top.

plans. We are currently mainly involved in the elicitation of native names and the scientific identification of the taxa (including collection and processing of specimens). As time goes on we plan to shift more into an ethnobotanical mode, collecting information from our informants and collating it with published works, including Burkill). We will also pay more attention to location records, especially for uncommon species.

Plant taxonomy

Immediately below is a synopsis of top-down botanical classification, which is rather in flux at the moment. In general I use the APG III system (APG = Angiosperm Phylogeny Group), but I check Wikipedia for updates. I have generally relied on the (online) African Flowering Plant Database for taxonomic updates at the species level, without knowing much about how it is managed.

At the moment I have included relatively little information in this guide about grasses (Poaceae) since we use the monograph *Les poacées du Niger*, by Pierre Poilecot of CIRAD, and since elaborate written species descriptions are available in the online Kew grass database (see links below). Likewise, the availability of various works on trees and shrubs with taxonomic keys and images, notably Michel Arbonnier's *Arbres, arbustes et lianes des zones sèches de l'Afrique de l'Ouest*, makes it unnecessary to include much information on certain trees. Other species, or groups of species, are mentioned but neglected because they appear to be rare in the zone I am currently working in or do not have names in local languages.

A typical entry consists of species binomial and any synonymms, followed by location records for Mali (mostly from Boudet, *Catalogue des plantes vasculaires du Mali*, supplemented where useful by my own records primarily from Dogon and Songhay zones), habitat, “notes” (taxonomically relevant descriptive information), and occasionally further information. Many entries conclude with web links or (in green) references to my own photographs. For some difficult groups I have included simple “keys”.

I thank the late Pierre Poilecot of CIRAD for his invaluable help in identifying hundreds of my Malian plant specimens. Michel Arbonnier of CIRAD likewise provided useful assistance on trees and shrubs. I also thank Anthony Reznicek of the University of Michigan Herbarium, and Steve Renvoise of the Royal Botanical Gardens at Kew. None of them were involved in preparing this “guide,” whose errors are my responsibility.

Criticisms and corrections are welcome. (J Heath email: schweinehaxen@hotmail.com)

Relevant websites

African Flowering Plant Database [best source for up to date taxonomy]

<http://www.ville-ge.ch/cjb/bd/africa/index.php?langue=an>
Algerian Sahara, Sahara-nature
http://www.sahara-nature.com/liste_nom.htm?aff=nom
Algeria (southern): F. Meignant (photographer) images at Calphoto
http://calphotos.berkeley.edu/cgi/photographer_query?where-name_full=Fran%0E7ois+Meignant&one=T
Angiosperm Phylogeny website (regularly updated at Missouri, based on APG system)
<http://www.mobot.org/MOBOT/Research/APweb/welcome.html>
Canary Islands flora
http://www.biologie.uni-regensburg.de/Botanik/Schoenfelder/kanaren/flora_canaria_A.html
CIRAD flower images
http://fleurs.cirad.fr/fleurs_d_afrique_tropicale
Congo flora
<http://www.nzenzeflowerspauwels.be/FlowersRDC.htm>
grassland species
<http://www.fao.org/ag/agp/AGPC/doc/gbase/Default.htm>
JSTOR plants, includes former Aluka images of herbarium specimens, especially type specimens
<http://plants.jstor.org/>
in addition to specific links in the species entries below, for other spp. try making a link as
<http://plants.jstor.org/taxon/Genus.Species> replacing "Genus" and "species" with relevant taxon (separated by a period .), e.g.
<http://plants.jstor.org/taxon/Tribulus.mollis>
Hawaii flora
<http://www.hear.org/starr/hiplants/images/family/index.html>
Figweb
<http://www.figweb.org>
Int'l Plant Names Index
<http://www.ipni.org/ipni/plantnamesearchpage.do>
Kew grass database (no illustrations)
<http://www.kew.org/data/grasses-db/sppindex.htm>
Malherbologie (CIRAD) tropical weeds
http://malherbologie.cirad.fr/Fr/baseplantes/index_baseplante.php?pageid=baseplante&liste=listeGenre
Miura: Rep. of Niger flora images by Reiichi Miura
http://www.jircas.affrc.go.jp/project/africa_dojo/FakaraPlants/Contents/species_index.html
parasitic plants
<http://www.parasiticplants.siu.edu/ListParasites.html>
plant systematics website
<http://www.plantsystematics.org/>
Prota [includes ethnobotanical info]
<http://www.prota4u.org>
riceweeds
http://publish.plantnet-project.org/project/riceweeds_en/collection/collection/information
Senckenberg: West African plant images
<http://www.westafricanplants.senckenberg.de/root/index.php>
Watson & Dallwitz 1992--, The families of flowering plants
<http://delta-intkey.com/angio/www/polygala.htm> (classic work, now out of date)
Virtual Field Herbarium
<http://herbaria.plants.ox.ac.uk/VFH/image/index.php>
has images of many plants, can be searched
Zimbabwe flora

<http://www.zimbabweflora.co.zw/speciesdata/>

selected references

(some references are given under specific plant groups below)

- Ag Sidiyène, Ehya. 1996. *Des arbres et des arbustes spontanés de l'Adrar des Iforas (Mali)*. Paris: ORSTOM/CIRAD.
- Aké Assi, L. 2001-2. *Flore de la Côte d'Ivoire*. 2 vols.. (Boissiera. 57-58.) Geneva: Conservatoire et Jardin botaniques.
- Aké Assi, L., L. Guinko, and A. Aya-Lazare. 1991. *Plantes utilisées dans la médecine traditionnelle dans l'Afrique de l'Ouest*. Basel: Roche.
- Arbonnier, Michel. 2009. *Arbres, arbustes et lianes des zones sèches d'Afrique de l'Ouest*. Versailles: Quæ. 2nd revised and expanded edition 2019.
- Benchelah, A.-C., H. Bouziane, M. Maka, & C. Ouahès. 2000. *Fleurs du Sahara: Voyage ethnobotanique avec les Touaregs du Tassili*. Paris: Ibis Press, Antlantica.
- Boudet, G. and J.-P. Lebrun. 1986. *Catalogue des plantes vasculaires du Mali*. Maisons Alfort: I.E.M.V.T., Institut d'Elevage et de Medecine Veterinaire des Pays Tropicaux.
- Boullard, Bernard. 2001. *Plantes médicinales du monde: réalités et croyances*. Paris: ESTEM.
- Bremness, Lesley. 1994. *Herbs*. (Eyewitness Handbooks.) London/New York: Dorling Kindersley.
- Burkill, H[umphrey] M[orrison]. 1985-2004. *The useful plants of West Tropical Africa*. 6 volumes. Kew.
- Chastanet, Monique (ed.). 1998. *Plantes et paysages d'Afrique*. Paris: Karthala.
- Close-Arceuduc, M. 1956. "Étude sur photographies aériennes d'une formation végétale sahélienne: la brousse tigrée." *Bull. de l'Inst. Franç. d'Afr. Noire* 18(3):677-684.
- Lebrun, J.-P., B. Toutain, A. Gaston, and G. Boudet. 1991. *Catalogue des plantes vasculaires du Burkina Faso*. Maisons Alfort: I.E.M.V.T., Institut d'Elevage et de Medecine Veterinaire des Pays Tropicaux. [see also Thiombiano et al.]
- Malgras, Denis. 1992. *Arbres et arbustes guérisseurs des savanes maliennes*. Paris: Karthala.
- Poilecot, Pierre. 1995. *Les Poaceae de Côte-d'Ivoire*. (Boissiera, 50). Geneva: Conservatoire et Jardin botaniques.
- Poilecot, Pierre. 1999. *Les Poaceae du Niger*. (Boissiera, 56). Geneva: Conservatoire et Jardin botaniques.

Rohwer, J. G. 2002. *Guides des plantes tropicales*. Paris: Delachaux & Niestel . [trans. from Pflanzen der Tropen, 1000, BLV Verlagsgesellschaft, M nchen).

Thiombiano, Adjima, Marco Schmidt, Stefan Dressler, Amad  Ou draogo, Karen Hahn, Georg Zizka, Georg Schutte, and Jean Kouliadiati. 2012. *Catalogue des plantes vasculaires du Burkina Faso*. (Boissiera, 65.) Geneva: Conservatoire et Jardin botaniques. [replaces Lebrun & Boudet].

Thoyer, Annik. 1986. *Plantes m dicinales du Mali*. Bamako: Imprimerie Mathey.

Algae

Algae are not broken down here by family/species as there is only one taxon for 'algae, pond scum' in local native languages. It includes flowering plants (*Najas*, *Utricularia*, *Lemna*).

Ferns (pteridophytes)

only *Marsilea* sp. floating in ponds, and *Actiniopteris radiata* on inselbergs, are common in Dogon country to our current knowledge. *Christella* was found at Kikara.

Actiniopteridaceae

Actiniopteris

Actiniopteris radiata 50002

records: Hombori, SE Douentza (Boudet); Kikara (JH)

habitat: the typical fern of inselbergs

notes: unusual "monkey-hand" shape

Adiantaceae or Pteridaceae

Adiantum (classic ferns)

Adiantum capillus-veneris ("banksianum")

habitat: wet areas around rocks

Adiantum philippense

records: Bamako, Kita, Koulikoro (Boudet); pantropical

habitat: cool soil in shade, s.t. on rocks

Rhizome short, suberect or creeping with tufted fronds and with dark-brown subulate rhizome-scales c. 3 mm. long. Stipe castaneous, up to 15 cm. long, glabrous. Frond arching, herbaceous, often proliferous at the apex. Lamina up to 42 x 9.5 cm., lanceolate in outline, pinnate; pinnae up to 2 x 4.6 cm., mostly very broadly oblong to rhombic, more reduced and obtuse towards the apex of the frond, borne on slender castaneous petioles up to 1.8 cm. long, shallowly incised along the acroscopic margin into truncate lobes, glabrous on both surfaces. Sori borne on the apices of the pinna lobes; indusial flaps up to 2 cm. long, linear to shallowly lunate, glabrous.

Adiantum schweinfurthii

records: Tabacco (Boudet)

habitat: shady ravine edges

Azollaceae

Azolla (tiny, floating)

Azolla africana

records: Gao, Sendegue (Boudet)

habitat: floating

Lomariopsidaceae

Bolbitis

Bolbitis heudelotii

records: Fincolo (Niger Buckle) (Boudet)

habitat: rocks with running water

Marsileaceae

Marsilea (aquatic clover, 4-leafed, leaves may float on surface)

Marsilea aegyptiaca

records: Koublik (Boudet); Southern Algeria, Tunisia, Egypt

habitat: able to survive long droughts

Marsilea credulata (see *M. minuta*)

Marsilea fimbriata (see *M. minuta*)

Marsilea gibba [not in African Flowering Plants Database]

records: Gao (Boudet)

habitat: alongside watercourses, dry depressions

Marsilea gymnocarpa (see *M. nubica*)

Marsilea minuta 50003 (syns *M. crenulata*, *M. fimbriata*)

records: Sotuba, Korofina (Boudet)

habitat: drying mud, rice fields, rocks near waterfalls, often in colonies

Marsilea nubica (syn *M. gymnocarpa*) [not in African Flowering Plants Database]

records: Timbuktu, Gao, Dogo (Boudet)

habitat: shallow depressions, wet sands, often in colonies

Marsilea sp. (perhaps *M. minuta*)

record: Adia (Najamba language area), Anda, Boussouma (with Typha) (JH)

Thelypteridaceae

Christella

Christella dentata 50004 (syn *Thelypteris dentata*)

records: Koulikoro (Boudet); Kikara (JH, if ID correct)

habitat: ravine

note: classic fern, highly dentate leaf edge

description < Flora Zambesica online 2007:

Rhizome c. 7 mm. in diam., creeping, with fronds closely spaced and with dark-brown ovate to lanceolate acuminate entire thinly pilose rhizome-scales up to 6 mm. long. Frond arching, non-proliferous, herbaceous. Stipe up to 20 cm. long, pale-brown to greyish-brown, glabrous, thinly pubescent with minute white hairs and with lanceolate scales about the base similar to those on the rhizome. Lamina up to 1.3 x 0.4 m., pinnate, elliptic to narrowly elliptic in outline, apex acuminate with a deeply pinnatifid terminal segment, lower pinnae gradually decrescent; middle pinnae up to 21 x 2.2 cm., very narrowly oblong or attenuate with a long linear acuminate

shallowly crenate apex, deeply pinnatifid into oblong slightly falcate obtuse to acute entire lobes, up to 5 mm. broad, pilose along the costa with a few scattered hairs on the costules and veins ventrally, thinly pubescent with minute white hairs on the costae and costules dorsally and along the margins and with even smaller hairs on the lamina; 1 or more pairs of veins (usually a pair and a single vein) anastomosing at and below the sinus. Rhachis pale-brown, pilose with stiff often curved hairs and thinly pubescent with minute white hairs. Sori circular, up to 14 per segment, borne 1/2-way between the costule and the margin; indusium up to 1 mm. in diam., pilose with short white hairs.

taxonomy: Kikara specimen needs to be checked against *Christella* (*Thelypteris*) and *Adiantum*

Cyclosorus

Cyclosorus dentatus (see *Christella dentata* [given as syn in Boudet])

[but AFPD appears to distinguish the two, with *Cyclosorus* accepted for N Africa]

Cyclosorus striatus

records: Sikasso (Boudet)

habitat: swampy prairies, forest galleries

Thelypteris

Thelypteris dentata (see *Christella dentata*)

Fungi

Podaxis pistillaris 50005 (puffball)

white, emerges from the earth as an erect shaft, crumbles at the touch.

records: widespread in Dogon country (JH)

native terms: often called “donkey penis” or the like by Dogon and montane Songhay

capped mushrooms 50006

usually just one term for all other mushrooms (terrestrial or arboreal), sometimes also merged terminologically with *Podaxis*.

Lichens

Pseudevernia

Pseudevernia furfuracea 50680

records: sold in markets (Timbuktu, Gao, Hombori, Douentza) (JH_

ethnobotany: these dried lichens, in dried form, are a prized spice in Timbuktu-Gao cuisine; sold in Douentza and Mopti markets but not generally known to Dogon.

Taxonomy of flowering plants (APG IV system)

The following array summarizes the APG IV system (2017, Angiosperm Phylogeny Group), restricted to orders, clades, and families relevant to Central Mali and nearby West African zones.

ANGIOSPERMS

basal angiosperms

- Nymphaeaceae

clade magnoliids

❖ order Laurales

- Hernandiaceae
- Lauraceae

❖ order Magnoliales

- Annonaceae
- Myristicaceae

❖ order Piperales

- Aristolochiaceae
- Piperaceae

clade monocots

❖ order Alismatales

mostly herbs, with flowers arranged in inflorescences

- Alismataceae (includes Limnocharitaceae)
mostly aquatic
- Araceae (includes Lemnaceae)
- Hydrocharitaceae (includes Najadaceae)
aquatic
Najas, Ottelia

❖ order Arecales

- Arecaceae (palms)

❖ order Asparagales

- Amaryllidaceae
- Asparagaceae (includes ex-Agavaceae, Hyacinthaceae, Ruscaceae, Anthericaceae)
- Asphodelaceae (includes ex-Xanthorrhoeaceae)
- Hypoxidaceae
- Orchidaceae

❖ **order Commelinales**

- Commelinaceae
- Pontederiaceae

❖ **order Dioscoreales**

- Dioscoreaceae (includes Taccaceae)

❖ **order Liliales**

- Colchicaceae
- Liliaceae (now sharply circumscribed)
- Smilacaceae

❖ **order Poales**

- Cyperaceae
- Eriocaulaceae
- Flagellariaceae
- Poaceae (=Gramineae)
- Typhaceae

❖ **order Zingiberales**

- Cannaceae
- Costaceae
- Marantaceae
- Musaceae
- Zingiberaceae

clade eudicots (includes clade superrosids, clade superasterids, and some other orders)

❖ **order Proteales**

- Proteaceae

❖ **order Ranunculales**

- Menispermaceae
- Papaveraceae
- Ranunculaceae

❖ **order Dilleniales**

- Dilleniaceae

clade superrosids

❖ **order Saxifragales**

- Crassulaceae

clade rosids (includes family Vitaceae, clade fabids, clade malvids)

❖ **order Vitales (monofamilial)**

- Vitaceae

clade fabids (part of clade rosids)

❖ **order Celastrales**

- Celastraceae

❖ **order Cucurbitales**

- Cucurbitaceae

❖ **order Fabales**

- Fabaceae
- Polygalaceae

❖ **order Malpighiales**

- Chrysobalanaceae
- Clusiaceae
- Elatinaceae
- Euphorbiaceae
- Hypericaceae
- Malpighiaceae
- Ochnaceae
- Passifloraceae
- Phyllanthaceae
- Salicaceae
- Violaceae

❖ **order Oxalidales**

- Connaraceae

❖ **order Rosales**

- Cannabaceae
- Moraceae
- Rhamnaceae

- Rosaceae
- Urticaceae

❖ **order Zygophyllales**

- Zygophyllaceae

clade malvids (part of clade rosids)

❖ **order Brassicales**

- Brassicaceae
- Capparaceae
- Caricaceae
- Cleomaceae
- Moringaceae
- Resedaceae
- Salvadoraceae

❖ **order Geraniales**

- Geraniaceae

❖ **order Malvales**

- Bixaceae (includes Cochlospermaceae)
- Dipterocarpaceae
- Malvaceae s.l. [includes Tiliaceae, Bombacaceae, and Sterculiaceae]

❖ **order Myrtales**

- Combretaceae
- Lythraceae
- Melastomataceae
- Myrtaceae
- Onagraceae

❖ **order Sapindales**

- Anacardiaceae
- Burseraceae
- Meliaceae
- Rutaceae
- Sapindaceae
- Simaroubaceae

clade superasterids (includes order Caryophyllales, order Santales, and clade asterids)

❖ **order Caryophyllales**

- Aizoaceae
- Amaranthaceae
- Caryophyllaceae
- Gisekiaceae
- Limeaceae
- Molluginaceae
- Nyctaginaceae
- Plumbaginaceae
- Polygonaceae
- Portulacaceae
- Tamaricaceae

❖ **order Santalales**

- Loranthaceae
- Olacaceae
- Opiliaceae
- Santalaceae

clade asterids (includes order Ericales, clade lamiids, and clade campanulids)

❖ **order Ericales**

- Ebenaceae
- Primulaceae
- Sapotaceae

clade lamiids

❖ **order Boraginales**

- Boraginaceae
- Coldeniaceae
- Cordiaceae
- Ehretiaceae
- Heliotropiaceae

❖ **order Gentianales**

- Apocynaceae
- Gentianaceae
- Loganiaceae
- Rubiaceae

❖ **order Lamiales**

typical features

superior ovary composed of two fused carpels

five petals fused into a tube
bilaterally symmetrical, often bilabiate corolla
four (or fewer) fertile stamens

- Acanthaceae
- Bignoniaceae
- Lamiaceae
- Lentibulariaceae
- Oleaceae
- Orobanchaceae
- Pedaliaceae
- Plantaginaceae
- Scrophulariaceae
- Verbenaceae

❖ **order Solanales**

- Convolvulaceae
- Hydroleaceae
- Solanaceae
- Sphenocleaceae

❖ **order Vahliales**

- Vahliaceae

clade campanulids

❖ **order Apiales**

- Apiaceae (= Umbelliferae)
- Araliaceae

❖ **order Asterales**

- Asteraceae (=Compositae)
- Campanulaceae (includes Lobeliaceae)
- Menyanthaceae

Acanthaceae

herbs, generally erect; leaves opposite (x2) or verticillate (x4), usually entire but occasionally dentate at the base; upper ovary of flower develops into an extended capsule fruit divided into two halves, which may open explosively (expelling seeds); flower with 4-5 petals

Blepharis

Blepharis ciliaris

records: north of Gao (Boudet)

(more southerly specimens previously confused with *B. linearifolia*)

notes: conspicuous thorns

Blepharis linearifolia 50008 (s.t. spelled linearifolia)

records: Goundam, Niono, Bandiagara-Mopti (Boudet); Hombori, Kikara (summit),
Tupere, Douentza area, common at Bounou (JH)

habitat: sandy

notes: low-growing herb; conspicuous bright blue flowers in erect spikes 2-8 cm long;
first (lowest) leaves often with dentations near base, other leaves linear (long and
very thin); little or no petiole to leaf; stem cylindrical

Blepharis maderaspatensis subsp. *rubiifolia* 50009

records: Koulikoro, San, Niono (Boudet); Adia (JH)

notes: procumbent shrubby herb; small white flowers; leaves wider than *B. linearifolia*,
verticillate by 4, little or no petiole to leaf; stem cylindrical

Dicliptera

Dicliptera paniculata 50018 (syn *Peristrophe bicalyculata*, *Peristrophe paniculata*)

records: Gao, Bandiagara-Mopti, Koulikoro (Boudet); Songho, Fombori (near Douentza),
Menaka (JH)

habitat: shade

notes: perennial herb to over 1 m high; stem hexagonal; inflorescence in terminal panicle,
flowers at ends of pedicels 5-10 mm; corolla mauve (s.t. white); capsule with two
"teeth" emerging from both halves when opened

Dicliptera verticillata 50010

records: Bamako (Boudet, Supplement, p. 435)

habitat: likes clay and limestone soils

notes: decumbent perennial herb, woody toward the base, several-angled stems up to 1 m
long; leaves opposite (2); petiole 1-3 cm; hexagonal stem cross-section, small mauve
flowers

taxonomy: this binomial was also (mis-)applied F.W.T.A. to *D. hyalina*

Hygrophila

Hygrophila africana (not in Berhaut)

records: Sanga (Boudet ex Griaule)

habitat: beside water courses

reference: Heine, Kew Bull 16:176 (1962)

Hygrophila auriculata 50011

records: near Kidal, Niono (Boudet); Douentza (pond, and road to Fombori), Bounou,
Bamba (JH)

habitat: wet areas, beside ponds

notes: stout annual herb to 1 m high, leaves opposite, lanceolate to 25 cm long, sessile (no petiole); quadrangular stem cross-section, some white hairs on stems; flowers blue-mauve (occasionally white) in bunches where leaves join stem, mixed with conspicuous thorns 2-4 cm long; capsule to 3 cm long with 8 grains; stem and fruits persist through end of dry season

Hygrophila micrantha 50012 [resembles *Monechma ndellense*]

records: Gao, Diafarabé, Gourma area (Boudet); earlier Hombori record probably error for *Monechma ndellense* (JH)

habitat: humid areas

notes: small plant, lanceolate leaves 2-3 cm long; small violet-blue flowers; linear capsule 8 mm.

Hygrophila senegalensis 50688

records: Niono, Gossi, Koulikoro (Boudet)

habitat: humid or swampy areas

notes: erect herb to 40 cm high; leaves linear 3 to 9 cm, opposite (by 2); quadrangular stem cross-section; dark violet-blue flowers, isolated or in fascicles, at top of stem forming a kind of spike with tiny leaves; fusiform capsule 7 mm

Hypoestes

Hypoestes forskalei 50013 (also spelled *forskalii*, *forskaolii*; in Berhaut as *H. verticillaris*)

records: Djenne, Gao, south of Mopti

habitat: lightly inundated depressions, clay or sandy

notes: perennial, often in patches; rings around stem, from each ring there emerge two opposite leaves and two flower spikes; leaves oval-elliptical 4 to 12 cm long, petiole 5-12 mm (to 6 cm in rainy season); stem round; small white flowers in bunches or small spikes

Hypoestes verticillaris (see *H. forskalei*)

Lepidagathis

Lepidagathis anobrya 50014

records: Kita, Sanga, Koulikoro (Boudet); Tupere, Kikara (JH)

habitat: gravelly, rocky

notes: notable for having a wide globular inflorescence on the ground, with many linear bracts among the flowers, sometimes also other similar inflorescences higher up the stem; stem quadrangular

Monechma

Monechma ciliatum 50015

records: San, Niono, Gosi, Sotuba (Boudet); common in dense low vegetation near water in the Dogon plateau, e.g. Nando and Bendiely (JH)

habitat: savanna, fields, rice paddies

notes: annual herb 15-50 cm high, leaves opposite, lanceolate to 5-10 cm long; quadrangular stem; small flowers with white corolla in clusters of 2-3 flowers; white hairs on calyx; capsule 8-9 mm.

Monechma ndellense 50016 [resembles *Hygrophila micrantha*]

records: Sanga, Sikasso (Boudet); Anda, Walo (JH)

habitat: rocks

notes: 30-70 cm high; leaves opposite, 2-8 cm long, sometimes bunched; flowers in terminal spike 3-8 cm; many small capsules in spikes

Nelsonia

Nelsonia canescens 50017

records: Sanga, Bamako, Douentza (Boudet); Beni, Diangassagou (in sand) (JH)

habitat: pastures

notes: perennial; trails on ground; leaves opposite, much larger in young plant (rainy season) than during flowering; long dense flower spikes with small blue flowers

ethnobotany: known to some Dogon for its salty taste on being sucked

Peristrophe

Peristrophe bicalyculata, see *Dicliptera paniculata*

Ruellia

Ruellia cyanea 50019 (syn *Ruellia patula*) (not in Berhaut; occurs in Arabia, Ethiopia, Madagascar, etc.)

records: Gao (Boudet); Walo (JH)

habitat: verging on brousse tigrée

references:

BOULOS, L. (1972). FLORA OF EGYPT. Al Harara Publishing. Cairo. vol.3 p.101

MONOD, Th. (1940). Contributions à l'étude du Sahara occidental. Fasc. II.

Phanérogames. Publ. Comité Etudes Hist. Scient. Afrique Occid. Franç. Sér. B, 5(2): 53-211 (1939). p.1

OZENDA, P. (1983). Flore du Sahara (ed. 2). Centre National de la Recherche Scientifique (CNRS.), Paris, 622p. p.575

Ruspolia

Ruspolia hypocrateriformis var. hypocrateriformis (fruit capsules similar to *Ruellia*)

records: Kita (Boudet)

shrub 1-2 m; leaves opposite 6-10 cm x 4-6 cm, summit acuminate, 3-5 lateral nerves, petioles up to 2 cm; flowers in spiciform terminal panicle; corolla bright red with darker velvety center, 5-lobed flower; capsule 2-3 cm long with two "teeth" inside each half when opened

Agavaceae

(for *Sansevieria* and *Agave* see *Asparagaceae*)

Aizoaceae

(for *Gisekia* see *Gisekiaceae*; for *Glinus*, *Mollugo* see *Molluginaceae*; for *Limeum* see *Limeaceae*)

Sesuvium

Sesuvium sesuvioides (syn *Trianthema polysperma*)

records: Timbuktu, El Ayoun el Kohal (Boudet)

habitat: sand

notes: [from web] succulent creeping annual herb with thick leaves and thick reddish stem, tiny red flowers

Trianthema (in Berhaut under *Ficoideae*, vol. 4)

Trianthema portulacastrum 50676 [resembles *Boerhavia repens*]

records: Niore du Sahel, Macina, Timbuktu (Boudet)

habitat: weed of waste places and fields

notes: fleshy, prostrate herb; stems to 0.5 m long
ethnobotany: UPWTA 1.39-40

Trianthema polysperma (see *Sesuvium sesuvioides*)

Zaleya

Zaleya pentandra 50020 (syn *Trianthema pentandra*)

records: Adrar, Gao, Mopti (Boudet); Beni and Perge near Douentza (JH)

habitat: forms close cover over waste ground

notes: semi-succulent, prostrate herb with stout stem

ethnobotany: UPWTA 1.40 (burned for potash in Timbuktu)

Alismataceae

[monocots, Berhaut vol. 9]

Butomopsis

Butomopsis latifolia

records: Gosi, Niafunke, Sotuba, Niono (Boudet)

habitat: swamps

notes: erect leaves emerge from base of plant on long petioles; triquetrous flower stems;
umbel-like inflorescence with 3-11 flowers, umbel subtended by 2 bracts 1-2 cm

long; flowers at tips of pedicels of unequal length, petals white; black follicles

drawing: Berhaut 9:442

Limnophyton

Limnophyton obtusifolium (syn *Sagittaria obtusifolia*)

records: Gao (Boudet)

habitat: muddy swamp margins

notes: erect tufted herb

Ranalisma

Ranalisma humile

records: Ansongo, Gao, Sotuba (Boudet)

habitat: swampy areas

Alliaceae

[for *Allium* see *Amaryllidaceae*]

Amaranthaceae

(subfamily *Chenopodioideae* at end of this section)

Achyranthes (resemble *Cyathula*, but *Achyranthes* flowers are linear)

Achyranthes argentea (see *A. aspera* var. *sicula*)

Achyranthes aspera var. *aspera*

records: var aspera: Mopti, Bore, Timbuktu (Boudet)

habitat: shade

notes: perennial, subligneous in lower parts, roots thick and woody; leaf 4-9 cm x 3-6 cm; petiole 5-10 mm; stem roughly quadrangular

Achyranthes aspera var. *sicula* 50024 (in Boudet as *A. argentea*)

records: var *sicula*: lac Debo, Gao, Sanga (Boudet) ; throughout Dogon country (JH)

notes: ephemeral annual (rainy season); to 50-80 cm; leaves pubescent, silvery, but becoming glabrous when mature, 4-19 cm x 2-4 cm; petiole variable 2-30 mm; stem quadrangular with furrows

image (var. *aspera*) Hawaii

Aerva

Aerva javanica 50025

records: Gao, Timbuktu, Kidal, Gosi (Boudet); common in north (Gao, Timbuktu), seen in Ouami area east of Hombori (JH)

habitat: sand

notes: whitish tinge all over (white hairs on leaf and stems); cottony white flowers in panicles of dense spikes

Alternanthera

key to local spp.:

leaf oval *A. pungens*

leaf longer & thinner

flower segments sharply acuminate (pointed), stems smooth *A. nodiflora*

flower segments not sharply acuminate, stems rugged *A. sessilis*

Alternanthera nodiflora 50026

records: Djenne, Segue (JH)

notes: erect at base then falling over and trailing on ground; perianth segments 4 mm long, very acute, completely hiding the mature fruit; leaves linear-lanceolate, acute or subacute, obscurely undulate, up to 7 cm long and 1 cm broad, glabrous or nearly so; petals sharply pointed

Alternanthera pungens 50027 (in Berhaut as *A. repens*) (“khaki weed”)

records: Hombori (Boudet); Segue (JH)

habitat: ruderal, wet sand

notes: mainly trailing on ground; leaf oval 2-4 cm x 1-2.5 cm

Alternanthera sessilis 50028

records: Djenne (JH)

notes: usually trailing on ground; perianth segments 2-2.5 cm long, not very acute, not hiding mature fruit; leaves oblanceolate or elliptic, up to 8 cm long and 2 cm broad but often much smaller, glabrous or nearly so and often pustulate; petals not sharply pointed

Amaranthus (most of these are edible--foliage & stems cooked in sauces)

Amaranthus angustifolius 50029

(doubtful for area)

Amaranthus dubius 50030 (cultivated)

notes: erect; many flower spikes on stem, often decumbent (hanging), cultivated

taxonomy: believed to be an ancient hybrid with *A. spinosus* and another amaranth, close to *A. hybridus* (in Berhaut & Boudet)

native term: Bambara nugu

ethnobotany: formerly cultivated in southern Mali, has spread recently into Dogon country, leaves used as a spinach for sauces

Amaranthus graecizans 50031

records: San, Djenne, Timbuktu, Nioro, Gao (Boudet); Hombori, Douentza (JH)

habitat: wet sand, around villages, weed

notes: may trail on ground or rise to 50 cm, leaves linear to elliptical, 1-4 cm long at base of plant; tiny green flowers

Amaranthus spinosus 50032

records: Kita, Segou (Boudet); Sevare, Segue, widespread in Dogon country (JH)

habitat: wet sand, ruderal, gregarious

notes: resembles *A. blitum* subsp. *emarginatus* but considerably larger; erect bushy herb; stems often red; tiny flowers with 5 sepals; few flower spikes at end of stem; two spines at the base of each petiole

Amaranthus blitum subsp. *emarginatus* 50033 (syn *Amaranthus viridis*)

records: Kabara, San, Djenne, Sanga (Boudet); Sevare, Segue, Sangha, Anda, widespread in Dogon country (JH)

habitat: needs nitrogen

notes: resembles *A. spinosus* but smaller; erect herb; tiny flowers with 3 sepals; many flower spikes at end of stem; no spines

Celosia (spikes resemble *Pandiaka* spp., but leaves generally alternate and have petioles)

Celosia argentea 50034 (introduced)

records: Hombori, Gao (Boudet)

notes: flowers in dense terminal spike (cf. *Pandiaka*) 3-10 cm long; tip of spike sometimes pink before flowering; petiole 1.2-1.5 cm with a "gutter" on top

Celosia trigyna 50035

records: Segou, Niono (Boudet); Douentza (road to Fombori), Beni (JH)

habitat: humid areas, sometimes in shade or on termitaries

notes: small white flowers in small successive glomerules in terminal inflorescence (like interrupted spike); leaf with 8-10 lateral nerves; young plant has falciform (sickle-shaped) leaflets at base of petioles; long petiole 3-8 cm; stem cross-section pentagonal

Cyathula (resemble *Achyranthes*, not definitely recorded in northern Dogon ctry; flowers are ovoid, not linear, and shorter [3-4 mm] than those of *Achyranthes*)

Cyathula achyranthoides (Boudet)

records: Bamako

habitat: humid, shady

notes: flower has several thorny bracts extending beyond summit of petals and sepals

Cyathula prostrata

records: Timbuktu, Koulikoro (Boudet)

habitat: "zones incultes"

notes: stem cross-section quadrangular to nearly cylindrical

Nothosaerva

Nothosaerva brachiata 50036

records: Menaka, Dire (Boudet); Ansongo (CIRAD specimen); Douentza (road to Fombori) (JH)

habitat: inundatable sandy-clayey flats

notes: erect, 30-60 cm; tiny white flowers in spiciform capitula

Pandiaka (these plants resemble *Celosia* spp., but leaves are opposite and sessile)

Pandiaka angustifolia 50037 (in Berhaut as *P. heudelotii*)

records: Ansongo, Bandiagara, Bamako, Niono (Boudet); inselberg slopes in northern

Dogon country, plateaus in central/southern Dogon country (Bandiagara, Segue) (JH)

habitat: ruderal (fields, sand, rocky debris)

notes: leaf linear, subsessile acute, 6-10 cm x 8 mm broad; whole plant sparingly pubescent; flower heads subtended by linear, leaf-like bracts up to 5 cm long

Pandiaka involucrata

records: Sikasso, Nampala (Boudet)

habitat: sandy

notes: leaf lanceolate or ovate-lanceolate, sessile, subacute, 5-8 cm x 3 cm broad; whole plant long-pilose; flower heads subtended by foliaceous, ovate bracts about 1 cm long

Pupalia

Pupalia lappacea 50038

records: Timbuktu, Bamba, Gao, Niono (Boudet); common through Songhay and Dogon zones (JH)

habitat: rocky debris, beside watercourses, often ruderal

notes: erect; has abundant burrs that stick to clothing (cf. cram-cram grass, *Cenchrus biflorus*)

subfamily Chenopodioideae (former family Chenopodiaceae)
(Saharan/Mauritanian spp., not in Berhaut unless indicated)

Bassia

Bassia muricata

records: Hamada Safia (Boudet); Western Sahara, Mauritania

habitat: sands

ref: Flore du Sahara; Ibis

Chenopodium

Chenopodium murale (in Berhaut)

records: none (Boudet); Senegal: villages and disturbed areas (Berkhout)

notes: herb 25-50 cm; broad, heavily dentate leaves

Cornulaca

Cornulaca monocantha

records: Araouane, Erg Chech (Boudet)

habitat: regs with coarse sands

ethnobotany: excellent camel fodder, also grazed by small livestock

ref: Ibis

Nucularia

Nucularia perrinii

records: Achheib, Hamada Safia (Boudet)

habitat: sandy, rocky

ethnobotany: good fodder for animals

ref: Ibis

Patellifolia

Patellifolia patellaris

records: Agueraktem (Boudet)

habitat: rocky areas

Salsola

Salsola baryosma (see *S. imbricata*)

Salsola imbricata (syn *S. baryosma* [thus Berhaut])

records: none (Boudet)

habitat: brackish areas (Berhaut)

notes: herb or sub-ligneous plant 30-60 cm

ref: Ibis

Salsola tetragona (see *S. tetrandra*)

Salsola tetrandra (syn *S. tetragona*)

Suaeda

Suaeda mollis (see *S. vermiculata*)

Suaeda monodiana (see *S. vermiculata*)

Suaeda vermiculata (syn *S. monodiana*, *S. mollis*)

records: Khnachine none (Boudet [*S. monodiana*]); Senegal and Mauritania (Berhaut)

notes: annual or perennial herb in shrublike form 50 cm to 1 m

ref: Ibis

Traganum

Traganum nudatum

records: none (Boudet); Western Sahara & Mauritania

Amaryllidaceae

for “wild onions,” see also Asparagaceae (*Drimia*, *Ornithogalum*)

(monocots; in APG II, optionally subsumed under Alliaceae; in previous classifications sometimes included under Liliaceae)

Allium (cultivated bulbs)

Allium cepa (cultivated onion)

Allium sativum (cultivated garlic)

Allium ascalonicum (shallot)

Allium fistulosum and others (scallions)

Allium ampeloprasum var. *porrum* (leek)

Crinum

Crinum asiaticum

records: none (Boudet)

Crinum distichum

records: Bamako-Sotuba, Niono (Boudet)

habitat: temporarily inundated zones

notes: bulb 6 cm thick; leaves linear, folded into a gutter, 30-50 cm x 1-2 cm; flower white with pink or purple stripe in center

ethnobotany: bulb toxic
Crinum ornatum 50039 (syn *C. zeylanicum*)
records: Niono, Gourma Rharous (Boudet); northern Dogon country, Hombori (JH)
habitat: beside ponds
notes: bulb 4-9 (-15) cm thick; leaves linear to narrowly lanceolate, 30-80 cm x 3-5 cm;
flower white with pink or purple stripe in center
ethnobotany: bulb toxic
taxonomy: according to African Flowering Plant Database: excluded taxon, syn of a) *C. kirkii* Baker sensu Nordal in Norw. J. Bot.; b) *C. ornatum* (L.f. ex Aiton) Bury sensu Nordal in F.T.E.A., in Fl. du Cameroun & Fl. du Gabon; c) *C. politifolium* sensu Nordal in Norw. J. Bot)
Crinum zeylanicum (see *C. ornatum*)

Pancratium

Pancratium tenuifolium 50040 [not in CIRAD]
records: none (Boudet); possibly Walo (specimen sterile, similar to but smaller than *P. trianthum*) (JH)
notes: base of leaf pubescent; single bulb 2.5-5 cm wide, 1-5 leaves per bulb, folded (V-shape cross-section), 0.5-1 cm wide; flower white, with golden-yellow pollen; usually 1 flower per umbel; flowers in May

Pancratium trianthum 50041
records: Timbuktu; Hombori, widespread in northern Dogon country (JH)
habitat: sand dunes
notes: plant glabrous; bulb around 4 cm thick; 5-15 leaves per bulb, spirally twisted, 20-30 cm x 4-7 mm, rounded (U-shape cross-section); flowers white with pale yellow pollen; usually 2-3 flowers per umbel; flowers July-August
taxonomy: a second, smaller species is known at Walo (not yet identified)

Scadoxus

Scadoxus multiflorus
records: Ban Markala, Kouor, banks of Banifing (Boudet)
habitat: degraded brousse in shade, or forest galleries; widely cultivated in Europe etc
notes: rhizome or bulb; blood-red flowers; leaf lanceolate to oval; flower is umbel with more than 20 flowers
ethnobotany: bulb is highly toxic

Ampelidaceae

(for *Ameplocissus* and *Cissus*, see *Vitaceae*)

Anacardiaceae

trees; leaves alternate, often composite and imparipennate (*Lannea*, *Sclerocarya*, *Spondias*)

Anacardium

Anacardium occidentale 50042 (planted cashew tree)
habitat: planted in towns
notes: juicy fruits are sucked and discarded; nuts not consumed locally

Heeria

Heeria insignis (see *Ozoroa insignis* subsp. *latifolia*)

Lannea

Lannea acida 50043

records: Bamako, Niono, between San and Segou (Boudet); southern Dogon country, a few trees also near Walo (JH)

notes: tree 5-10 m, imparipennate leaf with 3-5 pairs of leaflets which end in a long acuminate point; fruits similar to those of *L. microcarpa* but not as good to eat

Lannea humilis 50045

records: Kayes (Boudet); Tupere, Hombori (JH)

notes: small tree to 3 m; imparipennate leaf with 6-9 pairs of leaflets; leaf specimen could be confused for *Commiphora pedunculata* (Burseraceae) but the latter has dentations around the folioles; the photos for “*Lannea humilis*” in Arbonnier are actually of *Lannea fruticosa*, a somewhat similar sp.

Lannea microcarpa 50046

records: very common throughout Dogon and montane Songhay country

habitat: hills

notes: tree; the common “raisin sauvage,” fruits sold in markets (sucked with pit and skin spit out, or made into a juice or fermented into an alcoholic drink); imparipennate leaves with 2-4 pairs of leaflets with obtuse tip

ethnobotany: fresh fruits sold in markets (June-July) for eating/sucking (seeds spit out); juice can be made from fresh or sun-dried fruits throughout the year; juice can be fermented into a beer; dried fruits are boiled with *Balanites* nuts and liquid soda ash to make a black soap; oil is pressed from seeds and used as a body lotion or as a women's hair oil

Mangifera

Mangifera indica 50047 (mango, planted)

records: known throughout the zone

Ozoroa

Ozoroa insignis subsp. *latifolia* 50048 (syn *Heeria insignis*)

records: Bandiagara to Mopti, Kati, Yanfolila, Sanga (Boudet); Bounou, Diangassagou, absent from northeastern Dogon country (JH)

habitat: wooded savanna on laterite or gravel

notes: tree 3-5 m; leaves verticillate by 3-4; leaf elliptic-lanceolate 6-10 cm x 2-3 cm with 20-35 lateral nerves perpendicular to median nerve; shiny black berries in racemes

Sclerocarya

Sclerocarya birrea 50049

records: well-known from Gao to Dogon country (JH)

habitat: lateritic soil

notes: tree; imparipennate leaf with 5-8 pairs of leaflets, sometimes entire but often dentate; foliage bunched at ends of branches

ethnobotany: juicy yellow fruits are sucked or made into a beverage; oil is extracted from pits

Spondias

Spondias mombin 50050 (“hog plum”)

records: Djenne, Bamako, Sanga (Boudet); Kikara, Tebul (on heights), Anda, Djenne, Dianwely, generally well-known in northern Dogon country (JH)
notes: tree; imparipennate leaf with 5-8 pairs of leaflets; fruits (green then yellow when ripe) hang down in panicles, pulp can be sucked (and sold in markets) but rather acidic
ethnobotany: fruits edible but sour, sold (cheaply) in a few rural markets, can be used as a flavoring for cream of millet

Annonaceae

trees; leaves alternate, fruits on peduncles just under base of leaves; flowers usually with 6 petals (3 external ones often distinct from 3 internal ones)

Annona

Annona reticulata 50051 (planted, introduced)
records: Douentza (planted) (JH)
notes: tree 5-8 m; leaf elliptical-lanceolate 10-15 cm x 3-5 cm

Annona senegalensis 50052 (two subspp.)
records: Bamako, Koulikoro, Gondo (south of Douentza); Kikara (one left), Bounou
habitat: psammophile (occupying cleared land)
notes: tree
ethnobotany: fruits edible

Annona squamosa 50053 (planted)
records: none (JH3)
ethnobotany: fruits (commercialized) known to well-traveled Dogon

Hexalobus

Hexalobus monopetalus 54005
records: Mopti to Djenne, Macina, Sanga; central and southern Dogon country (Bounou, Tommo-So speaking plateau, Segue), absent farther northeast
habitat: rocky terrain
notes: tree 3-8 m; not known in Douentza or Hombori but familiar a bit farther south; fruits are oblong carpels, 3-5 cm x 2 cm, orange-red at maturity
ethnobotany: red or yellow fruits eaten raw (but ripe ones can be infested with grubs), sold in some rural markets (Sambera, Segue) around July-August

Monodora

Monodora myristica 50050 5
records: tree absent from zone
ethnobotany: known in the zone in the form of nutmeg-like seeds (“calabash nutmeg” or “false nutmeg”), sold in markets (e.g. Douentza, Timbuktu) as a spice ; UPWTA 1.119-20
note: true nutmegs are *Myristica* spp., especially *M. fragrans* (Myristicaceae)

Uvaria

Uvaria chamae 50056
records: Kita (Boudet); Kikara summit, not otherwise seen or known in northern Dogon country (JH)
habitat: soudanian, river banks

Xylophia

Xylophia aethiopica 50057 (“Negro pepper”)

records: tree absent from Mali

ethnobotany: known in the form of dried and hardened blackish fruits (pod-like carpels, English name “grains of Selim”), sold in markets as a spice (with peppery taste) or medication

Anthericaceae

[for Chlorophytum see Asparagaceae]

Apiaceae (=Umbelliferae)

herbs, generally cultivated as spices; also some wild spp. in Sahara

tiny flowers grouped into distinctive “umbels”

both family names are currently “allowed” by ICBN

UPWTA 5 pp. 227 ff. as Umbelliferae

Ammodaucus

Ammodaucus leucotrichus 50059 (cultivated or wild)

records: cultivated around Timbuktu (Boudet, JH)

ethnobotany: seeds sold in Timbuktu, Gao, Hombori, Douentza, etc. as a spice (e.g. for tea) or medication

Anethum

Anethum graveolens (cultivated dill)

Cuminum

Cuminum cyminum 50060 (cultivated cumin)

records: none (Boudet); Timbuktu (cultivated) (JH)

notes: cuminseed is a common spice in Timbuktu cuisine, often used in combination with anise (as in Biblical times, see Matthew 23:23); called maafejje in Koyra Chiini

Daucus

Daucus carota 50061 (cultivated carrots)

Foeniculum

Foeniculum vulgare (cultivated fennel)

records: none (Boudet); UPWTA 5.232 gives Mali Arabic term “besbes”; none (JH)

Pimpinella

Pimpinella anisum 50062 (cultivated anise)

records: none (Boudet); Timbuktu area (cultivated) (JH)

ethnobotany: anise seed is a common spice in Timbuktu cuisine, often used in combination with cumin; called alhalawa in Koyra Chiini (< Arabic term meaning ‘sweet one’)

Apocynaceae

(now includes ex-Asclepiadaceae)

shrubs and herbs with latex, also some cactus-like succulents (Stapeliinae)

subfamilies:

Apocynoideae

Apocynae: Baissea

Whrighteae: Adenium, Strophanthus

Asclepiadoideae

Asclepiadeae: Calotropis, Cynanchus, Glossonema, Oxystelma, Pentatropis, Pergularia, Sarcostemma, Solenostemma, Xysmalobium

Ceropegieae

Stapeliinae: Caralluma, Orbea

Leptadeniinae: Leptadenia

Periplocoideae: Raphionacme, Tacazzea

Rauvolfioideae: Saba, Landolphia

shrubs or woody lianas, with latex; leaves opposite or verticillate, entire; flowers have tubular base; fruits usually paired

subfamily Apocynoideae

Adenium

Adenium obesum

records: Nioro (Boudet); none (JH)

habitat: somewhat inundated depressions

notes: tree 2-3 m; latex translucent; leaves in spiral, base cuneiform, rounded at top

Baissea

Baissea multiflora 50063 (resembles Strophanthus)

records: Bamako, Yanfolila (Boudet); Kikara, not known to Dogon elsewhere (JH)

notes: woody, bushy liana; latex white; leaves opposite with flowers in axillary racemes around end of branch; abundant pink-white flowers with 5 narrow lobes; calyx has filiform teeth; paired fruits at nearly 180 angle (shorter/smaller than for Strophanthus)

Strophanthus

Strophanthus sarmentosus 50064

records: Bamako, Kita (Boudet); not known in Douentza-Boni-Hombori areas, but found farther south, e.g. Anda, Pergue, Segue (JH)

habitat: rocky or gravelly soil

notes: scrambling shrub, forms dense patches among boulders; latex translucent; distinctive flower in late dry season when tree is defoliated, 5 lobes with extensions hanging down; long thin fruits (about 30 cm long) paired at nearly 180 angle to each other

ethnobotany: formerly used in Burkina Faso for arrow poison (this function apparently not known to Dogon)

subfamily Asclepiadoideae

subfamily Asclepiadoideae, tribe Stapelieae (succulents)

gallery of stapeliad flowers

<http://www.hanacek.wz.cz/gallery/index.html>

Caralluma (leafless, cactus-like succulents; see also Orbea)

Caralluma acutangula (see *Desmidorchis retrospiciens*)

Caralluma adscendens 50080 (syn *C. dalzielli*)

records: Sanga, Timbuktu (Boudet); Hombori, Douentza area, Diangassagou (JH)

habitat: sandy spots among boulders

notes: 10 to 30 cm high; long stems, much more slender than those of *C. acutangula*

taxonomy: from African Flowering Plant Database

ethnobotany: often regarded as toxic. "However, the stems are reported crushed and eaten raw as a tonic and stimulant for faintness..." (UPWTA 1.223); eaten by some Dogon, stems seen being eaten raw at Boui village near Konna (JH)

Caralluma dalzielli (see *C. adscendens*)

Caralluma decaisneana (see *Orbea decaisneana*)

Caralluma mouretii (see *C. edulis*)

Caralluma retrospiciens (see *C. acutangula*)

Caralluma russelliana (see *C. acutangula*)

Caralluma tombuctuensis (see *C. acutangula*)

Caudanthera

Caudanthera edulis (syns *Caralluma edulis*, *Caralluma mouretii*, *Caralluma longidens*)

records: none for Mali (Boudet, JH); Mauritania and Morocco (UPWTA 1.223, *C. mouretii*)

habitat: dry sandy areas

notes: succulent to 30 cm

ethnobotany: said to be edible raw (UPWTA 1.224)

Ceropegia spp. (twining vines and erect herbs)

[a specimen initially identified as an unknown *Ceropegia* sp. is really a *Raphionacme*]

Ceropegia campanulata

description: herb with short stem, long slender grass-like leaves

Ceropegia racemosa (syn *C. affinis*)

records: Sikasso, Kouna [Boudet]

description: climbing; leaves with petiole 1 cm; multiple long thin (oblanceolate) tubers 6-10 cm x 3-6 mm, plant described and illustrated in Berhaut

Ceropegia rhynchantha

records: Bamako, Niéna, Kléla, Sikasso [Boudet]

description: climbing; leaves broad with veins rose to pink colored, no info about tuber

Ceropegia tourana

records: Niéna

habitat: dense understory

description: slender erect herb; Boudet says close to *C. deightonii* (described in Berhaut), 2-5 pairs of (sub-)sessile lanceolate leaves 6-7.5 cm x 5-6 mm, thin fruits to 25 cm long; B&W drawings as frontispiece of Boudet (no info about tuber but *C. deightonii* has ovoid tuber)

Desmidorchis

Desmidorchis retrospiciens 50079 (many synonyms, most recently *Caralluma acutangula*; in

Boudet as *Desmidorchis acutangula*, in Berhaut as *Caralluma retrospiciens*, in

UPWTA 1.224 as *Caralluma russelliana*; an earlier term is *Caralluma tombuctuensis*)

records: Sanga, Goundam, Timbuktu (Boudet); Hombori, Douentza area, Bendiely (JH)

habitat: sandy spots among boulders or in stony shelves

notes: to 1 meter or higher; long, robust stems, roughly quadrangular, much wider than those of *C. dalzielli*

ethnobotany: latex poisonous (used by Songhay to kill dogs), cf. UPWTA 1.224

Orbea

Orbea decaisneana 50081 (syn *Caralluma decaisneana*)

records: Djenne (Boudet); Burkina Faso

habitat: dunes

notes: 10-20 cm; has conspicuous pointed protrusions up and down stem in four columns (opposite 2 x 2)

taxonomy: African Flowering Plant Database (for North Africa)

subfamily Asclepiadoideae, except tribe Stapeliinae

herbs and shrubs with latex (white or s.t. translucent)

fruits generally long and thin, containing seeds with silky “feathers” that facilitate airborne dispersion

Calotropis

Calotropis procera 500605

records: widespread throughout the zone, native and planted (to stabilize roadsides or dunes) (JH)

notes: shrub usually 2-4 m; white latex; unmistakable milkweed-like broad leaves

Cynanchum

Cynanchum hastifolium 50066

records: Kikara (JH)

notes: semi-woody, scrambling liana; leaf foliage specimens may be confused with those of *Leptadenia hastata* (as the botanical name suggests); flowers fasciculate, in interaxillary glomerules, pedicels 8-12 mm long; fruits are long and thin (fusiform), in pairs, 8-10 cm x 1.2-1.5 cm

Cynanchum viminalis 50074 (syn *Sarcostemma viminalis*)

records: San, Segou (Boudet); Douentza area (JH)

habitat: rocks, dry savanna

notes: scrambling vine covering low bushes, forming a “spaghetti” like network (cf. *Cassytha filiformis*, Lauraceae)

Glossonema

Glossonema boveanum

-- subsp. *boveanum* 50077 (in Boudet as *G. boveanum*)

records: Gao, Kidal (Boudet); Tin Hamma north of Gao (JH)

notes: herb with perennial semi-woody roots to 30 cm tall; leaves roughly in elongated triangular shape with petioles to 1.5 cm; fruit 1.5-3.5 cm x 1.5 cm with thorny protrusions

-- subsp. *nubicum* 50067 (in Boudet as *G. nubicum*) [leaves and edibility similar to *Xysmalobium*]

records: Macina, Timbuktu, Bore, Bamako, San, Niore (Boudet); Beni, Anda (JH)

notes: long thin leaves with salient central nerve

ethnobotany: “The plant is edible raw, especially the young flowering top and fruits.” (UPWTA 1.226)

Glossonema nubicum (see *G. boveanum* subsp. *nubicum*)

Leptadenia

Leptadenia arborea

records: Tasegdem (Boudet); evidently a sp. of the far Saharan north (JH)
habitat: in scrub vegetation
notes: woody liana

Leptadenia hastata 50068

records: widespread and common from Timbuktu-Gao to northern Dogon country (JH)
habitat: common on low shrubs (*Boscia senegalensis*, *Leptadenia pyrotechnica*)
notes: spreading or partially climbing vine; leaves highly variable
ethnobotany: fruits are sucked

Leptadenia pyrotechnica 50069

records: widespread and common from Timbuktu-Gao to northern Dogon country (JH)
habitat: sand, including dunes, also some hill slopes
notes: leafless, ranging from a grass-like bush (resembling *Aristida* spp. from a distance) to a shrub with woody base
ethnobotany: fruits are sucked; planted in Timbuktu to stabilize sand around houses

Oxystelma

Oxystelma bornouense

records: Dire to Bandiagara, Dari (Diafarabe), Sofara (Boudet)
habitat: riverbanks, likes sun
notes: liana with perennial roots, stems generally herbaceous (not woody); leaves variable, often oblong lanceolate (cf. *Ipomoea vagans*, *Convolvulaceae*), 3-6 cm long; petiole 5-15 mm; petiole and young stems pubescent; large pretty white flowers 3 cm wide with 5 triangular lobes; fruits are air-filled pods, rather wide, 4-5 cm x 3-4 cm, often paired (joined at base)

Pentatropis

Pentatropis nivalis 50070 (in Berhaut and UPWTA 1.234 as *P. spiralis*)

records: Gourma Rharous, Gao (Boudet); Tupere (JH)
habitat: thickets in sandy areas, beds of seasonal streams
notes: woody twining liana, perennial roots; leaf oblong or oval-elliptical 3-6 cm x 1-3 cm; summit rounded, mucronate tip; long fusiform fruit 5-6 cm x 1 cm, thickest near base then quickly thinning, with long pointed tip; grains with silky "feather"
reference: L. Boulos, *Flora of Egypt* vol 2 p. 222

Pentatropis spiralis (see *P. nivalis*)

Pergularia

Pergularia daemia 50071

records: Gao, Timbuktu, Sanga, Dire to Bandiagara (Boudet); Hombori (JH)
habitat: rocky debris
notes: small liana with perennial roots, herbaceous stems, abundant white latex; broad cordiform leaf (cf. *Tinospora bakis* [*Menispermaceae*], *Aristolichia albida* [*Aristolochiaceae*], *Cissus populnea* [*Vitaceae*], *Ipomoea obscura* [*Convolvulaceae*]), 4-7 cm wide and large, base deeply cordate (two sides nearly touching); soft hairs on entire plant; fruits are paired follicles joined at base, usually with surface rugosities, facing roughly in opposite directions

Pergularia tomentosa 50072

records: Gao, Sanga, Adrar (Boudet); locally common from Hombori through most of Dogon country, often in villages and among rocks (JH)
habitat: rocky areas
notes: low bushy plant with woody root-stock; has blue-green overall color
ethnobotany: plant is pounded and immersed in water, fresh animal hides are soaked in it to facilitate depilation (cf. *Ficus glumosa*)

Sarcostemma

Sarcostemma viminale (see *Cynanchum viminale*)

Solenostemma

Solenostemma argel

records: Tin Zaouatene (Mali-Algeria) border (Boudet “a confirmer” for Mali)

Xysmalobium

Xysmalobium heudelotianum 50075 [aspect and leaves similar to *Vahlia dichotoma*, *Glossonema boveanum* subsp. *nubicum*, *Anticharis senegalensis*]

records: Kati (Boudet); Walo, Hombori, Tupere (JH)

habitat: millet fields, cleared areas

notes: herbaceous plant with perennial stem; stems 15-80 cm high; white latex; leaf linear or oblong linear 5-10 cm x 0.8-2 cm, base and tip rounded; 8-12 pairs of nerves; short petiole 2-6 mm; small yellow-green flowers close to petioles (sessile or with peduncles of 1-3 cm), alternately on left or right of stem; very long fusiform fruits 15-20 cm x 1 cm (at middle), acuminate tip; large underground tuber either elongated or ovoid 2-4 cm wide, 4-8 cm long

ethnobotany: “The small tuberous root is lactiferous. It is cooked and eaten in N Nigeria for stomach troubles...” (UPWTA 1.241) [cf. *Glossonema*]

subfamily Periplocoideae, tribe Periploceae

(in Boudet as family Periplocaceae in Boudet; in Berhaut combined with Asclepiadaceae)

Brachystelma bingeri (see *Raphionacme bingeri*)

Raphionacme

reference: Venter, H.J.T. 2009. A Taxonomic revision of *Raphionacme* (Apocynaceae: Periplocoideae). *South African Journal of Botany* 75(2) 292-350

Raphionacme bingeri (see *R. splendens*)

Raphionacme splendens

subsp. *bingeri* 50076 (syn *R. bingeri*, in Berhaut as *R. daronii*; in UPWTA 1.218 with query under *Brachystelma bingeri*)

records: Kikara, Walo, Bendiely (JH)

habitat: shade of tall trees

notes: foliage in May, flowers June-July, leaves rounded

taxonomy: the relationship between the two varieties (subspecies or species) is unresolved but current

ethnobotany: very large potato-like tuber (eaten uncooked)

subsp. *splendens*

notes: leaves linear

Raphionacme daronii (see *R. splendens*)

Tacazzea

Tacazzea apiculata 50077

records: Bandiagara, Sanga, San, Koulikoro; Djenné area (JH)

notes: semi-woody liana; opposite leaves 10-15 cm x 6-10 cm, top rounded but with tiny apiculate point; petiole 2-5 cm; petiole and stem finely pubescent; flowers in short axillary panicle 5-7 cm with opposite ramifications; fruits paired, joined at ends and facing in opposite directions, 5 cm x 2 cm

subfamily Rauvolfioideae

Landolphia

Landolphia heudelotii

records: Kati, Markakamgo to Dogouni (Bandiagara) (Boudet); none (JH)

notes: scrambling shrub 2-5 m, or liana up to 15 m with tendrils; latex white; leaves opposite with terminal flower panicle; fruit is yellow-orange, spherical

ethnobotany: fruit edible

leaf.flower.CIRAD

Saba

Saba senegalensis 50078 (two varieties), local French *zaban*

records: widespread and well-known throughout the area (JH)

notes: large woody liana tangled with trees or other lianas in thickets; latex white

ethnobotany: pulp-covered seeds made into beverages or sucked

Araceae (ex-Lemnaceae at end of section)

[monocots; flowers are on a type of inflorescence called a spadix (small flowers crowded on a thickened, fleshy axis), which is accompanied by and sometimes enclosed in a spathe (leaf-like hood)]

Amorphophallus

Amorphophallus aphyllus 5008 2

records: Bamako, Yanfolila (Boudet); Anda (near stream), Nando (JH)

habitat: gravelly soil

notes: leaves narrower than for *A. baumannii*; spadix may occur without leaves emerging from earth

Amorphophallus baumannii 50083 (“yellow arum”; syn *A. flavovirens*)

[note: “webbed” leaves resemble those of *Tacca leontopetaloides*]

records: none (Boudet); Douentza area (JH)

habitat: inselbergs

notes: striking plant with “webbed” leaves [compare *Tacca leontopetaloides*]; widest part of leaf close to tip (unlike *Tacca*); long yellow spadix (flower) to 30 cm emerging from leafy spathe; powerful odor; specimens with flowers deteriorate and blacken rapidly

Amorphophallus flavovirens (see *A. baumannii*)

Colocasia

Colocasia esculenta 50084 (cultivated taro)

records: not generally known in Dogon or montane Songhay area (JH)

Pistia

Pistia stratiotes 50085 (“water lettuce”, “salade aquatique”)
records: Djenne, Sanga (Boudet); widespread in Dogon country (JH)
habitat: forms mats in stagnant ponds, including man-made ponds in villages, also Mopti-Sevare (JH)
notes: distinctive floating “water lettuce”

Stylochaeton (also spelled Stylochiton)

Stylochaeton lancifolius 50086 (syn *S. warneckei*, synonymy uncertain)
records: Tiediana (Boudet); Hombori, Douentza area (Dianwely), Anda, Kubewel (JH)
habitat: open spots in wooded savanna
notes: low plant, distinctive long dark green leaves with undulating edges, radiating outwards from plant like some “wild onions”

ex-family Lemnaceae (“duckweeds,” small floating plants)

websites:

<http://www.mobot.org/jwccross/duckweed/duckpix.htm>

<http://www.mobot.org/jwccross/duckweed/Russe/foto-e.htm>

<http://waynesword.palomar.edu/1wayindx.htm>

<http://waynesword.palomar.edu/1imglist.htm> (North American spp.)

Lemna

Lemna aequinoctialis (syn *L. paucicostata*)
records: Timbuktu, Mopti, Dioliba (Boudet); Ogol near Yanda (JH)
habitat: floating
reference: Kandeler & Huegel, *Plant Syst. Evol.* 123: 83-96 (1974)
Lemna hyalina (see *Wolffiella hyalina*)
Lemna paucicostata (see *L. aequinoctialis*)

Pseudowolffia (see *Wolffiella hyalina*)

Wolffia [the smallest of all flowering plants, look like dots of cornmeal on water]

Wolffia arrhiza
records: none (Boudet)
Wolffia welwitschii (see *Wolffiopsis welwitschii*)

Wolffiella [reassigned by some to *Wolffiopsis* and *Pseudowolffia*]

Wolffiella hyalina (syn *Pseudowolffia hyalina*, *Lemna hyalina*)
records: Djenne (Boudet)
habitat: floating
taxonomy: African Flowering Plants Database accepts *Wolffiella hyalina* rather than *Pseudowolffia*

Wolffiella welwitschii (syn *Wolffiopsis welwitschii*, *Wolffia welwitschii*)
records: plain of Bani R. (Boudet)
habitat: floating

Wolffiopsis (see *Wolffiella welwitschii*)

Araliaceae

Cussonia

- Cussonia arborea* (in Berhaut as *C. barteri* var. *kirkii*, also syn *C. kirkii*)
records: Yanfolila, forest near Bamako, Sikasso (Boudet); none (JH)
notes: tree 5-10 m
Cussonia barteri (see *C. arborea*)

Arecaceae (=Palmae)

palms [monocots]

Borassus

- Borassus aethiopum* 50087
records: more southerly than *Hyphaene*, northern limit around Douentza, becoming the common palm in central Dogon country and points south (JH)
habitat: solitary, savanna
notes: single massive straight trunk
ethnobotany: logs sold even north of its range as a roof beam for housing; fruits sold in markets (orange pulp)

Elaeis

- Elaeis guineensis* 50681 (“oil palm”)
records: in plantations in coastal West African countries (not Mali)
ethnobotany: a red sauce made from this palm is known to some Dogon

Hyphaene

- Hyphaene thebaica* 50088 (“doug palm”)
records: the common native palm of Gao and Hombori; overlaps with *Borassus* in the Douentza area, but uncommon farther south where *Borassus* dominates
habitat: forms stands in moist sandy areas
notes: several slender crooked trunks typically emerge from same base
ethnobotany: fronds used for weaving fans and mats; segments of fruits can be sucked

Phoenix

- Phoenix dactylifera* 50089 (planted true date palm)
records: planted in and around some villages for harvesting of dates
ethnobotany: a type of sweet-sour hard yellow date (50793) is well-known in Hombori (local Songhay name: *hargaaajo*); high-quality brown dates (usually hardened) are imported from Algeria; dates can be given to guests at e.g. name-giving ceremonies (baptêmes) as an alternative to kola nuts
note: “wild date” (datte sauvage) is the local term for *Balanites* (Zygophyllaceae)

Aristolochiaceae

Aristolochia

- Aristolochia albida* 50090 (compare with *Tinospora bakis*, Menispermaceae)
records: Kanikombole (Boudet); Kikara (JH)
habitat: savanna (Boudet); thickets on slope of inselbergs, e.g. Kikara (JH)

notes: woody liana; broad cordate leaves (cf. *Tinospora*); fruits easily distinguished (dry hard decumbent pod for *Aristolochia*, red berries for *Tinospora*); leaf has two lateral nerves rising nearly to summit on the sides of the central nerve
ethnobotany: roots medicinal but bitter-tasting (cf. *Tinospora*)
native names: combined with *Tinospora* into a taxon, distinguished by "male/female" modifiers (TSK Songhay)

Asparagaceae

(monocots; includes Hyacinthaceae, Agavaceae, Dracaenaceae, and Ruscaceae)

Agave [previously under Agavaceae]

Agave americanum

records: planted in far south of Mali (and southern Burkina)
notes: very large plant, towering central flower spike (to 4 m)

Agave sisalana

records: (if correctly identified) occurs in rocky areas on the Dogon plateau and its margins (Tanga, Anda)
notes: leaves about 1-1.5 m long, central flower spike to about 1.5-2 m
taxonomy: our earlier records confused with "tall *Sansevieria*"

Asparagus [in Boudet under Alliaceae]

Asparagus flagellaris 50091

records: San, Niono, Bamako (Boudet); Kikara, Anda, Kiri (near Koro) (JH)
habitat: moist zones
notes: scrambling vine with brittle needle-like leaves

Chlorophytum (orchid-like)

Chlorophytum gallabatense 50058 (syn *C. bequaertii* [thus Boudet])

records: Macina (Boudet); Kikara (JH, if correctly identified)
habitat: rocky crevice (JH)

Chlorophytum blepharophyllum

Dipcadi

Dipcadi viride (see *Ornithogalum viride*)

Dracaena

Sansevieria liberica 50250 (short leaf)

records: Kikara, Walo, Anda, Kundialang (JH)
notes: perennial, rhizomatous; flat leaf 50-80 cm x 6-10 cm, dark green, marbled with light green spots extending laterally, bordered by red netting; floral scape with inflorescence is generally longer than leaves; in lower part of scape are persistent, broadly lanceolate bracts 4 cm long; flowers grouped by 3-6, each flower 5-8 cm long; flower opens at night, "withers" in daytime

Drimia [previously under Hyacinthaceae] (plants toxic)

Drimia altissima 50375 (syn *Urginea altissima* [thus Berhaut])

records: Bamako (Boudet); perhaps none (JH, my previous reports need checking)
habitat: savanna

notes: bulb 8-12 cm thick; leaves in sheath (pseudo-stem); 1-2 short early leaves, then 2-4 full-sized leaves 25-35 cm x 2-4 cm with petiole 3-5 cm (often with red spots), leaves broadly linear, acute at tip; floral pedicel 1-2 cm long, inflorescence dense with more than 30 flowers, reaching 2m height

flowering: Feb-March

Drimia indica (syn *Urginea indica* [thus Berhaut])

records: San, Yanfolila (Boudet)

habitat: rocky savanna

notes: bulb 6-8 cm thick, leaves form rosette on ground, leaf narrowly linear 20-30 cm x 0.5-1 cm; floral pedicel 3-5 cm long; inflorescence lax, fewer than 30 flowers, 40-80 cm tall

flowering: March-June

Ornithogalum [previously under Hyacinthaceae]

Ornithogalum viride 50376 (syn *Dipcadi viride*, *Dipcadi tacazzeanum* [thus Berhaut])

records: Gao, Sanga, Timbuktu (Boudet); Adia (JH)

habitat: sandy

notes: bulb 1.5-2.5 cm diameter; rosette of 2-4 sessile leaves, linear, attenuated and acute tip, 20-30 cm x 0.5-1 cm; lax raceme with 6-12 flowers, inserted at axils of lanceolate bracts, sessile subglobular capsule 0.6-1 cm diameter

flowering: August

Urginea (see *Drimia*)

Sansevieria (also spelled *Sanseviera*; previously in family Dracaenaceae or Ruscaceae)

[note: Songhay (Kikara) and some northern Dogon (e.g. Kundiala) distinguish a long-leafed form (leaf 70 cm or more) and a short-leafed *S. liberica*, which may occur together.

Sansevieria sp. 50249 (much bigger than *S. liberica*) [perhaps *Agave sisalana*]

records: Yanfolila, Ouarsada (Boudet); Kikara, Walo, Anda, Tanga (JH)

habitat: wooded savanna on laterite (Boudet); rocky cliffsides, rocky plateau (JH)

Sansevieria liberica 50250 (short leaf)

records: Kikara, Walo, Anda, Kundialang (JH)

notes: perennial, rhizomatous; flat leaf 50-80 cm x 6-10 cm, dark green, marbled with light green spots extending laterally, bordered by red netting; floral scape with inflorescence is generally longer than leaves; in lower part of scape are persistent, broadly lanceolate bracts 4 cm long; flowers grouped by 3-6, each flower 5-8 cm long; flower opens at night, "withers" in daytime

Sansevieria senegambica

records: none (Boudet)

notes: rhizomatous; flat leaf 25-40 cm x 5-7 cm, either uniformly green or marked with transverse bands alternately light and dark green; floral scape plus inflorescence as long as, or shorter than, leaf; flowers grouped by 3-6, each flower less than 3 cm long; small membranous bracts on floral scape

Sansevieria trifasciata var. *laurentii*

records: none (Boudet); planted in gardens (JH)

notes: like *S. senegambica*, but leaves have a yellow fringe, leaves also marked by distinct transverse bands alternately green and yellowish

Asphodelaceae

[reorganized in APG IV system to include former Xanthorrhoeaceae)

Aloe

Aloe buettneri 50091

records: southern Mali (Boudet); Walo, Kubewel, Kundialang (JH)

notes: succulent stems (cf. Caralluma), stems partially folded, margins dentate

ethnobotany: medicinal, dried stems known in some areas where the plant itself does not grow

taxonomy: other aloes not native to the zone are grown in gardens

Aloe vera 50715

notes: like A. buettneri, broader and thicker leaves, planted

ethnobotany: sap used to treat wounds

Asteraceae (=Compositae)

in Berhaut vol 2 as Composées

flowers of two types cluster together in a capitulum (like daisy): 1) infertile ligulate (ray) flowers on the outside, and 2) fertile disk flowers in a corolla tube on the inside

leaves composite: Ambrosia, Bidens

leaves alternate with these exceptions

leaves opposite, with ring around stem (most of tribe Heliantheae)

leaves emerge all around stem: Vernonia perrottetii

base of leaves: (* = in part)

sessile or attenuated at base: Acanthospermum, Aspilia, *Bidens, Dicoma, Eclipta, Gnaphalium, Helichrysum, Herderia, Picris, Vernonia

clearly petiolate: Ageratum, *Bidens, Blainvillea, *Blumea, Synedrella, Tridax

auriculate or leaf-wings extending to stem: *Blumea, Centaurea, Ceruana, Conyza, Grangea, Launaea, Pentanema, Pseudoconyza, Pulicaria, Senecio, Sonchus

extend as “wings” down stem: Sphaeranthus spp.

flower colors: (* = in part)

red/pink: Dicoma, Launaea, Pseudoconyza, *Vernonia

mauve: *Centaurea, Litogyne

purple/violet: Aspilia (dark red purple), Herderia (dark violet), Sphaeranthus, *Vernonia

blue: Ageratum, *Vernonia

greenish: Helichrysum

yellow: Acanthospermum, Asteriscus, Bidens, Ceruana, Conyza, Cotula, Grangea, Pentanema, Picris, Pulicaria, Senecio, Sonchus, Synedrella, Tridax

yellow & white: *Bidens, Gnaphalium, Tridax (cream instead of white)

green & white: Eclipta

white: Blainvillea, *Centaurea, Aspilia (variant)

dark red-purple: Aspilia

subfamily Cichorioideae

tribes:

Cardueae: Centaurea, Echinops (alternatively Cynareae)

Lactuceae: Lactuca, Launaea, Picris, Sonchus

Mutisieae: Dicoma
Vernonieae: Herderia, Vernonia
(also: Arctotideae, Eremothamneae, Liabeae, Tarchonantheae)

subfamily Asteroideae

tribes:

Anthemideae: Cotula
Astereae: Ceruana, Conyza, Grangea
Eupatoriae: Ageratum
Gnaphaliae: Epaltes, Gnaphalium, Helichrysum
Heliantheae: a) leaves opposite (usually with ring around stem at base of leaves):
Acanthospermum, Aspilia, Bidens, Blainvillea, Eclipta, Synedrella, Tridax
b) leaves alternate: Ambrosia, Chrysanthellum
Inuleae: Asteriscus, Blumea, Francoeuria, Pegolettia, Pentanema, Pulicaria
Plucheae: Sphaeranthus
Senecioneae: Kleinia, Senecio
(also: Calenduleae, Heleniae, Tageteae)

Acanthospermum

Acanthospermum hispidum 50093 (introduced)
records: Bamako, Koulikoro, Segou (Boudet); Douentza, Boni, Segue, Bendiely, Songho,
and widely in Dogon country (JH)
habitat: sandy or clayey-sandy (Boudet); common weed around fields (JH)
notes: erect herb forming dense low stands around fields; leaves opposite; leaf sessile,
obovate, attenuated at the base which connects to a ring around stem, where the
sessile flower/fruit is placed and where the stem forms a binary branch; stem hairy;
thorny extensions on flowers and fruits (thorny fruits persist on ground for years);
male flowers yellow

Ageratum

Ageratum conyzoides subsp. conyzoides (introduced) (“billygoat weed”)
records: Bamako, Dire, Segou (Boudet); none (JH)
habitat: wet areas, semi-swampland, anthropic (weed)
notes: annual to 20-40 cm; leaf oval 5-8 cm x 4-6 cm, petiole 2-5 cm; leaves and stems
pubescent; pale blue flowers in capitula 3-5 mm wide in erect terminal panicles
reference: Adventrop

Ambrosia

Ambrosia maritima
records: San, Djenne, Kabara, Djenne, Bandiagara to Mopti, Gao (Boudet); Kabara on
river near Timbuktu, Gao, Labbezanga (JH)
habitat: humid zones
notes: perennial bushy herb to 1 m; alternate composite leaves with many deep lobes on
leaflets (cf. Bidens biternata); yellow-green flowers in small capitula grouped in
spiciform panicles at tip of stem

Artemisia

Artemisia judaica subsp. sahariensis 50093
ethnobotany: sold as a spice or medicinal powder in Timbuktu

Aspilia

Aspilia kotschyi (var. *kotschyi* and var. *alba*)

records:

var. *kotschyi*: San, Segou, Nioro (Boudet); Segue (JH)

var. *alba*: Nioro (Boudet)

habitat: moist areas during rainy season

notes: annual to 70 cm; sessile leaves opposite (by 2), with a ring around the stem at base; leaf lanceolate, attenuated at each end, 12-20 cm x 1-3 cm; 5-7 lateral nerves; two offshoot stems separate from main stem at each ring; white hairs with violet bases cover rough stems (giving appearance of violet dots); terminal sessile flowers (dark red-purple, except white in var. *alba*)

Asteriscus

Asteriscus graveolens (syn *Bubonium graveolens*) (not in Berhaut) (resembles *Pulicaria incisa*)

records: El Guettara (Boudet), i.e. Sahara (also across North Africa)

notes: daisy like open flowers; inner and ligulate flowers all yellow

Baccharoides

Baccharoides adoensis 50112 (syn *Vernonia adoensis*; in Berhaut as *Vernonia kotschyana*)

records: Tongo Tongo on central Dogon plateau (JH)

Bidens

Bidens bipinnata (not in Berhaut)

records: Sokolo (Boudet)

habitat: humid areas, near settlements

notes: composite leaf with about 7 sections, each section deeply lobed (cf. *Ambrosia*); flowers yellow (in Missouri images)

Bidens biternata 50095

records: none (Boudet); Segue, Bendiely, Tupere, Kikara, Konna (JH)

habitat: in dense low vegetation (JH)

notes: annual herb to 1 m; composite leaf, opposite (by 2), resembles that of *B. bipinnata* but each leaflet has dentations rather than deep lobes; petiole 4-10 cm with large gutter above; yellow flowers in terminal capitula to 1.2 cm wide

Bidens borianiana (in Berhaut as *Coreopsis borianiana*)

records: Koulikoro, San, Bandiagara to Mopti, Nioro (Boudet)

habitat: moist savanna

notes: annual herb to 1 m or higher; distinctive leaves: sessile, opposite, trifoliolate (less often simple), each leaflet elliptical-lanceolate 5-10 cm x 0.5-1.5 cm with acute tip, border of leaflets with many sharp dentations 5-10 mm apart; yellow daisy-like flowers 5-7 cm wide

Bidens engleri 50095

records: none (Boudet); one false report (Kikara) now reassigned to *B. biternata* (JH)

habitat: forest galleries

notes: leaves opposite; each leaf trifoliolate (occasionally simple), with large dentations, terminal leaflet also may have lobes; petiole 2-4 cm; small yellow flowers in capitula 6-7 mm x 4-5 mm

Bidens pilosa (not in Berhaut)

records: Kita (Boudet)

reference: Adventrop

notes: daisy-like flower (white ligulate flowers around yellow inner flowers)

Blainvillea

Blainvillea gayana 50098

records: Labbezanga, Bore, Gosi, Ouan Foras (Boudet); Kikara, Nando, Segue (JH)

habitat: humid areas

notes: herb to 60 cm; opposite leaves oval 7-12 cm x 5-8 cm, widest about 1/3 of way up, ending in acuminate point; petiole 2-6 cm; fine network of secondary nerves; quadrangular stem with rounded edges and with furrows; white tubular flowers in oblong capitula 1 cm long, arranged in panicles with multiple three-part branchings

Blumea

Blumea aurita (see *Pseudoconyza viscosa*)

Blumea axillaris 50099 (in Berhaut as *B. mollis*, also syn *B. solidaginoides*)

records: Bamako, Tabako (Boudet for *B. solidaginoides*); Beni, Sevare (weed around houses) (JH)

habitat: savanna

notes: annual or biennial to 30-80 cm; base of plant with rosette of leaves; leaf obovate-elliptical or elliptical 8-15 cm x 2-5 cm, usually not lobed but with dentations; leaf pubescent on both sides (becoming glabrous on top later); variably sessile or with petiole 1-1.5 cm; stem fluted with fine pubescence; compact terminal inflorescences in short racemes around 2-5 cm, flowers mauve, not opening up

taxonomy: Boudet gives *B. mollis* as syn of *B. solidaginoides*; African Flowering Plant Database gives *B. mollis* as syn of *B. dregeanoides*, and *B. solidaginoides* as syn of *B. axillaris*; Western Australian Florabase gives *B. axillaris* as current, with synonyms *B. mollis* and *B. solidaginoides*; Berhaut has only *B. mollis*]

Blumea dregeanoides (see taxonomic note on *B. axillaris*)

Blumea laciniata

records: Bamako to Segou (Boudet)

notes: annual or biennial to 30-100 cm; leaf elliptical or obovate-elliptical 8-15 x 3-6 cm, barely pubescent (except on nerves); petiole 1-1.5 cm; yellow flowers, open capitula 8-10 mm wide with linear bracts

Blumea mollis (see *B. axillaris*)

Blumea solidaginoides (see *B. axillaris*)

Blumea viscosa (see *Pseudoconyza viscosa*)

Bubonium (see *Asteriscus graveolens*)

Centaurea

Centaurea perrottetii 50100

records: Bamako, Kita, Macina (Boudet); Hombori, Douentza, Bounou, Bore (edge of large pond), common in fields in the sandy plains from Mondoro to Bankass (JH)

habitat: sand

notes: perennial herb, ramified from base up, to 15-50 cm; polymorphic depending on habitat; long dentate or lobed leaves 10-15 cm x 3-5 cm, tomentose, whitish; leaf very thin at base but no true petiole; flowers in capitulum 1-2 cm wide constituted by numerous thorny bracts 2-3 cm long, each with two tiny thorns on each side of its base; flowers mauve, on short peduncles

Centaurea pungens (not in Berhaut)

records: none (Boudet); Saharan species

notes: thorny bracts as for *C. perrottetii*

Centaurea senegalensis

records: Timbuktu, Kabara, In Ouri (Boudet)
habitat: dunes
notes: each thorny bract has three to seven tiny thorns at their bases; flowers pale mauve, or white
ethnobotany: Berhaut comments that *C. perrottetii* is “généralement confondue” by natives with *C. senegalensis*

Ceruana

Ceruana pratensis 50101

records: Djenne, Macina, Bamako [Boudet]
habitat: river banks, drying out clayey swamp lands
notes: annual herb to 30-60 cm; unique sessile leaves 4-10 cm x 2-6 cm, base auriculate, thin toward base then expanding, with some lobes in middle and upper parts (no dentations or sharp edges); tubular yellow flowers half hidden by leaf-like bracts

Conyza

Conyza aegyptiaca var. *aegyptiaca* 50100

records: Boukarila (Boudet)
habitat: ruderal
notes: annual or biennial to 15-80 cm, sometimes not branching; leaf sessile, dentate or with moderately deep lobes, leaf attenuated at base (but no true petiole); cylindrical stem; whole plant very pubescent; yellow flowers in partially opening capitula to 1 cm wide, many linear filiform bracts
taxonomy: Boudet suggests possible inclusion in genus *Erigeron* (since the sp. is omitted in Wild, *les Conyza d'Afrique* (1969))
Conyza boranensis 50103 (syn *C. pedunculata*)

Coreopsis borianina (see *Bidens borianina*)

Cotula

Cotula cinerea (syn *Brochia cinerea*) (not in Berhaut)

records: Agueraktem (Boudet), i.e. Sahara
habitat: sandy
notes: in clumps; globular yellow flowers; greyish blue-green stems and leaves

Dicoma

Dicoma tomentosa 50104

records: Segou, Kita, Ansongo, Sokolo (Boudet); Gao area, Hombori, Walo, Tupere, generally not known in central/southern Dogon country (JH)
habitat: wet sand
notes: small annual herb to 25-60 cm; small sessile oblong lanceolate or linear leaves 3-6 cm x 0.3-0.8 cm, attenuated at base; leaves and stems covered with woolly white hairs; flowers reddish, in capitula 12-15 mm x 10 mm surrounded by thorny bracts; capitulum sessile or on short peduncle to 10 mm, with one leaf at base; flowers up and down stem roughly each two leaves
ethnobotany: soft plant tissue can be used as tinder with flint lighter (like several other plants)

Echinops

Echinops pappii 50105 (syn *E. spinosissimus* [misapplied], *E. spinosus*) (not in Berhaut)

records: Nampala, oued Tedoft, Goundam, Lake Fati (Boudet); between Anda village and Douentza (JH)
habitat: stable dunes
notes: large spreading bush to 1 m; prickly thistle-type leaves; large globular flower

Eclipta

Eclipta prostrata 50106

records: Dire, Timbuktu, Bamako, Douentza, Sanga (Boudet); Beni, common at Bounou (JH)

habitat: humid areas, near settlements

notes: annual herb, usually erect; subsessile leaves opposite (by 2) 5-10 cm x 1-2.5 cm, weakly dentate, subsessile; ring around stem at base of leaves; pubescence on both sides of leaves; flowers in hemispheric capitula 6-8 mm wide; outer flowers white 1 mm long; peduncles 2-6 cm

Epaltes (see *Litogyne gariepina*)

Francoeuria (see *Pulicaria undulata* subsp. *undulata*)

Gnaphalium

Gnaphalium indicum (see *Helichrysum indicum*)

Gnaphalium luteo-album

records: Dogo, Gao, Dire to Bandiagara (Boudet)

habitat: wet sandy depressions

notes: annual herb to 10-60 cm; sessile obovate spatulate leaves 2-8 cm x 5-9 mm (width about constant from base to near tip, sometimes edges nearly parallel until very tip of leaf, or gradually expanding from base to tip); leaf covered with white tomentous pubescence; compact terminal inflorescence containing numerous small capitula, yellowish, covered (before maturity) with white woolly hairs

Grangea

Grangea ceruanoides (in Berhaut as *G. maderaspatana*)

records: Bourem, Gourma Rharous, Timbuktu, Bamako, Segou, El Oualadji (Boudet)

habitat: sands, wet zones as water retreats

notes: herb with rosette of larger leaves 8-15 cm x 3-4 cm on ground, smaller leaves on stems; leaves sessile, auriculate, usually profoundly lobed; entire plant covered with greyish velvety pubescence; golden yellow flowers in hemispheric capitula subtended by green bracts with obtuse tip; aromatic plant

taxonomy: both *G. ceruanoides* and *G. maderaspatana* are “accepted” by African Flowering Plant Database; *G. maderaspatana* was apparently misapplied to this sp. (cf. Boudet)

Grangea maderaspatana (see *G. ceruanoides*)

Helichrysum

Helichrysum indicum 50107 (in Berhaut as *Gnaphalium indicum*)

records: Bamako, Djenne, Sanga, Mopti (Boudet)

habitat: humid areas near watercourses

notes: small erect annual 8-20 cm, forming bushy clumps; sessile leaf, oblanceolate, 1-5 cm x 3-7 mm, attenuated near base; leaf covered with woolly white tomentous hairs; greenish flowers in compact terminal panicles

Herderia

Herderia truncata

records: Gao, Ngouma, Koriensa (Boudet)

habitat: edges of inundatable plains, riverbanks

notes: herb spreading out in rosette form, with secondary roots; small obovate leaf, attenuated at base, sessile or with short petiole to 5 mm, top quartile with dentations; young plant with woolly white pubescence, becoming glabrous; dark violet flowers in terminal capital, base of capitulum not well differentiated from peduncle; after flowering, capitulum curves down

reference: Hutch., Kew Bull, 1914, 354 and fig.

Kleinia

Kleinia cliffordiana 50108 (not in Berhaut)

records: Hombori, Douentza, Dire to Bandiagara (Boudet); Hombori, Kikara, Walo, Segue (road to Kassagou) (JH)

habitat: inselbergs and rocky plateau

notes: unusual semi-succulent shrub to 2-3 m, sometimes smaller (bushy)

taxonomy: Boudet comments that this plant may belong to genus *Notonia*

reference: Jaeger, Ic. Plant. Afr. (I.F.A.N.), 6, no. 144 (1964), with drawing

Lactuca

Lactuca sativa (cultivated lettuce)

Launaea

Launaea brunneri (syns *L. chevalieri*, *Sonchus chevalieri*)

records: Timbuktu, Goundam, Kabara to Mopti, lac Debo (Boudet, as *L. chevalieri*)

habitat: sandy ravines

notes: herb, usually erect, perennial or biennial, to 30-60 cm; leaf variably linear, oblanceolate, or 5-lobed, 4-12 cm x 0.5-2 cm, attenuating near base but extending as two small "ears" over stem; terminal capitulum, ligulate flowers pinkish white

Litogyne

Litogyne gariepina (syn *Epaltes gariepina*) (not in Berhaut)

records: Bore, Dire to Bandiagara, Douentza, Gao (Boudet); none (JH)

habitat: wet clayey sands

notes: flowers mauve

Notonia (see *Kleinia cliffordiana*)

Pegoletia

Pegoletia senegalensis (not in Berhaut)

records: In Tillit (Boudet), i.e. Saharan (Boudet)

habitat: brousse tigrée

Pentanema

Pentanema indicum 50109 (in Berhaut/Boudet as *Vicoa leptoclada*)

records: Segou, Sikasso, Tin Ahara, Diarra, Bore (Boudet); Beni (JH)

habitat: humid soils, often near settlements

notes: annual to 50-100 cm; leaf linear lanceolate 5-10 cm x 0.8-1.5 cm, with rounded auriculate base, fine dentations around leaf, pubescence lightly scabrous under, longer and denser above; young plant has yellowish, pubescent stem; yellow flowers

in small capitula 5-7 mm long x 5-6 mm; capitula in corymbiform terminal panicle;
peduncle 1-5 cm
reference: Adventrop (as *Vicoa leptoclada*)

Picris

Picris humilis

records: Bamako, San, Diafarabe, Lac Debo (Boudet)
habitat: clayey sand on banks of Niger R (like *Senecio perrottetii*)
notes: perennial roots, stems to 10-20 cm, ramified from bottom; leaves at base of plant, rarely higher, with stems much higher; leaf most often irregularly 5-lobed, 5-10 cm x 1-1.5 cm, attenuated at base; yellow flowers in capitula that are isolated or by 2-3 at top of stem

Polydora

Polydora poskeana 50113 (syn *Vernonia elegantissima*; in Berhaut at *V. poskeana* var. *elegantissima*)

records: Madina Diassa (Boudet); Hombori and Kikara areas (JH)
habitat: sciaphyte (in shade)
notes: annual to 15-40 cm, often but not always ramified; small leaf linear or oblanceolate 2-3 cm x 3-8 mm, attenuated at base (no clear petiole), barely noticeable dentations, a few fairly rigid hairs, underside of leaf with scattered dark green points; a few short but hard hairs on stem; terminal inflorescence, capitula at tips of filiform peduncles that are 1-2 cm long; flowers red, fewer than 10 per capitulum; lanceolate bracts with sharp point

Polydora serratuloides 50115 (syn *Vernonia perrottetii*)

records: Kita, Bamako, Sanga, Segou, Sikasso (Boudet)
habitat: sandy fields, savanna with *Parkia biglobosa* (nééré)
notes: annual herb to 50-80 cm, often ramified from base; numerous sessile linear leaves 2-5 cm x 1-4 mm, all around stem; single capitulum at end of each stem; flowers violet
reference: Adventrop

Pseudoconyza

Pseudoconyza viscosa 50110 (in Berhaut/Boudet as *Blumea aurita*, syn also *Blumea viscosa*)

records: Bamako, Sikasso, Dogo (Boudet); Hombori, Beni (JH)
habitat: ruderal
notes: usually biennial, to 30 cm or 1 m; sessile leaves (roughly thistle-like) 10-15 cm x 3-7 cm with significant lobes, base auriculate (one or two “oreillettes” on each side); much smaller upper leaves when flowering; dense pubescence on both sides of leaf; flowers in small capitula, opening little or not at all, top pinkish white
taxonomy: <http://www.ville-ge.ch/cjb/bd/africa/resultat.php>; “accepted” in African Flowering Plant Database with syns *B. aurita*, *B. viscosa*

Pulicaria

Pulicaria crispa (see *P. undulata* subsp. *undulata*)

Pulicaria incisa (syn in part *Pulicaria undulata*, thus in Berhaut) (similar to *Asteriscus graveolens*)

records: Labbezanga, Dire to Bandiagara (Boudet as *P. incisa*)
habitat: wet sand, sandy-clayey soil
notes: annual or biennial to 20-60 cm; sessile oval-lanceolate leaf 3-5 cm x 1-1.5 cm, widest at base, leaves get smaller toward top of plant, greenish but pubescent on both

sides of leaf, base auriculate; flowers in isolated terminal capitula, 4-5 mm wide, small yellow flowers, almost globular

taxonomy: taxon *P. undulata* rejected for this sp. (reflects an early mixup: see Taxon 29:694-5, 1980); *P. incisa* is “accepted” acc. to African Flowering Plant Database
Pulicaria undulata subsp. *undulata* (syns *P. crispa* [thus Berhaut], *Francoeuria undulata*)
records: Bamako, Timbuktu, Tin Tegrin, Kita (Boudet)

habitat: wet sands

notes: herb to 20-60 cm or more; obovate leaf 4-8 cm x 0.8-2 cm, usually widest near tip, but with secondary widening at base and auriculate (going around most of stem); stem white, covered with woolly pubescence; flower yellow, capitulum hemispheric

taxonomy: this binomial has also been applied in part to the current *P. crispa* due to an original mixup; African Flowering Plant Database “accepts” *P. undulata* subsp. *undulata* as replacement for *P. crispa*

Senecio

Senecio perrottetii

records: Niafunke, Bourem, Gao, Segou (Boudet); Niger R. from Bamba to Ayorou (JH)

habitat: sandy banks and foreshores of Niger River

notes: bushy annual herb to 15-60 cm; lanceolate leaves with dentations and irregular lobes 5-12 cm x 1-6 cm, base auriculate; flowers in more or less corymbiform panicles; inner and ligulate flowers yellow, capitulum 4-5 mm wide at base, 10-20 ligulate flowers may spread out in daisy fashion

Sonchus

Sonchus chevalieri (see *Launaea brunneri*)

Sonchus oleraceus (introduced, resembles dandelion)

records: Timbuktu (Boudet)

habitat: cosmopolitan weed, gardens, wet areas

notes: annual or biennial herb to 60 cm or more; leaves bunched on ground in young plant; leaf usually long with dentations and deep lobes that may reach central nerve, auriculate at base (thistle-like); plant glabrous; hollow stem exudes white latex; yellow flowers grouped at top of middle stem or of axillary branches

Sphaeranthus

Sphaeranthus angustifolius 50111

records: Tin Zazi, Segou-Niono (Boudet); Fombori near Douentza, also in extended colonies in otherwise barren, lightly inundatable zones near Sambere and near Kol (JH)

habitat: depressions

notes: herb (probably perennial), either sprawling or up to 10-20 cm [locally usually a bushy herb in the shape of an inverted bowl/JH]; leaf oblanceolate or elliptical-lanceolate 3-7 cm x 0.3-1 cm, mostly glabrous, larger leaves with fine dentations, base of leaf attenuated and prolonged as “wings” on both sides of stem; flowers in nearly spherical capitula, isolated or 2-3 at end of stem, 1 cm x 1 cm; flowers violet; peduncles 1-5 cm long, pubescent right under capitulum

Sphaeranthus senegalensis

records: Bamako, San, Sanga (Boudet)

habitat: inundatable plains

notes: perennial herb, erect (young) then sprawling; at base, leaves may attain 7-15 cm x 2-3.5 cm; higher up, leaves 2-4 cm x 7-12 mm, dentate, surfaces covered with woolly

white hairs; base of leaves attenuated, prolonged as “wings” down stem; flowers mauve-violet; in perfectly spherical capitula; plant is aromatic

Synedrella

Synedrella nodiflora (“node weed”)

records: Kita (Boudet)

habitat: shady humid areas

notes: leaves opposite (by 2), including pair at top of each stem; broad leaf 5-10 cm x 3-5 cm, finely dentate, rough white hairs on both sides; petiole 0.5-1.2 cm; at base of leaves, a ring around stem, in which two sessile capitula are nestled; yellow flowers

Tridax

Tridax procumbens (introduced)

records: Bamako (Boudet)

habitat: sandy soil near houses

notes: perennial-looking herb, sprawling or rising; leaves opposite with ring on stem at base and smaller offshoot stems coming out at ring; leaf oval-angular 2-5 cm x 1-3 cm, base wedge-shaped, some dentation often with one dentation larger than the others; petiole 4-15 mm; petiole and stem pubescent; isolated terminal flowers on axillary peduncles; central flowers yellow, ligulate flowers yellowish or cream

reference: Adventrop

Vernonia (see also Baccharoides, Polydora)

taxonomy: a large genus now often divided into *Vernonia sensu stricto* and other genera (including Baccharoides, Polydora)

Vernonia adoensis (see *Baccharoides adoensis*)

Vernonia elegantissima 50113 (in Berhaut as *V. poskeana* var. *elegantissima*)

Vernonia galamensis 50114 (in Berhaut as *V. pauciflora*)

records: Gao, Goundam, Bore, Sanga, Gossi, Bamako, Sikasso (Boudet); Hombori (JH)

habitat: riverbanks, edges of drying ponds, rocky debris

notes: annual to 30-60 cm, more or less ramified; leaf elliptical 10-15 cm x 2-6 cm (widest in middle), with attenuated base; flowers pale blue in terminal capitula with top spreading out

Vernonia pauciflora (see *V. galamensis*)

Vernonia perrottetii (see *Polydora serratuloides*)

Vernonia poskeana var. *elegantissima* (see *V. elegantissima*)

Vicoa (see *Pentanema indicum*)

Balanitaceae (see Zygophyllaceae)

Bignoniaceae

(trees, opposite imparipennate leaves)

Kigelia

Kigelia africana 50117 (“sausage tree”)

records: Timbuktu, Gourma, El Massara (Boudet); rare along Niger R near Timbuktu, one or two at Tupere and Anda (JH)

habitat: wet areas

notes: tree to 15 m; leaf 15-30 cm long with 2-4 pairs of leaflets, which are oval-elliptical 5-12 cm x 3-7 cm, more or less rounded but s.t. with slight dentations, about 8 well-developed secondary nerves; petiole 2-10 cm before first leaflets, base of petiole thickened with white spots; young branches grey with white spots; purple-red flower with tubular corolla, 3-4 cm wide; woody "sausage" fruits 30-40 cm x 7-8 cm, exterior light grey, on long peduncle 40-50 cm

Stereospermum

Stereospermum kunthianum 50118

records: Hombori, Sotuba, Kayes, Kati (Boudet); Hombori, Dianwely (rare), Walo, Pergue (ravine), Bendiely (JH)

habitat: sandy or clayey depressions, gravely and lateritic soil (Boudet); scattered in northern Dogon country (JH)

notes: tree to 5-10 m; leaf with 3-6 pairs of leaflets, which are oval-elliptical 6-10 cm x 3-5 cm, those on side somewhat disymmetric at base; 7-10 secondary nerves; petiole 2-5 cm before first pair of leaflets; flowers pink or mauve, in wide panicles when tree is defoliated; fruit long and thin 25-30 cm x 0.7-0.8 cm, crooked

native terms: Dogon "popolo" (C-G)

Bixaceae

Cochlospermum

Cochlospermum tinctorium

records: planted in a garden as a medicinal plant, Kundialang

Bombacaceae (see Malvaceae, subfamily Bombacoideae)

Boraginaceae

note: Boraginales Working Group. 2016. Familial classification of the Boraginales. *Taxon* 65(3): 502-522. This work narrows Boraginaceae (sensu lato) into Boraginaceae (sensu stricto) but elevates several groups to familial status within Boraginales. The relevant new families (and their local genera) are Cordiaceae (*Cordia*), Heliotropiaceae (*Heliotropium*, *Euploca*), Coldeniaceae (*Coldenia*), and Ehretiaceae (*Rotula*).

Moltkiopsis

Moltkiopsis ciliata (syn *Moltkia ciliata*) (Saharan sp.)

records: Touetat, Azawad (Boudet)

habitat: coarse-grained sand (semi-gravelly)

Trichodesma

Trichodesma africanum 50132

records: Mopti, Hombori, Gao, Niafounke (Boudet); Hombori (JH)

habitat: sandy or sandy-clayey

notes: annual herb ½ to 1 m, leaves opposite; leaf oval or widely lanceolate 5-12 cm x 2-7 cm; coarse leaf covered with hairs, also on edge of leaf; petiole 1-6 cm and stem covered with white points with semi-thorny hairs; flower white or bluish with yellow inside

Brassicaceae

(synonym “Cruciferae” because 4 petals look like a cross)

(in some taxonomies, Brassicaceae includes the Capparaceae and Cleomaceae, which are here presented separately)

core Brassicaceae ex-Cruciferae

(largely Saharan, plus cultivated spp. [cabbage, broccoli, etc.]

Anastatica

Anastatica hierochuntica

records: Kessert Gani (Sahara) (Boudet)

habitat: gravelly regs, depressions

Eremobium

Eremobium aegyptiacum

records: none (Boudet)

Farsetia

Farsetia aegyptia

records: Hamada Safia, Taoudenni (Boudet)

habitat: rocks

Farsetia ramosissima (see *F. stylosa*)

Farsetia stenoptera 50148

records: Gossi (Boudet); Walo (JH)

notes: herb, long thin pod (cf. *Tephrosia*)

habitat: clayey depressions

Farsetia stylosa 50149 (syn *F. ramosissima*)

records: Goundam, Timbuktu, Adrar, Menaka (Boudet); Nando (JH)

habitat: sandy

Morettia

Morettia canescens

records: Tilemsi (Boudet)

habitat: sandy

taxonomy: term was at times misapplied to *M. philaeana*

Morettia philaeana (cf. also *M. canescens*)

records: Tin Ahara

habitat: sandy

Moricandia

Moricandia arvensis

records: none (Boudet)

Schouwia

Schouwia purpurea (see also *S. thebaica*)

taxonomy: valid term, but has also been misapplied to *S. thebaica*
Schouwia schimperi (see *S. thebaica*)
Schouwia thebaica (syn *S. schimperi*, cf. also *S. purpurea*)
records: Adrar, in Tillit (Boudet)
habitat: oueds, sandy elevations

Zilla

Zilla spinosa
records: none (Boudet)

Burseraceae

Commiphora

Commiphora africana 50152

records: Goundam, Bandiagara, Gao, Hombori (Boudet); scattered through Dogon country (JH)

habitat: sandy

notes: small tree 2-6 m; alternate trifoliolate leaves; leaflets on side (2 cm x 1.5 cm) much smaller than terminal leaflet (3-4 cm x 1.2-2 cm), leaflets with a few rounded dentations; leaf has petiole 0.5-3 cm but leaflets are sessile; short lateral branches ending in thorny points; red flowers, fasciculated on stems (Jan-May when tree is defoliated); obovoid drupes, red at maturity

ethnobotany: resin is myrrh-like (“bdellium”), burned as incense

Commiphora pedunculata 50154

records: Quiebele, Koutiala (Boudet); mostly south of Douentza, but also collected near Walo on inselberg summit (JH)

notes: shrub 1-4 m; alternate imparipennate leaves 8-15 cm with 5-7 pairs of sessile leaflets with fine dentations; terminal leaflet has slender base; leaflets oblong-elliptical 2-5 cm x 1-2 cm (resemble leaves of *Lannea humilis*, Anacardiaceae, which however lack dentations); petiole 2-4 cm; yellow-green flowers s.t. reddish on outside, grouped at tip of axillary peduncle 3-5 cm; ovoid fruits 1-1.2 cm x 0.8-1 cm, conical top

Caesalpinaceae (= Fabaceae--Caesalpinioideae)

Cannabaceae

Celtis

Celtis integrifolia (see *C. toka*)

Celtis toka 50657 (syn *Celtis integrifolia*)

records: Djenne, Timbuktu, Bandiagara; common in northern Dogon country (JH)

notes: tree to 80 feet with thick trunk; leaf venation appears palmate; flowers and fruits on peduncles

ethnobotany: leaves formerly sold in Songhay markets as a spinach for sauces (JH)

Trema

Trema orientalis 50658

records: Bamako, Kati (Boudet); Walo, Kikara (summit), Anda (JH)

notes: spreading shrub or tree; leaf margins finely dentate; tiny flowers at base of petioles (cf. Euphorbiaceae)

Capparaceae

(as presented here, includes traditional Capparaceae [also spelled Capparidaceae] except traditional genus *Cleome*, presented here under Cleomaceae)

Boscia

Boscia angustifolia 50133

records: Bamako, Sanga, Hombori, Tikimsa (Boudet); known throughout Songhay and Dogon country (JH)

habitat: dry land

notes: tree or shrub, high-branching; in this zone the trunk is usually covered with shiny white bark; leaves alternate on young branches, fasciculate by 3-10 on older branches, oblong-elliptical 4-7 cm x 1-1.5 cm; petiole 4-6 mm; greenish flowers in a terminal cluster; fruits are spherical 7-8 mm wide

comment: has some resemblance to *Maerua crassifolia* (called by the same name in riverine Songhay)

Boscia salicifolia 50134

records: Samanko (Boudet); Hombori, Kikara (JH)

habitat: rocky hills

notes: small tree or shrub (aspect resembles *B. angustifolia*); leaves alternate, lanceolate 8-12 cm x 0.8-1.5 cm, with conspicuous central nerve; petiole 1-4 mm; greenish flowers in racemes; spherical fruits 7-10 mm wide

Boscia senegalensis 50135

records: ubiquitous in Songhay and Dogon country (JH)

habitat: on dry land, often on termitaries

notes: bushy shrub; alternate leaves, oval, 7-10 cm x 3-6 cm; greenish flowers in terminal panicle; spherical fruits 1.5-2 cm wide, yellow at maturity

Cadaba (lianas/scramblers with no thorns)

Cadaba farinosa subsp. farinosa 50137

records: San, Timbuktu, Gao, Niono, Djenne (Boudet); Hombori, Walo, Kikara (JH)

habitat: on termitaries, sandy-clayey depressions, ravines

notes: small bushy scrambling shrub, s.t. tree to 4 m; leaves alternate on young branch, fasciculate by 2-5 on trunk and branch, oblong; leaves covered by fine whitish powder that gives foliage a greyish look; yellow-green flowers in panicle at tip of branch; slender pod up to 5-6 cm long with bright red seeds

ethnobotany: leaves sold as medicine (e.g. Gao) (JH)

Cadaba glandulosa 50138

records: Goundam, Ansongo, Menaka, Hombori (Boudet); Kikara, Dianwely

habitat: dry areas

notes: under-shrub; leaves small and circular, covered with whitish powder.

ethnobotany: leaves sold as medicine (e.g. Hombori) (JH)

Capparis (lianas/scramblers with paired down-curving thorns)

Capparis corymbosa (see *C. sepiaria*)

Capparis decidua (in Berhaut)

records: Senegal (Sahel) and Mauritania (Berhaut); none (Boudet)

habitat: beside oueds (Mauritania)

notes: thorny shrub forming clumps, generally leafless (esp. at time of flowering); flowers pink or red; spherical fruit first red, then black when mature

Capparis fascicularis 50139 (syn *C. rothii* [thus in FWTA2])

records: Ansongo, Dire, Oua-Oua near Mopti (Boudet)

habitat: on termitaries

notes: (FWTA2 1(1).89-90): resembles *C. sepiaria* ("C. corymbosa) but calyx silky pubescent to densely tomentose, flowers 4-12 in short axillary cymes; petals and filaments white

Capparis rothii (see *C. fascicularis*)

Capparis sepiaria var. *fischeri* 50140 (syn *C. corymbosa*, so in Berhaut)

records: Timbuktu, Niono, Hombori (Boudet); Kikara, Boni, Djenne (JH)

habitat: termitaries, thickets on riverbanks, s.t. around villages

notes: bushy shrub with decumbent branches, or liana; alternate leaves, oval 3-5 cm x 1-3 cm, widest about 1/3 up from base, tip rounded; white flowers clustered in corymb at tip of branches, calyx glabrous; spherical fruit 1-1.2 cm wide, red at maturity

Capparis spinosa

records: none (Boudet)

Capparis tomentosa

records: along Niger R., Fantina, Sahelo-Soudanian (Boudet); Walo (JH)

habitat: termitaries

notes: bush; leaves oblong, 3-8 cm x 1.5-3 cm with base rounded or barely subcordate, top rounded; greyish pubescence covering most of plant including branches; paired down-curving thorns at base of petiole; flowers in dense bouquet at tip of branch; void or spherical fruit, yellow-orange with pink flesh, 4-5 cm wide and up to 5-6 cm long, on peduncle

Crateva (also spelled *Crataeva*)

Crateva adansonii 50146 (syn *Crateva religiosa*)

records: Timbuktu, San, Gao, Segou, Bandiagara (Boudet); Beni, Bounou, Hombori, Boui (JH)

habitat: riverbanks, ravines

notes: tree; trifoliate leaf (cf. *Ritchiea*), leaflets obovate 6-10 cm x 3-4 cm, with acuminate point at tip; long petiole 4-10 cm; young branches lenticelate with white points; flowers (appear after leaves have fallen), white, in corymbiform panicle at end of branches; spherical fruit 3-8 cm wide, woody peduncle 5-6 cm

names: may have a special name for the fruit (50147)

Maerua

Maerua angolensis 50150

records: Bandiagara, Dire, San, Sotuba (Boudet); Hombori, Tupere, Boni, Dianwely, Diangassagou, Boni (JH)

habitat: sandy

notes: shrub or small tree; alternate glabrous leaves, oval, 4-7 cm x 3-6 cm, widest near base, rounded mucronate tip, bright green; petiole 1-2 cm thickest at top; axillary flowers close to tip of branch; 5 green sepals but no petals, many white stamens in parasol; lumpy pod narrowed between seeds (from 3 to many more seeds)

Maerua crassifolia 50151

records: Timbuktu, Adrar, Gao (Boudet); Hombori, Douentza, Kubewel, road Douentza to Bamba (JH)

habitat: sandy

notes: shrub or small tree; alternate leaves usually fasciculate by 2-5 on one branches; leaf obovate, 1-2 cm x 0.5-1 cm, tinted ashy grey; small flowers, along branches, isolated or in groups of 2-3, without petals; pod narrowed between seeds, 2-5 cm long

ethnobotany: much prized for medicinal value

Maerua de-waillyi (Malian endemic) [[get description](#)]

records: islands in rapids near Ansongo (Boudet)

notes: resembles *M. crassifolia*

Maerua oblongifolia

records: Timbuktu, Segou, Gourma (Boudet)

habitat: sandy with some clay, riverbanks

notes: woody shrub to 0.5-1 m high, emerging from woody rhizome; alternate leaves, oblong or oblong-lanceolate 7-12 cm x 1-1.5 cm; short petiole 1-5 cm, branches green; flowers axillary, close to tip of branch, 4 sepals, with 4 whitish-green petals

Maerua pseudopetalosa (syns *Courbonia pseudopetalosa*, *Courbonia virgata*) [[get description](#)]

records: Konkobiri (Gourma), Goumera (Boudet)

habitat: termitaries, clayey

notes: (African Flow Pl Database 2007) perennial woody herb or subshrub with ascending branches, 30-60 cm high; (from image of CIRAD specimen): small lanceolate leaves, sessile on branches (cf. *M. crassifolia*)

Ritchiea

Ritchiea capparoides (in Berhaut)

records: none (Boudet)

notes: small tree, or scrambling shrub; alternate trifoliolate leaves (cf. *Crateva*), leaflets elliptical 7-15 cm x 4-7 cm; oblong pods 3-5 cm x 1.5-1.8 cm

Caricaceae

Carica

Carica papaya 50155 (papaya)

records: widely planted in gardens and courtyards in Dogon country and farther south (JH)

Caryophyllaceae (includes Illecebraceae)

Herniaria [formerly in Illecebraceae]

Herniaria mauritanica (Saharan sp.)

records: none (Boudet); Algeria, Morocco

ref. Flore du Sahara 2nd ed p. 209

Polycarpaea

Polycarpaea corymbosa var. *corymbosa* 50156

records: Segou, Goundam, Gao, Bamako, Macina, Gossi (Boudet); Tupere, Segue (JH)

habitat: dry sand, rocks in sand, ferruginous plateaus

notes: erect herb 20-50 cm, often ramified; opposite/verticillate linear leaves, sessile, 1-3 cm x 1-2 mm, usually glabrous; stems pubescent with short woolly white hairs; pure white flowers, s.t. tipped with red; sepals 3-3.5 mm long, pubescent; flowers in corymb, often widening horizontally but not bending back down

reference: Adventrop

Polycarpaea eriantha 50157

records: Bandiagara to Mopti, Bamako, Macina, Niono (Boudet); Hombori (JH)

habitat: dry sand

notes: much-branched herb 20-30 cm; opposite/verticillate linear filiform leaves, sessile, 1-3 cm x 1-2 mm, glabrous; young plant has rosette of leaves at base; stems covered by fine grey down; flowers silvery-white in small irregular panicles

Polycarpaea linearifolia 50158

records: Gao, Niono, Rharous, San, Koulikoro (Boudet)

habitat: sand, rocks

notes: erect herb 30-50 cm, leaves opposite/verticillate sessile linear leaves 1-3 cm x 1-2 mm; pubescent cylindrical stems; silver-white flowers in globular head 1-2 cm wide

Polycarpaea prostrata (see *Polycarpon robbairea*)

Polycarpon

Polycarpon prostratum 50159

records: San, Djenne, Gourma Rharous (Boudet)

habitat: sandy-clayey

notes: prostrate herb, leaves opposite/verticillate, oblanceolate 1-2.5 cm x 5-8 mm, widest 2/3 of way up, very slender at base (no clear petiole); in upper part of flowering stem one leaf is full-sized and the opposite leaf is very small or absent with the peduncle emerging from the side of the small leaf; several longer leaves at major branching points of main stem; stem pubescent on side facing sun; white or more often bluish flowers, numerous in paniculate bracteate cymes

Polycarpon robbairea (syns *Robbairea delineana* [thus Boudet], ??*Polycarpaea prostrata*)

records: Gao (Boudet)

habitat: sand

Robbairea

Robbairea delileana (see *Polycarpon robbairea*)

Vaccaria

Vaccaria hispanica (has several variants in N. Africa; in Boudet as *V. pyramidata*)

records: "signalé adventice à Diré près de Tombouctou par Chevalier" (Boudet)

Vaccaria pyramidata (see *V. hispanica*)

Celastraceae

Gymnosporia

Gymnosporia senegalensis 50161 (syn *Maytenus senegalensis*)

records: Tasseguela, Timbuktu, Gao, Bamako (Boudet); Hombori, Boni area (JH)

habitat: sand, gravel

notes: bushy shrub 2-5 m, leaves alternate, straight axillary thorn 1-5 cm, often with two small leaves near tip, emerging at each axil on same side as and rising above leaf; small greenish-white flowers; small globular fruits, red at maturity

Loeseneriella (previously placed in Hippocrataceae)

Loeseneriella africana 50169

records: Timbuktu, Niafounke, Macina, Segou (Boudet); Kikara, Tupere, inselbergs near Dianwely (JH)

habitat: riverside, temporary pools (Boudet); inselbergs and their ravines (JH)

notes: woody liana, leaves opposite, shiny bright green oval leaf 5-8 cm x 3-5 cm, petiole 4-6 mm; lateral stems may twine in tendril form; green flowers in axillary panicle divided 2 to 5 times, first divisions at right angle; 3 obovate capsules each 3-5 cm x 2-3 cm; capsule divides in half, revealing winged seeds

ethnobotany: much-prized fibers for rope

Maytenus

Maytenus senegalensis (see *Gymnosporia senegalensis*)

Chenopodiaceae, see Amaranthaceae

Chrysobalanaceae

Neocarya

Neocarya macrophylla 50162 (syn Parinari macrophylla)

records: Bandiagara, Bamako, Segou (Boudet); Djenne, Diangassagou (JH)

habitat: dry savanna, including sandstone

notes: tree to 10 m, with stout densely tomentose branchlets and gnarled bole; leaves ovate or elliptic, cordate at base, rounded or subacute at apex, 10-25 cm x 5-15 cm, densely white-tomentellous and conspicuously reticulate beneath with 15-20 pairs of prominent lateral nerves; flowers crowded in terminal, subspiciform few-branched panicles, white or pinkish, fertile stamens 15; fruit rough-skinned, ellipsoid, about 5 cm long, finely warted

ethnobotany: fruit edible

Parinari

Parinari curatellifolia

records: Sotuba, Sikasso, Bougouni (Boudet); earlier record for Djenne now assigned to Neocarya macrophylla (JH)

habitat: wooded savanna

notes: tree to 25 feet with black fissured bark; leaves rounded at apex, rounded or slightly cuneate (wedge-like) at base, oblong-elliptic 5-17 cm x 3-8 cm, with 15-25 pairs of lateral nerves prominent beneath, tomentose (pale green) beneath; inflorescence a lax open many-flowered panicle; calyx tube 0.2-0.5 cm long; sepals acute, flower buds enclosed by a pair of bracts as long as themselves; fertile stamens 7-8; petals white; fruit ovoid up to 3.5 cm long

Cleomaceae

(alternatively subsumed under Brassicaceae; formerly under Capparaceae)

old circumscription of *Cleome* now broken up into several genera

see E. Roalson & J. Hall. 2017. New generic concepts for African Cleomaceae *Systematic Botany* 42(4): 925-942
<https://doi.org/10.1600/036364417X696393>

key by leaf

- 5-foliolate: *Cleome gynandra* (fl white), *C. viscosa* (fl yellow)
- 3-foliolate: *Coalisina tenella* (fl yellow)
- simple: *Sieruela monophylla* (fl white), *Gilgella scaposa* (fl yellow)

Cleome

- Cleome amblyocarpa* (syn *C. africana*, s.t. previously referred to *C. arabica*) [\[get description\]](#)
 - records: Agueraktem (Boudet), also Algeria
 - habitat: rocks, sands
 - notes (from photo of CIRAD specimen from Arabia): much branched, has compact pod
 - ethnobotany: toxic to animals
 - reference: Boulos, Flora of Egypt, vol. 1, p. 180
- Cleome arabica* (valid term, but misapplied locally to *C. amblyocarpa*)
- Cleome brachycarpa* (not in Berhaut) [\[get description\]](#)
 - records: Goundam, Adrar
 - habitat: rocks, rocky soil, dunes
 - reference: Boulos, Flora of Egypt, vol 1, p. 178
- Cleome gynandra* [50142](#) (syn *Gynandropsis gynandra*)
 - records: Adrar, Gao (Boudet); common in northern Dogon country (JH)
 - habitat: common beside fields and in villages (JH)
 - notes: annual herb; alternate leaves w. 5 leaflets; petiole 3-10 cm with tiny thorny points; stem and petiole watery; white flowers
- Cleome monophylla* (see *Sieruela monophylla*)
- Cleome paradoxa* (not in Berhaut) [\[get description\]](#)
 - records: Goundam
 - notes (from photo of CIRAD specimen): leaves linear, on fairly long pedicels, flowers in clump at apex
 - habitat: sandy oueds, rocky soil
 - reference: Ozenda, Flore du Sahara (end ed), p. 247; Boulos, Flora of Egypt, vol 1, p. 180
- Cleome scaposa* (see *Gilgella scaposa*)
- Cleome tenella* (see *Coalisina tenella*)
- Cleome viscosa* [50145](#)
 - records: Gao, Sanga, Adrar (Boudet); widespread in Dogon country in inselbergs and rocky plateau (JH)
 - habitat: common in rocky debris at base of inselbergs
 - notes: annual herb 10-60 cm; alternate leaves w. 5 leaflets; lateral nerves hard to see; petiole 1-3 cm; pubescent streaked stem; yellow flowers; long thin fruit 5-7 cm x 3-4 mm

Coalisina

- Coalisina tenella* (syn *Cleome tenella*)
 - records: Bourem, Tassaguella
 - habitat: compact sands w *Senegalia senegal*/S. *laeta* & *Schoenefeldia*
 - notes: annual herb 10-30 cm; alternate trifoliolate leaves, linear leaflets 1-5 cm x 1.5 mm; small yellow flowers

Gilgella

Gilgella scaposa (syn *Cleome scaposa*)

records: Kidal, Ndaki (Boudet)

habitat: compact sands, fossil laterites, rocks

notes: annual herb 15-25 cm; simple alternate leaves; oval leaves much larger at base of stem (2-4 cm x 1.5-2.5 cm), base often cordate; leaves much smaller higher up on stem; small yellow flowers in small clusters at top of stem; long thin fruit 1.5-2.5 cm long, often arc-ed

Gynandropsis

Gynandropsis gynandra (see *Cleome gynandra*)

Sieruela

Sieruela monophylla 50143 (syn *Cleome monophylla*)

records: Sanga, Farabougou (Boudet); Kikara, Sevare (JH)

habitat: wet sandy (Sahel), stony depressions

notes: annual herb 25-50 cm; simple alternate leaves, oval-lanceolate or oblong-lanceolate 3-6 cm x 0.8-1.5 cm; leaves get smaller going up stem; white flowers grouped at tip of stem; long thin fruit 3-6 cm x 2-3 mm

Colchicaceae

[monocots]

Gloriosa

Gloriosa simplex (see *G. superba*)

Gloriosa superba var. *superba* 50163 (syn *G. simplex*)

records: none (Boudet); Kikara, Anda (JH)

habitat: inselbergs (JH)

notes: twining shrub (leaf tips function like tendrils), spectacular crimson flowers

Coldeniaceae

note: see note under Boraginaceae

Coldenia

Coldenia procumbens 50123

records: Gao, Kabara, lac Faguibine, Dire

habitat: wet areas, mud

notes: prostrate herb; leaves alternate; leaf oval 1-2.5 cm x 1-2 cm with edges dentate or folded, leaves silvery (covered with white hairs on both sides); hairy stems; small yellow flowers, barely visible under stems; capsules with 4 horns

Combretaceae

Anogeissus

Anogeissus leiocarpa 50164 (often spelled *leiocarpus* with masculine gender)

records: Bamako, Bandiagara, Nioro (Boudet); Menaka, Tupere, Anda, Songho (JH)

habitat: non-swampy depressions

notes: tall, slender tree 15-25 m, leaves (sub-)opposite; oval leaf 4-7 cm x 1.5-2.5 cm; 4-8 lateral nerves, many fine secondary nerves; spherical fruit
ethnobotany: leaves used to produce yellow dye for bogolan (traditional Dogon garments)

Combretum

aspect

scrambling shrub C. lecardii, C. paniculatum (seasonal swamps)
bushy shrub C. aculeatum, C. micranthum, C. nioroense
bushy shrub/tree C. molle, C. nigricans
tree C. glutinosum, C. adenogonium

branches

grey C. nioroense (vs. brown for C. micranthum)

thorns (< petioles): C. aculeatum, C. lecardii, C. paniculatum

leaf

glabrous C. adenogonium, C. nioroense, sometimes C. nigricans
small, rounded C. nioroense (may be nearly circular)
alternate C. aculeatum (often)
turns brown C. micranthum (not C. nioroense)

petiole length

< 1 cm C. aculeatum, C. micranthum, C. molle, C. nigricans, C. nioroense
0.8-2 cm C. paniculatum (grooved)
1.2-1.8 cm C. adenogonium
1-3 cm C. collinum, C. lecardii
5-10 mm[?] C. glutinosum (tomentose; Arbonnier "5-10 cm de long")

fruits:

5-winged C. aculeatum
4-winged (color follows)
ochre C. lecardii, C. nigricans (immature), C. nioroense (shiny)
red (immature) C. adegonium, C. glutinosum, C. micranthum
brown C. micranthum, C. adenogonium, C. nigricans, C. paniculatum, C. collinum
yellow C. paniculatum
green-yellow C. molle
greyish C. collinum (also purple or brown)
violet C. collinum, C. lecardii (immature)

flowers:

red C. lecardii (base of calyx bulging), C. paniculatum (panicle with corymbs of large flowers, base of calyx tubular)
white C. aculeatum (pink calices), C. micranthum
greenish C. adenogonium, C. collinum, C. glutinosum, C. nigricans, C. nioroense, C. molle

Combretum aculeatum 50165

records: Timbuktu, Sanga, Adrar, Segou (Boudet); Hombori, Kubewel, Boui (JH)

habitat: sandy

notes: bushy shrub, leaves often opposite (s.t. verticillate by 3) or s.t. subopposite or alternate; oval leaf 1-5 cm x 0.8-3 cm; thorn-like old petioles may remain after leaf falls; white flowers with red calices in small terminal panicles; fruit with 5 wings

Combretum adenogonium 50167 (syns C. ghasalense, C. fragrans) [resembles C. glutinosum]

records: Niono, Sikasso, Bandiagara-Mopti (Boudet); one in a field near Songho, a few on plateau near Dogani (JH)

habitat: savanna

notes (FWTA2 *C. ghasalense*, Arbonnier *C. fragrans*): tree to 10-12 m [only tall *Combretum* in the zone other than *C. glutinosum*]; branches sticky (brown, orange, or rusty); leaf glabrous above and below when young except for small tufts of hairs on secondary nerves especially below; top and bottom of leaf of similar color when fresh; petals cream or yellow; wings of young fruits red becoming brown or yellowish, some scales toward center

Combretum collinum

record: near Dogani on plateau (JH)

--, subsp. *geitonophyllum* (Berhaut as *C. geitonophyllum*)

records: Nioro, Kita, Sotuba (Boudet)

habitat: Soudanian

notes: shrub or tree 4-6 m, leaves often subverticillate by 4 (or 3), or alternate on some branches; elliptical leaf 6-12 cm x 3-6 cm; 8-12 arc-ed lateral nerves not reaching edge; green-yellow flowers in axillary spiciform racemes 2-6 cm; 4-winged fruits 2.5 cm wide, with down

--, subsp. *hypopilinum* 50166 (Berhaut as *C. hypopilinum*)

records: Bandiagara to Mopti (Boudet, single record)

notes: shrub or tree 3-6 m, often ramified at base, leaves often verticillate by 4 but s.t. opposite or alternate at end of branch; leaf elliptical or oblong-elliptical 6-15 cm x 3-6 cm, petiole 12-20 mm; axillary flower spikes 4-6 cm long, petals yellow; fruits 4-winged 2.5 cm x 2 cm [CIRAD specimens have much longer leaves than those of subsp. *geitonophyllum*]

Combretum fragrans (see *C. adenogonium*)

Combretum geitonophyllum (see *C. collinum* subsp. *geitonophyllum*)

Combretum ghasalense (see *C. adenogonium*)

Combretum glutinosum 50168

records: Gossi, Mopti-Djenne, Douentza, Labbezanga, Sanga, Bamako (Boudet); common in the plains from Hombori throughout Dogon country, and the dominant tree in much of the savanna in the flat, dry parts of the Dogon plateaus (JH)

habitat: savanna

notes: tree 4-12 m [only other tall *Combretum* in the zone is *C. adenogonium*], leaves mostly verticillate by 4, s.t. opposite or alternate; variable leaf shape, roughly elliptical or oblong 6-10 cm x 3-4 cm, 7-10 lateral nerves; bottom of leaf pubescent (visible under magnification); bottom of leaf with prominent venation, and lighter-colored than top when fresh; leaf not particularly viscous (sticky) in this region in spite of name; petiole 0.5-1 cm; inflorescence in axillary spikes with substantial peduncles, or with leaves, 4-6 cm long, small green-yellow flowers; fruits pale brown, 2.5-3 cm x 2.5-4 cm, 4-winged

Combretum lecardii 50169

records: Bandiagara, Sanga, Bamako-Sikasso (Boudet); this is the common red *Combretum* seen conspicuously flowering around January on the road Bamako-Segou

habitat: various (not just in inundatable areas)

notes: bushy shrub or scrambler 1-2 m, paired opposite leaves; leaf widely elliptical or obovate 6-15 cm x 5-8 cm; petiole 1-3 cm; red flowers in dense panicles at tip of twigs when tree is defoliated or with young leaves (cf. *C. paniculatum*); calyx bulges at base then narrows; fruits 4-winged, about as wide as long

Combretum micranthum 50170

records: San, Bandiagara, Sanga, Koulikoro (Boudet); widespread throughout Dogon and montane Songhay country

habitat: rocky hillsides, depressions, rocky savanna

notes: bushy shrub 2-5 m, paired opposite leaves, leaves bright green then red when drying; white flowers in fasciculate spikes when plant is defoliated; reddish-brown fruit 4-winged, about as wide as long, 1.5 cm

Combretum molle (bushwillow)

records: Niore, Yanfolila, Bounouko (Boudet)

habitat: savanna

notes: bushy shrub or tree 4-10 m; dark-grey deeply fissured bark; paired opposite leaves 8-15 cm x 5-6 cm, short petiole 2-4 mm; young leaves pubescent esp. underneath; dense axillary flower spikes 2-4 cm on peduncles 1-2 cm; 4-winged fruits a little longer than wide

Arbonnier adds (p.c.): other Malian *Combretums* have coarse or scaly bark, grey to ochre or orangish, brown underneath, while *C. molle* alone has bark that is fissured longitudinally, grey to black.

Combretum nigricans 50700

records: Koulikoro, Koloni (Boudet); rare at Diangassagou (JH)

habitat: arid zones

notes: shrub or tree 4-8 m, paired opposite leaves; dark brown branches (i.e. partially covered by blackish bark); leaf obovate-elliptical to elliptical or oval-elliptical 6-9 cm x 3-5 cm, 7-9 lateral nerves; nerves of old leaves reddish below in some locations; leaves and fruits darken when dried (reddish-brown); tuft of hairs at intersection of nerves; green-white flowers in axillary spiciform racemes, pedicels 3-4 mm; 4-winged fruits 2 cm x 1.5 cm, base red at maturity; seeds darker than wings
varieties: *C. nigricans* var. *elliottii* (Engl. & Diels) Aubrév if young branches pubescent, *C. nigricans* var. *nigricans* Lept. ex Guill. & Perr. if glabrous.

Combretum nioreense 50686

records: Niore, Koulikoro, Kita, Bamako, Niono, Segou (Boudet); off highway between Mopti and San, Pinia (JH)

notes: bushy shrub 2-4 m, branches ash-grey, paired opposite leaves; leaves like *C. micranthum* (but more rounded, and remain green when drying); green-yellow flowers in fasciculate spikes; pale brown 4-winged fruits 1.2-1.5 cm long, longer than wide, light-colored

Combretum paniculatum 50171

records: Bandiagara, Sikasso (Boudet, Suppl., p. 434); southern Dogon country (Diangassagou), San (JH)

habitat: beside ponds

notes: scrambling woody shrub with long decumbent branches, leaves opposite by 2, or verticillate by 3; leaf elliptical or oval-elliptical, about twice as long as wide, often with acuminate tip; petiole 1-2 cm, becoming thorny; vermillion-red flowers (cf. *C. lecardii*) in large panicles of racemes, often when plant is defoliated; 4-winged fruits, often red-green before maturity; Arbonnier distinguishes the two red-flower *Combretums* by the calyx (swollen and pubescent in *C. lecardii*, not so in *C. paniculatum*).

Guiera

Guiera senegalensis 50172

records: Douentza, Sanga, Bamako, Niore, Menaka, Bougouni (Boudet); widespread in Songhay and Dogon country (JH)

habitat: unused fields (exhausted soils), lightly inundated depressions (Boudet); dominant in shrubby savanna in the sandy plains (JH)

notes: bushy shrub, leaves opposite or subopposite, grey-green, 3-5 cm x 1.5-2.5 cm; yellowish flowers in spherical capitula; fruits covered with long silky hairs (like spider's web)

Pteleopsis

Pteleopsis habeensis 50173 (endangered sp.)

records: Bandiagara (escarpment), Koutiala (Boudet); pockets in Nigeria, Ghana

habitat: with *C. micranthum* and *C. glutinosum*, skeletal soil, ravines, cliffs

notes: small straggling shrub or tree 5-10 m, leaves usually opposite

reference: Kew Bull, 1953, p. 290; W Hawthorn. 1990. *Field Guide to the Forest Trees of Ghana*, Natural Resources Institute, Chatham and the Overseas Development Administration, London. 278 pp.; W D Hawthorne. 1995. *Ecological Profiles of Ghanaian Forest Trees*. Oxford Forestry Institute.

Terminalia (most have flat, winged fruits; very large leaves)

Terminalia albida

records: Bougouni-Sikasso (Boudet)

habitat: invades fallow fields

hybridization: may hybridize with *T. avicennioides*

notes: tree 6-12 m, leaves alternate; leaf 3 times longer than wide, 7-13 cm x 3-5 cm, young leaves silvery-whitish with silky pubescence, later tending toward glabrous; tomentose winged fruit 5-8 cm x 2-3 cm

Terminalia avicennioides 50174

records: Hombori-Sombougou, Segou, Sanga, Bamako-Sotuba (Boudet); Kubewel, Diangassagou, appears absent farther north in Douentza-Hombori zone, and generally rarer in the zone than *T. macroptera* (JH)

habitat: fallow fields, sandy soil

notes: shrub or tree 3-10 m, leaves alternate; leaf elliptical or oblong-elliptical 10-15 cm x 5-6 cm, widest in middle, whitish tomentose surface, turning brown when drying; petiole (1-2 cm long) and young twigs tomentose and whitish; white flowers in isolated axillary spiciform racemes, spikes 10-12 cm; velvety-tomentose winged fruit 5-6 cm x 2-2.5 cm

Terminalia laxiflora 50695

records: Macina, Yanfolila, Sanga (Boudet)

habitat: wooded savanna

notes: tree 8-12 m, leaves alternate, condensed at tip of twig; coriaceous leaf, top usually glabrous, underside glabrous or pubescent, oblong 15-20 cm x 6-9 cm; long petiole (3-5 cm); flowers in isolated axillary spiciform racemes; glabrous winged fruits oblong or elliptical 6-9 cm x 2.5-3.5 cm

Terminalia macroptera 50175

records: Bandiagara, Macina, Mopti-Djenne, Bamako (Boudet); Beni (in ravine), Yanda (at barrage), Kubewel, Bounou, Diangassagou, Songho, but now generally absent (or not well-known) from Douentza north to Hombori (JH)

habitat: edges of inundated plains, riverbanks, deep soil

notes: tree 10-12 m, leaves alternate, slender at base, widest 2/3 way up, 15-35 cm x 5-12 cm condensed at tip of twig, lateral nerves prominent on both sides; petiole absent, weakly distinct, or short (5-15 mm long); flowers in isolated axillary spikes 8-15 cm, calice white, 10 stamens per flower; glabrous winged fruit 8-10 cm x 3-4 cm, with tip often emarginate

Terminalia mantaly 50176 (planted)

records: Douentza (planted) (JH)

notes: tree 5-10 m, branching horizontally, leaves heavily condensed at tip and at knots (appear verticillate), obovate leaf 3-5 cm x 1-2.5 cm, widest near top, edge crenelated near top, 3-5 cm x 1-2.5 cm; petiole absent or very short; flower spikes 3-6 cm; fruits are capsules 1.5-2 cm long

Commelinaceae

[monocots, herbs]

spathe with 2 lips pressed against each other: Commelina

not so

long spathe-like bract not with lips pressed against each other, petals fused at base: Cyanotis
not so

petals unequal (2 long, 1 short): Aneilema

petals equal, fruits capsules

inflorescence glabrous in form of dropping panicle, leaves 20+ cm: Murdannia

unilateral racemes, leaves rarely longer than 15 cm: Floscopa

Aneilema (genus differs from Commelina by lacking spathe tightly enclosing inflorescence)

Aneilema lanceolatum subsp. lanceolatum [not in Berhaut] [\[get description\]](#)

records: Bamako, Gourma (Boudet)

habitat: savanna on deep soil

Commelina

[inflorescence with few flowers enclosed in green spathe with 2 lips, flowers emerge from spathe when opening, petals free of each other, 2 large petals and 1 small petal, usually 3 fertile stamens]

key to spathes:

lower edges of spathe fused together: erecta, forsskaolii, benghalensis, nigritana

lower edges of spathe not fused together: diffusa, subulata

Commelina bracteosa (see *C. erecta* subsp. *erecta*)

Commelina benghalensis var. *benghalensis* 50177

records: Bamako, Gao, Sanga (Boudet); common weed in fields and villages in Dogon country (JH)

habitat: fields, savanna

notes: decumbent, to 70 cm, leaves wide (oval to lanceolate) 3-8 cm x 1.5-3 cm, petals light blue to nearly white, 3 petals, one highly reduced, spathe fused in rear, regularly has underground stems with leaves; flowers Aug-Nov

Commelina diffusa subsp. *diffusa* 50178

records: Bamako, Gao (rapids), Sanga (Boudet); none (JH)

habitat: moist areas

notes: stems prostrate or scrambling then ascendant; leaf lanceolate to elliptic 2-8 cm x 0.8-2 cm; spathe not fused, or fused only shortly next to peduncle; petals bright blue, rarely whitish; flowers Nov-Jan

Commelina erecta 50678 (two subsp.)

records: Hombori (looks like subsp. *livingtonii*), Beni (looks like subsp. *erecta*) (JH)

-- subsp. *erecta* 50679 (Boudet as *C. bracteosa*)

records: Macina (ravine), Diarra (Boudet)

habitat: wooded savanna, galleries

notes: perennial, stem erect; leaf elliptic to oval-lanceolate, acuminate tip 5-13 cm x 2.5-3 cm; spathe fused; petals bright blue, rarely white; flowers July-Sept

--subsp. *livingstonii* 50180 (syn *C. subalbescens*)

records: Segou, Macina, Sanga, Bamako (Boudet)

habitat: fields, beside roads

notes: CIRAD specimen (Niger) has narrow leaves (almost linear)

Commelina forsskaolii 50181 (also spelled *forskaolii*, *forskalaiei*)

records: Timbuktu, Gao, Niono, Segou, Bamako (Boudet); common weed in millet fields throughout Songhay and Dogon country (JH)

habitat: fields, dunes, roads

notes: generally prostrate, leaves elliptic to lanceolate, undulating, dark green, petals sky blue, spathe 8 to 13 mm, in each spathe, one flower has long peduncle, others barely emerge, spathe fused in rear, 3 petals, one of which is highly reduced, sometimes has underground stems with leaves

Commelina nigritana ("Gambian dayflower") var. *gambiae*

records: Bamako, San (Boudet); now introduced as a weed in Florida

habitat: savanna, rice-fields

notes: erect or crawling then ascendant, 10 to 60 cm high, leaves narrow (linear to lanceolate), 5-9 cm x 0.5-1 cm wide, petals apricot yellow often with red spot at base; 3 petals, one of which is highly reduced, no "beak" of spathe, spathe 15-20 mm, fused in back, fairly long peduncle (5 to 15 mm) connecting spathe to stem, no underground stems

Commelina subalbescens (see *C. erecta* subsp. *livingstonii*)

Commelina subulata 50183

records: San, Bandiagara-Mopti, Koulikoro

notes: erect, 10 to 60 cm high, leaves very narrow (linear), 3 to 15 cm long and 1 to 5 mm wide, flowers apricot yellow, rarely blue, 3 petals, one of which is highly reduced, spathe divided into triangular part and a long "beak" joined to it at base, triangular part of spathe free (not fused) all the way down to peduncle, spathe connected by a very short peduncle (less than 5 mm), no underground stems

Cyanotis

[inflorescence dense, subtended by spathe-like leafy bract, with lips not pressed against each other; flowers inserted individually at axis of fairly large bracteoles; petals fused to each other at base forming a tube, 5-6 fertile stamens]

Cyanotis lanata 50183

records: Koulikoro, Koro to Kiri, Kita, Sanga, Niono, Yanfolila (Boudet); in northern Dogon country mostly beside seasonal ponds in rocky areas (Kikara, Kubewel), farther south also common in villages in the plateau (Bendiely, Segue, Diangassagou) (JH)

habitat: fields, rocky areas, occasionally inundated areas

notes: erect rigid stem, frequently ramified, 6 to 35 cm tall, stem distinctly purple shaded; leaf narrowly oblong-lanceolate 4-6 cm x 0.3-0.8 cm; flowers grouped in terminal glomerules, with bracts/spathes 2-4 cm having a single flower, spathe sickle-shaped (falciform), very short (7 mm long), only top of flower is visible after opening (7 to 10 AM), 3 similar petals, welded to a tube at the base, rounded and free above, petals blue, purple, pink or white, 5 to 6 stamens with long blue or violet hairs, with bright yellow anthers, often in fields (e.g. peanut), leaves 3 to 7 mm wide, 5 to 8 cm long; flowers Sept-Oct

Cyanotis longifolia

records: southern Mali (Boudet)
notes: taller plant, 30 to 100 cm high

Floscopa

Floscopa glomerata subsp. *glomerata*

records: Gao, Koutiala, Sotuba (Boudet)

habitate: depressions, swamps

notes: erect or crawling-ascendant, not much ramified, stems 20-50 cm; leaf sessile, oblong-lanceolate 5-12 cm x 0.5-1.2 cm, not attenuated at base (sheathing stem); inflorescence dense with 5-15 cymes; sepals light brown, petals mauve; capsule with 2 sections

Murdannia

Murdannia simplex

records: Gourma, Sikasso, Bandiagara to Kani-Kombole (Boudet)

notes: perennial, hard erect stems 25-60 cm; sessile leaf, linear or linear-lanceolate 7-30 cm x 0.3-0.12 cm; weak panicle, bracts shorter than cymes; 3 equal petals, blue-violet; capsule with 3 sections

Compositae (= Asteraceae)

Convolvulaceae

Convolvulus (mostly Saharan)

Convolvulus auricomus (spelled “auricoma” in Boudet)

records: Timetrine (Boudet)

habitat: sand

Convolvulus fatmensis

records: Oum el Jeiem, Khnache (Boudet)

Convolvulus prostratus

records: Nioro to Kayes, Tin Amassin

habitat: moist depression

Evolvulus

Evolvulus alsinoides **50186**

records: Ansongo, Sikasso, Bandiagara, Gossi, Koulikoro (Boudet); Boni, Tupere, Beni, Kikara (JH)

habitat: sand, fallow fields

notes: herb, more or less erect, base semi-woody; leaves alternate, elliptical 3-4 cm x 8-12 mm, sessile; small isolated blue flowers on axillary peduncle 2-3 cm, s.t. with 1 or 2 tiny bracts on peduncle a little below flower; small capsule 2 mm wide

Ipomoea (trailing or s.t. climbing vines), grouped by leaf-shape

a. **cordiform**

Ipomoea acanthocarpa (see *I. obscura* var. *obscura*)

Ipomoea asarifolia **50188** (syn *I. repens*)

records: Timbuktu, Sotuba, Gao, Sikasso, Macina (Boudet); ubiquitous in Dogon and montane Songhay zones (JH)

habitat: sands at edge of inundatable areas

notes: long trailing vine or bushy plant, oval cordiform leaf 8-10 cm long, top rounded with tiny point, or indented; large mauve flowers

native terms: see *I. aquatica* under (b)

Ipomoea involucrata

records: Finnkolo (Boudet, only record)

habitat: edge of forest gallery

notes: twining vine; leaf shaped like *I. obscura* var. *obscura*, but not so many nerves branching off at base (first nerve has several curving secondary branches under it); leaf 4-7 cm x 3-6 cm, mucronated obtuse pointed tip; light mauve flower 5 cm x 3-4 cm is sessile on a wide involucrem, with many tiny linear bracts; involucre is at end of an axillary peduncle 5-10 cm; peduncle and stems pubescent

Ipomoea obscura var. *obscura* 50196 (in Berhaut & Boudet as *I. acanthocarpa*)

records: Mopti-Bandiagara, Hombori, Gossi, Menaka (Boudet); Fombori (near Douentza), Kikara, Barbe (near Sevare), Nando (JH)

habitat: heavy soils, depressions, riverbanks

notes: twining vine; cordiform leaf 6-10 cm x 5-9 cm, triangular acuminate tip (cf. *Tinospora bakis*, Menispermaceae), about 4 nerves on each side emerging from base, 3-4 other secondary nerves off central nerve; petiole 5-7 cm; white flowers with corolla 3-4 cm wide, grouped by 2 or 3 at tip of axillary peduncle 3-4 cm long; capsule with sharp point at tip

b. **sagittate** (cordate at base, then tapering slowly to point at tip)

Ipomoea aquatica 50187 (syn *I. reptans*)

records: Gossi, Douentza-Hombori, Gao, Sanga, Bamako (Boudet); widespread in ponds in Dogon and montane Songhay country (JH)

habitat: edge of water, often floating

notes: floating vine; leaf usually thin (e.g. linear-sagittate) but variable; large violet-mauve flower (cf. *I. asarifolia*)

native terms: often combined with *A. asarifolia* which has similar large flowers and is also found near water

Ipomoea eriocarpa 50194

records: Niono, Bamako, El Oualadji, Gao, Yanfolila (Boudet); Tupere (JH)

habitat: wet clayey soil, s.t. weed

notes: twining vine; leaf saggitto-lanceolate, with lower sides bulging out as rounded "earlobes," 7-12 cm x 3-5 cm wide at base; petiole 1-6 cm long; petioles and stems pubescent; smallish mauve flowers 12-15 mm wide; tiny peduncle 3-8 mm

c. **oblong, lanceolate, elliptic**

Ipomoea blepharophylla 50190

records: Yanfolila (Boudet); Kikara (JH)

habitat: plateau

notes: perennial tuberous root; twining or long trailing vine; leaf oblong-lanceolate 6-10 cm x 1-2.5 cm, becoming linear at extremity of branch, petiole 0.5-1 cm; mauve flower 4-5 cm long, spreading at tip to up to 5 cm wide, calyx with 5 linear-lanceolate lobes 1.5 cm long; peduncle 1-1.5 cm long with two opposite linear bracts just under calyx; fruit is capsule surrounded by lobes of calyx that have grown to 2 cm long (cf. *I. vagans*)

Ipomoea coscinosperma 50192

records: Dire, Bandiagara-Mopti, Gao, Kidal, Menaka, Adrar (Boudet); Boni, Kikara, Sangha, Tupere (JH)

habitat: wet or clayey areas

notes: twining or trailing vine; leaf oblong or elliptic-lanceolate 5-9 cm x 1-3 cm, becoming linear on flowering stems; petiole 0.5-1 cm or larger; petioles and stems hairy; flowers/fruits practically sessile, isolated or fasciculate (2-3 together), small flower with corolla pale mauve or pure white 9 mm wide; capsule (not overarched by calyx lobes)

d. hastate or deltoid (roughly spear-shape, see also *I. eriocarpa*, *Merremia tridentata*)

Ipomoea vagans 50199

records: Tasseguela, Koro-Bandiagara, Gao, Bamako (Boudet): Hombori, Boni, Kikara, Kubewel, Pergue, Nando (JH)

habitat: sandy old fields

notes: annual, usually trailing; violin-shaped leaf, base of leaf roughly right-angled to petiole, sides tapering in then widening toward obtuse tip; petiole 0.5-2 cm; petiole and stems pubescent; flowers isolated or by 2-3, with white corolla 1 cm wide; peduncle reaching 8-12 cm with fruit; capsule overarched by bracts of calyx

Ipomoea verticillata

records: Tabankort (Gao), Niono

habitat: sand, limey clay

notes: long trailing vine; leaf hastate (or cordiform) 3-5 cm x 2-4 cm with “earlobes” at bases of sides, tip obtuse and mucronate; petiole 2-6 cm; petiole covered with hairs, stems pubescent with hairs directed downward; tiny flower with white corolla 5-6 mm wide; flower and fruit barely emerging from teeth of calyx

e. trilobate

Ipomoea dichroa 50193

records: Douentza, Tin Tadeni, Gao, Menaka (Boudet); Barbe (Sevare), Kubewel, Tupere, Barbe (near Sevare) (JH)

habitat: sands, anthropic or riverbank, weed

notes: twining vine, leaf trilobate 6-9 cm long and wide or a little longer than wide; petiole 4-8 cm; petioles and stems covered with hairs 1-2 mm long; flowers with mauve or whitish corolla (darker violet in middle), on axillary cyme, peduncle 2-6 cm; calyx with long lanceolate sepals 12 mm, later overarching capsule

f. digitilobate (finger-like lobes) with entire (smooth) lobes

Ipomoea mauritiana

records: Sikasso (Boudet)

notes: (closely resembles *I. pes-tigridis*) twining vine; digitilobate leaf with 7-9 lobes each 5-7 cm long without dentations or secondary lobes; lower two generally very small, each lobe 5-7 cm x 1-2.5 cm; petiole 2-6 cm; many reddish points make petiole and stem rough to the touch; 2-15 flowers bunched in pedunculate axillary panicle; corolla bright red-violet, 5-6 cm wide; grains with long white silky hairs

Ipomoea pes-tigridis var. *pes-tigridis* 50197

records: Bandiagara-Mopti, Niono (Boudet); Kubewel (JH)

habitat: sandy old fields, thickets

notes: twining or trailing vine; digitilobate (rarely trilobate) leaf, 8-10 cm long and wide, with 7-9 lobes deeply separated; long petiole 5-10 cm; petioles and stems covered with hairs 3-4 mm long; 10-lobed pale mauve or pink flowers 3-4 cm wide, with white center and “star”

g. digitilobate (finger-like) or pennatilobate (winged lobes), with further lobes/dentations on main lobes

Ipomoea optica var. *optica* 50191

records: Niono, Gao, Mopti-Bandiagara (Boudet); Tin Hama (north of Gao), Tupere, Kubewel (JH)

habitat: sand

notes: annual herb, twining or trailing, digitilobate leaf with some lobes approaching central nerve, lobes 2-3 cm long, with dentate edges; petiole 1-2.5 cm often with 2 tiny leaflets at base; angular stem; 2-3 white or cream flowers on a long axillary peduncle 2-5 cm (vs. tiny peduncle for *I. kotschyana*), branching into pedicels 7-15 mm long with tiny bracts at branching point; black grains in capsules

Ipomoea kotschyana 50195

records: Timbuktu, Sarayamou (Boudet); Timbuktu (JH)

habitat: alluvial (gardens)

notes: annual trailing vine, stems radiating out in all directions; pennatilobate leaf; lobes 3-5 cm long; petiole 1-3 cm; very small, nearly sessile axillary flowers, pink or pale mauve, 5-8 mm wide, on tiny peduncle with 2 opposite linear bracts 1 cm long; round capsule

(other)

Ipomoea batatas 50189 (sweet potato)

ethnobotany: widely cultivated in Mali, often sliced and shallow-fried (Fr. *patate*)

Ipomoea sinensis subsp. *blepharosepala* (not in Berhaut)

records: Gao, Doro (Boudet)

habitat: colluvial

Jacquemontia

Jacquemontia tamnifolia 50200

records: Nioro, San (Boudet); Tupere, Beni, Nando (JH)

habitat: anthropic weed (Boudet)

notes: twining or trailing vine; leaves cordiform but not very wide, 5-8 cm x 4-6 cm; blue (or white) flowers, sessile, in dense capitate glomerules on axillary peduncles 4-7 cm long

Merremia

Merremia aegyptia 50201 (spelled "aegyptiaca" in Berhaut)

records: Niono, Bamako, Menaka (Boudet); Kikara, Sangha, Bounou (JH)

habitat: anthropic around ponds, riverbank thickets

notes: twining vine; alternate 5-part digitate leaves; stems, petioles, and calyx very hairy; white flowers

Merremia pinnata 50202

records: Koulikoro, Bandiagara-Mopti, Nampala, San (Boudet); Beni, Anda, Bounou, fields in sandy plains on road to Segue (JH)

habitat: deep sands (Boudet); weed in sandy fields, also along sandy oueds (JH)

notes: twining or trailing vine; leaves roughly elliptical 2-5 cm x 1-2.5 cm divided into some 15 pairs of linear lobes resembling leaflets (cf. *Tephrosia bracteolata* and *T. linearis*, Fabaceae); white or cream flowers, usually by 2-3, on axillary peduncle 4-6 cm

Merremia tridentata subsp. *angustifolia* 50203

records: San, Segou, Timbuktu (Boudet)

habitat: fields in deep sand

notes: annual twining or trailing vine; linear leaf 3-7 cm x 0.3-1.5 cm, with some sharp dentations around the base; pale yellow flower

Cordiaceae

note: see note under Boraginaceae

Cordia

Cordia myxa 50124 (planted)

records: Sotuba, Birgo (Boudet); Dianwely and Beni near Douentza (JH)

notes: small tree 3-15 m; leaves alternate, widely oval, 7-10 cm x 6-8 cm; white flowers in terminal panicle; drupe (pit covered with sweet viscous pulp) 2 cm x 1.5 cm, yellow-orange at maturity, blackens when dry

ethnobotany: mainly used to make a glue from the fruits, in Dianwely the tree is known as *colle* (Fr for 'glue')

Cordia senegalensis

records: none (Boudet)

habitat: in Senegal, often at base of termitaries

notes: small tree; alternate leaves oval, glabrous, not dentate, with acuminate point

Cordia sinensis 50125

records: Niafounke, Zinguetti, Bandiagara, Gossi (Boudet); Kikara, Tupere, Dianwely (not generally known farther south)

habitat: wooded savanna

notes: small tree 3-5 m; leaves may be opposite, subopposite, or alternate; leaf elliptical 5-8 cm x 3-5 cm, scabrous on top, upper part of leaf usually with some dentations; flowers in clusters at ends of branches; red-orange fruits, with viscous flesh

Cruciferae (now included in Brassicaceae)

Cucurbitaceae

website: <http://www.cucurbit.org/>

Citrullus (leaves deeply-lobed)

Citrullus colocynthis (syn *Colocynthis vulgaris*) 50205

records: Gao, In Tessalit, Lac Faguibine, Timbuktu (Boudet); Timbuktu area, Hombori, Sangha (JH)

habitat: sub-Saharan sands

notes: trailing vine; pennatilobate leaf 8-12 cm x 6-8 cm, based 3-nerved, covered by coarse hairs; petiole 3-6 cm; petiole and stems coarse; tendril bifurcating closer to tip than to base; stem fluted (cannelé); large male flowers 2-2.5 mm wide with obtuse tip, peduncle 1.5-2 cm; female flowers on roughly globular ovary with peduncle 1-1.5 cm, and with small obovate stipule at base of peduncle

ethnobotany: bitter-tasting, not eaten by people, s.t. eaten by livestock

Citrullus lanatus (watermelon, cultivated and wild) 50699

varieties of fruit:

- a) for eating raw (red inside, round or oval) 50206
- b) for cooking as vegetable (greenish inside, round, smaller) 50207
- c) for dark brown seeds 50683
- d) for light-colored seeds 50684

varieties of dried seeds (Timbuktu)

- a) dark brown (KCh fombu) 50706

b) light-colored, small (KCh musa-musa) 50707

c) light-colored, large (KCh kaney) 50708

records (wild): Niono, Adrar, Sanga, Timbuktu (Boudet); Hombori, Douentza area (JH)
habitat: sandy

notes: trailing vine; pennatilobate leaf 10-15 cm x 7-12 cm, base 3-nerved, short pubescence mainly on nerves; petiole 5-15 cm; petiole and stem with short woolly pubescence when young; tendril bifurcating 4-5 cm from base (often closer to base than to tip); 5 lobes of flower have pointed tips; small male flowers (16-20 mm wide), peduncle 1.5-2 cm; female flowers on roughly globular ovary, peduncle 1-2 cm, no stipule

ethnobotany: edible raw (esp. red-fleshed); some varieties (green, globular) cooked as vegetable; three varieties of seeds are dried and sold in Timbuktu for eating or cooking (Timbuktu Songhay fombu, kaney, musamusa)

Coccinia

Coccinia grandis 50210

records: Goundam, Dire, Galo, Mopti-Bandiagara (Boudet); Walo, Beni, Bounou (JH)
habitat: thickets on wet sandy-clayey soil

notes: scrambling or liana; leaf variable (pentagonal or digitilobate), 5-12 cm long and wide, 5-nerved at base; petiole 2-5 cm; tendril simple (not bifurcating); male flower pale yellow 3-4 cm wide, 5 lobes with veinlets, peduncle 3-5 cm; female flower on oblong-lanceolate (i.e. narrow) ovary; oblong fruit the size of pigeon egg, green with white marbling when unripe, becoming half green half red, then entirely scarlet red when ripe (cf. *Kedrostis hirtella*)

ethnobotany: not usually eaten

Colocynthis (see *Citrullus colocynthis*)

Corallocarpus

Corallocarpus epigaeus

specimen 2004-472 (Dianwely) (JH)

Ctenolepis

Ctenolepis cerasiformis 50212

records: In Tillit, Gossi, Bara (Boudet); Boui (JH)

habitat: with *Senegalia senegal*, in brousse tigrée

notes: twining vine with thin stems; tendrils simple; leaf trilobate, with smaller lobes and dentations, 3-nerved at base, short hairs; petiole 2-5 cm, with a leaflike bract at base with comb-like points under flower; tiny green-white flower 4-5 mm wide, star-shaped male flowers grouped 4-6 on axillary peduncle 2-4 cm; female flowers on globular ovary with tiny pedicel 2-3 mm; spherical berry-like fruit 1-1.2 cm wide, smooth, bright red at maturity, on short peduncle 2-4 mm.

ethnobotany: not usually eaten

Cucumis

Cucumis ficifolius (syn *C. abyssinicus*, in part *C. figarei*)

records: none (Boudet); may be limited to East Africa

notes: perennial, usually prostrate, thickened rootstock

taxonomy: very close to *C. pustulatus* (former “*C. figarei*” is distributed between these two spp.)

Cucumis figarei var. *ficifolius* (see *C. pustulatus*)

- Cucumis maderaspatanus **50227** (syn *Mukia maderaspatana*)
 records: Bamako, Macina, Niono (Boudet); Kikara, Douentza, Anda (JH)
 habitat: wet shady areas, ruderal
 notes: herbaceous liana (cf. *Momordica*, *Coccinia*); leaf variable, a slender triangle, or with shallow lobes on sides just below midline, edges dentate, 3-7 cm x 3-6 cm; petiole 0.5-3 cm; petiole and stems scabrous; tendril simple; small yellow flowers in subsessile glomerules; small spherical berry 5-6 mm wide, bright red when mature
- Cucumis melo subsp. *agrestis* (wild) **50213**
 records: Gao, Adrar, Timbuktu, Djenne, Sanga, Bamako (Boudet); Tin Hamma north of Gao, Hombori, Tupere, Walo, Douentza, Konna (JH)
 habitat: sandy, with sunlight
 notes: trailing; leaf 5-9 cm long and wide, contour sinuous (not deeply lobed) with tiny dentations all around, base 3-nerved; petiole 3-10 cm; petiole and stem covered with long rigid hairs 2-3 mm; tendrils simple; bright yellow flowers 1.5-2 cm wide, peduncle 1-1.5 cm, male flowers by 2-4; smooth ovoid fruit 3-4 cm x 2-3 cm with longitudinal dark-green bands, hairy when young
 ethnobotany: usually not eaten
- Cucumis metuliferus (in Berhaut) (also commercial "horned melon" = kiwano)
 records: none (Boudet)
 habitat: lateritic savanna (Berhaut)
 notes: liana or trailer; leaf roughly pentagonal 5-10 cm long and wide, edges with fine dentations; petiole 3-7 cm; petiole and stems covered with long white semi-rigid hairs; tendril simple 15-20 cm; isolated sessile golden yellow male flower 1.5-2 cm wide, tips of flower lobes rounded, fine striations on lobes; ovary covered with pointed projections; fruit 8-10 cm x 4-5 cm, red or red-orange when ripe, covered with thorny excrescences 1 cm long, pyramidal, peduncle 3-4 cm; grains dirty white 5-6 mm x 3 mm
- Cucumis prophetarum subsp. *prophetarum* **50214**
 records: Timbuktu, Gao, Dire-Bandiagara (Boudet); Tin Hamma north of Gao, Hombori, Tupere, Douentza (JH)
 habitat: sandy
 notes: trailing; leaf digitilobate 3-7 cm x 3-5 cm, usually 5-lobed, deep separations between lobes, base 5-nerved (or 3-nerved); yellowish male flowers 6-10 mm wide with pointed tips, tiny peduncle 1-2 mm; ovary covered with white hairs; fruit 3 cm long with 8-9 dark-green longitudinal bands, covered by many short bristles 3 mm long
 ethnobotany: inedible
- Cucumis pustulatus **50215** (syn *C. figarei* var. *ficifolius*, in part *C. figarei*) (not in Berhaut)
 records: NE Degbeda (Boudet [as *C. figarei*], only record); [small yellow horned melon, if correctly identified] Adia, Djenne, Tongo Tongo (JH)
 habitat: inter-dune depressions
 notes: trailing or scandent (scrambling) perennial with woody rootstock; leaf rough (shortly and harshly scabrid), often divided below the middle; stem turns blackish when dry; fruit yellowish or greenish 5-8 cm long, with stout short tubercles; small grains 4-5 mm x 2-3 mm
 taxonomy: see also *C. ficifolius*
- Cucumis sativus (cultivated cucumber)

Cucurbita

- Cucurbita pepo (pumpkin, squash) (not in Berhaut)
 habitat: cultivated

Kedrostis

Kedrostis foetidissima 50218 (includes two variants)

records: Koro, Gao, Bossobougou (Boudet)

habitat: liana (undershrub), common in Niger inundation area

notes: liana; leaf cordiform-hastate (not lobed) 6-10 cm x 4-6 cm, base deeply cordate, tip slightly rounded, base 5-nerved; thin petiole 1.5-2 cm; soft hairs on petiole & stem; tendrils simple 6-10 cm; yellow flowers 5-6 mm wide; male flowers by 3-4 on raceme 1-2 cm; nearly sessile fusiform (spindle-shaped) ovary; fruits red when ripe, 1 cm wide, conical with expanded base, tip in form of long thin beak

Kedrostis hirtella (in Berhaut)

records: none (Boudet)

notes: liana or trailer; leaf variable 3- or 5-lobed, 8-12 cm x 6-10 cm, lobes divided to about halfway point, base 3-nerved but lower nerves quickly bifurcate at 3-4 mm from base; thick petiole 1-3 cm; young petiole and stem covered with soft hairs mixed with a few subthorny hairs; tendrils usual bifurcate at 1 cm from base; greenish flower 7-8 mm wide, male flowers by 3-10 on raceme 2-3 cm; fusiform ovary on peduncle 0.5-1 cm; oblong fruit 5-7 cm x 1.5-2.5 cm, green with lighter bands, becoming red, fruit's tip is a rounded point

Lagenaria

Lagenaria siceraria 50691 (gourd/calabash plant, cultivated)

main varieties (based on size and shape of fruit)

- a) large, globular fruit 50220
- b) mid-sized globular fruit 50221
- c) small globular fruit (for ladles) 50222
- d) elongated fruit 50219

habitat: widely cultivated in Mali (JH)

notes: trailing; leaf 10-20 cm long and wide, roughly triangular, base 3- or 5-nerved, long petiole 3-10 cm with 2 lateral glands at top; tendril bifurcating; white flowers, 4-5 cm wide or longer, long peduncle 10-25 cm

ethnobotany: varieties with small, large, and medium sized fruits are used for different purposes (small = ladles, medium = milk gourds or small calabashes, large = full-sized calabashes); a "calabash" is a hardened gourd fruit that has been sawed in half into a bowl-shape; a "gourd" is more or less globular (some types preserve the neck, others have a round opening at the top)

Luffa

Luffa cylindrica 50223 (syn *L. aegyptiaca*) (sponge plant, cultivated & wild)

records: Bamako, Negala (Boudet)

habitat: anthropic thickets, hedges, edges of canals

notes: annual liana; leaf usually pentagonal 10-20 cm long and wide, 5-7 lobes ending in points, no dentations or sublobes; scabrous surface (hairs not visible), 5-nerved at base; petiole 4-7 cm or longer; stem 5-angled; ramified tendrils with 3-5 branches separating 4-5 cm from base; golden yellow flowers 5-7 cm wide, closing up at dusk for the night, each lobe has 5 longitudinal nerves, numerous male flowers on a racele; flower has 5 or 6 lobes (vs. 5 for other Cucurbitaceae); fruit oblong 20-30 cm x 5-7 cm, white spots on young fruit, interior gradually becoming hollow except for fibers and seeds

Momordica (herbaceous lianas, cf. *Mukia* and *Coccinia*)

Momordica balsamina 50224

records: Gao, Boni, Menaka, Bossobougou (Boudet); Timbuktu, Hombori, Dianwely, Douentza (JH)

habitat: sandy, fallows, grazing pastures, beside ponds, thickets

notes: herbaceous liana; pentagonal leaf, lobes with angular tips (not rounded), 3-9 cm long and wide; petiole and stem pubescent esp. at knots; stem thin with 5 angles; thin simple tendrils; male flower 3.5 cm wide on long peduncle with a foliaceous bract just under flower, tips of flower lobes rounded; ovary on long peduncle, with small cordiform foliaceous bract near base of peduncle; fruit 3-4 cm x 2.5-3.5 cm, smooth or more often with short points on exterior, red-orange when ripe

Momordica charantia 50225

records: Djenne, Fereibo (Boudet)

habitat: wet sandy areas, around villages, in Niger R. inundation zone

notes: liana; digitilobate pentagonal leaf with deep separations between lobes, each lobe 2-6 cm x 1-2.5 cm, with rounded tips; petiole 2 cm; simple tendrils; yellow flowers, male flower 3 cm wide on peduncle 4-7 cm with small foliaceous bract near base; female fruit on peduncle without bract; fruit covered with conspicuous spines, red-orange when ripe, 3-6 cm x 2-3 cm

Mukia

Mukia maderaspatana (see *Cucumis maderaspatanus*)

Physedra (see *Ruthalicia eglandulosa*)

Ruthalicia

Ruthalicia eglandulosa (syn *Physedra eglandulosa* [FWTA2 1.214])

records: Timbuktu (Boudet, only record)

notes: leaves digitately 6-7 lobed almost to the base; lobes of leaf lanceolate, acutely acuminate, middle one up to 17 cm long; petiole pilose with long jointed hairs; male flowers racemose on peduncles; corolla deeply lobed and nervose

Trochomeria

Trochomeria macrocarpa subsp. *macrocarpa* (syns *T. dalzierri*, *T. atacorensis*)

records: Gourma, Sikasso, Klela (Boudet)

habitat: degraded brousse, gravel

notes: trailer with perennial bulbous root 4-6 cm or more wide; leaf usually trilobate, s.t. 5-lobed, occasionally unlobed; depth of lobe separation variable (null to extreme); leaf covered with fine but coarse hairs; petiole 1-1.5 cm; petiole pubescent; tendrils simple; white flowers 4-5 cm wide in star-shape with 5 linear lobes; male flowers at summit of filiform peduncle 3-4 cm with pedicel 2-3 cm; globular ovaries on short peduncle 0.5 cm; rounded ovoid fruit 2.2 cm x 1.4-2 cm, green with white spots when unripe, bright red when mature; white seeds in white pulp; fruits isolated or by 2.

Cyperaceae

(sedges)

note: Dogon and other Malians tend to lump many spp. into a single 'sedge' term (with optional subdivisions, often by color)

subfamilies (mainly based on Goetghebeur classification)

note: molecular studies suggest binary division: Mapanioideae vs. Cyperoideae

1. Mapanioideae
2. Caricoideae
3. Sclerioideae (flowers unisexual; about 14 genera)

tribes:

Sclereae (glumellae absent, spikelets mostly bisexual, usually 3 stamens)

Scleria

Trilepideae (glumellae 3, small ciliate & membranous, opp sides of fruit, spikelets unisexual or bisexual, glumes distichously arranged)

Afrotrilepis

others: Bisboeckelerae, Cryptangiae, Koyamaeae

4. Cyperoideae = Rhynchosporoideae (flowers, at least some, bisexual, very rarely unisexual)

tribes:

Cypereae

Cyperus (broad sense:)

Cyperus (narrow sense)

Kyllinga

Lipocarpa

Mariscus

Oxycaryum

Pycneus

Fuireneae

Fuirena

Rhynchosporae

Rhynchospora

(Scirpeae and related groups:)

Fimbristylideae (related to Scirpeae)

Fimbristylis

Abildgaardiae (related to Scirpeae)

Abildgaardia (see *Bulbostylis*)

Bulbostylis

Eleocharideae (related to Scirpeae)

Eleocharis

Scirpeae

Bolboschoenus

Lipocarpa

Schoenoplectus

others: Arthrostylideae, Dulichieae, Ficineae, Lipocarpeae

stem cross-sections

triquetrous (triangular cross-section with sharp angles)

trigonus (triangular, not necessarily with sharp angles)

cylindrical: *Cyperus articulatus*; *Eleocharis dulcis*; *Schoenoplectus* spp.

inflorescence type

simple pseudo-umbel (s.t. called anthela): central axis with terminal spikelet and several other spikelets on closely spaced short branches each with an axillary bract, the length of the branches and bracts diminishing toward the apex to give the appearance of an umbel, the lowest bracts are leaf-like and appear to form a kind of involucrem

composite pseudo-umbel (some Cyperus)
fascicle of sessile spikelets (closely bunched at base)
spike of sessile spikelets (spaced out on stem)
head-like
panicle (*Afrotrilepis*)

very tall sedges: about 75 to 200 cm

stem with triangular cross-section

Bolboschoenus maritimus (30-120 cm, sharp edges, swamps)

Cyperus alopecuroides (50-150 cm, base of stem thick to 2.5 cm, tolerates sand)

Cyperus digitatus subsp. *auricomus* (50-160 cm, sharp edges or winged, swamps)

Pycreus macrostachyos var. *macrostachyos* (25-80 cm, annual, near water)

stem with cylindrical cross-section

Cyperus articulatus (80-150 cm, segmented hollow stem, nearly leafless, aromatic tubers)

Schoenoplectus corymbosus (50-200 cm, stem hollow, permanent swamps beside water)

Sclerioideae

Afrotrilepis

Afrotrilepis pilosa 50230

records: Bamako, Sibi (Boudet); KikE, Walo (JH)

habitat: granite (Boudet); the typical sedge of inselberg summits in northern Dogon country (JH)

notes: clumpy perennial plant 40-60 cm, with rhizome; stem triquetrous (triangular cross-section with sharp angles), leaves near base only; multiple lax panicles on each stem (one terminal), pseudo-verticillate; partial inflorescences pale brown or red-brown

Scleria (several other spp. recorded for southern Mali)

Scleria tessellata

records: Kita, Koulikoro, Niono (Boudet)

habitat: swamps

notes: usually annual, in large clump, reddish roots, erect or oblique stems 20-40 cm, triquetrous (triangular); leaves 15-20 cm x 2-6 mm, hairy or at least with margins and central nerve ciliate; terminal panicle plus 1-3 lateral panicles off stem, the latter with long leafy bracts

Cyperoideae

Abildgaardia (low clumpy plants, leaves at base only)

Abildgaardia (close to *Bulbostylis*)

Abildgaardia coleotricha (see *Bulbostylis coleotricha*)

Abildgaardia hispidula (see *Bulbostylis hispidula*)

Abildgaardia wallichiana (see *Bulbostylis barbata*)

Bolboschoenus (s.t. considered to be a section of *Scirpus*)

Bolboschoenus maritimus 50231 (syn *Scirpus maritimus*)

records: Dire, Gao, Niafounke (Boudet); Walo (JH)

habitat: swamps

notes: perennial to 30-120 cm, stem trigonous with sharp edges; leaf 20-30 cm long; lower leaves often with brown or brown-black sheath; umbel-like inflorescence; spikelets more or less dark brown

Bulbostylis (close to Abildgaardia)

Bulbostylis barbata a 50229 (syn Abildgaardia wallichian)

records: Segou, Macina, Bore, Gao (Boudet [B. barbata]); Walo, Beni (JH)

habitat: sand

notes: annual, dense clump, numerous very thin stems 5-15 cm, fluted; short setaceous (bristly) leaves 1-5 cm, light green or light brown inflorescence in terminal fascicle

Bulbostylis cioniana (syn Fimbristylis cioniana)

records: Segou, San, lac Debo, Bamako, Ansongo, Sotuba (Boudet)

habitat: sandy riversides, sandy meadows

notes: annual, dense clump, stems 10-20 cm, filiform leaves; umbel-like inflorescence; glumes rust-colored or straw-yellow

Bulbostylis coleotricha var miegei (syn B. miegei, Abildgaardia coleotricha)

records: Koulikoro, Bamako, Segou, San (laterites) (Boudet)

habitat: wet depressions on rocks, sandy meadows

notes: annual, clumpy, many thin stems 10-25 cm; stems fluted (grooved) with sharp edges that are lighter-colored than rest of stem; lax umbel-like inflorescence

Bulbostylis hispidula (subsp. senegalensis and others) 50230 (syns Abildgaardia hispidula, Fimbristylis hispidula, Bulbostylis exilis)

records: Bamako, Timbuktu, Gao (Boudet)

habitat: seasonal swamps, weed in fields, usually on sand

notes: annual or perennial, clumpy; erect stems 10-40 cm, angular, often pubescent; short leaves at base to 10 cm long with pale green or yellow sheath; simple or composite pseudo-umbel; spikelets streaked with light and dark brown and with green

Cyperus

Cyperus alopecuroides

records: Dire, Gao, Niono (Boudet)

habitat: in or at edge of water; sand

notes: robust, erect triquetrous stems 50-150 cm, base of stem up to 2.5 cm thick; leaves in lower part of stem, 20-60 cm, sheath red-brown to black-brown; composite pseudo-umbel inflorescence with branches of unequal length up to 10-20 cm, each ending in a fascicle of 2-5 subcylindrical spikelets with axes completely covered by tiny florets; long leafy bracts 10-30 cm

Cyperus amabilis 50233

records: Segou, Bamako, Kita, Niono, Gossi (Boudet); Tupere (JH)

habitat: sandy soils

notes: annual forming a small clump, erect stem 10-20 cm, triquetrous; leaf at base of stem, 2-12 cm long; inflorescence a simple or composite pseudo-umbel with branches of unequal length up to 7 cm (some very short), each branch ending in a fascicle of 2-9 sessile spikelets 0.3-1.2 cm long, red-brown; bracts 1-10 cm (shorter or slightly longer than inflorescence)

Cyperus articulatus 502314

records: Goundam, Markala, Niono (Boudet); Adia (JH)

habitat: in or at edge of water

notes: perennial, tall stems erect 80-150 cm; hollow cylindrical stem, segmented by transverse "cloisons" at intervals of 25-50 cm; nearly leafless (leaves at base reduced to sheaths or very short); simple or composite pseudo-umbel, branches unequal, each ending in a short spike of sessile spikelets

ethnobotany: root tubers are aromatic, strung into women's necklaces as an aphrodisiac for men

Cyperus bulbosus

records: Gao, Dogo (Boudet)

habitat: dead dunes

notes: slender rhizomatous perennial, slender rhizomes forming ovoid tubers 0.6-1.2 cm diameter; stem angular 8-30 cm; bristly leaves 5-20 cm at base; simple or occasionally composite terminal spike with 1-2 or more sessile spikelets 0.5-1.5 cm long, red-brown; usually 2 bracts spaced apart, 1.5-10 cm, lower one longer than inflorescence

Cyperus conglomeratus var. *conglomeratus* 50235

records: Timbuktu, Tilemsi, Hombori, Kidal, Niafounke (Boudet); Timbuktu, Sangha (JH)

habitat: sand (Boudet); typical sedge of wet sand (JH)

notes: perennial, short rhizome but long roots; stem erect, obtusely triquetrous, 15-25 cm; coriaceous leaves near base 20-25 cm; inflorescence a terminal glomerule, or a terminal glomerule at the base of a pseudo-umbel with 1-3 other branches 1-6 cm long, each ending in a glomerule; 1-5 bracts up to 10-25 cm long, often longer than inflorescence

Cyperus difformis

records: Gao, Niono, Koulikoro, Niafounke (Boudet)

habitat: rice fields, wet zones

notes: often in clump, stem triquetrous with sharp edges, 20-50 cm; leaves near base 5-25 cm; unusual inflorescence usually in the form of a pseudo-umbel, 1-8 branches 0.5-5 cm long, with each branch ending in a spherical glomerule; 2-4 bracts 3-25 cm, some much longer than inflorescence

Cyperus digitatus subsp. *auricomus*

records: Bamako, San, Macina, Djenne-Sonfara, Gao, Gossi

habitat: shallow water, swamps

notes: robust, with short rhizome; stem 50-160 cm, triquetrous with sharp edges or narrowly winged; few leaves in lower part, 20-50 cm; sheath brown or purple; composite pseudo-umbel, 2-6 branches, each branch ending in a digitate fascicle of cylindrical spikelets; 5-7 bracts 12-60 cm, some longer than inflorescence

Cyperus esculentus 50236

records: Bamako, Macina, Gao, Sanga (Boudet)

habitat: sandy

notes: perennial, rhizomes to 15 cm long, scaly, ending in a small ovoid or subglobular tuber; solitary erect stem 15-60 cm, triquetrous; leaves in lower part, 10-30 cm long; pseudo-umbel (usually simple, occasionally composite), 2-6 branches 4-12 cm long, each ending in one or more spikes (terminal spike with or without pedunculate lateral spikes), spikes have 4-25 spaced-out spikelets, golden-brown to rust; bracts 3-20 cm, longest ones often longer than inflorescence

ethnobotany: tubers are dried and sold as a slightly sweet snack ("pois sucrés")

Cyperus fenzelianus (see *C. longus* var. *pallidus*)

Cyperus halpan (see *C. haspan*)

Cyperus haspan (syn *C. halpan*)

records: Bamako, Ouarsada, Koulouba (Boudet)

habitat: wet zones

notes: perennial or annual, in clump, short rhizome; erect stem, triquetrous with sharp edges; leaves near base, s.t. developed 5-20 cm long (and bent into a V-shape) but often reduced to a sheath; usually a diffuse composite pseudo-umbel, each branch 1-7 cm ending in a fascicle of usually 3 spikelets; short bracts 1.5-7 cm, longest bract often erect (continuation of stem); spikelets red-brown

Cyperus hamulosus (syn *Mariscus hamulosus*)

records: Gao, Dogo (Boudet)

habitat: inundated sandy soil

notes: annual, clumpy, with strong odor when dried; stems 2-10 cm; few leaves, shorter than or equal to length of stems; glomerule or pseudo-umbel with 1-3 sessile or briefly pedunculate spikes; 2-4 bracts much longer than inflorescence

Cyperus imbricatus

records: Macina, Koulikoro, Gao, San (lake) (Boudet)

habitat: next to water

notes: in clump, rhizome short; erect stem 25-60 cm, triquetrous; few leaves at base 20-40 cm; inflorescence a group of sessile terminal spikelets, surrounded by a pseudo-umbel of 3-8 unequal branches 1-12 cm long each with a digitate fascicle of 2-12 sessile spikelets; long bracts 20-30 cm, much longer than inflorescence

Cyperus iria 502317

records: Gao, Niono, Koulikoro (Boudet); Tupere (JH)

habitat: near water; ponds in sandstone

notes: usually annual, in clumps, roots reddish; erect stems 15-40 cm, triquetrous with sharp edges, leaves in lower third of stem 4-20 cm; simple or composite pseudo-umbel, branches sharply unequal; spikes have spikelets 1.5-3 cm long, spaced out, green to golden; 3-4 bracts up to 30 cm, longer than inflorescence

Cyperus jeminicus (close to *C. conglomeratus* [the 2 not distinguished in Berhaut])

records: Gossi, Niafounke, Tassaguella, Gao (Boudet)

habitat: sand dunes, sandy areas in rocks

Cyperus laevigatus (syn *C. teretifolius*)

records: Timbuktu, Niono, Lac Faguibine (Boudet)

habitat: swamps, edges of brackish water

notes: perennial in dense colonies; long horizontal rhizomes; erect stems 15-50 cm, subcylindrical to obtusely triquetrous; leaves in lower part of stem, very short or reduced to a sheath (light brown-purple); inflorescence a rounded glomerule subtended by two bracts, one bract longer than glomerule, so that the glomerule appears to be lateral rather than terminal

Cyperus longus var. *pallidus* (syn *C. fenzelianus*) (similar to *C. maculatus*)

records: Gao, Dire, Dogo (Boudet)

habitat: near water, swamps, clayey soil

notes: perennial, long horizontal rhizomes, no tubers; solitary stems, 60-90 cm, obtusely triquetrous; leaves in lower third, 15-30 cm; usually a simple pseudo-umbel with 4-8 unequal branches 0.5-10 cm, each ending in a short spike of 3-12 spikelets 1-2.5 cm long, red brown; 2-7 bracts 6-15 cm, some longer than inflorescence

Cyperus maculatus 50238 (similar to *C. longus* var. *pallidus*)

records: Bamako, Macina, Timbuktu, Bourem, Sofara (Boudet); Gao, Djenne (JH)

habitat: sandbanks next to water

notes: perennial; long horizontal rhizomes; erect solitary stems 20-40 cm, obtusely trigonous; leaves in lower third, 10-40 cm; (generally simple) pseudo-umbel with 1-6 unequal branches, each ending in a short spike of 3-11 spikelets; 2-5 bracts 2-30 cm, some longer than inflorescence

taxonomy: differs from *C. longus* by hyaline margin of glume

ethnobotany: blackish rootstock is sold by Songhay as incense (pounded and burned)

Cyperus michelianus subsp. *pygmaeus* (syns *C. pygmaeus*, *Scirpus occultus*)

records: Gao, Timbuktu, Djenne, Bamako (Boudet)

habitat: muddy edge of water

notes: tiny plant in clump; stem 1-8 cm, triquetrous; leaves in lower third; inflorescence a solitary glomerule containing many spikelets; 3-6 bracts up to 3-12 cm, widened at base (so that they envelop the glomerule), much longer than inflorescence

Cyperus procerus [not in Berhaut] [get description]

records: Diafarabe, San, Koulikoro, Niger delta (Boudet) [also Cameroun, India, Australia]

habitat: swampy prairies, rice fields

notes: (FWTA2 vol 3): Annual or perennial sedge 40–100 cm. high with wide, soft, triangular stems, long rays and spicately arranged large, obtuse, golden or pink tinged spikelets with obtuse membranous-edged glumes.

Cyperus reduncus

records: Gao (rapids), Bamako, Koulikoro (Boudet)

habitat: wet zones

notes: annual, small clump or occasionally solitary stem; stem erect 10-20 cm; leaves on lower stem, 10-15 cm; diffuse composite pseudo-umbel with 4-12 branches 2-6 cm long, plus secondary branches; tiny digitate fascicles (nearly glomerules); 3-6 bracts 10-30 cm much longer than inflorescence

Cyperus rotundus (perhaps subsp. *rotundus*?) 50239 (purple nutsedge, nutgrass)

records: Bamako, Gao, Ouan Foras, Sanga, Dogo, San, Djenne (Boudet); Timbuktu, Tupere, Walo (JH)

habitat: wet zones

notes: perennial, with long rhizomes often swollen into clusters of tubers; stem obtusely triquetrous; leaves dense on lower part of stem; usually a simple pseudo-umbel, 3-9 very unequal branches 0.5-12 cm, each with a short terminal spike of 4-15 separated spikelets, red-violet to red-brown; 2-5 bracts 3-10 cm, shorter than inflorescence

Cyperus rotundus var. *tuberosus* (syn *C. tuberosus*)

records: San, Djenne-Sofara (Boudet)

habitat: swamps

notes: perennial; triangular stem to 50 cm; linear, grass-like leaf; produces long rhizomes and chains of basal bulbs and tubers

Cyperus squarrosus 50243 (syn *Mariscus squarrosus*)

records: Sotuba, Gao, Bamako (Boudet); Beni, Kubewel, Bendiely (JH)

habitat: wet zones

notes: annual in small clump; erect stems 3-15 cm, triquetrous; leaves in lower part of stems, 2-10 cm long; pseudo-umbel with 2-5 dense subcylindrical spikes each 0.5-1.5 cm long, spikes unequally pedunculate with peduncles 0-5 cm; 3-5 bracts up to 2-15 cm, longer than inflorescence;

Cyperus teretifolius (syn *C. laevigatus*)

Cyperus tonkinensis var. *baikiei*

records: San, Mopti, Katibougou, Koulikoro (Boudet)

habitat: sandy riverside

notes: large dense clump; base of stem swollen into a hard tuber; stem 10-20 cm, obtusely triquetrous; leaf on lower stem 10-15 cm; rather contracted pseudo-umbel, branches 1-4 cm each ending in a spike 2-3 cm long formed by spikelets pressed against each other, spikelets pale brown to silvery; 3-5 bracts 10-25 cm more or less erect (continuing stem)

Cyperus tuberosus (see *C. rotundus* var. *tuberosus*)

Eleocharis [terminal spikelets, often headlike]

Eleocharis acutangula 50241 (similar to *E. decoriglumis* but glumes distinctive)

records: Dogo, Kita, Koulikoro (Boudet); Walo (JH)

- habitat: beside ponds, water, swamps
 notes: robust perennial, in clump, propagates by rhizomes; erect stem 30-50 cm, 0.2-0.5 cm thick, triquetrous with sharp edges (concave sides); sheaths often tinted purple; terminal head-like subcylindrical spikelet; glume green becoming straw yellow or pale brown, with a narrow hyaline margin
- Eleocharis atropurpurea* (purple spikerush)
 records: Gao, Dogo, Nampala (Boudet)
 habitat: wet herby areas
 notes: tiny annual plant 5-12 cm long, no rhizome, hairlike stems in clumps; 2 sheaths on each stem, the lower one purplish; ovoid or lanceolate spikelet.
- Eleocharis decoriglumis* (similar to *E. acutangula* but glumes distinctive) [\[get photo\]](#)
 records: San, Dogo (Boudet)
 habitat: swamps
 notes: annual in clump; stem 25-50 cm, triquetrous; delicate sheath, reddish below; glumes bright green but with a purple or dark red-brown margin
- Eleocharis dulcis* (spikerush)
 records: Macina, Ansongo, Gao, Dogo (Boudet)
 habitat: in water or at edge
 notes: tall plant 40-80 cm, propagating by rhizomes; sometimes a tuber at end of rhizome; hollow cylindrical stem 0.4-0.8 cm wide, segmented by transverse “cloisons” every 3-10 cm; stem ends in lanceolate-cylindrical spikelet
- Eleocharis naumanniana* var. *caillei* [\[get photo\]](#)
 records: Macina (Boudet)
 habitat: aquatic (submerged)
 notes: annual, weakly developed roots, several hairlike stems (supple, extremely thin) in a clump, only a few stems with a terminal spikelet; spikelet may be pinkish, emerges out of water
 ethnobotany: tuber edible (but perhaps not widely eaten in W. Africa)
- Fimbristylis* (leaves near base, inflorescences often pseudo-umbels as for *Cyperus*)
- Fimbristylis bisumbellata*
 records: Timbuktu, Goundam, Segou, Djenne, Koulikoro
 habitat: wet meadows
 notes: annual, in clump; stem 10-25 cm, triquetrous; leaves usually shorter than stem; diffuse or contracted pseudo-umbel, branches 1-3 cm, 10-40 spikelets
- Fimbristylis cioniana* (see *Bulbostylis cioniana*)
- Fimbristylis dichotoma*
 records: Djenne, Bamako, Niono, Dogo (Boudet)
 habitat: wet areas
 notes: annual, or perennial with short rhizome, in clump; stem 20-60 cm, obtusely fluted (grooved); leaves 15-50 cm, shorter than stem; pseudo-umbel, often composite, branches have one terminal spikelet; spikelets dark brown or s.t. pale
- Fimbristylis dipsacea* [not in Berhaut] [\[get description\]](#)
 records: Gao, Niafounke-Dire, Mopti-Niafounke, Diafarabe (Boudet)
 habitat: sandy and clayey edges of swamps and water, ponds on rock
- Fimbristylis hispidula* (see *Abildgaardia hispidula*)
- Fimbristylis squarrosa* (syn *Scirpus squarrosus*)
 records: Bamako, Sofara, Djenne, Gao, Diafarabe (Boudet)
 habitat: swamps, sandy riversides
 notes: annual, in small dense clump; stems may spread out on ground, 4-15 cm, fluted; leaves shorter than stem; simple or composite pseudo-umbel, often with more than 10

spikelets, green to gray-green; 3-6 bracts, the longest being about as long as the inflorescence

Fuirena

Fuirena ciliaris 50242 (not in Boudet)

records: none (Boudet)

notes: annual; erect stems 15-40 cm, hirsute, finely fluted (grooved); hairy leaves on all parts of stem, 5-10 cm x 0.5-0.9 cm, with more than 5 principal nerves; inflorescence in sessile or pedunculate fascicles at axes of upper leaves

(Boudet: southern Mali records for *F. leptostachya*, *F. stricta* var. *strica*, *F. umbellata*)

Kyllinga (close to *Cyperus*)

[erect stems 5-30 cm, leaves at base of stem, leaves often well-developed, terminal inflorescence either a dense ovoid or subglobular spike, or a few sessile spikes grouped into a dense and lobed glomerule]

Kyllinga bulbosa (syn *K. albiceps*)

records: San beside lake, Ibissa (Boudet)

habitat: wet soils

Lipocarpa

Lipocarpa kernii (syns *Rikliella kernii* [thus Berhaut], *Scirpus kernii*, *S. squarrosus* [misapplied])

records: Sotuba, Yanfolila, San (Boudet)

habitat: wet soil, swamps, s.t. on cliffs

notes: annual, small clump, stems 15-25 cm, triquetrous; leaves near base, 2-10 cm long; dense fascicle of 2-10 short greenish spikes each 0.5-0.8 cm long; 2-3 bracts 2-7 cm long

Mariscus (s.t. treated as a section of *Cyperus*)

Mariscus hamulosus (see *Cyperus hamulosus*)

Mariscus squarrosus (see *Cyperus squarrosus*)

Oxycaryum (spelled *Oxycarium* in Boudet)

Oxycaryum cubense (syn *Scirpus cubensis*) [Boudet as *O. cubense*], "Cuban bullrush, burrhead sedge"

records: Niger delta, Macina, Gao, Dogo (Boudet)

habitat: permanent swamps, near permanent water, s.t. floats

notes: perennial, rhizomes 5-20 cm long; erect stems 40-70 cm x 0.3-0.5 cm, triquetrous with sharp angles; leaves in lower part of stem, 40-90 cm long, bent; glomerule or (more often) pseudo-umbel of spikelets, 3-10 unequal branches 0.1-3.5 cm long, each with a terminal glomerule (globular or hemispheric); bracts up to 20-60 cm x 0.4-0.9 cm

Pycneus [triquetrous stems]

Pycneus albomarginatus (see *P. macrostachyos*)

Pycneus flavescens (syn *Cyperus flavescens*)

records: Niafounke, Djenne, Bamako (Boudet)

habitat: wet zones

notes: annual or semi-perennial, in clump, stems 6-25 cm, subtriquetrous; leaves in bottom part, 5-15 cm long; highly contracted pseudo-umbel, subglobular 1.5-2.5 cm wide, s.t. along with one or more fascicles on peduncles up to 5 cm; spikelets 0.5-1.8

cm long, yellow-brown; nuts dark red-brown; 2-5 bracts up to 4-18 cm much longer than inflorescence

Pycreus macrostachyos var. *macrostachyos* 50244 (syn *P. albomarginatus*)

records: Gao, Bourem, Niono, Bamako (Boudet); Bamba (on Niger R.), Beni, Kubewel, Boro, Walo (JH)

habitat: near water, wet areas

notes: annual, often robust; solitary erect stems (occasionally in a small clump); tall stem 25-80 cm x 0.2-0.5 cm, triquetrous, bottom quarter of stem covered by a usually purple sheath; leaf 8-30 cm x 0.1-0.8 cm; pseudo-umbel, usually simple (s.t. composite), with very unequal branches; spikelets 0.7-2 cm long, straw or red-brown; nuts black-brown or black when mature; bracts up to 5-25 cm, longer than inflorescence

Pycreus pumilus

records: Gao, Bamako (Boudet)

habitat: moist areas on sandy soil

notes: annual, in small clump, short roots; erect short stems 3-15 cm, triquetrous; 1-2 leaves per stem, 2-10 cm long; pseudo-umbel with very unequal branches to 0.5-5 cm; 2-3 bracts, the longest of which is usually longer than the inflorescence; spikes greyish to red-brown; nuts whitish then dark grey when mature

Rhynchospora (none with Boudet citations for the zone)

Rhynchospora corymbosa

notes: robust perennial, rhizomatous, in large clump; tall stem 60-150 cm

Rikliella

Rikliella kernii (see *Lipocarpha kernii*)

Schoenoplectiella

Schoenoplectiella erecta (syn *Schoenoplectus erectus*)

records: Gao, Bourem-Bamba (Boudet)

habitat: beside lakes and swamps

notes: annual, in clumps; short stem 5-30 cm excluding bract, cylindrical, fluted; lower leaves reduced to a sheath, upper leaves may have a blade 0.5-2 cm long; inflorescence appears to be lateral, in a dense fascicle, sessile or shortly pedunculate; 1 long bract continues the stem; spikelet greenish to light red-brown; nut dark red-brown or black when ripe

Schoenoplectiella lateriflora (syn *Schoenoplectus lateriflorus*)

records: Sotuba, Niafounke, Dogo (Boudet)

habitat: wet depressions, edge of permanent swamps

notes: annual, in clump with 5-40 stems; short stem 4-40 cm excluding bract, obtusely trigonous, fluted; leaves may all be reduced to sheaths, or upper leaves may be developed, up to 10-30 cm long; fascicle of sessile or subsessile spikelets, with or without 1-2 additional pedunculate fascicles; bract continuing stem 3-12 cm makes inflorescence appear to be lateral (and about 2/3 of the way up the "stem"); ovoid spikelets streaked with gray, green, brown; nut brown-black when mature

Schoenoplectiella senegalensis 50246 (syn *Schoenoplectus senegalensis*, *Schoenoplectus jacobi*)

records: Gao, Macina, Niono, Gossi (Boudet); Anda, Beni, Walo (JH)

habitat: ponds, temporarily inundated zones

notes: annual in clump of 4-8 stems; short stems 1-30 cm excluding bract, cylindrical or obtusely trigonous, with transversal "cloisons"; leaves reduced to sheaths; very long

bract 5-30 cm, longer than stem, so inflorescence appears to be below mid-point of "stem"; glomerule of 1-25 sessile spikelets

Schoenoplectus [bulrushes, hollow cylindrical stems] (genus s.t. includes Bolboschoenus; some spp. now moved to Schoenoplectiella)

Schoenoplectus corymbosus (syn S. brachyceras etc.)

records: Macina, Gao, Dire-Bandiagara, Dogo (Boudet); Bamba (on Niger R.) (JH)

habitat: permanent swamps beside water

notes: robust perennial, short thick rhizome; often multiple stems, tall stem 50-200 cm x 0.2-0.8 cm, cylindrical, weakly fluted; leaves reduced to sheath ending in a lobe, sheaths at base blackish and smooth; simple or composite pseudo-umbel with very unequal branches 1-12 cm long, each ending in a fascicle of sessile spikelets; one bract (shorter or longer than inflorescence) continues the stem; ovoid spikelets, dark brown or less often straw-color, with short stiff hairs at tip; nuts dark brown when mature

Schoenoplectus erectus (see *Schoenoplectiella erecta*)

Schoenoplectus lateriflorus (see *Schoenoplectiella lateriflora*)

Schoenoplectus senegalensis (see *Schoenoplectiella senegalensis*)

Scirpus

Scirpus kernii (see *Rikliella kernii*)

Scirpus maritimus (see *Bolboschoenus maritimus*)

Scirpus occultus (see *Cyperus michelianus* subsp. *pygmaeus*)

Scirpus squarrosus (see *Lipocarpa kernii*)

Dioscoreaceae

[monocots; in APG II includes Taccaceae]

Dioscorea

Dioscorea alata 50247

ethnobotany: very long potato-like yam, imported from southern Mali into northern towns for sale; cut up and cooked like potatoes

history: introduced into tropical Africa in 16th century

[note: some other Dioscorea spp. can be cultivated, and others occur in nature in southern Mali]

Tacca (previously in Taccaceae)

Tacca leontopetaloides 50248 (syn T. involucrata)

note: "webbed" leaves resemble those of *Amorphophallus baumannii*

records: San, Bamako (Boudet); Kikara, Walo (JH)

habitat: shaded shrubby savanna

One to several ... leaves arise from the center of the plant on petioles (leaf stalks) 17 to 150 cm long. Leaves are large and deeply divided, 30 to 70 cm long and up to 120 cm in width.

The leaf upper surface has depressed veins, and the under surface is shiny with bold yellow veins. Flowers are borne on tall stalks in greenish-purple clusters, with long trailing bracts. The plant is usually dormant for part of the year and dies down to the ground. Later, new leaves will arise from the round underground tuber. The tubers are hard and potato-like, with a brown skin and white interior.

(Wagner, W. L., D. R. Herbst, and S. H. Sohmer. 1990. Manual of the Flowering Plants of Hawai'i)
ethnobotany: root rhizome edible
ref: Adventrop

Dracaenaceae

[for Sansevieria see Asparagaceae]

Ehretiaceae

note: see note under Boraginaceae

Rotula (may be combined with Ehretia)

Rotula aquatica (syn Ehretia aquatica)

records: Koulikoro, Bamako (Boudet)

habitat: in stream beds, s.t. half-submerged

notes: shrub 1-1.5 m; leaves alternate or opposite; obovate or oblanceolate leaf 2-3 cm x 0.5-1.5 cm; petiole not always distinct; pinkish flowers; capsule

Ebenaceae

Diospyros

Diospyros mespiliformis 50252 (“jackal berry”)

records: Gao, Niono, Yanfolila (Boudet); banks of Niger R near Gao, inselbergs (Hombori, Tupere, Kikara), rocky plateau (Segue) (JH)

habitat: riverbanks, lateritic gravel

notes: tree 12-30 m, alternate entire dark-green leaf 7-13 cm x 3-5 cm, petiole 6-10 mm; white male flowers

Elatinaceae

Bergia

Bergia ammannioides

records: Timbuktu, Gao, Debougou (Boudet)

habitat: edges of inundatable plains

notes: small herb 10-25 cm high; dentate leaves opposite 1.5-3 cm x 0.4-0.6 cm, edges pubescent, occasional stipules & axillary leaves, short or indistinct petiole; tiny flowers 1 mm wide, pedicel 1-2 mm, in dense glomerules by 10-40 at axils, petals yellow-orange; fruit red-violet

Bergia suffruticosa 50253

records: Djenne, Timbuktu, Hombori, Gourma Rharous (Boudet); Timbuktu, Beni, Bore, Barbe (Sevare), Bendiely (JH)

habitat: edge of clayey ponds

notes: perennial, subligneous base (shrubby) with herbaceous stems, to 50 cm high or spreading on ground; dentate sessile leaves opposite by 2, 2-3 cm x 0.6-1 cm, hairs on both sides of leaf, leaves appear verticillate due to 2 stipules and 2 smaller axillary leaves at each axil; pink-white flowers in fascicles of 1-5 at axils of upper leaves, corolla opens to 7 mm wide, 5 petals, 5 green lanceolate sepals 4-5 mm long with acute tips

Elatine

Elatine triandra

records: Gao near Bagoundie (Boudet)

habitat: floating or submerged

notes: opposite leaves 1-1.5 cm x 2-4 mm, no clear dentations; small isolated (sub-)sessil flowers

Euphorbiaceae

(for Antidesma, Bridelia, Flueggia, Margaritaria, Phyllanthus, Uapaca see Phyllanthaceae)

subfamilies and tribes

subfamily Acalypheae

Acalypheae (Ricinus)

Alchorneae (Alchornea)

Chrozophoreae (Chrozophora, Caperonia)

Plukeneteae (Dalechampia)

subfamily Chrotonoideae

Chrotonae (Astraea, Chroton)

Jatropheae (Jatropha)

Manihoteae (Manihot)

subfamily Euphorbioideae

Euphorbiinae (Euphorbia)

Astraea

Astraea lobata **50254** (syn *Croton lobatus*)

records: Sikasso, Hombori, Gao, Niafounke (Boudet); Kikara, Walo (JH)

habitat: rubble, escaptments, sandy-clayey soil

notes: annual or semi-perennial to 30-60 cm or more, alternate digitilobate leaves with 3-5 deeply divided lobes (cf. Dalechampia) (s.t. opposite at top of stem), leaf 6-10 cm long and wide; petiole 2-7 cm; inflorescence in terminal raceme, male flowers at tip and female flowers below

Caperonia (same tribe as Chrozophora) (“false crotons”)

Caperonia fistulosa (syn *C. palustris*) [not in Berhaut]

records: Mopti, Segou, Gao (Boudet)

habitat: swamps, riverbanks, floodplains, mud

notes: [cf. Afr Flow Pl Database 07]: annual herb (erect, scrambling, or floating), hollow stem to 1 cm thick and somewhat inflated

taxonomy: similar to *C. stuhlmannii*

reference: Fl. Congo Rwanda-Burundi 8(1):169 (1962)

Caperonia palustris (see *C. fistulosa*)

Caperonia senegalensis (see *C. serrata*)

Caperonia serrata (syn *C. senegalensis* [thus Berhaut])

records: Macina, Bamako (Boudet)

habitat: ponds, depressions, rice fields

notes: herb 40-80 cm, alternate leaves, leaf lanceolate or linear 8-15 cm x 0.8-1.5 cm, shallow widely-spaced dentations; petiole very short or indistinct with 2 stipules; white flowers, axillary raceme has cluster of small male flowers (3 lobes) at tip with female flowers spaced lower on raceme (6 sepals)

Chrozophora

Chrozophora brocchiana 50255

records: Adrar, Goundam, Sotuba, Douentza-Hombori (Boudet); Timbuktu, Tin Hamma north of Gao, Hombori, Beni (JH)

habitat: deep sand

notes: perennial-rooted, herbaceous stems 25-40 cm high, alternate symmetrical leaves 1.5-3.5 cm x 1.5-3 cm, base sublobate, whitish tomentose pubescence, most dense (woolly) on bottom, top darker-green; petiole 3-20 mm with 2 rigid or thorny stipules; flowers on very short racemes, female flowers at base with 3 red bifid styles surrounded by 10 longer linear bracts of calyx, tiny male flowers at tip of raceme; trilobate capsule 9-10 mm wide with longer bracts

Chrozophora plicata

records: Gao (Boudet)

habitat: lime or clayey depressions subjected to flooding

notes: branched prostrate or ascending annual undershrub 15-50 cm and 1.5 m across, covered with soft white stellate hairs; alternate leaves, vaguely triangular 3-5 cm x 3-4 cm, often with base asymmetrical (but not lobed); petiole 1-5 cm; axillary raceme 2-3 cm long, leafy at base; small male flowers with 12-15 yellow stamens at top, female flowers with red styles, with short bracts 2-3 mm; fruit deeply 3-lobed

reference: Flora palestina, vol 2 (1972)

Chrozophora senegalensis [similar to *C. brocchiana*]

records: San, Bamaio, Ouan Foras, Gao, Bandiagara (Boudet)

habitat: sand

notes: perennial-rooted, herbaceous stems, semi-erect (25-40 cm) or sprawling, alternate symmetrical leaves with base sublobate, 2-4 cm x 2-3 cm; top of leaf dark green, appearing glabrous to the eye, short indumentum on underside; petiole and stem pubescent and slightly rough; raceme 1 cm long, male flowers in corymbiform glomerule at top, each male flower with central filet with two superposed crowns each with 5 stamens; female flowers at base of raceme with red bifid styles; trilobate capsule 6-8 mm wide, 10 teeth (bracts) of calyx below midline of capsule; capsule explodes to release seeds

Croton

Croton lobatus (see *Astraea lobata*)

Croton gratissimus var. *gratissimus* (syn *C. zambesicus*)

records: Kita, Kanikombole (Boudet)

habitat: rocks

notes: tree to 10-15 m, leaves alternate, leaf silvery below, oblong-elliptical 8-15 cm x 2-6 cm, petiole 0.5-1.5 cm; petiole, stem, and leaf covered with white lenticels and red points, male flowers on a spiciform raceme 3-10 cm, female flowers in separate short axillary or terminal raceme; 3-part capsule

Croton zambesicus (see *C. gratissimus* var. *gratissimus*)

Dalechampia

Dalechampia scandens 50256

records: Tin Tadeini, Niafounke (Boudet); Beni, Kikara (JH)

habitat: rocky areas

notes: herb with perennial root, stems twining or spreading, alternate trilobate leaves, lobes deeply separated (cf. *Croton lobatus*), lobes 4-6 cm x 1-2 cm, edges dentate, petiole 4-8 mm with 2 stipules; greenish female flowers enclosed in 2 green foliaceous bracts 1-2.5 cm x 1-2 cm, each bract with 5 veins, with 3 triangular points at top; bracts at end of long axillary peduncle 5-7 cm; tiny male flowers on a raceme branching off from this peduncle

taxonomy: see also *D. parvifolia*

Dalechampia parvifolia (see *D. scandens*)

Euphorbia (divided here into prostrate herbs, erect herbs, large shrubs, and cactus-like bushes/shrubs)

prostrate herbs (hard to distinguish some of these from each other)

Euphorbia forsskaolii 50258 (also spelled forsskalii, forskalii; Syn *E. aegyptiaca* [thus Berhaut])

records: Timbuktu, Adrar (Boudet); Timbuktu, Gao, Hombori, Douentza, Sevare (JH)

habitat: dunes, depressions

notes: prostrate herb; leaf oval, a little disymmetric, 7-12 mm x 3-8 mm, only middle vein visible; distance between leaf pairs gets smaller toward top of stem; sessile inflorescence at several axils of stem (not just at end), 3-5 flowers grouped; capsule 3 mm wide

native term: usually combined w. *E. hirta*

Euphorbia inaequilatera

records: Tin Ahara, In Tillit, Douentza-Hombori, Adrar, Gao (Boudet)

habitat: sands

notes: prostrate herb

description (Afr Flow Pl Database 07): "Annual much-branched herb, prostrate, to \pm 50 cm \emptyset , or sometimes decumbent with branches to 30 cm long, longitudinally ridged, conspicuously so when dry, the whole plant completely glabrous or with few scattered hairs on the lower leaf-surface"

taxonomy: Egypt, Arabia, Angola, recently discovered in Mali and Niger (Boudet)

Euphorbia prostrata

records: none (Boudet)

Euphorbia scordifolia

records: Timbuktu, Bamba, lac Fati (Boudet)

habitat: sand

notes: annual 10-30 cm; leaf oblong 8-25 mm x 8-12 mm, top with fine dentations; axillary flowers usually with last few leaf pairs at top of stem; female flower is on a cup-shaped involucrum topped by four whitish petal-like glands with dentate tops; the ovary emerges from the involucrum on a short pedicel; capsule

erect herbs

Euphorbia hirta 50259

records: Sikasso, Oualia, Niame (Boudet); widespread in Mali, common weed in towns (JH)

habitat: ruderal, wet sands

notes: erect herb 20-30 cm, leaves, with tiny petiole, elliptic-lanceolate 4-6 cm x 1-2 cm, finely dentate; stem often reddish on side exposed to light; greenish flowers in dense globular capitula on peduncles 1-2 cm long; capsule

native term: usually combined w. *E. forsskaolii*

large shrub

Euphorbia balsamifera subsp. *balsamifera* 50257

records: Gao, Ansongo, Sanga (Boudet); widespread in Mali (JH)

habitat: compact sands, rubble (often planted to stabilized dunes)

notes: shrub 1-2 m, grey-silver branches, leaves condensed at tips of branches,
(sub-)sessile linear or oblanceolate leaf 4-9 cm long; yellow-green flowers at tip of
branch when defoliated; trilobate capsule at tip of branch

ethnobotany: toxic

spiny cactus-like bush/shrub

Euphorbia paganorum

records: Bougouni (Boudet); none (JH, previous records now assigned to *E. sudanica*)

habitat: summit of low mountains (Boudet), arid or rocky soils in savanna (Arbonnier)

notes: branches dull green to grey, 2-5 cm diameter, protuberance under thorns blackish
(Arbonnier)

taxonomy: some early records may have been misidentified as *E. sudanica*

ethnobotany: latex poisonous

Euphorbia poissonii (also spelled *poissoni*)

records: none (Boudet, JH)

Euphorbia sudanica 50262

records: Bandiagara, Douentza-Hombori, Koulikoro (Boudet); very common in the rocky
plateaus surrounding Bandiagara, scattered elsewhere, one at Dianwely Kessel (JH)

habitat: skeletal soils, rocky rubble (Boudet), arid or rocky soils in savanna (Arbonnier)

notes: branches dull green to brownish, 1-2 cm diameter, grey protuberance under thorns
(Arbonnier)

taxonomy: the variety in the Bandiagara area has grey protuberances but the diameter of
the branches may exceed 2cm diameter

reference: Leuenberger, Willderrowia 9:80-83

Euphorbia unispina

records: Sikasso (Boudet); none (JH)

habitat: rocky

notes: like *E. sudanica* but without big thorns

reference: Leuenberger, Willderrowia 9:80-83

Jatropha

Jatropha chevalieri

records: southern Mali (Boudet)

habitats: various, including mountains

Jatropha curcas 50263 (planted)

records: Adia, Segue (JH)

notes: shrub or small tree, broad leaf

ethnobotany: growing international trade in "jatropha" seeds

Jatropha gossypifolia 50264 (planted)

records: seen planted in houses throughout Dogon country (JH)

notes: shrub, leaf deeply lobed

Manihot

Manihot esculenta 50265 (syn *M. utilissima*) (cultivated cassava, Fr *manioc*)

records: widely cultivated in gardens in central and southern Dogon country and along
Niger R.

ethnobotany: carrot-like taproots widely sold in markets (often sliced and fried, or peeled and eaten raw)

native terms: sometimes combined with sweet potato (*Ipomoea batatas*)

M. utilissima (see *M. esculenta*)

Ricinus

Ricinus communis 50266 (planted) (“castor bean”, Fr *ricin*)

records: planted around houses in many villages in northern Dogon country (JH)

notes: shrub, huge leaves (cf. papaya)

Fabaceae (=Leguminosae)

traditionally subdivided into three subfamilies Faboideae (= Papilionoideae), Mimosoideae, and Caesalpinioideae (at a still earlier time, into families Papilionaceae, Mimosaceae, and Caesalpinaceae)

current subdivision is:

Caesalpinioideae (includes ex-Mimosoideae as mimosoid clade)

Cercidoideae

Detarioideae

Dialioideae

Duparquetioideae (a single species, *Duparquetia orchidacea*, liana in W African forests)

Faboideae

reference:

The Legume Phylogeny Working Group (LPWG). 2017. A new subfamily classification of the Leguminosae based on a taxonomically comprehensive phylogeny. *Taxon* 66(1): 44-77. doi 10.12705/661.3.

characters: always have stipules, leaves usually alternate and compound, leaflet margin normally entire, flowers with 5 petals; pods usually dehiscent (open along a seam)

Fabaceae—Caesalpinioideae

(Caesalpinia, Cassieae clade, Burkea, Erythrophleum, Mimosoid clade, Delonix, Parkinsonia)

characters: inflorescences globose and spicate, leaves often bipinnate

Cassieae clade

Cassia (some spp. removed to *Senna* or *Chamaecrista*): yellow flowers, alternate paripennate leaves, leaflets opposite

Cassia absus (see *Chamaecrista absus*)

Cassia italica (see *Senna italica*)

Cassia mimosoides (see *Chamaecrista mimosoides*)

Cassia nigricans (see *Chamaecrista nigricans*)

Cassia obtusifolia (see *Senna obtusifolia*)

Cassia occidentalis (see *Senna occidentalis*)

Cassia siamea (see *Senna siamea*)

Cassia senna (Saharan)

records: Adrar, Tabankort, Kidal-Gao (Boudet)

ethnobotany: good pasture for camels

Cassia sieberiana 50275

records: Bamako, Sanga (Boudet); Adia, Kubewel, Kikara, Tongo Tongo, locally common in northern Dogon country, e.g. abundant along highway halfway from Douentza to Sevare, and on the plateau between Borko and Tongo Tongo (JH)

habitat: gravel, colluvia

notes: tree up to 20 m but often smaller; leaf 20-30 cm with 6-10 pairs of leaflets of equal size; rarely there is a terminal leaflet; 15-25 lateral nerves; petiole 3-4 cm before first leaf, thickened at base; gold-yellow flowers 25-40 cm in hanging bunches (giving the tree a conspicuous yellow look even from a distance); fruit is long brown-black woody cylindrical pod 40-60 cm x 1.5 cm

Cassia tora (misapplied term, see *Senna obtusifolia*)

Chamaecrista (close to Cassia)

Chamaecrista absus 50268 (syn *Cassia absus*)

records: Sanga, Koulikoro, Bamako (Boudet); Tupere, Beni, Walo, Kikara, Boro, but not as widely known to Dogon as other *Cassia* spp. (JH)

habitat: gardens

notes: annual herb to 60 cm; stem bends at leaf axils (cf. *Faidherbia*); leaves 4-6 cm long with 2 pairs of oval leaflets 2-4 cm long, upper pair more developed, pubescent on both sides; petiole 3-5 cm before first pair of leaves; paired linear stipules; yellow flowers do not open fully, red on back, on terminal raceme or opposite a leaf; flat thin pod 4-5 cm x 6-7 mm covered with short erect hairs, with 6-8 shiny black seeds

Chamaecrista mimosoides 50270 (syn *Cassia mimosoides*) (slender straight stem superficially resembles *Sesbania* and *Aeschynomene* spp.)

records: Nioro, Niono, Gao, Bamako, Bandiagara (Boudet); Hombori, Boni, Kikara, Douentza, Beni (abundant), Anda, plains near Segue (JH)

habitat: moist areas, overgrazed pastures (Boudet); common weed in and beside millet fields in sandy plains (JH)

notes: annual herb 30-70 cm or more, leaf 4-7 cm long with 25-40 pairs of tiny thin acacia-like sessile leaflets declining in length from base to tip; 1-3 yellow flowers above leaf axils; flat pubescent pods 4-5 cm x 4-5 mm with 12-25 yellowish seeds

Chamaecrista nigricans 50271 (syn *Cassia nigricans*)

records: Gao, Bamako, Menaka, Sanga (Boudet); Tin Hamma north of Gao, Beni, Pergue, Djenne (JH)

habitat: wet sandy areas

notes: annual herb 30-80 cm, dark green leaf 7-10 cm long with 10-20 pairs of leaflets, each leaflet oblong 1.5-2.4 cm x 3-5 mm, with disymmetric base, mucronate tip (cf. *Sesbania* spp.); leaves follow the sun; open yellow flowers in fascicles of 2-4 just below leaf base; sessile pods 2.5 cm long, facing upward along stems, finely pubescent, in bunches of 2-4

Senna (close to *Cassia*)

Senna italica subsp. *italica* 50269 (syn *Cassia italica*)

records: Sanga, Kanioume, Adrar, Timbktu (Boudet); Niafounke, Walo, Boui, particularly common as bushy weed in millet fields in sandy plains from Mondoro south (JH)

habitat: dry areas

notes: annual or biennial herb 30-50 cm; leaves 7-12 cm with 5-6 pairs of glabrous obovate leaflets 1.5-3 cm x 1-1.7 cm 1.5-3 cm x 1-1.7 cm, base disymmetric, tip broadly rounded and mucronate; petiole 1.2-1.5 cm before first pair of leaves; paired oval-acuminate stipules; yellow flowers in terminal racemes; broad, arc-ed pod, 4-5 cm x 1.2-1.3 cm, about 12 seeds, separated by transverse wrinkles in pod

ethnobotany: pods medicinal, sold in markets (hence known outside of its range as a plant)

native name: known in some areas as Fulfulde *debbalobbo* ‘pretty woman’ (but see *C. occidentalis*)

Senna obtusifolia 50272 (syn *Cassia obtusifolia*, *Cassia tora* [thus Berhaut])

records: Gossi, Niono, Sanga, Adrar, Sikasso, Bamako (Boudet); ubiquitous in central Mali (JH)

habitat: wet sands, overgrazed or trodden areas (Boudet); forms dense stands, extremely common along roads and beside fields (JH)

notes: annual to 1-3 m; leaf 5-15 cm long with 3 pairs of obovate leaflets 2-6 cm x 1.5-3 cm with widest part not far from upper tip, leaflets increasing in size toward summit of leaf, tips rounded; paired stipules; flowers in short bunch at axil of leaves, corolla open; long thin arc-ed pod 10-15 cm x 0.5 cm (when dry, otherwise wider and straighter) (cf. *Sesbania* spp.), acuminate tip

ethnobotany: eaten with millet grain, this combination sold in markets, well known as Fulfulde *uulo*.

Senna occidentalis 50273 (syn *Cassia occidentalis*)

records: Macina, Niafounke, Bandiagara, Timbuktu (Boudet); Kikara, Douentza, Anda, Boui, Bendiely (planted), Goumbol (JH)

habitat: gardens, disturbed areas (Boudet); sometimes planted in gardens for medicinal use (JH)

notes: annual or semi-perennial herb 0.5-1 m or more, leaf 10-25 cm with 3-5 pairs of oval-elliptical leaflets 3-8 cm x 1.5-4 cm, disymmetric base, acuminate tip, increasing in size toward tip; petiole 2-4 cm before first pair of leaves; open flower; long slightly curved pod 10-15 cm x 7-8 mm (cf. *Sesbania* spp.) with obtuse tip, 30-50 seeds

taxonomy: may have the same native name as nonligneous *Sesbania* spp. (i.e. not *Sesbania sesban*) which have similar habitat, habit, and pods

Senna siamea 50274 (syn *Cassia siamea*) (planted)

records: Sevare, Segou, Bamako (JH)

notes: non-native tall ornamental tree 5-10 m, planted in well-watered areas in towns; leaves to 35 cm or more with 8-13 pairs of oblong leaflets becoming glabrous and shiny; flowers in terminal bunch

mimosoid clade (ex Mimosaceae, then Fabaceae—Mimosoideae)

[flowers have small petals and numerous prominent stamens]

includes former subfamilies Acacieae, Ingeae (*Albizia*), Mimoseae, Parkieae

scrambling shrubs forming impenetrable thorny thickets: *Senegalia ataxacantha*, *S. erythrocalyx*
trees, by flowers

globular white:	<i>Senegalia erythrocalyx</i> , <i>Vachellia sieberiana</i> , <i>V. tortilis</i>
globular yellow	<i>Vachellia amythetophylla</i> , <i>V. flava</i> , <i>V. nilotica</i> , <i>V. seyal</i>
globular pink/red	<i>Mimosa</i> , <i>Parkia</i>
white cylindrical spike	<i>Senegalia ataxacantha</i> , <i>S. dudgeoni</i> , <i>S. macrostachya</i> , <i>S. senegal</i> ; <i>Faidherbia albida</i>
yellow spike	<i>Prosopis</i>
white umbel	<i>Albizzia</i>
mauve and yellow spike	<i>Dichrostachys</i>
fascicle of yellow spikes	<i>Entada</i>

trees, by pods

flattened, straight	Senegalia ataxacantha, S. macrostachya, S. erythrocalyx, S./senegal; Albizia; Entada (enormous, breaking off at joints); Parkia
flattened, straight, lobed	Senegalia dudgeoni, Vachellia nilotica
flattened, arc'ed	Senegalia senegal (s.t.)
robust, straight	Vachellia sieberiana
robust, arc'ed at tip	Prosopis africana
robust, short, hairy	Mimosa
robust, curved (C-shape)	Faidherbia
thin, curling (spiral)	Vachellia tortilis
thin, clustered, curling	Vachellia flava (long thin pods 7-10 cm), V. seyal (long thin pods 10-15 cm); Dichrostachys (short thick pods)

ex-Acacia and close relatives

Acacia (native African spp. now removed to Vachellia and Senegalia)

Acacia albida (see *Faidherbia albida*)

Acacia ataxacantha (see *Senegalia ataxacantha*)

Acacia amethetophylla (see *Vachellia amethetophylla*)

Acacia dudgeoni (see *Senegalia dudgeoni*)

Acacia ehrenbergiana (see *Vachellia flava*)

Acacia erythrocalyx (see *Senegalia erythrocalyx*)

Acacia kirkii var. *kirkii*

records: Macina, Mopti to Djenné (Boudet); along Bani and Niger Rivers from Djenné to Timbuktu, only zone in W Africa (but also quite separately in Zimbabwe)

Acacia laeta (see *Senegalia laeta*)

Acacia macrostachya (see *Senegalia macrostachya*)

Acacia macrothyrsa (see *A. amythetophylla*)

Acacia nilotica (see *Vachellia nilotica*)

Acacia pennata (see *Senegalia erythrocalyx*)

Acacia senegal (see *Senegalia senegal*)

Acacia seyal (see *Vachellia seyal*)

Acacia sieberiana (see *Vachellia sieberiana*)

Acacia tortilis (see *Vachellia tortilis*)

Dichrostachys

Dichrostachys cinerea subsp. *africana* **50350** (syn *Dichrostachys glomerata*)

records: Niono, Sanga, Gao, Yanfolila, Oualia (Boudet); Hombori, Tupere, Dianwely, Bounou, Songho (JH)

habitat: various (Boudet); hillsides (JH)

notes: thorny shrub 2-3 m; 1-2 straight thorns at base of petiole; acacia-like leaves 4-8 cm with 5-8 pairs of pinnules 3-4 cm, each pinnule with 15-20 pairs of tiny linear leaflets; flowers (May-June, often when tree defoliated), two-tone spikes (mauve and yellow); clustered Pods twisted together

Entada

Entada africana **50351**

records: Sanga, Bamako, Gourma (Boudet); Hombori, Kikara, generally unknown to Dogon (JH)

habitat: gravel, laterite

notes: tree 3-7 m; no thorns; leaf 25-30 cm with 4-7 pairs of pinnules, each pinnule with 15-25 pairs of rather large leaflets 1.5-2 cm x 0.15-0.2 cm with rounded tips (cf. *Sesbania*); small yellow-green flowers in spikes 7 cm long, in fascicles of 3-5 at base of fallen leaf; enormous flat pod (segments break off individually) 15-35 cm x 5-6 cm with 12-15 grains

Faidherbia

Faidherbia albida 50352 (syn *Acacia albida* [thus Berhaut]) (local Fr *balanzan*)
records: Timbuktu, Sanga, Sotuba (Boudet); ubiquitous in Dogon and montane Songhay country (JH)
habitat: deep sand, farther north chiefly on riverbanks
notes: tall tree; branches have distinctive zigzag shape with bends at axils; white cylindrical flower spike; robust red-orange pods
ethnobotany: pods are sold in markets as fodder for livestock

Senegalia (formerly part of Acacia)

Senegalia ataxacantha 50368 (syn *Acacia ataxacantha*) (similar in habit to *S. erythrocalyx*, distinguished by inflorescence shape and by color of branches)
records: Bandiagara to Mopti, Bamako, Niono, Ouan Foras (Boudet); Hombori, Tupere, Kikara, Anda, Sangha, Walo, Djenne (JH)
habitat: depressions and on inselberg slopes, associated with *S. erythrocalyx* (JH)
notes: scrambling shrub, many thorns, forms impenetrable thickets; silvery trunks and smaller branches (but twigs may be reddish); white cylindrical flower spike
native term: often combined with *Senegalia erythrocalyx*, sometimes also with *S. macrostachya* and/or *Vachellia amythetophylla*

Senegalia dudgeoni (also spelled *dudgeonii*) (syn *Acacia dudgeoni*, *A. senegal* var. *samoryana*)

records: Bougouni, Ouarsada (Boudet); none (JH)
notes: tree; bipinnate leaf 3-7 cm long with 20 pairs of pinnae, and 20-30 pairs of leaflets per pinna, leaflet 0.8 cm x 0.3 cm; white cylindrical flower spike (raceme) 2.5-6 cm long; fruit flattened, papery, like *S. senegal* but not pubescent

Senegalia erythrocalyx 50369 (syn *Acacia erythrocalyx*, *A. pennata* [thus Berhaut]) (habit similar to *S. ataxacantha*)

records: Djenné, Sanga, Macina (Boudet); Menaka, Kikara, Anda, Wakara, Boui, Djenne, San (JH)

habitat: depressions and on inselberg slopes, associated with *S. ataxacantha* (JH)
notes: scrambling shrub, forms impenetrable thickets (cf. *S. ataxacantha*); trunk and branches dark brown, twigs brown with lighter longitudinal streaks; globular white flowers

Senegalia laeta 50365 (syn *Acacia laeta*, *A. senegal* var. *laeta*) [not distinguished from *A. senegal* in Berhaut]

records: Hombori, Bourem, Gao (Boudet); northern Dogon country (JH)
notes: small tree; leaf bipinnate 1-4 cm long, 2-5 pairs of pinnae each with 2-5 pairs of leaflets; leaflets asymmetrically oblong 0.6-1.2 cm x 0.3-0.5 cm; flattened apiculate pod

ethnobotany: second-best tree for gum arabic (cf. *A. senegal*)

Senegalia macrostachya 50371 (syn *Acacia macrostachya*)

records: Macina, Sanga, Koulouba (Boudet); Kiri near Koro, Diangassagou area (JH)
notes: self-standing tree 3-8 m (unlike scrambling *S. ataxacantha*, *S. erythrocalyx*), trunk can be massive; thorns larger and fewer than *A. ataxacantha*; long leaf 12-20 cm with 15-20 pairs of pinnules 3-5 cm long, each pinnule with 30-40 pairs of linear leaflets

0.4-0.6 cm x barely 0.1 cm; cylindrical flower spike, white then yellow; flattened pod, 8-15 cm x 0.7-0.8 cm, hard, with 7-8 grains

native term: sometimes grouped with *S. ataxacantha* and *S. erythrocalyx* as a general term for 'scrub acacia'; *Vachellia amythetophylla* may also be grouped here

Senegalia senegal var. *senegal* 50366 (see also *S. laeta*, *S. dudgeoni*)

records: Niono, Tasséguéla, Timbuktu (Boudet); present but rare in northern Dogon country (JH)

notes: tree 2-6 m, may form thickets; leaf bipinnate, with 3-6 pairs of pinnulae each having 10-20 pairs of leaflets, tiny leaflet 0.3-0.7 cm x 0.1-0.2 mm; white cylindrical flower spike; flattened pod, pubescent, 7-10 cm

ethnobotany: best source of gum arabic (but cf. *S. laeta*)

Vachellia (formerly part of *Acacia*)

Vachellia amythetophylla 50367 (syn *Acacia amethetophylla*, *A. macrothyrsa*) [not in Berhaut]

records: Sikasso (Boudet); Tin Hamma north of Gao, Tupere, Kikara, Anda (JH)

habitat: inselberg slopes (JH)

notes: tree (habit resembles *Albizia chevalieri*); few thorns; unusually large leaves (arching slightly down); large flower panicles; globular yellow flowers; flat pods

native names: sometimes forms a native taxonomic group with *Senegalia erythrocalyx*, *S. ataxacantha*, and *S. macrostachya*; cognates of terms for *S. amythetophylla* may refer to *Albizia*

Vachellia flava 50357 (syn *Acacia ehrenbergiana*; leaves and flowers similar to *A. seyal* but leaves smaller and trunk dark)

records: Hombori, Gao, Ansongo to Tillabery (Boudet); Menaka, Gao, Hombori, a few near Kikara, then it seems to disappear farther south (one tree left at Tupere, not widely known in Douentza area or farther south) (JH)

habitat: in plains, clayey-rocky and sandy soils

notes: tree somewhat flat-topped (umbrella-shaped), trunk dark, tiny leaves, thorns longer than leaves (at least on young branches), globular yellow flowers, thin pods in clumps

taxonomy: close to *A. seyal* in leaf shape, but very different bark

Vachellia nilotica 50358 (syn *Acacia nilotica*; three subsp. based on form of pod)

habitat: usually near water (JH)

notes: tall tree 5-20 m with dense spherical crown; young trees have long thorns, disappearing in older trees; bipinnate leaf with 3-6 pairs of pinnulae, each with 10-30 pairs of leaflets; leaflets 0.4-0.5 cm long; globular yellow flowers, more or less straight pods

subsp. *adstringens* (pod softly tomentose, lightly constricted)

records: Bamako, Sanga, Gao (Boudet); Timbuktu, Hombori, Kikara, Wakara, Sevare (JH)

habitat: sandy-clayey zones near ponds and rivers, occasional in fields

subsp. *nilotica* (pod glabrous, moniliform, i.e. in "pearl string" form)

records: Gao (Boudet)

subsp. *tomentosa* (pod softly tomentose, deeply constricted like necklace beads)

records: Gao (Boudet)

Vachellia seyal var. *seyal* 50359 (syn *Acacia seyla*; similar to *V. flava* but bark smooth and light-colored)

records: Segou, Timbuktu, Niono, Gossi (Boudet); Hombori, Tupere, Dianwely, Sevare area (JH)

habitat: clayey soils, areas with limestone, shallow depressions

notes: in this area has unusual greenish-white bark (only such acacia in zone), sometimes lightly covered by a rusty-red substance; thorns shorter than leaves; globular yellow flowers

taxonomy: leaves similar to *V. flava*, but bark quite different

ethnobotany: pods used medicinally, and in tanning hides

Vachellia sieberiana 50362 (also spelled sieberana) (syn *Acacia sieberiana*) (“white thorn”)

records: Anda, Songho, Djenne, San, absent from northern Dogon country (JH)

var. *sieberiana*

records: Bamako, Kita (Boudet)

var. *villosa*

records: Bandiagara, Koulikoro (Boudet)

notes: tall tree to 15-25 m with straight trunk up to 60 cm diameter, large canopy, fissured bark, white thorns (cf. *A. tortilis*) in axillary pairs up to 6-10 cm (thorns may be short or absent); bipinnate leaf rachis 6-15 cm with 10-25 pairs of pinnulae each with 15-50 pairs of leaflets, leaflets 0.2-0.7 cm x 0.05-0.15 cm; globular cream or light-yellow flowers; pods 10-20 cm x 2-2.5 cm, up to 1.5 cm thick, with 12-15 seeds

Vachellia tortilis subsp. *raddiana* 50364 (syn *Acacia tortilis* subsp. *raddiana*, *A. raddiana* [thus Berhaut])

records: the dominant tree of the thorn scrub from Timbuktu and Gao down to Mopti, but absent or rare on the Dogon plateaus and generally uncommon in southeastern Dogon sandy plains (JH)

var. *raddiana*

records: Timbuktu, Gao (Boudet)

var. *pubescens*

records: Timbuktu (Boudet)

notes: small tree up to 8-10 m, with ragged-looking branches; bipinnate leaf, rachis 4-6 cm with 3-5 pairs of pinnules 2-3 cm long, the two pinnules at the tip close to each other, each pinnule with c. 12 pairs of leaflets, each leaflet 0.3-0.4 cm long; 2 thorns at base of petiole, variably 2-5 cm (on the same branch); thorns of unequal length; globular white flowers, on peduncles 1.5-3 cm with a tiny bract near or just below the middle; pods twisted in spiral or circle, 10-12 seeds

other Mimosoid clade

Albizia (spelled “*Albizzia*” in Berhaut, Boudet, etc.; both spellings acceptable)

Albizia chevalieri 50349

records: Koulouba, Djenne, Macina (Boudet); Anda, Beni, Djenne (JH)

habitat: wet clayey sands

notes: small tree 8-12 m, no thorns; bipinnate leaves with rachis 12-20 cm, 10-20 pairs of leaflets with acute tips (versus rounded tips for *Sesbania sesban*); flower in a spherical capitulum, white stamens; long flat brown pod 10-13 cm x 2-3 cm with 7-10 seeds

taxonomy: in vegetative form (i.e. without flowers/fruits), can be mistaken at a distance even (by natives) for *Sesbania sesban*, which however has leaflets with rounded tips; also some resemblance from a distance to *Vachellia* (=Acacia) *amythetophylla*

Mimosa

Mimosa pigra

records: Timbuktu and Gao regions (JH)

habitat: forms impenetrable low thorny thickets on riverbanks, also some stands in seasonally inundated areas near Goundam, not observed in northern Dogon country (JH)

notes: thorny bushy shrub 1-2 m; leaves alternate; leaf 8-12 cm long with 5-12 pairs of pinnules 3-8 cm long with 12-30 pairs of tiny pubescent linear leaflets; pair of thorns at base of petiole, many more thorns; flower white-pink in spherical capitulum; hairy pods 5-7 cm x 1-1.2 cm

Mimosa pudica

records: none (Boudet); none (JH; earlier record from Djenné probably error for *Neptunia oleracea* (JH)

notes: small shrub to 50-75 cm; stems and petioles hairy; alternate bipinnate leaves, each leaf with long petiole extended by rachis, with two pairs of opposite pinnules closely spaced at the tip (i.e. 4 pinnules in a semi-fascicle); pinnules each with 15-25 pairs of leaflets 1-1.5 cm x 0.2-0.3 cm; pink flowers in spherical capitula; pod consists of 4 suborbicular articles, numerous sessile pods at end of peduncle

Neptunia

Neptunia oleracea 50353

records: Mopti, Gao, Gossi, Macina (Boudet); Ansongo, Douentza, Djenne, Bounou (JH)

habitat: drying ponds and stagnant village pools (JH)

notes: hollow stem floats on surface of water, then (after water recedes) lies on sand; leaflets snap shut when touched (cf. *Mimosa pudica*); leaf 5-15 cm with 2-4 pairs of pinnules 2-6 cm long, each pinnule with 15-20 pairs of leaflets; yellow flowers in oblong capitulum; short flat pods 2-3 cm x 1 cm, each with 5-7 seeds

Parkia

Parkia biglobosa 50354 (“locust-bean,” local French “*néré*”)

records: Yanfolila, San, Bamako (Boudet); Walo, Bendiely, Bandiagara (JH)

habitat: deep sand (more varied habitats in south)

notes: tree 10-15 m, umbrella-shaped; leaf 20-40 cm with 10-15 pairs of pinnules 12-15 cm, each pinnule with 30-60 pairs of leaflets, leaflets with acute tip; small red flowers in spherical capitulum; long pods 25-30 cm x 1.5-2 cm, dark brown when mature, with black seeds covered by floury pulp

ethnobotany: well-known outside its range as a tree, pulp in pods is made into a sweet yellow flour that is sold in markets for flavoring (native word for ‘yellow’ is often literally ‘*néré* flour’); seed fermented and sold in markets as a hard black spice (local Fr *soumbala*)

Prosopis

Prosopis africana 50355

records: Bamako, Sanga, Bandiagara-Douentza (Boudet); now rare in northern Dogon country (a few at Beni), common in sandy plains on road to Segue (JH)

habitat: gravelly savanna

notes: tree 10-20 m; leaf 10-15 cm with 3-6 pairs of pinnules 5-8 cm, each pinnule with 9-16 pairs of leaflets, leaflets oblong-elliptical, acut tip; flowers in yellowish axillary spike, isolated or by 2, 6-8 cm long; woody pod, dark red-brown, 10-15 cm x 2 cm, thick 1.5 cm

ethnobotany: well-known beyond its native range for its hard wood, commonly used as blacksmiths’ charcoal

Prosopis juliflora 50356 (planted in towns, originally from South America) (one of the “mesquite” spp.)

records: commonly planted in and around gardens and villages (JH)
notes: shrub, low-branching, branches extend erratically far outwards from trunk (JH)

other Caesalpinioideae

Burkea

Burkea africana
records: southern Mali (Boudet)
notes: tree

Delonix

Delonix regia (“flamboyant”)
planted in towns

Erythrophleum

Erythrophleum africanum
records: rare in southern Mali (Boudet)
Erythrophleum suaveolens
records: southern Mali (Boudet)

Parkinsonia (=Cercidium)

Parkinsonia aculeata 50280 (planted)
habit: small tree with widely spreading branches
records: Sikasso, Mopti, Dire; widely planted in and around towns (JH)

Fabaceae—Cercidoideae

Bauhinea

Bauhinea rufescens 50267
records: Timbuktu, Sanga, Gao, Koulouba, Gossi (Boudet); Gao area, Walo, Djenne, Songho, Segue (JH)
habitat: widespread but requires deep water
notes: tree 4-15 m, small alternate bilobate leaves with lobes separated nearly to base (much smaller than *Piliostigma*) to 2.5 cm long and wide, sharply curling flattened black pods 5-10 cm x 0.8-1 cm, usually bent into a circle or spiral, with 4-10 brilliant oval red-black seeds

Piliostigma

Piliostigma reticulatum 50281
records: Sanga, Sotuba, Niono, Gossi, Bamako, Hombori (Boudet); common in Hombori and northern Dogon country, becoming the dominant tree in some parts of the savanna near the cliffs around Bamba/Yanda (JH)
habitat: sandy fields
notes: tree; deeply fissured fibrous bark; distinctive deeply emarginate leaf, long broad flat pod
Piliostigma thonningii
records: Kita, Yanfolila (Boudet); present but rare in northern Mali, much less common than *P. reticulata* (JH)
habitat: deep soil, riverbanks

Fabaceae—Detarioideae

Afzelia [trees often used for lumber]

Afzelia africana

records: southern Mali, occasionally farther north in ravines etc. (Boudet)

notes: tree

Berlinia

Cynometra

Cynometra vogelii

notes: tree

records: Djenné area, floodplains

Daniellia

Daniellia oliveri 50277

records: Yanfolila, Sanga, Ouarsada (Boudet); Kikara (rare), Anda, Songho, Yanda, Segue, an impressive grove between Bamba and Yendouma in well-watered valleys between hills; rare around Douentza and absent from Boni-Hombori area (JH)

habitat: gravel and colluvia, riverbanks, fields

notes: very large tree to 15-20 m tall with massive trunk to over 1m diameter; alternate paripennate leaves, leaflets opposite

ethnobotany: reddish bark sold in markets (e.g. Douentza) for medicinal use, so the species is known beyond its range as a tree

Detarium

Detarium microcarpum 50278

records: Sanga, Yanfolila, Fana (Boudet); Walo, Anda, Songho (JH)

habitat: colluvia

notes: tree to 9 m, twisted trunk, widely spreading crooked branches, leaves with alternate leaflets

ethnobotany: primary source of a fruit sold in markets with large, hardy pit (often seen on streets), called *konkooje* in Fulfulde

Detarium senegalense 50279

records: Bandiagara (Boudet); Walo (JH)

habitat:

notes: tree to 20 m, straight cylindrical trunk, leaves with alternate leaflets, crown large, very leafy

ethnobotany: has fruit similar to that of *D. microcarpum*, some forms have edible fruit, others inedible

native name: "hyena's kola" (Pergue)

Guibourtia

Isoberlinia

Tamarindus

Tamarindus indica 50282 (tamarind tree)

records: Sanga, Timbuktu, Bougouni, Djenne, Segou (Boudet); widespread in central and northern Mali (JH)

ethnobotany: fruits (pods) sold everywhere, used as flavoring for cream of millet, also made into juice (a powerful laxative)

Fabaceae—Dialioideae

Dialium

Fabaceae—Faboideae (= Papilionoideae, ex family Papilionaceae)

characters: flowers are zygomorphic with specialized structure: large upper petal (“banner”) envelops other petals, often reflexing when flower blooms; the two adjacent petals (“wings”) surround the two bottom petals, which are fused together at the apex though free at the base, forming a boat-like structure (“keel”); always 10 stamens, with filaments fused (monadelphous flower) or nine stamens fused with one remaining free (diadelphous flower)

tribes include; Abreae, Aeschynomeneae, Bossiaeeae, Crotalariae, Dalbergieae, Desmodieae, Indigofereae, Millettieae, Phaseoleae, Psoraleae, Robineae, Sophoreae

alliances:

Indigofereae is sister to
Millettieae/Abreae/Phaseoleae(in part)
Phaseoleae (sensu stricto), Desmodiae, Psoraleae

tribe Abreae

Abrus

Abrus precatorius 50283

records: Bamako, Timbuktu region (Boudet); Kikara, scattered in Dogon country (JH)
notes: sprawling plant with subligneous base; leaf 4-8 cm long with 8-16 pairs of leaflets; thick pods 2-3 cm x 1-1.2 cm, tip in beak; hard pea-like bright red seeds with black spots, often visible in half-open, twisted pod
ethnobotany: attractive red and black seeds used in children’s jewelry
native name: may be combined with Erythrina spp., which have similar bright red seeds (with no black)

tribe Aeschynomeneae

Aeschynomene (tall herbs 0.5-1.5 m in moist or swampy areas, resemble Sesbania spp. but fruits very different; only A. indica is common in Dogon country_

Aeschynomene afraspera

records: Macina, Sanga, Bamako (Boudet); in Gao area probably misidentification of A. indica (JH)

habitat: swamps, inundated zones

notes: undershrub, 1-1.5 m tall; stem herbaceous, thick and soft, hollow, lower part of stem covered with tiny warts (verrucose); 25-35 pairs of long leaflets each 1.2-2 cm x 0.3-0.4 cm, leaflets usually drying brown; flowers in axillary raceme, standard golden yellow, keel pubescent; large pods 7-10 cm x 0.7-0.8 cm, 8-10 segments (violet black when mature), closely warted when mature, only slight joint indentations

Aeschynomene crassicaulis

records: Mopti, Segou, Bourem, Macina (Boudet)

habitat: aquatic, stems rooted in mud

notes (FWTA2): stem procumbent and rooting in the mud, often half submerged; stem densely hispid, woody; leaves 8-15 cm long, leaflets distinctly toothed, pilose on the margins and midrib beneath; stipules 1.5 cm, pilose outside, caducous; flower 2-3 cm long; fruits 5-7 segmented, 5 cm x 1.5 cm, pilose, tapered to a beak

Aeschynomene cristata [\[get image\]](#)

records: lac Debo (Boudet)

habitat: swamps

notes (FWTA2 vol 1 p. 578): soft-stemmed undershrub; stipules lanceolate, very acute, 2 cm long, closely nerved, much produced at the base; leaflets about 20 pairs, oblong-ob lanceolate, about 1.5 cm long, venose; large flower 3 cm long (vs. up to 1.5 cm for other spp.), keel with a large crest on the margin; glabrous fruits 8 cm long

Aeschynomene indica [50284](#)

records: Niono, Ouan Foras, San, Bamako, Kabara-Mopti, Gao, Labbezanga (Boudet); Gao, Ansongo, Kubewel, Kikara, the common *Aeschynomene* in Dogon country (JH)

habitat: muddy places near rivers and swamps

notes: undershrub, 1-1.5 m; stem slender and smooth; leaf 5-8 cm with 10-25 pairs of short thin leaflets 0.8-1 cm x 2-3 mm raggedly sub-opposite, leaflets usually drying glaucous-green; pale yellow flowers, standard has 9 red stripes on outside; pods 4 cm x 0.4 cm, 7-10 segments, joint indentations on one side (other side straight-edged)

Aeschynomene nilotica [not in Berhaut]

records: Macina, Bandiagara-Mopti, Bourem, Gao, San (Boudet)

habitat: aquatic (may float in deep water)

notes: up to 1.7 m; stem herbaceous, thick and soft; leaves with 24-80 pairs of long leaflets 1-2 cm long; axillary inflorescence of 3-8 flowers with yellow or greenish-yellow standard and wings, keel glabrous, peduncle pubescent; linear straight pods 4-8.5 cm long with 5-10 segments, pods smooth when mature

Aeschynomene schimperi

records: Koutiala, Bamako (Boudet)

habitat: moist places

notes: erect undershrub, 0.5-0.8 m high; stems with small erect hairs (shortly hispid-scabrid, half-woody); leaves with 8-25 pairs of opposite leaflets; isolated flower on hairy peduncle 2-3 cm; standard golden yellow with very small striations on back; flat pod 4-5 cm x 0.6-0.7 cm with tip in corner form; 10-12 segments, no joint indentations (straight on both margins), brown-black when mature

Aeschynomene uniflora [\[get photo\]](#)

records: none (Boudet)

notes; undershrub, 0.6-1 m tall or more; stems hispid-scabrid (half-woody); leaf 6-10 cm with 15-20 pairs of opposite leaflets; isolated yellow flower at tip of axillary peduncle 3-4 cm; pods 4-5 cm x 0.6-0.7 cm, 5-6 segments each with a raised plateau in center, joint indentation on both sides (FWTA2 says on one side)

Arachis

Arachis hypogaea [50288](#) (cultivated peanut) [see also *Vigna subterranea*]

records: cultivated throughout Dogon country (JH)

notes: herb 20-30 cm, paripennate leaf with 2 pairs of opposite obovate leaflets, each 2.5-4 cm x 1-2.5 cm, tip rounded or emarginate, mucronate; flowers with yellow corolla, drooping when withering and entering ground; pod develops in ground

native term: usually combined with groundnut (*Vigna subterranea*), the two being distinguished by modifiers

Stylosanthes

Stylosanthes fruticosa 50333

records: Sanga, Macina, Yanfolila, Bamako (Boudet); Kikara (JH)

habitat: sandy prairies, old fields

notes: bushy plant with many branches arising from a woody rootstock, can be up to 1 m high; stems covered with hairs; alternate trifoliolate leaves with secondary nerves nearly vertical; flowers in short terminal spike surrounded by numerous ciliate bracts; corolla yellow, standard wider than long; short pod 0.5-0.8 cm long with 1 or 2 segments, ending in a short curved beak 1-1.5 mm long

taxonomy: very close to *S. erecta*

ethnobotany: grazed by livestock

Zornia

Zornia glochidiata 50348

records: Sanga, Gao, Segou (Boudet); ubiquitous in central Mali, may form extensive prairies (JH)

notes: semi-prostrate or erect, 15-30 cm; alternate bifoliolate leaves, elliptical-lanceolate 2-4.5 cm x 0.5-1 cm; flower orange-yellow, bracts longer than corolla; articulated pod 1-1.2 cm long with 2-4 segments

ethnobotany: harvested and brought into towns for sale as animal fodder late in dry season

tribe Crotalariae

Crotalaria (erect herbs, yellow flowers tend to follow the sun, in native languages the pods are often called “peanuts” of hare or some other animal)

note: most common in Dogon and montane Songhay country are *C. podocarpa* and *C. retusa*

a) leaves trifoliolate:

Crotalaria naragutensis [not in Berhaut]

records: Kabara

habitat: sands, rocky outcrops, roadsides

notes: [Afr. Flow. Plants Database:] perennial, well-branched, stipules tiny or absent, racemes long and closely many-flowered, standard variably lined purple; [from photo of CIRAD specimen] trifoliolate leaf on long pedicel with oval leaflets, fairly compact pods (light brown) with conspicuous beaks in dense clusters

Crotalaria atrorubens 50293 [close to *C. gorensis*]

records: Niono, Macina, Bandiagara (Boudet); Beni (fields below village) (JH)

habitat: old cultivated fields, sand

notes: erect; leaflets obovate, lateral leaflets 1.5 cm x 0.4-0.7 cm, terminal leaflet distinctly bigger (but not twice as long); petiole 3-7 cm; 3 equal petiolules 1 mm; whole plant covered with soft hairs 1 mm; tiny filiform stipules 3-6 mm long; flowers yellow s.t. with brownish tint, bunched at tip of racemes; each flower covered by a calyx with filiform teeth and woolly hairs

Crotalaria comosa 50294

records: Yanfolila (Boudet); Hombori, Douentza (near pond) (JH)

notes: erect to 1 m or more; stems fluted esp. near top; leaflets usually obovate-elliptical esp. on main stem and in lower parts, 5-9 cm x 1-3 cm; nearer to top, leaves become

long and thin (linear-lanceolate) 12-15 cm x 0.8-1.2 cm; hairs on bottom on leaf; petiole 3-6 cm, equal petiolules 2 mm; petioles and stems pubescent; no stipules; flowers in dense terminal spike 25-50 cm long; corolla yellow, standard striated on both sides; spike may have flowers near tip with fruits underneath separated by a space (with filiform bracts where early fruits have fallen); yellow-brown cylindrical pods 1.2-1.4 cm x 0.5-0.6 cm, with tiny beak, bunched densely facing down on lower part of spike

Crotalaria cylindrocarpa 50295

records: Gao (island in rapids), Bamako; Hombori (JH)

notes: erect to 50 cm or 1 m; leaflets elliptical or obovate-elliptical 2-6 cm x 0.5-2.5 cm, middle leaflet larger than lateral ones; top of leaf punctuated with white points (magnifying glass); petiole 1-4 cm, petiolules 1-2 mm, 2 falciform stipules 6-10 mm x 2 mm; flowers in terminal raceme 5-10 cm with yellow flowers, standard reddish outside; pods 2.5 x 0.8 cm (0.5 mm thick), marbled with brownish spots, with beak.

Crotalaria gorensis [not in CIRAD]

records: Niono, Kabara, Segou (Boudet)

habitat: moist sand

notes: to 30-80 cm; leaflets obovate to elliptical-lanceolate 2-6 cm x 0.7-2.5 cm with rounded tip; 2 leafy falciform stipules 1-2 cm x 0.2-0.4 cm (at base); flowers in conical terminal spike, often dense, 2-8 cm long; yellow corolla, standard reddish above; bloated pods 1.2-1.3 cm x 0.6-0.8 cm, with curved beak, densely bunched

Crotalaria hyssopifolia

records: Yanfolila, Kati, Sikasso (Boudet)

habitat: swampy areas

notes: 25-60 cm; small leaflets obovate-elliptical 1-2 cm x 0.3-0.6 cm; petiole 1/3 top 1/2 of length of leaf; no stipules; flowers spread out on spiciform racemes, corolla yellow, standard may be streaked with red, pedicels 4-5 mm (equal to length of corolla); nearly spherical capsule 3 mm with white pubescence

Crotalaria lathyroides 50296

records: Diafarabé (Boudet); Kikara (JH)

notes: 20-50 cm; leaflets linear-lanceolate 2-7 cm x 0.2-0.7 cm, no lateral nerves; petiole 1.5-2.5 cm, equal petiolules 1 mm, no stipules; tiny hairs on stem and petioles; yellow flowers in axillary terminal raceme 10-25 cm; flowers clustered near tip, standard may be striated with red on outside; pod 1.5-1.8 cm x 0.4-0.5 cm, with beak

Crotalaria ochroleuca

records: Macina, Mopti-to-Koulikoro

notes: to 1 m; leaflets linear-elliptical or lanceolate 4-12 cm x 0.3-0.9 cm; petiole 1-3 cm before lateral leaflets; no stipules; flowers spread out on terminal spiciform raceme 15-30 cm; flowers 2 cm long, standard pale yellow with violet streaks, lateral petals 1.5-2 cm long, streaked light violet; bloated pods 4-5 cm x 1 cm, yellow to orange seeds

Crotalaria podocarpa 50297

records: Gao, Sanga-Bandiagara (Boudet); Hombori, Tupere, Anda, Beni (JH)

habitat: dunes, gravel

notes: 30-50 cm; leaflets obovate-elliptical 2-5 cm x 1-2 cm, mostly glabrous; 3-4 lateral nerves; petiole 1.2-3.5 cm, petioles and stems covered with hairs 1-2 mm; large leafy stipules 1-3 cm x 0.3-0.6 cm covering base of petiole; few flowers (2 to 5) at tip of raceme 3-10 cm long, corolla yellow, standard often tinted on outside with reddish brown; pod rather bloated, 3 cm x 1 cm, with beak

Crotalaria senegalensis

records: Gossi (pond), Segou

habitat: sandy and sandy-clayey soil

notes: spreads on ground; leaflets 1.5-2.5 cm x 0.8-1.5 cm, 5-6 faint lateral nerves; petiole 1-2 cm, 3 equal petiolules 1 mm, thin pubescence on petioles; 2 filiform stipules 2-3 mm long, often curved; 3-7 yellow flowers in spread-out spike 3-7 cm, standard streaked with red; bloated pods 1.3 cm x 0.7 cm (increasing in thickness from base to near tip), small beak

b) leaves digitate by 5

Crotalaria saharae

records: In Ehtissan (Sahara) (Boudet)

ref.: Ibis (Algeria)

c) leaves simple:

Crotalaria arenaria 50292

records: Timbuktu (Boudet); Timbuktu (JH)

habitat: dry sandy savanna

notes: spawling herb; leaves simple (not trifoliolate); small oval leaves 1-2.5 cm x 0.6-1.2 cm (widest part closer to base than to tip) on very short yellow petioles 1 mm; whole plant covered with short dense hairs (hence silvery look); flowers spaced out on raceme; yellow flower; obovoid pod 1 cm long covered with hairs, short beak

Crotalaria calycina

records: San, Bamako (Boudet)

habitat: humid zones

notes: to 15-60 cm; stem with dense long golden hairs; simple leaves, lanceolate 5-15 cm x 0.5-1.5 cm, subsessile, tip pointed; flowers in terminal raceme with 2-3 flowers, or isolated at leaf axil; yellow corolla 2 cm long, calyx 2-2.5 cm long with lanceolate lobes covered with dense long red-gold hairs; cylindrical pod 3 cm x 0.5-0.6 cm, with beak

Crotalaria leprieurii

records: Bandiagara-to-Mopti, Yanfolila (Boudet)

notes: 30-60 cm; stem hairy; leaf linear-lanceolate 3-10 cm x 0.4-0.9 cm, sharply pointed tip; short linear stipules against petiole, barely visible; small yellow flowers in axillary or terminal spike, corolla 1-1.2 cm long, calyx 4 mm long with 5 acuminate teeth 2 mm, standard streaked with red; pod 1 cm x 0.3 cm, beaked

Crotalaria retusa 50298

records: Niono, Yanfolila (Boudet); Anda, Beni, Djenne (JH)

habitat: wooded savanna

notes: erect herb 30-80 cm with several branches; simple (not trifoliolate) alternate leaves, dark green, oblong or obovate-elliptical 4-8 cm x 1.5-3.5 cm (widest part closer to tip than to base), top glabrous, bottom with dense short hairs; short petiole 2-5 mm; spiciform terminal inflorescence 15-25 cm; flowers with yellow corolla, standard partly purple; cylindrical pod 4-5 cm x 1.2 cm with tiny beak, becoming dark brown when mature, 20 smooth grains

tribe Dalbergieae

Andira

Andira inermis subsp. *grandiflora* 50287

records: Ouarsada, Macina (Boudet); Diangassagou, absent from northern and central Dogon country (JH; previous record from Hombori was incorrect)

notes: tree; imparipennate leaf with 5-7 pairs of opposite leaflets, oblong-elliptical, 4-9 cm x 1.5-4; pink flowers on terminal panicle 20-30 cm long; ovoid drupe with single pit

Dalbergia

Dalbergia melanoxylon 50301

records: Nioro, Mossi, Sanga (Boudet); Hombori, Tupere, Kikara, Boui (JH)

habitat: sand (Boudet)

notes: tree to 6 m, thorny; leaves can be in fascicles of 3-5, each leaf imparipennate 4-7 cm long with 3-5 pairs of opposite leaflets, leaflets often indented at top; white

flowers in terminal panicle; flat pod, brownish when mature with 2 grains

ethnobotany: wood very hard, blackish on inside (feature familiar to many Dogon)

Pterocarpus [trees, yellow flowers, flat winged fruits]

Pterocarpus erinaceus 50322

records: Macina, Yanfolila, Bamako (Boudet); occasional in hills in northern Dogon country, also in rocky plateau (Bendiely) (JH)

notes: tree; leaf imparipennate 15-25 cm long with 4-5 pairs of alternate or subopposite leaflets, each leaflet elliptical 5-10 cm x 3-6 cm; yellow flowers, winged fruits nearly circular

Pterocarpus lucens 50323

records: Hombori, Koulikoro, Bandiagara, Tikimssa (Boudet); well-known in Dogon country, seen e.g. in plain near Gasa, conspicuous in July when foliage turns bright yellow (JH)

habitat: humid but drained areas (Boudet)

notes: tree; branching out from near ground level; leaf imparipennate 5-15 cm long with 3-4 pairs of opposite or subopposite leaflets, each leaflet elliptical 3-5 cm x 2-4 cm;

golden yellow flowers often when tree defoliated; flat winged fruit with one seed

ethnobotany: leaves sold in markets for animal fodder (leaves turn yellow)

tribe Desmodieae

Alysicarpus

Alysicarpus glumaceus subsp. glumaceus var. glumaceus

records: Tesseguela, Tin Zazi, Koyo, Nioro (Boudet)

Alysicarpus ovalifolius 50285

records: Gao, Segou, Markala (Boudet); Hombori, Anda, Segue, and generally throughout northern Dogon country (JH)

habitat: sandy, often beside cultivated fields (JH)

notes: herb 30-60 cm high or sprawling, simple alternate leaves, oval or oblong 3-7 x 1.2-2.5 cm, 4-6 lateral nerves; small flowers yellow and red in pairs with 1 cm separation along raceme; articulated pod 2-2.5 cm with 6-7 segments

Alysicarpus rugosus subsp. rugosus 50286

records: Yanfolila, Koulikoro (Boudet)

habitat: humid areas

notes: herb 60 cm to 1.5 m high, simple alternate leaves, oblong to lanceolate, 5-12 cm x 0.8-1.5 or -2 cm; inflorescence in terminal raceme 8-12 cm, flowers in pairs in upper part of raceme, pale yellow with violet on lower petals; pod 1-1.2 cm long with 4-5 nearly separated segments

Desmodium

- Desmodium hirtum 50302 (very similar to D. setigerum)
 records: Kabara, Bamako, Niono (Boudet); Beni (JH)
 habitat: swamps
 notes: herb; trifoliolate leaf; stems with blond hairs 1-1.5 mm sticking out; leaflets oval or obovate 1.5-4 cm x 1-2.5 cm; small pod with 5-6 segments; indentations between segments on one side (not as deep as for D. setigerum)
- Desmodium setigerum (very similar to D. hirtum) [not in CIRAD]
 records: Sanga, Kabara, Bamako (Boudet)
 habitat: bank of ponds
 notes: herb; trifoliolate stem; hairs applied on stems (not sticking out); pod with 4-5 segments; segments held together only by a narrow ligature
- Desmodium velutinum
 records: Yanfolila, Bamako (Boudet)
 notes: to 1 m or more; cylindrical stem and pedioles covered with velvety rust-red pubescence; simple leaf (occasionally trifoliolate), pubescent on both sides, oval, 7-15 cm x 5-8 cm; dense axillary or terminal flower spike; Pods bunched, 1.5-2 cm long, 5-6 segments

tribe Galegeae

- Astragalus [none in Berhaut]
 Astragalus trigonus (syn A. pseudotrigonus)
 records: Saharan [Boudet]
 habitat: near oueds
- Astragalus vogelii
 records: Saharan [Boudet]
 habitat: sand, near oueds

tribe Indigoferaeae

- Cyamopsis
 Cyamopsis senegalensis [get photo]
 records: near Timbuktu (Boudet)
 habitat: sand
 notes: similar to Indigoferas; herb (subligneous at base) 30-60 cm; imparipennate leaf 3-6 cm with 2-3 pairs (illustration shows 3-4 pairs) of opposite leaflets, oblong-linear 1.5-3.5 cm x 0.4-0.8 cm; a few bluish mauve flowers on axillary raceme 4-10 cm; linear pods facing obliquely upward with furrows on valves, long beak, pink seeds
 reference: also Senegal, Ethiopia, Arabia
- Indigofera [similar in habit to Tephrosia]
 general characters: herbs or bushy shrubs; usually imparipennate leaves; small flowers on axillary racemes or occasionally in open or subcapitate panicles; corolla usually red or pink; very thin pods usually dehiscent; hairs typically biramous (two prongs) under magnification
- sections (subgenera) of Indigofera
 [not known: dendroides]
 Alternifoliae (oblongifolia)
 Amecarpus (aspera, hochstetteri, senegalensis, sessiliflora)
 Brachycarpae (cordifolia, diphylla)

Dissitiflorae (pilosa)
Hirsutae (astragalina, hirsuta)
Indigofera (coerulea, tinctoria)
Latestipulatae (berhautiana, strobilifera)
Microcarpae (microcarpa)
Monanthae (geminata, nigritana, omissa)
Paniculatae (bracteolata, nigricans, pulchra)
Simplicifoliae (simplicifolia, suaveolens)
Stenophyllae (leprieurii, prieureana, stenophylla)
Viscosae (argentea, secundiflora)

more or less woody (shrubby bushes): coerulea, oblongifolia, omissa, pulchra, tinctoria
(cf. Cyamopsis)

key based on leaf structure (no info: disjuncta, suaveolens)

simple (non-compound leaf)

cordifolia (oval, alternate leaves) (from photo)
leprieurii (6-10 cm, elliptical-lanceolate)
simplicifolia (3-6 cm, lanceolate to elliptical-lanceolate)

alternate leaflets on one petiole

oblongifolia (total 3-5 leaflets per petiole)
spicata (total 10-11 leaflets per petiole)

bifoliate (two leaflets)

diphylla (leaflet at end of petiole much larger than other on lateral petiolule)

trifoliate (three leaflets, occasionally with one lateral leaflet absent)

pilosa (terminal 2.5-4 cm long, lateral much smaller 1-1.5 cm long, one lateral s.t. absent)
hochstetteri (from photo)

imparipennate with 2+ pairs of opposite leaflets (approx ratio length-to-width indicated) shape
and number of pairs of lateral leaflets (with length)

linear (8-to-1)

2-3 aspera (2-3 cm)

oblong-linear (12-to-1)

2-4 stenophylla (5-6 cm)

oblanceolate (several times longer than wide, widest part near tip)

2-3 geminata (0.7-1.2 cm)

oblong-elliptical (4-to-1)

2-3 senegalensis (2-3.5 cm)

elliptical (oval, with short or no point, 1.5/3-to-1)

2-3 sessiliflora (0.5-0.9 cm)

2-4 bracteolata (0.4-0.7 cm)

2-5 microcarpa (leaf highly variable, often 0.5-0.9 cm, bottom of leaf with tiny dark
green dots)

4 colutea (0.7-1 cm)

5 nigricans (small, from photo)

5-6 secundiflora (0.8-1.5,)

4-12 prieureana (1-2 cm)

6-20 dendroides (0.7-1.5 cm)

obovate or elliptical (2-to-1)

4-5 astragalina (2-3 cm)

4-6 tinctoria (1-2.5 cm, dark green)

oval-elliptical with acute tip (2-to-1)

2 *berhautiana* (trifoliolate on branching stems) (1-1.5 cm)
obovate (teardrop shaped with thick part at top, 1.5/2.5-1)

rounded tip

3 *hirsuta* (1.5-5 cm)

rounded or broadly acute tip

2-3 *omissa* (1.5-2.5 cm)

3 (?) *coerulea* (from photo)

mucronate tip

3-7 *pulchra* (0.6-1.2 cm, Berhaut says "obovale" but illustrations & measurements elliptical)

ovate (thickest near bottom), with pointed tip

4 (?) *strobilifera*

keys based on pods (*Indigofera* spp.)

[no info: *berhautiana*, *bracteolata*, *nigricans*]

Pods clustered (10+):

Pods short, no conspicuous curvature: *astragalina*, *microcarpa*, *secundiflora*, *senegalensis* (flat), *sessiliflora*, *spicata*

Pods distinctly curved: *coerulea*, *oblongifolia*

Curved vs. straight pods:

straight: *aspera*, *colutea*, *dendroides*, *geminata* (paired), *leprieurii*, *omissa*, *pilosa*, *prieureana*, *pulchra* (short), *simplicifolia*, *stenophylla*

gently curved: *argentea*, *hirsuta*, *tinctoria*

noticeably curved: *coerulea* (clumped), *diphylla*, *hochstetteri* (segmented), *oblongifolia* (clumped)

(no info: *cordifolia*, *nigricans*)

orientation of pods

facing up

at slight angle (oblique)

leprieurii, *pilosa*, *prieureana*, *pulchra* (very short), *stenophylla*, *tetrasperma*

at sharp angle

simplicifolia (often by 2 or 3)

right angles (roughly), long thin

colutea, *pilosa* (sometimes)

facing down

short, below flowers, more than 10 in a bunch

astragalina, *microcarpa* (small), *secundiflora*, *senegalensis*

long thin, straight--fewer than 10 in a cluster

dendroides (spaced out), *omissa*

long thin, straight--more than 10 densely bunched

hirsuta, *spicata*

long thin, gently curved

oblongifolia (1.5 cm), *tinctoria* (2.5-3 cm)

sharply curved, outside turning up

diphylla

paired

geminata, *simplicifolia* (sometimes)

radiating out like spokes from near base of leaf

sessiliflora

Indigofera argentea [not in Berhaut]

records: Sahara (Boudet)

habitat: dunes

notes: annual herb 20-50 cm, much-branching, s.t. prostrate, silvery-canescens; photo of Linnaeus type specimen shows leaf with 3 pairs of obovate leaflets; photo of CIRAD specimen has 2-3 pairs of obovate leaflets

references: Gillett, Kew Bull Addn ser 1:1-166 (1958, "Indigofera in Tropical Africa"); Flore du Sahara ed 2 (1983) p. 554; Flore de Mauritanie (1991) vol 1 p. 253

Indigofera aspera 50305

records: Timbuktu, Niono, Nampala (Boudet); Timbuktu (JH)

habitat: psammophile (sandy soil)

notes: diffuse annual herb 2-8 cm; leaf 2-4 cm with 2-3 pairs of opposite leaflets, linear 2-3 cm x 0.2-0.5 cm; crimson flowers bunched on axillary raceme extended out beyond leaves; flat linear pods 2.5 cm x 0.1 cm, slightly curved (falciform) at tip, facing down at an angle, spaced out at top of stem but clustered farther down

Indigofera astragalina 50306 [thus Berhaut and Boudet; see also *I. hirsuta* var. *hirsuta*]

records: Gao, Menaka, Sanga, Bamako (Boudet); Beni, Walo, Kubewel, Tongo Tongo, Boui (JH)

habitat: psammophile (sandy soil), invasive

notes: erect annual 25-70 cm; leaf 6-10 cm with 4-5 pairs of opposite leaflets, obovate to elliptical 2-3 cm x 1-1.5 cm, mucronate tip; 2 stipules 1 cm long at base of entire leaf, but no stipels at base of leaflets; flowers in dense axillary spike 6-10 cm, corolla pink; short cylindrical pods facing down at angle in dense clumps below flowers, covered with white hairs, beak of pod is black

taxonomy: African Plant Database treats as syn of *I. hirsuta* var. *hirsuta*; LegumeWeb speaks of "much confusion" between the two

Indigofera berhautiana [in Berhaut but not Boudet]

records: none (Boudet)

habitat: sandy plains (Berhaut)

notes: herb 15-30 cm usually erect, leaf 2-3 cm usually with 2 pairs of tiny leaflets (sometimes trifoliate on branches), oval-elliptical 1-1.5 cm x 0.4-0.7 cm with pointed tip, supple and soft with dense silky and silvery pubescence on both sides; isolated bright red flowers at extremity of branches; sessile pod 0.4 cm x 0.1 cm, pubescent

Indigofera bracteolata (resembles *I. leptoclada*, which occurs in southern Mali)

records: Sikasso, Niono (Boudet)

habitat: psammophile

notes: branched herb 15-50 cm; leaf 1-2 cm with 2-4 pairs, leaflets elliptical 0.4-0.7 cm x 0.2-0.4 cm with rounded tip; bright red flowers isolated or clustered at tip of racemes; flat obovate pod 0.5 cm long bulging in center, with semi-erect hairs on edges

Indigofera coerulea var. *occidentalis* 50307 [not in Berhaut]

records: Hombori, Goumbou (Boudet); Beni (JH)

habitat: humid or inundatable sandy-clayey depressions

notes: [Afr Flow Pl Database:] stout shrubby plant to 1 m tall with silvery pubescent stems; (from photo of specimen) about 3 pairs of obovate leaflets, thin pods densely clustered, pointing slightly down but curling up

references: Flora Tropical East Africa (1971), section on Papilionoideae; Gillett, Kew Bull. Add. Serie 1:102 (1958); sp. found in Kenya, Socotra, India

Indigofera colutea var. *colutea* 50308

records: Timbuktu, Tasséguéla (Boudet); Gao (JH)

habitat: sandy soil

notes: herb 15-40 cm; conspicuous hairs on leaves, stems, and fruit; 3-5 pairs of leaflets, elliptical 0.7-1 cm x 0.3-0.4 cm, rounded at both ends; 3-6 flowers on short axillary raceme 2-3 cm long, corolla pink; thin linear cylindrical pod 2-2.3 cm x 0.1-0.5 cm

Indigofera cordifolia [not in Berhaut]

records: Adrar des Iforas (Boudet)

habitat: clayey-rocky soil, sand, gravel

notes: [Afr. Flow. Plant Database:] annual or perennial, simple and erect or branching and diffuse, 10-35 cm long, long white hairs; [photo of CIRAD specimen] much-branched bushy herb, deep woody root, stems and leaves covered with white hairs giving silvery look, alternate leaflet including one at base of secondary branch

ethnobotany: consumed by all animals (<Chevalier)

references: Flora West Tropical Africa (1958); Flore du Sahara ed 2 (1983) p. 553; Flore de Mauritanie (1991) vol. 1 p. 251; Flora of Egypt (1999) vol. 1 p. 310; sp. also occurs in South Asia

Indigofera dendroides [not in CIRAD]

records: Goundam, Macina, Bamako, Sikasso (Boudet)

habitat: gravel

notes: annual 30-75 cm; stem with fine hairs; leaf 5-8 cm with 6-20 pairs of opposite leaflets, generally getting smaller toward tip of leaf; tiny elliptical leaflets 0.7-1.5 cm x 0.3-0.5 cm, tips rounded and mucronate; inflorescence in axillary raceme 5-15 cm, about 12 flowers per raceme, corolla pink, often with insect gall; straight linear pod 4 cm x 0.3 cm

Indigofera diphylla 50309

records: Timbuktu, Goundam, Gao, Kanioumé (Boudet)

habitat: sand

notes: annual or perennial, sprawling; stems reddish (if exposed to sun); bifoliate leaf (rarely trifoliate), leaflets oval-elliptical, large leaflet 2-3 cm x 1-2 cm at end of petiole, and much smaller lateral leaflet less than half that size on branching-off petiolule; leaflets pubescent; flowers in short dense axillary spike 1-3 cm; flowers initially hidden by bracts; corolla crimson; sharply curved bunched pods (falciform) 1-1.2 cm x 0.2 cm, with beak

Indigofera disjuncta [see *Microcharis disjuncta*]

Indigofera elegans [see *Indigofera nigricans*]

Indigofera geminata 50310

records: Koro-Bandiagara, Yanfolila, Macina, Koulikoro (Boudet)

habitat: grassy savanna

notes: erect ramified herb 20-40 cm; leaf 1-2.5 cm with 2-3 pairs of opposite leaflets (or trifoliate on flowering stems), oblanceolate 0.7-1.2 cm x 0.2-0.3 cm with widest part closer to tip; small brick-red flowers at tip of filiform axillary peduncle, flowers by 2; paired linear cylindrical pods 0.9-1 cm long, with beak

taxonomy: can be confused with *I. congolensis* (Boudet)

Indigofera hirsuta var. *hirsuta* 50311 [Berhaut as *I. hirsuta*, Boudet as *I. hirsuta* var. *hirsuta*; see also *I. astragalina*]

records: Niono, Bamako (Boudet); Kubewel (JH)

habitat: sand

notes: herb 50-80 cm; leaf 5-7 cm with (2-) 3 pairs of opposite leaflets; leaflets obovate 1.5-5 cm x 1-3 cm, tip rounded or emarginate; pair of stipels at base of each leaflet as well as larger stipule at base of entire leaf; flowers in upper part of spiciform axillary raceme 10-15 cm; open corolla as long as 1 cm, bright pink; slightly curved linear pods 1.5-2.5 cm x 0.3 cm

Indigofera hochstetteri subsp. *hochstetteri* [not in Berhaut] [get description]

records: Timbuktu, Gao (Boudet)
habitat: rocks (Boudet); grassy savanna, sand (Database)
notes (African Plants Database): spreading annual herb 10-60 cm tall, ridged stems
branching from the base; (from photo of *I. hochstetteri* specimen at CIRAD): pods
curved, segmented (cf. *Aeschynomene*), in a small bunch
reference: Kew Bulletin 13:414-419 (1959); Flora Tropical Africa 2: 101 (1871); sp.
Mauritania to Tanzania

Indigofera leprieurii 50312 [syn *I. macrocarpa*, in early lit. *I. leprieurii* confused with *I. simplicifolia*]

records: Bandiagara, Macina, Sanga, Koulikoro (Boudet); Tupere (JH)
habitat: sands, granite
notes: annual 40-80 cm; simple alternate leaves; elliptical-lanceolate 6-10 cm x 0.7-1.5
cm, tip slightly rounded and mucronate; spiciform flower spike, shorter than leaves,
pink corolla; thick, straight, partially flattened pods 3-4 cm x 0.4 cm with thickened
sutures

Indigofera microcarpa

records: Segou, Gao (Boudet)
habitat: riverbanks, cultivated fields
notes: erect, decumbant, or occasionally sprawling perennial herb 30 cm to 1 m; leaf 2-4
cm with 2-5 pairs of opposite leaflets, which are highly variable, often 0.5-0.9 cm x
0.3-0.4 cm (but can be much smaller or larger), with many dark green points on
underside; may be silvery due to dense hairs; flowers in dense spiciform raceme 3-9
cm, often shorter than leaf; corolla violet-mauve; short pods tightly bunched below
flowers, facing down at angle (cf. *I. astragalina*), silvery pubescent, 0.5-0.6 cm x 0.2
cm, with a beak

Indigofera nigricans [not the same as *I. nigritana*; syn *I. elegans* given in FWTA II]

records: Macina, Koulikoro (Boudet)
habitat: near rivers, grassy floodplain, wooded savanna on sand
notes: erect annual herb to 60 cm; [from photo of CIRAD specimen] 4-5 opposite leaflets
per leaf, leaflets small, oblong, stems and leaves covered with white hairs
reference: Kew Bulletin 13:414-419 (1959)

Indigofera oblongifolia 50689

records: Niono, Dire-Bandiagara, Tin Tegrin, Kabara, Gao, Gosi (Boudet); in low flat
zones (lightly inundatable) between Sambere and Konna, and near Kikara (JH)
habitat: inundatable clayey zones
notes: ligneous shrub to 1 m; leaf 2-5 cm with 3-5 alternate leaflets (including one at tip),
leaflets oblong-elliptical 1-2.5 cm x 0.5-1 cm, whitish due to abundant hairs; many
flowers all along axillary raceme (longer than leaf), pink corolla; many long thin
pods, gently curved, facing down (but outer parts approaching right angle to stem)
1.5 cm x 0.15 mm

Indigofera omissa 50313

records: Macina, Sanga, Koulikoro (Boudet); Kubewel, Adia, Segue, Tanga (JH)
habitat: granite rocks (Boudet); rocky plateau (JH)
notes: subligneous shrub to 50 cm or more; leaf 3-4 cm with 2-3 pairs of opposite
leaflets; leaflets obovate 1.5-2.5 cm x 0.8 x 1.2 cm (widest part closer to tip) with tips
rounded or broadly acute; axillary raceme 3-4 cm with 15-20 reddish flowers spread
out; straight linear pods in small clusters (illustration shows 6-7 pods per bunch), 1.5-
2.2 cm x 0.15 cm, pointed tip, 6-7 seeds

Indigofera pilosa var. *pilosa* 50314

records: Tasséguéla, Gao, Niono, Macina, Bamako (Boudet); Hombori (JH)
habitat: infertile sandy soil, rocks

notes: weedy herb 20-30 cm; stems reddish; trifoliolate with terminal leaflet 2.5-4 cm x 1-1.5 cm, lateral leaflets much smaller 1-1.5 cm x 0.7-0.9 cm (sometimes just one lateral leaflet); a few crimson flowers (fewer than 10) on axillary raceme 3-6 cm long; straight thin cylindrical pods 2-2.5 cm x 0.2 cm, pubescent, at various angles (including right angle) to stem

Indigofera prieureana

records: Koulikoro, Niono (Boudet)

habitat: sands

notes: herb 40-70 cm; leaf 5-7 cm with 4-12 pairs of leaflets, elliptical 1-2 cm x 0.3-0.6 cm; many flowers on raceme usually a little shorter than leaf, sessile pale mauve flowers; long straight semi-quadrangular subligneous pod 3-5 cm x 0.4-0.5 cm, with point, 7-8 seeds

Indigofera pulchra

records: San, Segou, Sikasso (Boudet)

habitat: sand, laterite, old fields

notes: well-branched herb or semiligneous plant to 1.5 m; leaf 1-4 cm with 3-7 pairs of small obovate leaflets on main stems 0.6-1.2 cm x 0.2-0.5 cm (can be trifoliolate or simple on flowering stems); small brick-red flowers in small groups at end of branches or of short axillary racemes; small cylindrical pod 0.3-0.4 cm x 0.2 cm

Indigofera secundiflora var. *secundiflora*

records: Tasséguéla, Gosi, Segou, Koulikoro (Boudet)

habitat: sand

notes: annual herb 20-50 cm; leaf 4-5 cm with 5-6 pairs of elliptical leaflets 0.8-1.5 cm x 0.4-0.6 cm, both sides covered with hairs; flowers fairly dense along most of axillary raceme, which is shorter than a leaf, standard greenish, wings pink; densely bunched cylindrical pods 0.5-0.8 cm x 0.2 cm covered with red-brown hairs, all pointing in same direction

Indigofera senegalensis 50315

records: Timkissa, Gao, Macina, Bandiagara-Mopti (Boudet)

habitat: moist sand

notes: herb, erect or sometimes sprawling, 25-40 cm; leaf 2-4 cm with 2-3 pairs of leaflets (occasionally trifoliolate); long leaflets oblong-elliptical 2-3.5 cm x 0.5-0.8 cm (terminal leaflet up to 4 cm long), covered by thin hairs; brick-red flowers by 15-20 on an axillary raceme 2-5 cm; flat pods 1.2-1.3 cm x 0.3 cm; usually 4 seeds

Indigofera sessiliflora 50316

records: Timbuktu (Boudet); Timbuktu (JH)

habitat: sand

notes: annual herb 15-30 cm; stems with stiff hairs, rough to the touch; leaf 2-3 cm with 2-3 (rarely 4) pairs of leaflets, opposite or subopposite; short elliptical leaflets 0.5-0.9 cm x 0.3-0.5 cm, rounded, s.t. with dense hairs; nearly sessile brick red flowers on very short axillary raceme, buds hidden by leafy bracts; straight linear pods 1-1.2 cm x 0.15 cm, pubescent.

Indigofera simplicifolia 50317

records: Yanfolila, Macina, Bamako (Boudet)

habitat: inundated or other moist areas

notes: herb 50-75 cm; simple alternate leaves, lanceolate or elliptical-lanceolate 3-6 cm x 0.3-0.7 cm, only median nerve clearly visible; flowers on numerous very short axillary racemes less than 1 cm long, all along stem (with each leaf); corolla pink; long linear pods 2-2.5 cm x 0.15 cm, nearly quadrangular, with beak, in groups of 2-3

Indigofera spicata

records: Segou, Lake Debo (Boudet)

habitat: wet sand

notes: herb with stems half-erect, decumbent, or sprawling; leaf 3-5 cm with total of 10-11 alternate to subopposite leaflets, elliptical 1-2 cm x 0.4-0.9 cm, rounded on both ends; flowers in dense axillary raceme 3-7 cm, pink corolla; straight linear pods 2 cm x 0.15, sharp point, in dense clusters pointing down; 6-7 seeds

Indigofera stenophylla var. *stenophylla* 50318 [superficially resembles *Tephrosia bracteolata*, but smaller]

records: Macina, near Bandiagara, Bamako (Boudet); Tupere, Pergue, Walo (JH)

habitat: rocky debris

notes: herb 40-80 cm; stems somewhat rough to touch, hairy; leaf 7-10 cm with 2-4 pairs of opposite leaflets, oblong-linear 5-6 cm x 0.3-0.5 cm, terminal leaflet longer (up to 8 cm); small flowers spaced out on entire length of axillary raceme 3-7 cm, corolla pink or mauve; linear pods facing up 3-4 cm x 0.3 cm with 10-12 grains, beak

Indigofera strobilifera subsp. *strobilifera* [not in Berhaut] [need description]

records: Niono, Dioura (Boudet)

habitat: sandy fallow fields (weed)

notes: (from Miura photo) erect herb, soft silky hairs; about 4 pairs of leaflets, ovate (almost cordate); but see photo of CIRAD specimen

reference: Gillett, Kew Bull Addn ser 1:1-166 (1958, "Indigofera in Tropical Africa"); Flora Tropical Africa 2:75 (1871)

Indigofera suaveolens [not in Berhaut] [need description]

records: Sahara (Boudet)

habitat: clayey zones near mountains

reference: Gillett, Kew Bull Addn ser 1:1-166 (1958, "Indigofera in Tropical Africa"); sp. occurs Mali, Niger, Chad, Sudan, Ethiopia

Indigofera tinctoria var. *tinctoria* 50319

records: Macina, San, Bamako (Boudet); Hombori, Anda, Sevare, Djenne, Seguey (JH)

notes: shrubby plant 1-1.5 m; leaf 5-6 cm with 4-6 pairs of opposite leaflets, obovate-elliptical 1-2.5 cm x 0.7-1.2 cm, tip rounded or lightly emarginate; flowers in axillary raceme 3-10 cm, petals red, standard greenish; red-brown linear pods, lightly curved, 2.5-3 cm x 0.2-0.25 cm

ethnobotany: traditional source of indigo (dark blue dye), still collected by some Dogon for this purpose

Microcharis

Microcharis disjuncta [syn *Indigofera disjuncta* (thus Boudet), not in Berhaut] [need description]

records: Adrar (Boudet)

habitat: sand, rocky debris

notes: erect dwarf herb, densely branched, 5-15 cm tall, leaves usually simple

tribe Loteae

Lotus

Lotus arabicus

records: Dogo (Boudet)

notes: herb 20-40 cm, erect or scrambling, in dense stands; imparipennate leaf 10-15 cm with 2 pairs of lateral "leaflets," one pair of which (actually stipules) emerges at the very base of the petiole (so leaf is technically trifoliate), bottom and sides pubescent; leaflets 1-2.5 cm x 0.8-1.5 cm; mauve or blue flowers with violet lines, by 2-3 at tip

of axillary peduncle; linear cylindrical pods 1.5-3 cm x 0.2-0.3 cm, often paired or by three, also at tip of peduncle

tribe Millettieae

Lonchocarpus

Lonchocarpus laxiflorus (see *Philenoptera laxiflora*)

Mundulea

Mundulea sericea 50321 (corkbush) [not in Berhaut]

records: has spread by cultivation (fish poison) (Boudet, who also says this of *Tephrosia densiflora*); Kikara, Walo, abundant in flat plateau between Emdie and Nombo (JH)

habitat: various open and rocky habitats

notes: (African Database) shrub to tree; stem straight with bush crown; bark corky, smooth, or fissured, often yellowish; leaf, flower, pod are velvety silky; (from photo of specimen) leaf imparipennate with 4-8 pairs of leaflets, ovate (wider near base) tapering to an acuminate point; flattened long pods with about 7 seeds (segments visible but not indented), light tan when mature, with pointed beak

description: F R Irvine, *Woody Plants of Ghana* (1961), 398-400.

Philenoptera

Philenoptera laxiflora 50320 (syn *Lonchocarpus laxiflorus*)

records: Bamako (Boudet); Walo, Dianwely, Bounou, Adia, Bendiely (JH)

notes: tree 5-6 m; alternate imparipennate leaf 15-20 cm with 2-3 pairs of oval-elliptical leaflets 8-10 cm x 3-5 cm; purple-mauve flowers in ramifying panicles; flat glabrous tan-colored pods hanging down 5-10 cm x 1.5-1.8 cm, usually 1 grain (s.t. 2-3).

Ptychlobium

Ptychlobium plicatum 50324 (syn *Tephrosia plicata*) [not in Berhaut]

records: Adrar (Boudet)

habitat: rocky ravines

notes: (from photo:) trifoliate with short petiole, leaflets narrowly obovate, tips rounded or emarginate; pods grouped by 2-3 more or less sessile on axils, tan-colored, lightly curling, thick, indented on one side and deeply grooved between segments, about 3-4 seeds

references: supplement (appendix) to Boudet p. 436; Kew Bull 35:462 (figure p. 463) (1980)

Requienia

Requienia obcordata 50325 (in Berhaut as *Tephrosia obcordata*)

records: Timbuktu, Gao (Boudet); Timbuktu (JH)

habitat: deep sandy soil

notes: annual or subligneous perennial, 25-80 cm; simple alternate leaves, obovate or obcordate (reverse heart shape) 1.5-3 cm x 1-2 cm, tip emarginate; tiny axillary flowers violet-red, barely emerging from calyx; short ovoid pods 0.7 cm x 0.4 cm ending in beak

Tephrosia [similar in habit to Indigofera]

subgenera

Barbistyla, ...

key by leaf

simple, alternate

berhautiana

(cf. *Requienia obcordata*)

trifoliate

(cf. *Ptychlobium*)

imparipennate

3-4 pedicellata

3-4 uniflora

4-6 lathyroides

4-7 platycarpa

(4-7 cf. *Mundulea sericea*)

4-7 mossiensis

4-9 linearis

6-12 purpurea

5-15 bracteolata

simple alternate leaf (cf. also *Requienia obcordata*)

Tephrosia berhautiana 50334 (syn *T. simplicifolia*)

records: Yanfolila (Boudet)

notes: erect annual herb 20-50 cm (or sometimes larger, with woody base); simple alternate leaves, linear-lanceolate 4-6 cm x 0.3-0.6 cm, acute tip, 10-15 faint lateral nerves sharply ascendant, central nerve conspicuous; terminal or axillary raceme with 1-2 small flowers near top, corolla pale mauve; about 2 flat pods on pedicel, dark brown when mature, often facing up, 1.5 cm x 0.2 cm; 2-5 oblong grains with blackish spots

trifoliate (see *Ptychlobium*)

imparipennate (with number of pairs of leaflets)

3-4 pedicellata

3-4 uniflora

4-6 lathyroides

4-7 platycarpa

(4-7 cf. *Mundulea sericea*)

4-7 mossiensis

4-9 linearis

6-12 purpurea

5-15 bracteolata

Tephrosia bracteolata var. *bracteolata* 50335 [superficially resembles *Indigofera stenophylla* but larger]

records: Sanga, Macina, Niono (Boudet); Hombori, Tupere, Anda, Beni, Pergue, Bendiely (JH)

habitat: sand, gravel

notes: annual or shrub 50 cm to 1 m; short hairs on stems; long leaf 8-30 cm with 5-15 pairs of opposite leaflets, linear-elliptical 5-8 cm x 0.7-0.9 cm, tip slightly rounded and mucronate, many faint lateral nerves sharply ascendant, top glabrous but underside covered with silky hairs; flowers spread out along upper part of terminal raceme 15-30 cm, corolla white or pink, standard often white inside and pink on outside; linear facing out or upward, pods 6-10 cm x 0.4-0.5 cm, finely pubescent, c. 15 grey-yellow cylindrical seeds

Tephrosia flexuosa (see *T. platycarpa*)

Tephrosia lathyroides 50337

records: Koulikoro (Boudet); Hombori (JH)

notes: herb or semi-perennial with some branches trailing on ground; semi-erect hairs on stems and petioles; leaf 5-8 cm with 4-6 pairs of elliptical leaflets sometimes increasing in size from base to tip (Montp specimen has 7 pairs), pubescence on both sides but esp on underside (silvery appearance); flowers spread out on raceme 10-12 cm, flowers often by pairs, corolla mauve 1 cm, calyx with sharply pointed teeth; light brown linear pods, slightly curved at end, 4-5 cm x 0.4 cm, pubescent valves, 6-8 grains

Tephrosia leptostachya (see *T. purpurea* var *leptostachya*)

Tephrosia linearis var. *linearis* 50338

records: Macina, Gao, Segou (Boudet); Gao, Ayorou (Rep. of Niger), Anda (JH)

habitat: wet areas

notes: annual herb 30-80 cm; short hairs on stem and petiole; leaf 3-5 cm with 4-9 pairs of linear leaflets 1.5-4 cm x 0.2-0.4 cm increasing slightly in size from base to top, sides of leaflets generally straight and parallel, tips slightly rounded, top glabrous, bottom silvery with white hairs; axillary flowers isolated or sometimes by pairs (in which case the 2nd flowers after 1st is in fruit), corolla salmon pink; straight linear light brown pod, slightly curved at tip, 4-5 cm x 0.3-0.4 cm, with sharp-pointed beak, 10-12 grains yellowish with reddish designs

Tephrosia mossiensis 50339

records: Sanga, Macina, Koulikoro (Boudet); Hombori, Walo, Anda (JH)

habitat: rocks

notes: herb or with woody base, bushy, 50 cm - 1 m or more; leaf 5-7 cm with 4-7 pairs of obovate or elliptical leaflets 1.5-3 cm x 1-1.8 cm, smaller toward base, tip rounded or slightly emarginate (terminal leaflet strongly emarginate), 6-7 lateral nerves, leaflets pubescent especially on bottom; spiciform terminal raceme 1-1.5 cm, a few flowers among leaves below raceme, corolla red-ochre; brown linear pod curved near tip 5-7 cm x 0.7 cm, facing out, thick sutures, 5-6 grains

Tephrosia obcordata (see *Requienia obcordata*)

Tephrosia pedicellata

records: Sikasso, Bourem to Gao (Boudet)

habitat: sandy-clayey or gravelly soil

notes: herb with base more or less perennial; stems hairy (hairs 1 mm); leaf 3-5 cm with 3-4 pairs of elliptical leaflets 2.5-3.5 cm x 0.7-1 cm, tip somewhat rounded and mucronate; blue-mauve flowers isolated or by 2-3 at axil; flat straight linear pods 2.5-3 cm x 0.4-0.5 cm, ending in beak, covered with hairs; 6-9 grains

Tephrosia platycarpa 50340 (now includes the former *T. flexuosa*, distinct in Berhaut)

records: Bougouni, San (Boudet); Menaka, Anda (JH)

habitat: gravelly soil

notes: annual herb 25-50 cm, long leaf 8-15 cm with 4-7 pairs of oblong-elliptical leaflets, gradually increasing in size from base to top, 4-5 cm x 0.5-0.9 cm, tip often truncated (cut flat) or emarginate [but Boudet on *T. flexuosa* has rounded tips] [cf. *T. purpurea*], mucronate, many nerves, sharply ascendant, hairs on both sides; petiole 1-3 cm before first leaflets; terminal raceme 5-10 cm, isolated or 2-3 at tip, one or two others lower down; corolla mauve; flat straight pods facing up 3-4 cm x 0.6-0.7 cm, thick sutures, beak roughly in middle

Tephrosia purpurea var. *leptostachya* 50341 (syns *T. leptostachya*, *T. purpurea* subsp. *leptostachya*)

records: Gao, Beni (JH)

var. leptostachya

records: Gao (Boudet)

var. pubescens

records: Timbuktu, Ikdal, Mopti to Koulikoro (Boudet)

notes (Boudet T. purpurea): semi-perennial herb often sprawling on sand then ascendant; leaf 6-10 cm with 6-12 pairs of leaflets, the middle leaflets longest, leaflets oblanceolate-elliptical 1.2-2 cm x 0.4-0.7 cm, summit rounded or truncate [cf. T. platycarpa]; terminal raceme 1.5-3.5 cm, flowers isolated or by 2-3, corolla crimson 1 cm, standard wide 1.1 cm; flat pod slightly curved near tip 4-5 cm x 0.4 cm, glabrous, 7-9 seeds (yellowish with darker markings)

Tephrosia simplicifolia (see *T. berhautiana*)

Tephrosia uniflora subsp. *uniflora* 50342 (sp. rather variable)

records: Macina, Tilemsi, Gao, Niore (Boudet); Hombori, Kubewel, Adia (JH)

habitat: dunes

notes: annual, erect or sprawling, 30-40 cm; leaf 3-4 cm usually with 3-4 pairs of leaflets, obovate-elliptical 1.5-4 cm x 0.6-1 cm, tip rounded or emarginate, mucronate, many ascending lateral nerves, top glabrous, bottom with silky white hairs; more or less sessile axillary flowers, isolated or by 2-3 (rarely 4-5 but not flowering at same time), corolla pale pink 1 cm; flat brown linear pods curving near tip, facing out or down, 5 cm x 0.4 cm, very pubescent, about 10-11 seeds

tribe Phaseoleae [trifoliate leaves]

Canavalia [trifoliate, broad-leaved, twining or decumbant]

Canavalia spp. (both spp. below) 50698

Canavalia africana 50291 [syn *C. virosa*]

notes: twining; trifoliate, leaflets oval 7-10 cm x 4-7 cm petiole 6-8 cm, 2 short cuneiform stipules 2 mm; pod 12-18 cm x 1.5-3 cm; seeds green-yellow with dark olive green marblings

Canavalia ensiformis 50290 (jack-bean)

records: Mopti (planted)

notes: twining or decumbant; trifoliate, leaflets broadly oval 6-15 cm x 4-8 cm, 5-7 pairs of lateral nerves, glabrous; petiole 5-15 cm, no stipules; long pod to 30 cm x 3-3.5 cm; 10-15 white or red seeds

Erythrina [shrubs/trees]

Erythrina senegalensis 50303

records: Oulia, Ouarsada, Yanfolila (Boudet); Walo, Diangassagou (JH)

notes: shrub or small tree to 10-15 m; scattered curved thorns on stems and branches; trifoliate leaf with oval leaflets 5-10 cm x 3-5 cm, somewhat rounded tip, petiole 3-6 cm; terminal spiciform inflorescence 15-25 cm often at end of defoliated stem, corolla bright red; pod moniliform (like string of beads) 8-15 cm x 1 cm, twisting as it opens on one side to reveal bright red seeds

Erythrina sigmoidea 50304

records: Niene (Boudet); Kikara (JH)

notes: shrub 3-6 m; curved thorns; trifoliate leaf 5-20 cm with long petiole 5-15 cm before first lateral leaflets, leaflets oval or suborbicular (nearly circular), s.t. wider than long; 5-12 cm x 4-15 cm; flowers by 2-4 in axillary or terminal raceme 10-15 cm, corolla emerges through lateral slit in calyx (which ends in 5 lobes), standard falciform; pod moniliform 8-15 cm x 1.5-2 cm, 5-10 roundish red seeds

Lablab

Lablab purpureus subsp. uncinatus (hyacinth bean) (syn Dolichos lablab)

records: one vague record (Boudet)

notes: twining, to 2-3 m; alternate trifoliolate leaf, leaflets broadly oval 4-8 cm x 3 cm, median leaflet about as wide as long, petiole 3-15 cm; stipules, also stipels at base of lateral leaflets and just under median leaflet; white or mauve flowers isolated or by pairs separated by 1-3 cm on stem; flat pods, fairly straight, 5-8 cm x 1.5-2.5 cm, 3-4 white or black seeds

Rhynchosia [twiners, trifoliolate, axillary stipules]

Rhynchosia minima 50326

records: Hombori, Douentza, Bounou (JH)

var. memnonia 50327 [this variant no longer recognized in Afr PI Database]

records: Nara, Gao (Boudet)

habitat: poor soils, in shade

notes: twiner, leaflets shaped like rounded diamond, 2-3 cm x 2-3 cm; petiole 2.5-4 cm; flowers yellow; flat pods 1.5-2 cm x 0.5-0.6 cm with 2 grains

var. minima 50328

records: Koulikoro, Gao (Boudet)

habitat: humid areas on sandy or clayey soil

notes: twiner, leaflets oval-triangular 2-4 cm x 1.5-3 cm; petiole 1-2 cm; yellow flower; flat pods 1.5-2 cm long with 2 grains

Rhynchosia pchnostachya 50329

records: Bla, Niana (Boudet); Bounou, Kikara (JH)

habitat: humid areas in forest

notes: robust herb; leaflets oval 5-10 cm x 4-7 cm, acuminate; petiole 2-6 cm; stipels just under median leaflet; flowers yellow in dense axillary raceme; long pod 1.5 cm x 0.5 cm, not surpassing the calyx, with 2 dark blue seeds that remain exposed when pod opens

Vigna [twining, trifoliolate, pair of stipules on each petiolule; includes cultivated cow-pea and cultivated groundnut]

cultivated

Vigna subterranea 50346 [syn Voandzeia subterranea] (=cultivated groundnut, Fr *pois de terre*)

records: cultivated widely in Dogon country

notes: all leaves rise up from prostrate stems, long petioles 8-15 cm, leaflets oblong or elliptical-lanceolate 4-7 cm x 1.5-3 cm; flowers and pods on ground; corolla yellow; ovoid pod 1.2-1.5 cm, with a single seed (white, red, or black, or spotted)

ethnobotany: nut is globular, much harder than peanut

native terms: often called by same term as peanut (*Arachis hypogaea*), distinguished by modifiers

Vigna unguiculata 50347 (=cultivated cow-pea, Fr *haricot* or, from Bambara, *niébè*)

[includes (cultivated) *V. unguiculata* and (wild) *V. sinensis* in Berhaut]

notes: leaves often hastate (sharp bulge very close to base), leaflets 3-10 x 2-3 near base; corolla bluish mauve; cylindrical pod 7-10 cm with c. 15 seeds

ethnobotany: an important crop throughout much of Mali; several varieties (seeds white, red-brown, black, or "black-eyed" white and black)

cultivars: cow-peas grown locally are a) white, b) white and black (black-eyed peas), c) red-brown, and d) black

wild

[some specimens of "wild cow-pea" are *V. unguiculata*, see above]

Vigna ambacensis (see *V. heterophylla*)

Vigna filicaulis

records: Macina, Katiboubou (Boudet)

habitat: periodically inundated areas, twines around grasses & herbs

notes: stem wire-like; leaflets oblong-lanceolate or oblong-linear 2-4 cm x 0.3-0.7 cm, usually glabrous; corolla yellow; semicylindrical pods 2-2.7 cm long with 4-5 seeds

Vigna heterophylla 50343 (includes previous *V. ambacensis*)

records: Niono, Mopti-Koulikoro, Bandiagara-Mopti (Berhaut)

habitat: depressions, weed in fields

notes: leaflets oval-elliptical or s.t. lanceolate 4-10 cm x 1.5-2.5 cm; corolla yellow; pods curved toward end, 4-5 cm long, 7-8 reddish-brown seeds

Vigna racemosa 50344

records: Sanga, Bamako (Boudet); Bounou (JH)

habitat: forest galleries, rocky outcrops, in shade, etc.

notes: perennial; stems and petioles very hairy, leaves also hairy (noticeable on edges); leaflets oval 4-6 cm x 2-4 cm, bulging a little closer to base than to tip, petiole 1.5-5 cm; corolla cobalt blue, base of standard streaked with violet; pods 3-4 cm long, slightly curved, 6-8 seeds

Vigna sinensis (see *V. unguiculata*)

Vigna vexillata

records: Macina, Bamako

habitat: grassland, meadows, old fields

notes: perennial climbing or trailing with tuberous, spindle-shaped woody rootstock, may be densely covered by brown hairs; leaflets oval 4-10 cm x 3-5 cm (also a variant with long thin leaves), bulging in center or a little toward base, long petiole 3-8 cm; corolla pink; flattened pod 7-9 cm, 12-15 seeds

Voandzea

Voandzea subterranea (see *Vigna subterranea*)

tribe Psoraleeae (now thought to be nested within Phaseoleae)

Cullen

Cullen plicatum (syn *Psoralea plicata*)

records: Timbuktu, Niafunke, In Tillit (Boudet)

habitat: clayey soil, temporarily inundated

notes: semi-woody shrubby plant 50 cm to 1 m; alternate trifoliate leaves, leaflets with undulating margins, terminal leaflet (2-3.5 cm x 1-1.2 cm) twice as long as laterals (1-1.5 cm x 0.7-1 cm), petiole 0.7-3 cm; stem has numerous wart-like or semi-thorny glands; flowers spread on raceme 5-10 cm long, blue and violet; small fruit

tribe Robinieae

Sesbania [tall erect herbs in moist areas (cf. *Aeschynomene*), paripennate leaves, leaflets with rounded tip, yellow flowers, long pods]

note: we currently refer the common herbaceous *Sesbania* in the Dogon and montane Songhay area to *S. pachycarpa*

ref: Lewis G.P., 1988. *Sesbania* Adans. in the Flora Zambesiaca region. *Kirkia* 13: 11-51.

subgenera: Sesbania (most African spp.), Agati (*S. grandiflora*), Daubentonia, Glottidium

key by no. of leaflets and leaf length [[get info: pachycarpa, rostrata, hepperi](#)]

10-12 (8-10 cm) leptocarpa

30-40 (15-25 cm) dalzielii

12-22 (10-15 cm) sericea

15-20 (8-12 cm) sesban

key by no. of seeds (and pod length) [[get info: pachycarpa, hepperi](#)]

10-15 (12-15 cm) straight: dalzielii

15-25 (10-15 cm) straight: leptocarpa

c. 21 (15 cm) fairly straight: sesban

c. 25 (15-17 cm) curved: sericea (illustr. shows 25)

30-45 (15-20 cm) curved with very long pointed beak: rostrata

Sesbania dalzielii **50705** (similar to *S. rostrata* but more leaflets, and undersides pubescent)

records: Segou, Macina, Labbezanga (Boudet)

habitat: marshes, riverbanks, pools

notes: herb 50 cm to 1.5 m; leaf 15-25 cm with 30-40 pairs of small leaflets each 1.2-1.5 cm x 0.3 cm, underside of leaflets pubescent; 10-15 flowers per raceme, corolla yellow, standard of uniform color (not spotted); linear pod 12-15 cm, 10-15 seeds

Sesbania hepperi (syn in part *S. arabica*) [not in Berhaut] [[get description](#)] [[not at CIRAD](#)]

records: Macina (Boudet)

habitat: temporarily flooded area

notes: slightly woody at base, tall (2 m), very slender

reference: described (under misapplied name *S. arabica*) in FWTA2 vol. 1.2 p.532 (1958); Thulin in *Opera Botanica* 68:1-223 (Ethiopia)

Sesbania leptocarpa (syn in part *S. arabica*)

records: San, Tin Ahara (Boudet)

habitat: seasonally inundatable areas (in colonies), irrigated farmland

notes: herb 30 cm to 2 m, very thin stems; stems finely grooved, sometimes aculeate (prickly); leaf 8-10 cm with 10-12 pairs of leaflets, increasing noticeably in size from both directions toward middle; 2-5 flowers per raceme, corolla yellow, standard with dark violet spots; linear pods pointing up, 10-15 cm, slightly compressed at joints between seeds, 15-25 seeds

reference: Thulin in *Opera Botanica* 68:1-223 (Ethiopia)

Sesbania pachycarpa subsp. *pachycarpa* **50330** (see comments on *S. rostrata*)

Sesbania rostrata **50331** (in FWTA2 as *S. pachycarpa*)

reference: Adventices; Thulin in *Opera Botanica* 68:1-223 (Ethiopia); Du Puy et al *The Leguminosae of Madagascar*

(now includes *S. pachycarpa* subsp. *pachycarpa* **50330**)

records:

as *S. rostrata*: Kabara, Gao, Gourma Rharous; Ansongo and Bamba (on Niger R.) (JH)

as *S. pachycarpa*: Macina, Segou, Sanga (Boudet)

JH records [if correctly identified]: Dalla, Beni, Douentza, Walo

habitat

as *S. rostrata*: marshes, pond edges, flood-plains, can grow in up to 1 m deep water

as *S. pachycarpa*: depressions, riverbanks, sorghum and peanut fields

notes:

[Berhaut on “*S. rostrata*”] herb 1-1.5 m; leaf 10-15 cm or more, 15-20 pairs of leaflets 1-3.5 cm x 0.5-0.8 cm, glabrous; young stems pubescent, then glabrous, then with lines of warty nodules; up to 10-12 flowers in raceme 4-6 cm, corolla yellowish, standard

finely dotted with violet on back; linear pod 15-20 cm, often curved, tip in long acuminate beak, slight furrows in pod between seeds, 30-45 seeds

[Berhaut on "S. pachycarpa"] herb 50 cm - 1.5 m, plant glabrous; leaf 15-25 cm with 20-60 pairs of leaflets; 2-5 flowers in raceme 3-6 cm, corolla yellow, standard with violet dots on back; straight erect pods 15-25 cm, 30-40 seeds

[African plants database]

on S. rostrata: erect softly woody annual or biennial 1-3 m, not aculeate (prickly), stems pithy to 1.5 cm thick, at first sparsely pilose then glabrescent with vertical rows of pustules above the leaf-axils that produce warty outgrowths on older stems

on S. pachycarpa: erect semi-woody annual or biennial 1-2.5 m, glabrous except for scattered hairs on very young leaves, stems s.t. sparsely aculeate (prickly)

[World Agroforestry Centre website consulted 2007 for S. rostrata including S.

pachycarpa] erect robust softly woody annual or short-lived perennial 1-3 m tall; forms stem nodules (cf. S. sesban var. punctata); stem pithy, sparsely pilose, with vertical rows of pustules evident above leaf axils and producing warty outgrowths on older stems; submerged portions covered with matted fibrous roots; leaves 7-25 cm long, rachis up to 19 cm, 12-24 pairs of leaflets, apex of leaflets rounded to obtuse to slightly emarginate; pod falcate in outline, 15-22 cm x 0.35-0.5 cm, up to 50-seeded; plant tolerates flooding to 1 m.

taxonomy: Berhaut's S. pachycarpa is part of S. rostrata; *Kew Bulletin* 17:122 (fig 3.8 p.

110, 1963); Du Puy et al *The Leguminosae of Madagascar*

description

<http://www.worldagroforestrycentre.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18135>

Sesbania sericea (syn S. pubescens)

records: Timbuktu, Kabara (Boudet)

notes: herb 60 cm x 1 m; leaf 10-15 cm with 12-22 pairs of leaflets each 1-3 cm x 0.5-0.8 cm, hairy underside; raceme 3-5 cm with 3-5 flowers, small yellow flowers golden yellow, standard greenish on back with weak brown spots; curved pods 15-17 cm with sharp pointed tip, each seed forms a bulge on the pod valves

references: illustration in Thuan et al (1987) *Flore du Cambodge* vol 23 P.

Sesbania sesban **50332** (foliage resembles Albizia chevalieri, whose leaflets are pointed)

records: Hombori area, Dianwely, Tupere, Tanga (JH)

notes: tree or woody shrub to 5-6 m; leaf 8-12 cm with 15-20 pairs of oblong leaflets 1.5-2 cm x 0.3-0.5 cm; 3-7 flowers per raceme, corolla yellow, standard with dark violet spots on outside; hanging linear pods 15 cm x 0.3-0.4 cm, ending in acute beak, illustration shows 21 seeds)

subsp. punctata

records: Bamako, Niono, Macina, San (Boudet)

subsp. sesban

records: Koutiala, Sikasso (Boudet)

habitat: wet sandy soil

Geraniaceae

Monsonia

Monsonia senegalensis **50372**

records: Ansongo, Timbuktu (Boudet); Hombori (JH)

habitat: sand on slopes near rocks

notes: perennial herb, base more or less woody, stems erect or sprawling; leaf oval (roughly triangular) 1.5-4 cm x 0.8-3 cm, edges dentate; petiole 1-1.5 cm; several leaves and short stems emerging from each axil; petiole and stem reddish; isolated pink flowers on peduncle then pedicel each 1-2 cm, the peduncle and pedicel separated by 2 small bracts; fruit is a long thin "beak" 6-9 cm

Gisekiaceae

(recognized as a separate family in APG II; previously in Aizoaceae or Molluginaceae, in Berhaut under Molluginaceae)

Gisekia

Gisekia pharnaceoides 50373

records: Adrar, Timbuktu, Ansongo, Djenne (Boudet); Timbuktu, Dianwely, Bounou (JH)

notes: fleshy annual herb, erect or sprawling; can be pinkish due to fungal attack (*Exobasidium gisekiae*); 2 opposite leaves (s.t. with one or two shorter leaves at same joint), form of leaf variable, often linear-lanceolate 3-4 cm x 0.3-0.5 cm, top glabrous, bottom with whitish scales; small greenish flowers with reddish sepals on edges, no petals, in glomerules on short peduncles; fruit with 5 carpels

ethnobotany: UPWTA 1.34-5 (purgative)

Heliotropiaceae

note: see note under Boraginaceae

Euploca

Euploca ovalifolia 50128 (syn *Heliotropium ovalifolium*)

records: Timbuktu, Gourma Rharous, lac Faguibine (Boudet); Labbezanga (JH)

habitat: wet areas

notes: herb, more or less perennial, to 30-50 cm, erect; leaves alternate; leaf elliptical or slightly oval, 1-3 cm x 0.5-1.5 cm, tapered base; white flowers in one row on scorpion-tail spikes in pairs 2-10 cm long

Euploca strigosa 50130 (syn *Heliotropium strigosum*)

records: Bamako, Sofara, Sanga, Gourma, Tin Tadeni (Boudet); Perge (JH)

habitat: sandy

notes: annual herb 10-25 cm; leaves alternate; leaf linear-lanceolate 2-3 cm x 3-6 mm; little or no petiole; small white flowers in one row, spaced out on spiciform spike only slightly curved at top

Heliotropium (some spp. now removed to *Euploca*)

Heliotropium bacciferum (see *H. ramosissimum*)

Heliotropium baclei (var. *baclei* and var. *rostratum*)

records: Ansongo, Gao, Mopti, Macina, Sotuba (Boudet)

habitat: wet areas

notes: small annual herb, erect or spreading; small oval leaf 1-1.5 cm x 5-9 mm; isolated small axillary white flowers

Heliotropium indicum 50126

records: Bamako, Segou, Goundam (Boudet); Djenne, Tin Hamma north of Gao (JH)
habitat: wet areas

notes: annual herb to 30-60 cm; leaves opposite, then becoming alternate; broad oval leaf 6-15 cm x 3-10 cm, widest near base, pubescent; stem hairy; flowers white or bluish, in two rows on scorpion-tail flower spike 20-30 cm long

Heliotropium ovalifolium (see *Euploca ovalifolia*)

Heliotropium pterocarpum [get description]

records: Gao, Dire, Niafounke, Bossobougou (Boudet)
habitat: sandy

Heliotropium ramosissimum 50129 (in Berhaut as *H. bacciferum*, syn also *H. undulatum*)

records: Timbuktu, Goundam, Dire, Adrar, Rharous (Boudet); mainly in far north (Timbuktu, Gao), also observed in Waami north of Hombori, not known in Dogon country (JH)

habitat: sandy

notes: perennial herb 15-50 cm, spreading; alternate leaves; elliptical or lanceolate leaf 4-8 cm x 8-15 with coarse hairs on both sides (cf. *H. zeylanicum*), in upper leaves with not much of a distinct petiole, lower leaves with petiole to 8-12 mm in rainy season; edge of leaf slightly undulating (esp. in dry season); white flowers densely packed in two rows in small scorpion-tail spikes, often several spikes branching near tip of each branch

Heliotropium strigosum (see *Euploca strigosa*)

Heliotropium subulatum (see *H. zeylanicum*)

Heliotropium supinum

records: Gourma, In Tillit (Boudet); Douentza in drying pond (JH)
habitat: clayey soils near water

notes: spreading annual herb, leaves opposite or alternate; oval leaf 1.5-2 cm x 1-2 cm; some hairs between nerves on top, bottom pubescent; petiole 3-10 mm and stem pubescent; few small white flowers in scorpion-tail spike at tip or below.

Heliotropium undulatum (see *H. ramosissimum*)

Heliotropium zeylanicum 50131 (in Berhaut as *H. subulatum*)

records: Niafounke, Hombori (Boudet); Waami near Hombori (JH)

habitat: sandy

notes: annual herb 30-60 cm, alternate leaves; leaf lanceolate 5-9 cm x 8-15 cm with coarse hairs on both sides (cf. *H. ramosissimum*); yellow-green flowers spaced out on scorpion-tail spike 10-20 cm, curled at tip, usually three spikes per branch; corolla lobes with long filiform points

Hernandiaceae

Gyrocarpus

Gyrocarpus americanus subsp. *pinnatilobus* 50374

records: Timbuktu, Kita, Dira-Bandiagara (Boudet); Kikara, Adia (JH)

habitat: rocky hills

notes: tree 8-15 m, alternate palmatilobate leaves; bottom of leaf densely pubescent, whitish; small greenish fruits in corymbiform terminal panicle; fruits have two long wings

Hippocrataceae

(for *Loeseneriella*, see *Celastraceae*)

Hyacinthaceae

(now included in *Asparagaceae*)

Hydrocharitaceae (= Limnocharitaceae)

[includes *Najadaceae*] [monocots]

Lagarosiphon [not in *Berhaut*]

Lagarosiphon muscoides

records: Banani pond near Sanga (Boudet)

Najas (submerged aquatics)

Najas spp. (*graminea* and/or *welwitschii*) 50377

records: Beni, Walo (JH)

Najas baldwinii (syn *N. liberiensis*)

records: Kita

notes: dark green becoming reddish; stems supple, 10-15 cm; leaf supple, linear 10-15 cm x 0.2-0.4 mm (including dentations); about 20 saw-like dentations on each side of leaf margin with point facing up; no floral spathes

Najas graminea

records: Sanga (Boudet)

habitat: ricefields (can form a "turf" on water surface), stagnant waters often with clayey bottom

notes: green becoming reddish; stems supple 10-60 cm; leaves linear, supple 1.6-2.5 cm x 0.5 mm, 30-55 dentations (single-cell) on each side seen with microscope; no floral spathes

Najas hagerupii [get description]

records: Gao (Boudet)

Najas liberiensis (see *N. baldwinii*)

Najas pectinata

records: Macina, Bourem (Boudet)

habitat: lakes, ponds

notes: floating, brown; stem rigid 30-100 cm; leaf linear 8-10 cm x 0.5-1 mm, curved, with 4-8 triangular dentations longer than width of leaf (without dentation); no floral spathes

Najas welwitschii

records: Bourem (Boudet)

habitat: stagnant water, inundated ricefields

notes: stems soft, 10-30 cm; linear leaf, soft, 1.5-2.5 cm x 0.5-1 mm (excluding dentation), about 12 thorny dentations on each side of leaf; male and female flowers covered with spathes

Ottelia

Ottelia ulvifolia

records: Bourem-Bamba, Ansongo, Sotuba, Gao (Boudet); in Niger R. (Gao area) (JH)

habitat: submerged aquatic in muddy swamps
notes: submerged aquatic with flowers emerging above surface; broad leaf with undulating margin 10-40 cm x 2-5 cm; single female flower, petals yellow; male flowers break off and float on water
drawing: Berhaut 9:394

Hydroleaceae

Hydrolea

Hydrolea floribunda

records: Sotuba, Dogo (Boudet); none (JH, earlier Gao record probably incorrect)

habitat: swamps in savanna, rice fields

notes: herb 40-80 cm, stem simple or ramified, alternate leaves: sessile leaf linear-lanceolate 10-15 cm x 0.4-0.8 cm, pointed; stem glabrous, thick, spongy, filled with water; dark blue flowers in terminal clusters; capsule dividing in two, rust-colored seeds

Illecebraceae (see Caryophyllaceae)

Labiatae (= Lamiaceae)

Lamiaceae (= Labiatae)

some reallocation from Verbenaceae is going on (Vitex, Tectona)

[most spp. have minty odor]

leaves opposite or verticillate, stems usually quadrangular, 2-4 stamens inserted in tube of corolla, corolla usually has 2 “lips” at top

subfamilies and tribes

Ajugoideae

Clerodendrum (in part)

Lamioideae

Lamieae

Leucas

Leonotis

Nepetoideae

Mentheae

Mentha (cultivated mint)

Ocimeae (with synthecous, dorsifixed anthers)

Endostemon

Englerastrum (see Plectranthus)

Hoslundia

Hyptis

Ocimum

Orthosiphon

Plectranthus

Solenostemon
Viticoideae (s.t. combined with Caryopteroideae under Teucroideae)
Premna
Vitex
unassigned genera
Tectona (teak tree, not native to Mali, planted in south)

subfamily Lamioideae, tribe Lamieae

references:

Scheen, Anne-Cathrine, and Victor A. Albert. 2007. "Nomenclatural and Taxonomic Changes within the Leucas Clade (Lamioideae; Lamiaceae)." *Systematics and Geography of Plants* 77(2): 229-38.

Mika Bendiksby, Lisbeth Thorbek, Anne-Cathrine Scheen, Charlotte Lindqvist and Olof Ryding. 2011. An updated phylogeny and classification of Lamiaceae subfamily Lamioideae. *Taxon* 60(2): 471-484

These refs show that "the African Leucas clade" is polyphyletic and some or all Leucas spp. may eventually be transferred to genus Leonotis.

Leonotis

Leonotis nepetifolia var. africana 50382 (also spelled "nepetaefolia")

records: Macina, Legan (Boudet); Tupere, Songho (JH, less common in Dogon country than Leucas martinicensis but still fairly common)

habitat: near settlements, s.t. cultivated

notes: annual plant 1-2 m (i.e. much taller than Leucas), leaves opposite by 2, oval 4-10 cm x 3-8 cm (widest near base), fairly sharp dentations around edge, base of leaf 3-nerved with lateral nerves reaching above mid-height of leaf; soft hairs on both sides of leaf; petiole 3-10 cm (shorter near tip); stem with 4 obtuse angles and medial furrows; flowers in spherical glomerules 3-5 cm wide, with each pair of leaves in upper part of leaf; corolla cream-colored (var. africana) or red (in cultivated varieties); calyx teeth thornlike

Leucas (see comments on subfamily, above)

Leucas deflexa 50692 [not in Berhaut]

records: Boudet (none)

Leucas martinicensis 50383

records: Dioura, Sotuba, Segou, San, Niono, Bamako (Boudet); Kikara, Beni, Bounou, Bendiely, Sangha, Segue (JH)

habitat: often a weed of cultivated fields

notes: aromatic herb 30-80 cm, leaves opposite by 2, oval or oval-lanceolate 4-8 cm x 2-4 cm, obtuse dentations; pubescent on both sides; petiole 0.5-1 cm; stem quadrangular with deep furrows, pubescent with hairs directed downward; flowers in globular axillary glomerules 1.5-3 cm wide at each pair of leaves near end of stem; calices filiform but not rigid; tiny white corollas

subfamily Nepetoideae, tribe Ocimeae

Endostemon

Endostemon tereticaulis 50378

records: Tin Tadeini, Bandiagara, Sanga, Sokolo (Boudet); Tupere, Kubewel, Bendiely (JH)

habitat: stony soil with sand

notes: herb 25-50 cm, ramified from base; leaves opposite by 2, sharp dentations all around edge, elliptical-lanceolate 4-6 cm x 0.8-1.2 cm, short or indistinct petiole; stem with 4 angles but well-rounded so nearly cylindrical; stems pubescent; axillary flowers by 2-4 at base of leaves, curved tubular calyx 1 cm x 2 mm, lower lip with 4 teeth, upper lip rounded, corolla does not emerge from tube

native names: often combined with with *Ocimum americanum* (=O. canum) among northern Dogon, both are used to help remove particles from the eyes (JH)

Englerastrum

Englerastrum gracillimum (see *Plectranthus gracillimum*)

Hoslundia

Hoslundia opposita 50379

records: Bandiagara-Douentza (Dé to Timba), Bamako, Tienfala forest (Boudet); Kikara (JH)

notes: shrub 1-5 m, leaves verticillate by 3-4, leaf oval-lanceolate 7-10 cm x 2-3 cm, elongated shallow dentations around most of leaf; well-defined petiole 2-15 mm; thin quadrangular stems; flowers in terminal panicle with several spiciform racemes with small white flowers in successive verticillations; very small pedicels for flower; globular orange fruits

Hyptis

Hyptis spicigera 50380

records: Niono, Koulikoro, Yanfolila (Boudet); Beni, Douentza (road to Fombori), Diangassagou, Bendiely (JH)

habitat: humid zones

notes: strongly aromatic annual herb 0.5-1 m, leaves opposite by 2 but with two side stems emerging at base of leaves, leaf lanceolate 7-10 cm x 1.2-3 cm, wedge-shaped at base; long petiole 1-4 cm; quadrangular stem with deep furrows; flowers in compact terminal spikes 2-10 cm long, formed mainly by calices and filiform bracts; corolla small, white, barely extending beyond teeth of calyx

ethnobotany: medicinal, dried spikes preserved by northern Dogon (JH)

Hyptis suaveolens 50381 (introduced)

records: Bamako, Klela (Boudet); Songho, Segue, Bendiely, Segue (JH)

notes: strongly aromatic (minty) annual herb 0.5-1.5 m, leaves opposite by 2 but with two side stems emerging at base of leaves; leaf pubescent, widely oval 4-15 cm x 3-9 cm but much smaller near end of stem; petiole 1-4 cm for larger leaves lower down on stem, much shorter on smaller leaves; two petioles with same base often of unequal length; stem with 4 rounded angles; inflorescence in small axillary cymes with peduncles 1-2 cm; blue corolla; calyx develops to 1 cm long when fruiting and its teeth become thorny [stems and fruits persist through the dry season/JH]

Ocimum

Ocimum americanum var. *americanum* 50386 (in Berhaut & Boudet as *O. canum*)

records: “communément cultivé” (Boudet for *O. canum*); seen mainly in villages, e.g. Songho, Walo (JH)

notes: very similar to *O. basilicum* but smaller; annual 15-40 cm, pubescent; leaves opposite; petiole 1.5-4 cm; stem quadrangular, with gutters on two opposed sides; flowers in spiciform terminal raceme 5-15 cm long, 0.8-1 cm wide, with successive

glomerules with 6 verticillate flowers; mature calyx 4 mm diam; corolla small, hardly exceeding the calyx

Ocimum basilicum 50387 (planted)

records: Douentza-Hombori, Koulikoro (Boudet); Gao, Sevare (JH, less common in Dogon country than the smaller *O. americanum*)

notes: pleasantly aromatic semi-perennial bush, well-ramified, sub-glabrous, often 50 cm or more high, leaves opposite by 2, with side stems emerging at same point; leaf 4-6 cm x 1.2-3 cm, 5-6 teeth on each side, top of leaf glabrous, underside with small green glands; petiole 0.5-1.5 cm; stem clearly quadrangular, with gutters on all four sides; inflorescence in spiciform terminal raceme 10-20 cm long with small bunches of flowers usually verticillate by 6; white corolla 1 cm long (twice as long as calyx), upper lip better developed and with 4 teeth at top, lower lip rounded; 4 divergent stamens; mature calyx 6 mm diam with 2 lips, upper one broadly oval, lower one with 4 ciliated teeth

taxonomy: Boudet notes very similar to *O. canum* (now *O. americanum*), some determinations doubtful

Ocimum canum (see *O. americanum* var. *americanum*)

Orthosiphon

Orthosiphon pallidus [not in Berhaut]

records: Ansongo-Gounga, Melo (Boudet)

habitat: foot of cliff

Plectranthus

Plectranthus chevalieri (in Berhaut & Boudet as *Solenostemon chevalieri*)

records: Koulikoro, Yanfolila (Boudet)

habitat: wooded savanna

notes: annual herb 20-40 cm, leaves opposite by 2, elliptical-lanceolate 6-8 cm x 1-2.5 cm, base attenuated, dentate, glabrous, glands on underside; quadrangular, puberulent stem; loosely spiciform terminal raceme 10-25 cm long, with successive bunches of small ramifying racemes 1-2.5 cm long verticillate by 3-6, the bunches separated by 1-2.5 cm of stem; the small racemes sinuous, with alternate pedicels 3-5 mm long with terminal flower; small bluish corolla; fruits not curved

Plectranthus gracillimus (in Berhaut & Boudet as *Englerastrum gracillimum*)

records: Koutiala, Yanfolila (Boudet)

habitat: laterites, rocks, and gravels in wooded savannas

notes: herb 30-80 cm, stems soft and reclining, leaves opposite by 2, leaf oblanceolate 5-7 cm x 0.7-1.5 cm widest in middle, attenuated at base with no distinct petiole, edge with a few rounded dentations in upper part only; flowers in terminal panicle; tiny bluish corolla; calyx with 5 teeth; pedicels 2-5 mm (flowering) to 1.5-2 cm (fruiting)

Solenostemon

Solenostemon chevalieri (see *Plectranthus chevalieri*)

Solenostemon latifolius

records: Koulikoro, Bamako, Nogolasso (Boudet)

habitat: rocky areas (?) (Boudet)

notes: herb 40-80 cm, annual stems, leaves opposite, usually elliptical-lanceolate 5-15 cm x 1-2 cm (widest just under middle), base attenuated, elongated dentations; terminal spiciform panicle 10-20 cm long, 3-4 cm wide; flowers blue or pale mauve 1.5 cm long; flowers in successive verticillate glomerules of 6-10; calyx curled (cf. *Endostemon*); oblong tubercle 1-3 cm x 0.8-1 cm in earth

taxonomy: "plante extrêmement variable nécessitant des études approfondies" (Boudet), may involve multiple varieties or spp.

Solenostemon rotundifolius (introduced, from Ethiopia)

records: none (Boudet), but Berhaut lists Mali (Chevalier 2813)

notes: perennial herbaceous stems 60 cm, erect or decumbent, leaves opposite by 2 but with side stems emerging at same point; leaf rounded oval or losange, 2-5 cm x 1.5-4 cm, 6-8 rounded dentations on each side; petiole 0.5-1.5 cm; stem quadrangular, often flexible; terminal spiciform raceme 10-25 cm long; flowers by 4-6, flowers in successive verticillate glomerules; blue flowers; calyx curled (cf. *Endostemon*); ovoid tubercles in earth 1.5-2 cm x 101.5 cm (black, white, or red)

subfamily Viticoideae (originally in Verbenaceae)

Gmelina

Gmelina arborea (local French "allumette")

records: introduced tree planted mainly in south, one seen at Bangolo Kana village (Togo Kan speaking zone)

ethnobotany: wood widely used for matches (hence the local French name)

Premna

Premna lucens

records: southern Mali (Boudet)

Vitex (composite leaves with 3-5 leaflets)

Vitex chrysocarpa **50388**

records: Bamako, Mopti-Djenne (Boudet)

habitat: riverbanks

notes: small shrub or spreading tree; calyx, pedicels, & ovary densely pilose; calyx 4-5 mm long, peduncles 2-6 cm long, flowers violet in peduncles cymes; fruit yellowish-puberulous all over even when ripe

Vitex doniana **50389**

records: south of Labezanga, Diafarabe, Sanga, Bougouni, Yanfolila (Boudet); Tabi mountain, Kikara, Walo, Anda, Diangassagou (JH)

habitat: wooded savanna, lateritic debris, terraces

notes: tree 10-20 m high; leaves 5-foliolate, coriaceous; calyx and pedicels minutely puberulous; ripe fruits black

ethnobotany: fruits edible (black pulp around pits)

Vitex madiensis subsp. *madiensis* **50390** (syn *V. simplicifolia*)

records: Koulikoro, Yanfolila, Kati (*V. madiensis*); Bandiagara, Sansanding (*V. simplicifolia*) (Boudet); Kikara, Anda, Diangassagou (JH)

habitat: wooded savanna on gravel, riverbanks

notes: shrub or small tree (original *V. simplicifolia*) some leaves in floral region undivided

Vitex simplicifolia (see *V. madiensis* subsp. *madiensis*)

unassigned genera

Tectona (formerly in Verbenaceae)

Tectona grandis (teak)

records: none (Boudet)

Lauraceae

Cassytha

Cassytha filiformis 50391

records: Bamako, Niala near Djenne, Dire-Bandiagara (Boudet); Djenne (JH)

habitat: Soudanian savannas, Sahelian riverbank thickets

notes: herbaceous liana, leafless, filiform (spaghetti-like) green or orange-yellow stems not more than 1 mm wide, sucks branches of host using suckers (may even suck itself); small white flowers on racemes 2-6 cm long, becoming a spherical fruit

Laurus

Laurus nobilis 50392 (bay laurel, cultivated)

ethnobotany: cultivated, leaves used in Songhay zone and in cities as spice (bay leaf)

***Lemnaceae* (see *Araceae*)**

(family now incorporated in its entirety into *Araceae*; formerly in *Lemnaceae* were aquatic genera *Wolffiopsis*, *Pseudowolffia*, *Lemna*, *Wolffia*)

Lentibulariaceae

Utricularia (bladderworts, carnivorous)

Utricularia benjaminiana

records: Macina, Gao (Boudet)

habitat: wet areas

Utricularia foliosa (leafy bladderwort)

records: Macina, Gao, Yanfolila (Boudet)

habitat: deep water

Utricularia gibba subsp. *exoleta*

records: Bamako, Gao (Boudet)

habitat: ponds

Utricularia inflexa var. *stellaris* (see *U. stellaris*)

Utricularia reflexa var. *reflexa* (bladderwort)

records: Macina, Gao (Boudet)

habitat: aquatic

Utricularia stellaris (in Berhaut 4.256 & 258 as *U. inflexa* var. *stellaris*)

records: Gao, San, Macina, In Tillit, Bourem, Niono (Boudet); common in Niger R. around Timbuktu and Gao (JH)

habitat: rice fields of Niger R.

notes: small submerged leafless aquatic herb with 6-8 air-pouches in star-shaped rosette; yellow flower emerges at surface; fruit is capsule with point at top

Limeaceae

[note: Limeum was elevated to the monogeneric family Limeaceae in APG III; formerly in Molluginaceae, and earlier in Aizoaceae]

Limeum

key:

fruits broadly winged (pterocarpum)

fruits not winged

leaves linear, glabrous (diffusum)

leaves more rounded

large leaf 0.8-2.5 cm x 1 cm, leaves alternate (viscosum)

small leaf 0.4-0.8 cm x 0.3-0.7 cm, leaves more or less opposite (obovatum)

Limeum diffusum

records: Timbuktu, Goundam, Gossi (Boudet)

habitat: fixed sands

notes: small erect plant 15-25 cm; stem slightly angular; alternate linear leaves 1.5-2.5 cm x 0.2-0.3 cm, glabrous, sessile green flowers by 3-6 opposite a leaf; spherical grain with two hemispheric carpels

Limeum indicum (see *L. obovatum*)

Limeum obovatum (syn *L. indicum*) [not in Berhaut]

records: Adrar, Gao (Boudet)

habitat: sand

notes: [Flore du Sahara] small obovate leaves

reference: drawing in Flore du Sahara

Limeum pterocarpum var. *pterocarpum* 50434

records: Timbuktu, Bandiagara, Gao, Tikimsa (Boudet); Boni, Kubewel, Bounou (JH)

habitat: fields, waste places, fixed dunes

notes: diffusely erect herb to 50 cm high; leaf linear-elliptic 3-5 cm x 0.3-0.8 cm, glabrous; flower white, on a peduncle opposite a single leaf; winged capsule, circular 1-1.2 cm diameter, with one seed covered by a central thorn on each side

Limeum viscosum var. *viscosum*

records: Timbuktu, Hombori, Gourma Rharous (Boudet)

habitat: fixed dunes

notes: erect or spreading herb 15-30 cm; leaves sticky due to little glandular points, opposite obovate leaves; flowers in small corymbs on short peduncle opposite a leaf; grain with 2 carpels

Loganiaceae

Spigelia

Spigelia anthelmia 50393 [introduced]

records: Sikasso (ravine) (Boudet); [if correctly identified] Hombori (JH)

Strychnos

Strychnos spinosa 50394

records: Bandiagara to Mopti, Koulouba (Boudet)

habitat: shrubby savanna on gravelly or lateritic soil

Loranthaceae

(mistletoes--hemiparasitic on upper branches of various trees)
(Songhay-Dogon do not distinguish spp. except indirectly by host tree)

Englerina

Englerina lecardii 50685
records: Macina, Bamako (Boudet)
notes: flower yellow

Tapinanthus (flowers red or red-and-white)

Tapinanthus bangwensis 50396 (syn T. globiferus subsp. bangwensis)
records: none (Boudet)
notes: globular tip of corolla is longer than wide and usually lacks wings; lobes of flowering corolla curl back

Tapinanthus globiferus (includes T. kerstingii) [not in Berhaut]
subsp. globiferus

records: Timbuktu (Boudet)
[Boudet's T. kerstingii: San, Sanga, Léré]

Tapinanthus pentagonia 50397
records: Douentza-Hombori, Macina, Bamako (Boudet)
notes: globular tip of bud is wider than long and is covered by 5 small undulating wings; lobes of flowering corolla usually curl back but s.t. erect
Tapinanthus kerstingii (see *T. globiferus*)

Lythraceae

Ammannia [herbs, stems more or less quadrangular, large leaves sessile on main stems, along with branching stems with much smaller leaves]

Ammannia auriculata 50399
records: Niono, Gao, Sotuba (Boudet); Beni, Bounou (JH)
habitat: inundatable areas
notes: leaves with auriculate bulge at base; flowers bright violet on axillary corymb with distinct peduncle

Ammannia baccifera 50400
records: Dire, Dire to Bandiagara (Boudet); along Niger R (JH)
habitat: wet areas
notes: ramified herb 25-60 cm; leaf lanceolate-elliptical 3-8 cm x 0.3-0.8 cm with greatest width in middle; small nearly sessile violet flowers

Ammannia senegalensis [not in Berhaut] [[get description](#)]
records: Gosi, Bourem, Niafounke
habitat: inundatable areas
range: Senegal to East Africa (2 varieties)

Lawsonia

Lawsonia inermis 50401 (cultivated henna bush)

ethnobotany: used by some women as cosmetic on hands and feet, as in Arab countries

Rotala [aquatic, submerged]

Rotala elatinoides

records: Gao, Kabara to Mopti

habitat: rice fields

Rotala filiformis

records: Gao (Boudet)

habitat: wet areas

Rotala tenella

records: Ansongo (and south) (Boudet)

habitat: inundatable plains

Malpighiaceae

Acridocarpus

Acridocarpus chevalieri

records: Koulikoro, Kita (Boudet)

Acridocarpus monodii 50402 [not in Berhaut]

records: Kikara near Douentza (Boudet); especially in zone between highway Bankass to Somadougou and the village of Idielina at base of Bandiagara cliffs, especially abundant at Yabatulu village 14°13'15"N, 3°29'49"W (Birnbaum & Florence 2005); Kikara, Walo, Anda (JH)

habitat: inselbergs, rocky rubble

notes: leaves more slender than those of *A. spectabilis*

notes: scrambling shrubby bush (sometimes lianescent); leaves slender; white nerves prominent on underside of leaf only; young leaves red; flowers and fruits at various times in dry season

ethnobotany: medicinal, slender leaves sold in markets

references: Bull I.F.A.N. 24A:93, fig 2 (1962); Ic. Plant. Afr. (I.F.A.N.) 6:127 (1964); and (with current distribution data) Philippe Birnbaum & Jacques Florence, "Validation d'*Acridocarpus monodii* Arènes & Jaeger ex Birnbaum & F.Florence, sp. nov (Malpighiaceae); Notes sur sa biologie"; *Adansonia* 27(2):235-41, 2005.

Acridocarpus spectabilis

records: far south (Boudet)

habitat: moist areas in woodland or grass savanna

Malvaceae (s.l.)

(has now been greatly expanded by incorporation of Bombacaceae, Tiliaceae, and Sterculiaceae)

subfamilies

Bombacoideae (ex-Bombacaceae): *Adansonia*, *Bombax*, *Ceiba*

Byttnerioideae (ex-Sterculiaceae): *Melochia*, *Waltheria*

Dombeyoideae (ex-Sterculiaceae): *Melhania*

Grewioideae (ex-Tiliaceae): *Corchorus*, *Grewia*, *Triumfetta*

Malvoideae (ex-Malvaceae s.s.): *Abutilon*, *Gossypium*, *Hibiscus*, *Sida*

Sterculioideae (ex-Sterculiaceae): *Cola*, *Sterculia*

subfamily **Bombacoideae**

(tall trees, digitate alternate leaves with 5-9 leaflets radiating from central axis)

Adansonia

Adansonia digitata 50119 (“baobab”)

records: Niono, San, Djenne (Boudet); common in the zone Mopti to Bandiagara and very common farther south, now rare around Douentza or Hombori except when planted in towns (JH)

habitat: lightly forested plains

notes: tree with irregular but massive trunk, unmistakable aspect; leaves with 5-7 leaflets, leaflets getting much smaller toward the base; enormous ovoid fruit hanging down 15-25 cm long

terminology: often a special term for the fruit (50120)

ethnobotany: leaves are the main ingredient in the most common sauce for the staple Dogon and Songhay meal (millet cakes), so the tree is well-known far to the north of its range (subject of songs in Hassaniya Arabic in Timbuktu area); white substance in fruits is eaten

Bombax

Bombax costatum 50121 (Fr “kapokier”)

records: Sotuba, Niono, Bandiagara, Yanfolila (Boudet); Songho, southern Mali (JH)

habitat: lateritic soil, plains

notes: tree 10-25 m; leaf usually with 5 (but up to 7) leaflets of roughly equal size, obovate, 10-15 cm x 3-7 cm, noticeably widest about 2/3 up from base to tip; tip acuminate but rounded just at the tip; red flowers conspicuous December-January when tree is defoliated; fruit is pod 10-12 cm long with black seeds surrounded by silky fibers (“kapok”)

Ceiba

Ceiba pentandra 50122 (Fr “fromager”)

records: Sanga, Gao, Kita (Boudet); planted in villages in northern Dogon country, e.g. Douentza, Songho, Bamba (JH)

habitat: edge of ponds

notes: huge tree to 20-30 m or more, massive trunk expanding outward toward base; leaf with 5-9 elliptic-lanceolate leaves 4 times as long as wide, acuminate tip; petiole 10-25 cm, thickening somewhat at both ends; greenish-white flower in January when tree is leafless; pod 12-15 cm long with black seeds surrounded by silky fibers

subfamily **Byttnerioideae** (previously part of Sterculiaceae)

Melochia (resemble Waltheria but capsules 5-valved)

Melochia bracteosa (see *M. melissifolia* var. *microphylla*)

Melochia corchorifolia 50641

records: Gourma Rharous, Gossi, Koulikoro, Gao (Boudet); Bore, Bounou, Boro, fairly common at pond margins in Dogon country especially on the plateau, also very common along Niger R. in northern Mali (JH)

habitat: sandy-clayey or clayey inundatable zones

notes: usually erect herb or undershrub, 1.5-2 feet, hollow stems; petiole 1/3 to 1/2 as long as leaf blade; flowers in terminal clusters, flowers small, white or s.t. yellowish or pinkish

Melochia melissifolia var. *microphylla* (possibly = *M. bracteosa*)

records: Yanfolila (Boudet)

habitat: wooded savanna

notes: erect herb; petioles very short; flowers axillary

Waltheria (resembles *Melochia*)

Waltheria indica

records: Gossi, Timbuktu, Gao, Sanga, Koulikoro (Boudet); common throughout Songhay and northern Dogon country (JH)

habitat: moist sand in depressions

notes: erect herb, entire plant covered by soft long hairs; capsule 2-valved

native name: often called "mother/cousin of fire" or the like (said to grow quickly after bush fires)

subfamily Dombeyoideae (previously part of Sterculiaceae)

Melhania

Melhania denhamii (Saharan)

records: Timbuktu, Tibart (Boudet)

habitat: sand

notes: small shrublet, woody at the base; branches and leaves softly stellate-tomentose; leaves ovate-elliptic, subcordate at base, rounded or truncate at apex, 3 cm x 1.5 cm, crenate-serrate; flowers axillary, solitary, enclosed in 3 large bracteoles; small capsule

reference: Fl Egypt vol 2 p. 113

subfamily Grewioideae (previously part of Tiliaceae)

Corchorus 50647 (herbs, flowers yellow)

[herbs used in preparation of Songhay-style dark green fakou-hoy sauce]

key (FWTA2 vol 1 p. 308)

leaf-blade 0.5-2 cm long, ± long as or shorter than petiole, woody, prostrate depressus

leaf-blade much longer than petiole

leaf w.o. basal hair-like auricle, up to 10 cm x 0.5-1.5 cm fascicularis

leaf usually with such auricle

capsule with 3 divergent beaks at the apex, valves not clearly ridged inside

leaf ovate(-lanceolate) 3-6 cm x 2-3 cm, pods winged 1.5-2.5 cm aestuans

leaf (linear-)lanceolate 3-9 cm x 1-1.5 cm, pods 2.5-3.5 cm tridens

capsule with entire beak, valves with transverse ridges inside

capsule 5-valved, leaf (ovate-)lanceolate up to 20 cm x 7 cm olitorius

capsule 3-valved, leaf elliptic or ovate-lanceolate 4-8 cm x 1-1.5 cm trilocularis

Corchorus acutangulus (see *C. aestuans*)

Corchorus aestuans 50644 (syn *C. acutangulus*)

records: Macina (Boudet); Segue (JH)

habitat: grassy savanna, fallow land, sandy riverbeds, etc.

notes: branching annual (or perennial), some branches tend to be prostrate; leaves with basal hair-like auricles; leaf ovate(-lanceolate) 3-6 cm x 2-3 cm (i.e. broader than *C. tridens*); pods acutely winged 1.5-2.5 cm long, fairly stout; capsule with 3 divergent beaks at the apex, valves without distinct transverse ridges inside

Corchorus depressus

records: Timbuktu, Gao, Tabankort-Kidal (Boudet)

habitat: desert, dry regions

notes: prostrate herb 30 cm long, woody branches, taproot may be thick; short leaf-blade 0.5-2 cm long, petiole about as long as or longer than leaf blade; subsessile fruits 2 cm long, beaked, breaking into 4 valves

reference: Fl Egypt vol. 2 p. 88; Flore du Sahara (2nd ed) p. 560

Corchorus fascicularis

records: Macina, Gao, south (Boudet)

habitat: variable

notes: herb, branches often lax, to 4 feet high; leaf without basal hairlike auricle, up to 10 cm x 0.5-1.5 cm; fruits shortly beaked 1-1.5 cm long, in fascicles; valves not septate (=partitioned) within

reference: Adventices

Corchorus olitorius (cultivated or wild)

records (wild): Douentza, Beni, Bounou (JH)

notes: erect or prostrate annual herb 0.6-2 m tall, often woody at base; long leaf up to 20 cm x 7 cm (much bigger than *C. trilocularis*), (ovate-)lanceolate, with basal hairlike auricle; stout 5-valved capsule 3-6 cm long, abruptly narrowed to the apex, beak entire, distinct transverse ridges inside valves

ethnobotany: preferred leaves for fakou-hoy sauce, cultivated by Songhay for this purpose

reference: Adventices, Fl Egypt vol. 2 p. 88

Corchorus tridens

records: Niono, Timbuktu, Gao, Adrar, Bamako, Nioro du Sahel (Boudet); Tupere, Severe, Segue, fairly common in Dogon country (JH)

habitat: woodland and bushland, usually in shade, many soil types

notes: annual herb 0.2-1 m tall, usually erect but with older branches spreading; leaves with basal hair-like auricles; leaf lanceolate or linear-lanceolate 3-9 cm x 1-1.5 cm (i.e. narrower than *C. aestuans*); capsule with 3 divergent beaks at the apex, valves without distinct transverse ridges inside

reference: Adventices; Fl Egypt vol. 2 p. 89

Corchorus trilocularis

records: Adrar (Boudet)

habitat: grassland, weed of cultivation

notes: annual (or perennial) herb to 1-1.5 m tall, herbaceous or woody, erect and branching or sometimes with decumbent branches if browsed; leaf elliptic to oblong-lanceolate 4-8 cm x 1-1.5 cm (much smaller than *C. olitorius*); leaves with basal hair-like auricles; slender 3-valved capsule 3-6 cm long, gradually narrowed to apex; beak entire, distinct transverse ridges inside valves

reference: Fl Egypt vol 2 p. 89

Grewia 50652 (shrubs)

Grewia bicolor 50649

records: Timbuktu, Niono, Sanga, Gossi, Mopti to San (Boudet); Hombori (near hills), widespread in Dogon country

- habitat: clayey depressions, base of hills
 notes: shrub; leaves has conspicuous color difference, topside dark green, underside whitish; leaf margin very finely denticulate (hard to see dentations)
 ethnobotany: leaves sold in towns (e.g. Douentza) as fodder; wood used
- Grewia flavescens var. flavescens 50650
 records: Sanga, Tikimsa, Menaka (Boudet); Hombori, Kikara, Pergue, generally known in Dogon country (JH)
 habitat: rocky hills
 notes: shrub; leaves less wide than G. lasiodiscus, dentation of leaf margin conspicuous, numerous fruits
 ethnobotany: edible fruit (best of the Grewia spp.), sold in some markets
- Grewia lasiodiscus 50651
 records: Bamako, Koulouba (Boudet); Tabi (rare), Kubewel (JH)
 habitat: savanna
 notes: shrub; leaves wider than those of G. flavescens, fruits somewhat isolated
 ethnobotany: fruits edible, branches medicinal (excessive cutting has killed many of the remaining shrubs)
- Grewia picta 50653
 records: Sahara, Timbuktu, Gao, lac Debo, Douentza, Bandiagara to Dire (Boudet, as G. tenax); Tabi, Kubewel (JH)
 notes: shrub; very small leaves, tiny red fruits 2-4 stuck together
- Grewia tenax* [according to the African Plant Database viewed Oct 2018, G. tenax has now been subsumed under G. picta, which was formerly restricted to Seychelles]
- Grewia villosa 50654
 records: Menaka, Gao, Douentza-Hombori (Boudet); Hombori, Kikara, Pergue, Kubewel (JH)
 habitat: clayey depressions, often with stones
 notes: shrub; very large leaf, nearly circular, coarse and hairy

Triumfetta

Triumfetta pentandra

- records: Djenne, Sanga, San, Koulikoro (Boudet); Nando, Konna (JH)
 habitat: clayey and sandy-clayey depressions, in the shade, roadsides
 notes: erect herb, leaves alternate, margins dentate, tip gently pointed, leaves at base roughly oval with red petioles, leaves at top smaller, less wide, and more or less sessile; axillary clusters of orange-yellow flowers becoming burr-like fruits
 ref.: Adventrop

subfamily Malvoideae (corresponding to original Malvaceae s.s.)

[5 petals; calyx of sepals may be accompanied by bracteoles that form an epicalyx; leaves alternate, leaf margins generally lightly serrated]

Malvaceae site: <http://www.malvaceae.info/Genera/gallery.html>
<http://www.malvaceae.info/Index/Checklist/checklist.php?part=0>

Abutilon [bushy plants; leaves deeply cordate at base, except A. ramosum]

Abutilon angulatum

- records: Diafarabe esp. around ancient settlements (Boudet)
 notes: 1-4 m; stems angular (except flower-bearing stems); leaf oval cordiform 6-15 cm x 5-10 cm, leaf with green upside and whitish underside, both sides with soft hairs; petiole 3-10 cm; flowers in small panicle on peduncle 2-3 cm, corolla 3-3.5 cm wide

bright yellow-orange, no epicalyx; fruits 1 cm wide have 20+ flat rounded carpels each with 1 seed

Abutilon fruticosum 50403

records: Sahara, Bore, Gourda Rharous, Hombori-Gossi (Boudet)

habitat: sand, clayey soil, gravel

notes: subligneous, much-branching, 40 cm to 2 m; fine pubescence on stems and leaves; small leaf oval-elliptical 2-6 cm x 1.5-4.5 cm, petiole 1-5 cm; isolated axillary flowers on peduncle 1-2 cm, corolla 2 cm wide golden yellow; fruit a capitulum with 10 achenes with outer tips at right angles, 3 seeds in each achene

Abutilon grandifolium [introduced from Americas]

records: Macina, Gao, Bamba to Timbuktu (Boudet)

notes: to 1-2 m; leaf oval cordiform 4-10 cm x 3-8 cm; dense hairs on stems, petioles, and peduncles; isolated flowers yellow or yellow-orange, at tip or on long peduncle 4-5 cm; fruit a capitulum 1.5 cm wide with 8-10 hirsute carpels, tips of carpels at sharp angle facing outside

Abutilon pannosum 50404

records: Timbuktu, Sahara, Hombori-Gossi, Adrar, lake Fati, Sangha (Boudet);

Labbezanga, Beni, Yanda, Sevare, Djenne (JH, sometimes planted in courtyards)

habitat: sandy-clayey, depressions between dunes

notes: perennial bush 1-2 m; broad cordiform leaf 6-10 cm long and slightly less wide; yellow flowers 3-4 cm wide, isolated on axillary peduncle 2-3 cm or at tip of an axillary branch, petals disymmetric; fruit a capitulum 1 cm wide with numerous rounded carpels pressed against each other, 2-3 seeds per carpel

ethnobotany: soft (pubescent) leaves relieve itching (Bendiely)

Abutilon ramosum 50405

records: Telora, Ngoumra (Boudet); Bounou, Tupere (JH)

habitat: sandy-clayey, humid

notes: 50 cm to 1.5 m; stems and petioles with long soft hairs; oval cordiform leaf, with soft hairs on both sides, s.t. with 3 points near top (cf. e.g. *Hibiscus longisepalus*), leaf not deeply cordate at base (leaf bottom is well wide of petiole), petiole 2-7 cm; a few flowers on axillary or terminal cyme, corolla pale orange-yellow 0.8-1 cm wide; capitulum with 6-8 carpels, with terminal point directed out

Cienfuegosia

Cienfuegosia digitata 50406

records: Menaka, Hombori, Bandiagara, Gao, Macina, Nampala, Segou (Boudet);

Boumbam, Tongo Tongo, Bendiely, Ficko (JH)

habitat: gravelly depressions, sandy-clayey soil, rocky debris (Boudet); also weed in fields (JH)

notes: herb, typically trailing; deeply lobed, trilobate or s.t. 5- or 7-lobed leaf, petiole 1-2 cm; isolated axillary flower on peduncle 3-5 cm, yellow corolla 4-5 cm wide; globular-conical capsule 1 cm round, surpassed by sepals

ethnobotany: toxic to cattle and goats (but not sheep)

Gossypium [cotton spp., many cultivars and hybrids]

Gossypium anomalum 50407

records: Tin Ahara, Gosi, Hombori, Menaka, Goundam (Boudet)

habitat: often among rocky debris

notes: leaves small; bracteoles linear-oblong or narrowly triangular, not more than 4 mm broad; capsules with hair on the sutures; seeds with a single coat of fine brown hairs (no "cotton-wool")

ethnobotany: the traditional West African cultivated cotton sp., now giving way to the international *G. hirsutum*

Gossypium hirsutum 50408

records: cultivated widely in southern Mali (Boudet)

notes: leaves large; bracteoles suborbicular or broadly triangular, more than 1 cm broad; no hairs on sutures of capsules; seeds with long lint-hairs ("cotton-wool")

Hibiscus [will be subject to much reorganization due to current DNA sequencing work]

Hibiscus images by section: <http://www.malvaceae.info/Genera/Hibiscus/gallery.html>

cultivated species of Hibiscus

Hibiscus esculentus 50412 [cultivated okra, Fr *gombo*]

records: widely cultivated in Mali, including some gardens in Dogon country

ethnobotany: fruits (often dried and cut up) sold in markets for "gombo" sauce

Hibiscus sabdariffa 50417 [cultivated roselle, Fr. *dah* or *oseille*]

records: cultivated throughout Dogon and montane Songhay country

notes: bushy plant

cultivars: three main cultivated varieties (plus some minor ones);

a) greenish-white, small fruits (best for macari spice) 50709

b) greenish-white, fruits with large calices (seeds OK for macari, calices for flavoring cream of millet) 50710

c) dark red fruits with large calices 50687 (seeds OK for macari, calices for beverages)

cultivation: may be interspersed here and there in millet or peanut fields, occasionally grown in separate fields; may also be planted as boundary markers on fields; harvested with sickles

ethnobotany: seeds of all varieties obtained by threshing, fermented to make macari spice; greenish calices of one variety (see above) used for flavoring cream of millet; red calices of another variety used in beverages

native species of Hibiscus

key

flowers (sub)sessile (peduncle less than 0.5 cm):

H. cannabinus (including the former *H. asper*)

flowers isolated, on distinct peduncles (length of peduncle given below)

1-2 cm *panduriformis*

2-3 cm *micranthus*

2-5 cm *sidiformis* (= *sidaeformis*)

5-6 cm *longisepalus*

flowers grouped in racemes or at top of plant

H. sterculiifolius

ethnobotany: *H. cannabinus* (fibers for rope), *H. micranthus* (used by Jamsay for flavoring cream of millet), *H. longisepalus* (entire plant notorious for tiny rigid hairs that cause itching)

Hibiscus cannabinus 50409 (combines former *H. asper* and *H. cannabinus*)

varieties: red 50411 and "white" 50410 (i.e. greenish white) varieties may be distinguished by color modifiers

[data from original *H. asper* (narrow sense)]

records: Gao, Niono, Sanga, Bandiagara to Mopti (Boudet); along Niger River (Ansongo etc.), Hombori, Petaka, Dianwely, Beni (JH)

notes: tall erect herb 1-1.5 m; stems and petioles with warty thorns; variable leaf, dentate, often deeply lobed, central nerve often reddish with a warty gland 3-4 mm from base; coarse hairs on both sides, petiole often red; isolated axillary flowers above base of petiole, subsessile or shortly pedunculate; flowers cream or yellow-white with red or dark violet spots; calyx for some flowers with 5 acuminate teeth, for others nonacuminate; 5 sepals each with 3 vertical columns of red points (one on each edge, one in middle with a wart), under calyx proper a calicule (epicalyx) with 8-10 rigid bracteoles 0.6-0.8 cm sticking out; conical capsule covered with silky hairs

[data from former *H. cannabinus*]

records: Gao, Segou, Sanga (Boudet)

habitat: wet clayey soil

notes: 1-2 m; stems and petioles have a few semi-thorny short hairs; leaf oval 5-15 cm x 5-15 cm, occasionally with lateral points, petiole 5-20 cm; axillary flowers on very short peduncle; corolla pale yellow 4-6 cm wide, red spot at base, petals with rounded tips; calyx with 5 long acuminate lobes with 1 column of spots along with a warty gland; calicule with 7-8 bracteoles 1 cm long sticking out; conical capsule

combined

ethnobotany: fibers are very good for making rope (plant is usually wild, but is occasionally cultivated for fiber)

Hibiscus longisepalus 50413

records: Macina, Hombori, Sanga, Bamako (Boudet); Hombori, Kikara, Pergue, Anda, Kubewel, Bendiely (JH)

habitat: rocky debris (JH)

notes: bush 1-2 m; leaf usually with 3-5 lobes (often pentagonal) 7-10 cm x 6-8 cm (or more), dense short velvety pubescence mixed with long rigid bristly hairs (cf. *H. panduriformis*); axillary flower on long peduncle 5-6 cm, arc-ing out from under the base of the leaf petiole; corolla lemon yellow, calyx 1.5-2 cm long with 5 sharp-pointed triangular teeth; also (during fruiting) some smaller cleistogamous flowers; epicalyx of filiform bracteoles 0.5 cm long; fruit an oval capsule not surpassing the length of the calyx

ethnobotany: notoriously prickly, tiny rigid hairs stick in skin

Hibiscus micranthus 50414 (see also *H. pseudohirtus*, with which it can be confused)

records: Gao, Douentza, Hombori (Boudet); Kikara, Dianwely, Anda, Beni, Tongo Tongo (JH)

habitat: rocky debris (Boudet)

notes: bush 60-80 cm or higher; stems more or less woody; small oval leaf of variable size on the same plant, often 2.5-4 cm x 1.5-3 cm, tip more or less obtuse, short hairs on both sides (somewhat coarse feel on underside); axillary flowers on isolated or paired peduncles 2-3 cm long, corolla white, pink, or red 1 cm wide, calyx with lanceolate triangular sepals 0.5-0.7 cm long, epicalyx with linear bracteoles 0.2-0.4 cm; fruit is capsule with seeds covered by woolly white hairs

ethnobotany: flavoring for cream of millet (Jamsay)

native terms: may be combined into a taxon with *H. longisepalus* (similar bushy aspect and rocky habitat), the two being differentiated by modifiers

Hibiscus panduriformis 50415

records: Niono, Gossi, Macina, Segou (Boudet); Kikara (JH)

habitat: briefly inundatable sandy-clayey or clayey soil

notes: herb 1-2.5 m; stem with pubescence mixed with long rigid prickly hairs (cf. *H. longisepalus*); leaf broadly oval 4-8 cm x 4-8 cm, often with three weakly marked points in upper part, top of leaf riddled with dark green points, underside whitish with

cottony hairs, no gland on central nerve; isolated large sulphur yellow flower 5-7 cm wide on short axillary peduncle 1-1.2 cm; capsule

Hibiscus pseudohirtus 50416 [very close to and often confused with *H. micranthus*] [[get description](#)]

records: Macina, Bandiagara, Douentza (Boudet)

habitat: rocky debris (Boudet)

distribution: endemic to Mali

notes: leaves obscurely 3-lobed or not lobed

ref: Hutchinson 1958 Flora of W Trop Afr vol 1 Part 2, p. 344

Hibiscus sidiformis 50418 (also spelled *sidaeformis*)

records: Gourma, Haoussa-Foullane, Gao (Boudet)

habitat: disturbed or rocky sand, rocky debris

notes: herb 40-80 cm; leaf variable, often trilobate with very deep lobes but also (low on stem) oval or (at top) lanceolate, petiole 3-10 cm; small isolated flower on tip of axillary peduncle 2-5 cm, corolla yellow 1.2-1.5 cm wide; calyx with 5 long thin teeth 1 cm long, each with a green medial vein; capsule

Hibiscus sterculiifolius 50420

records: (far south) (Boudet); Hombori (JH)

habitat: riverbanks

notes: subligneous perennial 1-2 m resembling shrub; large pentagonal leaf to 30 cm x 30 cm, soft hairs on both sides, underside whitish green, petiole 2-15 cm; flowers bunched at summit or on short axillary racemes; corolla golden yellow with dark purple spot at base, calyx with triangular teeth 1 cm long, epicalyx of 9-10 very short bracteoles applied against calyx; conical capsule 1 cm high ending in short point not surpassing the top of sepals

Pavonia

Pavonia kotschyi [not in Berhaut]

records: Adrar, Gourma-Rharous, Timbuktu (Boudet)

habitat: sands

Pavonia procumbens [not in Berhaut]

records: In Tillitt, Ndaki (Boudet)

habitat: edge of pond, brousse tigrée

Pavonia senegalensis [not in Berhaut]

records: Timbuktu, Goundam (Boudet)

habitat: wet sandy or sandy-clayey soil

notes: [African Plants Database] bush to 5 m tall, much-branched from base; [from photo of Montp. specimen:] broad leaf with shallow lobes (cf. *Ampelocissus africana*); isolated flower on axillary peduncle

Pavonia triloba

records: Hombori-Gossi, Adrar, Zinguetti (Boudet)

habitat: sandy-clayey or pebbly soil, rocky debris

notes: herb 20-50 cm; simple hairs on stems and petioles; leaf trilobate 2.5-4 cm long with large upper part having more or less parallel sides, separating from side lobes about 1/3 way from base to top, underside of leaf pubescent, petiole 2-4 cm long; small isolated axillary flower on peduncle 3-5 cm, corolla white-pink; capsule

Sida (bushes or small shrubs, leaf margins mostly dentate, smallish flowers and fruit capsules)

Sida alba 50421

records: Gossi, Bougouni, Macina, Diré, Segou (Boudet); Hombori, Pergue, Bounou (JH)

habitat: inundatable salty or clayey soil, also in shade

notes: 30-80 cm; stems pubescent; small oval leaf 2-4 cm x 1-2.5 cm, widest part close to base, tip in obtuse angle, topside glabrous, underside pubescent, petiole 0.5-2 cm; three thornlike spurs at base of petiole; white flowers on peduncles 1-2 cm coming off of branching stems, corolla 1-1.2 cm wide; capsule with 5 pointed carpels

Sida cordifolia 50422

records: Goundam, Gao, Sikasso (Boudet); Hombori, Bounou, Sangha, Sevare, Diangassagou, forms dense patches beside fields on road to Segue, much less common and not widely known in northern Dogon country (JH)

habitat: sand, rubble, waste ground (Boudet); beside fields (in the northern part of its range, in shade only) (JH)

notes: 1-1.5 m; large, broad oval leaf 3-7 cm x 2-6 cm, surfaces downy with soft hairs, long petiole 2-5 cm; flowers isolated or by 2-4 at axil, peduncles 0.5-1.5 cm; corolla pink or orange-yellow 1.5-2 cm wide, calyx with 5 triangular sections; capsule of 10-11 carpels with 2 teeth each at top, each tooth with numerous barbs along side

Sida ovata 50423

records: Timbuktu, Goundam, Hombori-Gossi, Ouan Foras, Bandiagara, Adrar (Boudet); Beni, Pergue, Dianwely, Tongo Tongo, Tyamadyina (JH)

habitat: sand

notes: perennial 30-75; short hairs on stems and petioles; small oval to oval-orbiculate leaf 2-5 cm x 1.5-4.5 cm, widest close to middle, petiole 0.3-1 cm; leaf margins undulating (not dentate); isolated axillary flower at tip of peduncle 1-2 cm, s.t. two peduncles together; corolla pale orange-yellow; somewhat flattened capsule with 5-7 rough carpels

ethnobotany: firm semiligneous stems are bundled together and used as a broom for tough outside jobs (e.g. sweeping pebbles), versus stems of grasses *Eragrostis* spp. and *Schoenefeldia* for light brooms

Sida rhombifolia 50424

records: Sanga, Sotuba, Segou (Boudet); Boro, Nando (JH)

habitat: inundatable or wet clayey soil, often in shade

notes: perennial herb or shrub 50 cm to 1-2 m; leaf diamond-shaped on lower stem, becoming more oval-lanceolate at the top, 3-7 cm x 2-4 cm, margins dentate on upper 2/3 of leaf, petiole 0.4-0.7 cm; flower at tip of axillary peduncle 1-2..5 cm, corolla pale yellow ochre 1.5-2 cm wide, calyx with 5 pointed teeth; capsule with 8-10 carpels with black surface

images.Hawaii

Sida urens var. *urens* 50425

records: Douentza, south of Mopti (Boudet); Beni (JH)

habitat: wet soil

notes: 50 cm to 1 m or more; soft hairs on stems and petioles; large cordiform oval leaf (narrowly cordate at base (cf. *Wissadula*) 5-10 cm x 3-7 cm near base, long acuminate tip; petiole 2-5 cm; flowers in glomerules of 2-10 at tip of axillary branches 2-5 cm, or in fasciculated glomerules at top of plant, corolla pale orange-yellow 1.3-1.5 cm wide, petals emarginate at top, reddish streaks at base of petals; capsule with 5 carpels

Urena

Urena lobata

records: Goundam, Niafounke, Bamako (Boudet)

habitat: inundatable or wet clayey soil

notes: bush or shrub 1-3 m; pubescent stems; variably shaped leaf, often with 3-5 points (like maple) but occasionally oval; margin finely denticulate, petiole 1-5 cm; axillary

glomerules of 2-5 flowers on very short peduncles, corolla pink 2.5-3 cm wide, calyx with 5 sharp teeth; capsule with 5 rounded carpels covered by short pointed asperities

Wissadula

Wissadula amplissima var. *rostrata* (see *W. rostrata*)

Wissadula rostrata 50426 (syn *W. amplissima* var. *rostrata*)

records: Mopti-Djenné, Douentza, Macina, Koulikoro, Labbezanga (Boudet)

habitat: wet or inundated areas

notes: shrubby plant 50 cm to 1.5-2 m; stems finely pubescent; leaf oval cordiform (base distinctly cordate, cf. *Sida urens*) 8-15 cm x 4-6 cm, widest near base, petiole 3-8 cm; isolated or 2-3 flowers at tip of axillary racemes 2-3 cm or in terminal panicle; corolla orange-yellow 1-1.5 cm; capsule with 3-5 horn-like carpels pointing outwards

subfamily Sterculioideae (ex-Sterculiaceae)

Cola [trees]

imported kola nuts 50640

Cola acuminata 50636

notes (FWTA2 vol 1 p. 325): fruiting carpels russet-brown or olivaceous, surface rough to touch owing to a minute indumentum, but not knobbly, up to 20 cm x 6 cm, narrowed to apex, upper suture not conspicuously ridged, apex not deflexed (bent over)

Cola nitida 50639

notes (FWTA2 vol 1 p. 325): fruiting carpels green and shiny, surface smooth to touch but knobbly with large tubercles, up to 13 cm x 7 cm, upper suture forming a conspicuous ridge produced into a short deflexed beak

wild

Cola cordifolia 50637

records: Bamako, Sanga (Boudet); Kikara, Beni, Anda (JH)

habitat: shrubby savanna

notes: wide-branching tree; very broad leaves; fruits in clusters of 4 or so radiating out

ethnobotany: seeds edible (sugary)

Cola laurifolia 50638

records: Mopti to Djenne, Macina (Boudet); Kubewel, Anda, Bounou, Kikara (JH)

habitat: riverbanks

notes: wide-branching tree; elliptic leaves; fruits in clusters of 8 or so

Sterculia

Sterculia setigera 5063

records: Bamako, Bandiagara to Mopti, Niono (Boudet); Diangassagou to Segue, unknown in northern Dogon country (JH)

habitat: skeletal soils

notes: tree to 40 feet; bark rough, yielding a white gum; flowers dull red or yellowish-green with red streaks, appearing before new foliage; fruiting carpels 4-5, grey to brownish outside

ethnobotany: gum (resin) commercialized in southern Mali

Meliaceae

[trees]

Azadiractha

Azadiractha indica 50427 (neem tree) [introduced from India]

records: planted in most towns and villages, the most commonly planted tree in all parts of Mali since about 1980 (JH)

taxonomy: resembles *Melia azedarach* (not found in West africa), and “*Melia*” is the basis for some Songhay names

Khaya

Khaya senegalensis 50428 (caïlcédrat tree)

records: Bamako, Niono (Boudet); occasional in nature in Dogon country, once planted all along boulevards in cities and large towns (e.g. Bamako, Segou, road from Sevaré to Mopti), aging trees now subject to destruction by wind and disease (JH)

ethnobotany: bark has medicinal uses

native name: known widely as Fulfulde *kahi*

ethnobotany: bark is a well-known medicinal product (proverbially bitter)

Menispermaceae

[twining lianas, occasionally shrubs, leaves alternate; male and female flowers separate, either on same plant or on separate plants]

Cissampelos

Cissampelos mucronata 50429

records: Gao, Djenné, Labbezanga, Macina (Boudet); Hombori, Djenné area (JH)

habitat: heliophile liana, riverbanks

notes: herbaceous liana; stems pubescent; alternate broad cordiform leaves 4-8 cm x 4-8 cm, tip rounded, usually 7-nerved at base, 2 other nerves branching from upper part of central nerve, pubescent on both sides, petiole 2-4 cm; female flowers in hanging clusters, small male flowers in raceme, both types of flowers accompanied by small leafy bracts; round yellow fruits

Cocculus

Cocculus pendulus 50430

records: Timbuktu, Adrar (Boudet)

habitat: in sands, often on acacia and *Balanites*

notes: subligneous shrub with branches hanging down or trailing, occasionally twining; alternate leaves oval 3-6 cm x 1.5-4 cm, widest near base, base s.t. auriculate, tip rounded and mucronate, base 3-nerved, leaf glabrous; flowers on short axillary peduncles 0.2 cm, male flower with 3 broad sepals and 6 petals; globular red fruits

Tinospora

Tinospora bakis 50431 (leaves, habit, and medicinal use resemble *Aristolochia albida*, Aristolochiaceae)

records: Timbuktu, Sanga, Gao, In Tessalit (Boudet); Hombori, Tupere, Kikara, Kubewel, Pergue, Anda, Tongo Tongo (JH)

habitat: in thickets, e.g. on hillsides, often in shade (JH)

notes: twining liana with thick woody root; mature stems greyish with protruding lenticels; cordiform leaf 5-10 cm x 4-8 cm, shiny on topside, tip often attenuated into

an obtuse point; small yellow-green male flowers on axillary raceme; juicy red berries in bunches
ethnobotany: roots medicinal but bitter-tasting (cf. Aristolochia)

Menyanthaceae

[false water lilies]

reference: Raynal in *Adansonia* ser. 2, vol 14, nos. 2 and 3 (1974)

Nymphoides

Nymphoides ezannoi

records: Gourma Rharous (Boudet); none (JH, earlier record for Gao area may refer to *N. indica*)

habitat: long-standing ponds

notes: leaf 6-10 cm x 6-10 cm, base deeply cordate; 10-20 flowers, corolla with 5 deep lobes; fruit with 4 carpels

taxonomy: African Flowering Plants Database: syn *N. indica* in the sense of Taylor in FTWA2

Nymphoides indica subsp. occidentalis

records: Ansongo, Gao (Boudet); Labbezanga and near Gao (JH)

habitat: rivers, permanent ponds

taxonomy: “*N. indica*” in FTWA2 may be based on misidentifications

Mimosaceae (see Fabaceae--Mimosoideae)

Molluginaceae

(recognized as a separate family in APG II; also separate in Berhaut, but in some other classifications combined with Aizoaceae, as in Boudet; for *Gisekia* see Gisekiaceae; for *Limeum* see Limeaceae)

Glinus

Glinus lotoides 50432

records: Timbuktu, Douentza, Sotuba (Boudet); Douentza, Bore, much more common in far north e.g. Timbuktu (JH)

habitat: damp sandy places, clayey depressions

notes: annual herb spreading out in rosette (spoke-like), highly variable; stems pubescent; leaves of widely varying size appearing verticillate 3-5 per node; leaf obovate-elliptic 2-3 cm x 1-2 cm, both sides silvery due to tomentose pubescence; flowers fasciculate at nodes (no peduncle); capsule with red-black seeds

Glinus oppositifolius 50431

records: Djenne, Timbuktu (Boudet)

habitat: wet sand with limestone

notes: spreading or prostrate herb; stems mostly glabrous; leaves dark green, appearing verticillate e.g. 6 per node of different sizes, somewhat slender leaf elliptical or

ovobate-elliptic 2-3.5 cm x 0.3-0.6 cm; greenish-white flowers in axillary fascicles on peduncles nearly as long as the longer leaves; capsule with brownish seeds

Glinus radiatus

records: Koulikoro (Boudet)

notes: herb spreading out in rosette; stems often violet with dense pubescence looking whitish at edges; leaves usually opposite by 2 (less often appearing verticillate with 4 other smaller leaves at the same node); small leaves, obovate or obovate-orbicular (nearly circular) 1-2 cm x 0.5-1 cm; subsessile flowers fasciculated in bunches at nodes (no peduncle), sepals purple-green; capsule with red seeds

Mollugo

Mollugo cerviana

records: Adrar, Kidal, Djenne, Bandiagara, Sotuba (Boudet)

habitat: moist sand

notes: erect herb 6-15 cm, with rosette of larger leaves at base, plus small linear leaves 1-1.5 cm long verticillate by 3-6 at branching nodes of stem; tiny terminal white flowers often by 3-4 only at ends of stem; small capsules

reference: Flore du Sahara

Mollugo nudicaulis 50435

records: Gao, San, Bandiagara, Macina, Tin Ahora (Boudet); Hombori, Boni, Bendiely, Segue (JH)

habitat: grassy savanna

notes: annual herb; leaves form a rosette low to the ground, no leaves on branching nodes of stem; flowering stem to 25 cm high, flowers in corymbiform cyme; small capsule

ethnobotany: rubbed in water to make soapy liquid for washing clothes (Bendiely, especially Fulbe)

Mollugo verticillata

records: San, Sotuba

habitat: wet sand of receding rivers

notes: herb 20-25 cm; verticillate rosettes of oblanceolate leaves at branching nodes of stem; flowers fasciculate by 3-5 at each branching node; capsule with red seeds

Moraceae

[fig trees, generally with latex, leaves alternate, “fruit” is actually a syconium, i.e. a structure containing seeds and flowers in a single mass; tiny wasps enter the syconium and do the pollinating]

Ficus

web resource: <http://www.figweb.org>

subgenera, sections, subsections:

Urostigma

Galoglychia

Platyphyllae (abutilifolia, glumosa, platyphylla, trichopoda)

Caulocarpae (polita)

Chlamydodorae (thonningii)

Urostigma (cordata, ingens)

Pharmacosycea

Oreosycea

Pedunculatae (dicranostyla)

Sycomorus

Neomorpha

Sycomorus (sur, sycomorus)

(hardest set to distinguish is *F. glumosa*, *F. dicranostyla*, *F. ingens*)

may be epiphytic (strangle other trees): *thonningii*, *platyphylla*

may have aerial roots: *trichopoda*, *sycomorus*, *thonningii*, *platyphylla*, *polita*

diameter of branch

more than 0.5 cm: *abutilifolia*, *platyphylla*, *ingens*

0.3-0.7 cm: *ingens*, *thonningii*, *trichopoda*, *sycomorus*

less than 0.5 cm: *dicranostyla*, *glumosa*, *polita*, *cordata*, *sur*

key by leaf

margin undulating or dentate esp in upper part: *sur*, *sycomorus*

acuminate tip: *polita* (glabrous both sides), s.t. *dicranostyla* (pubescent-scabrous both sides)

broad leaves (widely oval to near circular)

12-25 cm x 10-15 cm *platyphylla* (often pubescent)

12-25 cm x 10-12 cm *trichopoda*

8-15 cm x 8-15 cm *abutilifolia*

6-10 cm x 4-7 cm *sycomorus* (slightly dentate, coarse)

oval

10-15 cm x 5-10 cm *polita* (glossy, long acuminate point)

4-16 cm x 3-9 cm *ingens* (glossy top, coriaceous, oval-triangular)

8-15 cm x 5-7 cm *dicranostyla* (acuminate point)

8-15 cm x 4-8 cm *sur* (undulating margins at leaf near top, may be glabrous)

3-14 cm x 2-8 cm *glumosa* (glossy above, short rounded point at tip)

6-12 cm x 3-6 cm *cordata* (glossy, many lateral nerves)

slender

10-15 cm x 4-7 cm *thonningii* (glabrous)

key by fig size

3-5 cm *sur* (green then reddish, bunched in short racemes 50 cm long on trunk and branches, usually glabrous, peduncle 0.5-2 cm)

3-5 cm *sycomorus* (green then yellowish or reddish, in branchlet in leaf axils (sub-)puberulous, peduncle 0.3-0.6 cm)

3-4 cm *polita* (on old branches or on trunk, peduncle 1-1.5 cm)

2 cm *dicranostyla* (whitish, pear-shaped, isolated or by twos at base of petioles)

1.5 cm *trichopoda* (reddish, in pairs at base of petiole)

1.2-1.6 cm *abutilifolia* (short peduncles off base of petioles on upper branch)

1-1.3 cm *glumosa* (pink, paired at base of petioles, peduncle 0.5-0.7 cm)

1-1.2 cm *ingens* (white/yellowish/burgundy, by 2 at base of petioles, peduncle 0.3-0.6 cm)

0.8-1.5 cm *thonningii* form *dekdekana*

1 cm *platyphylla* (peduncle 1-3 cm)

0.6-0.8 cm *cordata* (white, by 1-2 at base of petiole, or bunched on leafless branch)

0.6-0.8 cm *thonningii* form *iteophylla*

Ficus abutilifolia 50446

records: Bandiagara, Koulikoro (Boudet); Hombori, Beni, Pergue, Anda, Kikara, Segue (JH)

habitat: rocks, inselbergs

notes: tree 8-12 m, may ramify from base; cordiform leaf 8-15 cm x 8-15 cm, small figs 1.2-1.6 cm long, on short peduncles 10.8-1.2 cm off base of petioles on upper part of young branches

native terms: often forms a taxon (broad-leaved figs) with *F. platyphylla*, the two being distinguished by modifiers

ethnobotany: logs hollowed out by Jamsay for wooden troughs (also beaten like drums during wrestling tournaments)

Ficus capensis (see *F. sur*)

Ficus congensis (see *F. trichopoda*)

Ficus cordata subsp. *lecardii* 50436

records: Sanga, Koulikoro (Boudet); Hombori, Tabi mountain, Dianwely, Kikara, Wakara, Segue (JH)

habitat: inselbergs

notes: tree to 10-15 m; glabrous glossy leaf oval 6-12 cm x 3-6 cm, short acuminate tip, 8-12 pairs of nerves, generally not opposite (cf. *Pterocarpus* spp.), linked together by festoons at edge of leaf, petiole 2-5 cm; spherical figs 0.6-0.8 cm wide by 2 or isolated at base of petioles or in a dense bunch on a young leafless branch; does not resemble other local *Ficus* spp.

Ficus dekdekena (see *F. thonningii*)

Ficus dicranostyla var. *dicranostyla* 50437

records: Sanga, Koulikoro (Boudet); Kikara/Walo (now very few left on inselberg summit), a few at Pergue and Anda (JH)

habitat: dry rocky zones

notes: tree 10-20 m; young pubescent branches show scars from fallen stipules under base of petioles; leaf oval or elliptical 8-15 cm x 5-7 cm, pubescent on both sides, fairly long acuminate tip; petiole 1.5-3 cm; pear-shaped fruit (i.e. globular with flattened top) 2 cm x 2 cm, isolated or by twos at base of petioles; peduncle of fruit 0.5-1 cm long with 3 bracts applied on the base of the fruit

Ficus glumosa 50438 [similar to *F. ingens*]

records: Bamako, Sanga (Boudet); Gouna and Diangassagou in Tomo Kan speaking area (JH; earlier report from northern Dogon country are now assigned to *F. ingens* [Anda] or to *F. dicranostyla* [Walo])

habitat: rocky areas

notes: tree 12-15 m, short trunk 2-3 m high, may reach 2 m thick; trunk smooth, becoming scaly on old trees, yellow-grey to brown; branch 0.2-0.5 cm diam, grey to light brown; large oval leaf 3-14 cm x 2-8 cm, short rounded point at tip, base lightly cordate, 5-7 lateral nerves, coriaceous, topside glossy dark green, underside has soft pubescence, petiole 1.5-4 cm; spherical figs 1-1.3 cm wide on old branches, pink at maturity, solitary or by pairs at base of petiole, peduncle 0.5-0.7 cm

ethnobotany:

Ficus gnaphalocarpa (see *F. syncomorus* subsp. *gnaphalocarpa*)

Ficus ingens var. *ingens* 50439 [similar to *F. glumosa*]

records: Segou, Bamako (Boudet); many in a depression on inselberg summit near Walo; also recorded near Anda village (JH)

notes: tree 10-15 m with short trunk and dense top, in the open can spread laterally to 15 m; scaly grey-brown bark; new leaves (March-April) reddish; grey-brown branches about 0.6 cm diam; leaf coriaceous, glabrous, oval-triangular (i.e. base flattish) 4-16 cm x 3-9 cm, tip in obtuse corner; 6-8 lateral nerves, topside glossy, bottom with many secondary nerves, petiole 0.5-4 cm; spherical figs 1-1.2 cm by 2 at base of petioles [photos show white, yellow, or burgundy color], peduncle 0.1-0.6 cm

Ficus iteophylla (see *F. thonningii*)

Ficus lecardii (see *F. cordata* subsp. *lecardii*)

Ficus platyphylla 50437

records: Mopti, lac Debo (Boudet); in nature seen strangling balanzan (*Faidherbia albida*) at Dianwely Kessel (JH), also planted in large towns (Djenne, Douentza) and many villages

habitat: (in nature) in moist savanna and forests (JH)

notes: independent or epiphytic (strangling), 15-25 m; may have aerial roots; very large leaf, widely oval 15-25 cm x 10-15 cm with conspicuous yellowish nerves, soft pubescence on both sides but top may become glabrous, thick pubescent petiole 4-8 cm; spherical yellow figs 1 cm wide on peduncle 1-3 cm

Ficus polita subsp. *polita*

records: Iton (Boudet); none (JH)

notes: tree 10-15 m, generally low-branching; glossy leaf broadly oval cordiform 10-15 cm x 5-10 cm, long acuminate point, long petiole 3-10 cm; globular figs 3-4 cm wide, isolated or fasciculate by 2-3 or more, on old branches or on trunk, peduncle 1-1.5 cm

Ficus rokko (see *F. thonningii*)

Ficus sur 50443 (syn *F. capensis*, thus in Berhaut)

records: Bamako and south (Boudet); Kikara (inselberg summit), Adia, Gouna, Tanga, scattered distribution but species known to many Dogon (JH)

habitat: savanna woodland with lateritic soil, s.t. riversides (Boudet); locally on inselbergs and on rocky plateaus (JH)

notes: tree 4-6 m, leaf scabrous, oval 8-15 x 4-8 cm, usually with undulating dentations in upper third; base of leaf trinervate, lowest pair of lateral nerves rise to mid-height of leaf, 4-5 other lateral nerves; petiole 1.5-3 cm or more; figs globular 2.5-4 cm bunched in short racemes on woody spurs that appear on trunk and large branches, occasionally isolated, green then reddish when ripe

Ficus sycomorus 50444 (syn *F. sycomorus* subsp. *gnaphalocarpa*)

records: Sanga, Gao, southern Mali (Boudet, as *F. sycomorus* subsp. *gnaphalocarpa*); planted in some villages and towns in Dogon country (Dianwely Kessel, Ouami east of Hombori, Niangago (JH)

habitat (in nature): riverbanks

notes: tree 10-20 m, bark greyish; small leaf oval to suborbicular (nearly circular) 6-10 cm x 4-7 cm, lateral nerves pointed distinctly upward, leaf coarse, petiole 2-5 cm with rust-colored pubescence; scars on stems; spherical figs 3-4 cm, tomentose

Ficus thonningii 50441 (includes former *F. dekdekana* and *F. iteophylla*)

[= *F. rokko* in Figweb; syn *F. petersii* (may be reinstated)]

records: Bamako, Bandiagara, Niono (Boudet); Diangassagou (JH).

habitat: wooded savanna, riverbanks

accepted "forms" are (*F. thonningii* forma...) *dekdekana/iteophylla/rokko* (< African Flowering Plant Database)

notes: tree 8-10 m, short cylindrical trunk becoming channeled with age, low-branching, can be epiphytic (strangling), very often throws off aerial roots from trunk and branches; smooth light-grey to brown bark; white latex abundant; leaf glabrous with some pubescence on nerves underneath, obovate-elliptical 10-15 cm x 4-7 cm, 4-11 secondary nerves, many reticulations between lateral nerves, petiole 2-5 cm with fine groove; small spherical figs 0.6-0.9 cm, sessile or with short peduncle to 1 cm, by pairs usually at leaf axis or under young leaves, yellow or red

[*form dekdekana, ex Berhaut F. dekdekana*] usually epiphytic, topside of leaves glossy, figs 0.8-1.5 cm

Ficus trichopoda 50442 (syn *F. congensis*, thus in Berhaut)

records: southern Mali (Boudet); planted in some northern Dogon villages (Tabi, Adia, Niangabo), not seen in nature (JH)

habitat: riverbanks, also planted

notes: tree 5-25 m in forest galleries; short thick trunk to 2 m diam; can throw down thick aerial roots; leaf oval cordiform 12-25 cm x 10-12 cm, widest in lower third, veins yellow to whitish, 9-11 lateral nerves, bottom two opposite but others mostly not; globular figs 1-2 cm diam, red (or red and yellow) at maturity, by pairs or fours at base of leaves, peduncles 0.5-1.2 cm

Moringaceae

Moringa

Moringa oleifera 50449 [planted]

records: Diré, Timbuktu, San (Boudet); Songho, Ouami east of Hombori (JH)

notes: shrub/tree; long thin fruit

ethnobotany: leaves eaten (sauce)

Musaceae

[monocots]

Musa spp. (bananas) 50450

Myrtaceae

Eucalyptus spp. 50451 (several, planted)

Psidium

Psidium guajava 50452 [guava]

records: orchards in Dogon country (JH)

ethnobotany: fruits widely sold around October-November; one variety is reddish inside, the other is white inside

Syzygium

Syzygium aromaticum 50453 (clove)

records: none (JH)

ethnobotany: dried flower buds imported and sold in markets as a spice

Syzygium guineense 50704 (water pear), variants *guineense* and *macrocarpum*

records: Macina, Sofara, south (Boudet); var. *macrocarpum* is found in a remote part called Iril of the mountain summit (near Kikara)

habitat: forest galleries, occasional in floodplains (< lit.); inselberg summit (JH)

notes: tree 10-15 m; elliptical-lanceolate leaf 12-15 cm x 2.5-3.5 cm; flowers in terminal panicles; purple-black ovoid berry with pit surrounded by sugary pulp

--var. *guineense*: bark more or less smooth, fruit less than 1.2 cm long

--var. macrocarpum: bark creviced and scaly, fruit more than 1.2 cm long

***Najadaceae* (see *Hydrocharitaceae*)**

Nyctaginaceae

[FWTA2 1, p. 177]

leaves often in unequal pairs: *Boerhavia* (species determinations difficult)

leaves in roughly equal pairs: *Commicarpus*

Boerhavia (also spelled *Boerhaavia*)

Boerhavia coccinea var. *coccinea* 50457 (syn *B. repens* subsp. *viscosa*)

records: Macina (Boudet); if correctly identified, the common *Boerhavia* at Tanga (Tiranige speaking) and Segue, present but less common than *B. repens* farther north (Douentza, Hombori)

habitat: cultivation, roadside, rocky and sandy areas; Sahel to Atlantic coast

notes: stems erect or ascending; sticky and hairy leaves (therefore often covered with sand), capitulum 4-12 flowered, flowers pink or mauve

reference: illustration in FWTA2 1, p. 177

Boerhavia diffusa 50454

records: Bamako, Gao (Boudet); common weed in ditches and roadsides in Bamako, my earlier reports for Dogon country are probably *B. coccinea* (JH)

habitat: disturbed ground, paths, sand, dry river beds, Sahel to Atlantic coast

notes: herb, initially prostrate then rising at ends; stem is full (not hollow); leaf margin undulating; capitulum 2-7 flowered, upper part of calyx bright red to dark violet; fruit (grain) rounded at top

Boerhavia erecta

records: none (Boudet); Burkina Faso (African Fl. Plants Database)

notes: like *B. diffusa*, fruit truncated at top

Boerhavia repens 50455 [habit resembles *Trianthema portulacastrum* and *Commicarpus helenae* as well as other *Boerhavia*]

[former subsp. *viscosa* now referred to *B. coccinea* var. *coccinea*]

subspecies (with records)

subsp. (undefined): Gao, Tumbuktu, Sanga (Boudet) [perhaps subsp. *repens*]

subsp. *diandra* 50456: Adrar (Boudet)

habitat: rocky & sandy areas, dry riverbeds, mostly Sahel

records: rainy-season weed in towns and villages in Dogon and montane Songhay country, e.g. Hombori, Douentza, Severe, Bendiely, Segue (JH); some records may really be *B. coccinea*

notes: plant variable; herb, generally prostrate; stem is hollow; leaf margin entire; flower in very small axillary cymes, upper part of calyx pale pink

taxonomy: some of my records may be reassigned to *B. coccinea*

Commicarpus

Commicarpus helenae 50458 (syn *C. verticillata*)

records: Timbuktu, Gao, Gosi (Boudet); Hombori (JH)

notes: herb often woody at base, stems scrambling or climbing; leaves opposite, of equal size, 3-6 cm x 2-4 cm, base horizontal, petiole 0.8-1.5 cm; mauve (or white?) flowers in successive verticels along stems, each flower in the form of a narrow tube, spreading out at top; fruit is a long thin seed with glands at top

Commicarpus verticillata, see *C. helenae*

Nymphaeaceae

[true water lilies]

Nymphaea

key to local spp.: leaf margin dentate (*N. lotus*)
leaf margin entire
hairy umbo on top of leaf above petiole (*N. micrantha*)
no hairy umbo (*N. maculata*)

Nymphaea caerulea (see *N. maculata* and *N. nouchali* var. *caerulea*)

Nymphaea heudelotii (very close to *N. maculata*)

records: Senegal and Guinea (Berhaut)

habitat: rivulets and shallow running water (Berhaut)

notes: much smaller than other spp., leaf 3-8 cm long, underside with blackish brown spots

Nymphaea lotus 50460

subtypes of fruits

red seeds (called "water.lily-sorghum" around Douentza)

brown seeds (called "water.lily-Panicum.laetum[wild fonio]" around Douentza)

grey seeds (called "water.lily-millet" around Douentza)

records: Tabaco, San, Bourem, Gao (Boudet); Boro (near Bendiely), Douentza, Hombori area, Ogol (Yanda), pond on road Douentza to Bamba, and widely in Songhay and Dogon country (JH)

notes: large leaf 15-30 cm x 15-30 cm or more, leaf sharply toothed (perhaps not in all varieties) with many strong nerves and usually hairy beneath, nerves branching less than half-way to edge with further secondary branching [locally the underside of the leaf is often dark purple/JH]; lamina up to 30 cm diameter, anther-connective blunt and very shortly produced; flowers up to 20 cm diameter

Nymphaea maculata 50461 [apparently in Berhaut as *N. caerulea*, but cf. *N. nouchali* var. *caerulea*]

records: Gao, Yanfolila, Tabacco (Boudet); Bounou, Boussouma (JH)

habitat: pools and lakes

notes: leaf more circular than *micrantha*, green on both sides, but bottom may have purple spots esp. near edge; leaf 15-25 cm long; borders often undulated in lower third; leaves not bearing bulbils, hairy umbo absent; flowers white or whitish lilac or with pale blue petal lip; sepals up to 1 cm broad and 4 cm long; 14-20 petals; 4 sepals are thick, widely lanceolate, with lines and spots of reddish black on back; substantial rhizome

commercialization: red and green forms of "Nymphaea maculata" are sold as aquarium plants with submerged leaves

taxonomy: similar to *N. heudelotii* but coarser (African Flowering Plants Database)

Nymphaea micrantha 50462

subtypes of rhizomes:

small rhizome of first-year plant, called "peanut-water.lily" around Douentza, the tastiest of all water lily rhizomes 50463

larger rhizome of older plant, edible but less tasty 50464

records: Kabara, Rharous, Gao (Boudet); Ouami east of Hombori, Walo, Anda, pond near Bore, pond on road Douentza to Bamba (JH)

habitat: lakes, pools

notes [but cf. comment below]: bottom of leaf reddish with blackish violet spots; two lobes of leaf at base are acuminate and divergent (pointed and separated); small leaf 7-17 cm long [but see comment below], 4-12 cm wide (sometimes bigger); leaves of plants 2-3 years old bear a cluster of bulbils, arising at the top of the petiole (where it attaches to the leaf) from a hairy umbo, eventually sometimes emitting tiny leaves; flowers about 10-12 cm diameter when spread out; connective of anther shortly produced, conical, terete; 10 or more petals; sepals are narrow, lanceolate, acuminate with dark violet spots on back

comment: we apply "Nymphaea micrantha (cf.)" to a local type with fairly large oval leaves (less circular than *N. maculata*), entire leaf margins (not dentate like *N. lotus*), and a tuft of hairs on the leaf above the attachment point of the petiole (absent in *N. maculata*). In our variety, the underside of the leaf is green (with dark spots) rather than red, and there are 4 sepals; these details differ from the smaller "N. micrantha" with 5 sepals described by Berhaut. Northern Dogon water-lily terms primarily denote the rhizomes, which are harvested for food. In the case of *N. micrantha* (cf.) the small, globular rhizome of the first-year plant (the most highly prized of all local *Nymphaea* rhizomes) is distinguished by northern Dogon from the large, elongated rhizome of the more mature plant, and both are distinguished from the rhizome of *N. lotus*

taxonomy: very close to *N. nouchali* var. *caerulea* (except for leaf bulbils)

Nymphaea nouchali var. *caerulea* (very close to *N. micrantha*)

[ostensibly in Berhaut as *N. caerulea*, but description there may be of *N. maculata*, which is given there as a synonym]

records:; none for Mali (Boudet)

Olacaceae (see *Ximeniaceae*)

Onagraceae (= Oenotheraceae)

Jussiaea (see *Ludwigia*)

Jussiaea abyssinica (see *Ludwigia abyssinica*)

Jussiaea erecta (see *Ludwigia erecta*)

Jussiaea leptocarpa (see *Ludwigia leptocarpa*)

Jussiaea linifolia (see *Ludwigia hyssopifolia*)

Jussiaea hyssopifolia (see *Ludwigia hyssopifolia*)

Jussiaea perennis (see *Ludwigia perennis*)

Jussiaea pulvinaris (see *Ludwigia senegalensis*)

Jussiaea repens (see *Ludwigia adscendens*)

Jussiaea senegalensis (see *Ludwigia senegalensis*)

Jussiaea stenorraphe (see *Ludwigia stenorraphe*)

Jussiaea stolonifera (see *Ludwigia adscendens*)

Jussiaea suffruticosa (see *Ludwigia octovalvis*)

Ludwigia (as *Jussiaea* in FWTA2 1.1, p. 167-70)

reference: Peter Raven. 1963. "The Old World species of *Ludwigia* (including *Jussiaea*), with a synopsis of the genus (Onagraceae)." *Reinwardtia* 6(4):327-42

Ludwigia spp. in S.E. Asia:

<http://www.nationaalherbarium.nl/Riceweedsweb/www/ludwig.htm>

floating: adscendens

nonfloating:

seeds in 2 or more rows from base to apex of each cell in capsule, 3-4 sepals

8-10 stamens

stenorraphe (plant pubescent/pilose, capsule often 2-4 cm)

erecta (plant glabrous, capsule not more than 2 cm)

3-4(-5) stamens

perennis (erect, leaf lanceolate to linear, capsule not tapering)

senegalensis (prostrate, leaf obovate to oblanceolate, capsule tapering at apex)

octovalvis

seeds in a single row at base and middle of cell, expanding to two rows in upper part

hyssopifolia

seeds in a single row through the full length of each cell of capsule

leptocarpa

abyssinica

adscendens (floating, with conspicuous pneumatophores)

Ludwigia abyssinica (syn *Jussiaea abyssinica*)

records: Finnkolo (Boudet)

habitat: swamps, lakeside, river bank

notes: stout subsucculent, erect or straggling herb, s.t. woody at base, to 3 m tall, well-branched; flowers appearing as though in axillary clusters; seeds in a single row through the full length of each cell of capsule

reference: Raven (1963) p. 380 and Figures pp. 410 and 42

Ludwigia adscendens subsp. *diffusa* 50469 (syn *L. stolonifera* [thus Boudet]; Boudet also gives *Jussiaea repens*, *J. stolonifera*)

records: Timbuktu, Mopti, Gao (Boudet, for "stolonifera")

habitat: calm water, often floating, may form large masses

notes: herb with prostrate or ascending stems, rooting at nodes, with conspicuous white erect spindle-shaped mucronate pneumatophores (aerial roots) arising in clusters at nodes of floating stems and from roots; seeds in a single row through the full length of each cell of capsule

reference: "stolonifera" Raven (1963) p. 390 and Figure 32; Boulos (2000) Flora of Egypt vol 2 p. 150

Ludwigia erecta 50470 (syn *Jussiaea erecta*) [introduced sp.]

records: Timbuktu, Bamako (Boudet); Ayorou (Rep. of Niger), Beni (JH)

habitat: beside water, trodden wet areas

notes: [FWTA2] plant glabrous; stems strongly angled; petiole 0.3-1.5 cm long; stamens 8-10, seeds in 2 rows from base to apex of each cell in capsule; 3-4 sepals 0.3-0.6 mm long, petals 0.4-0.5 cm long; capsule less than 2 cm long

Ludwigia hyssopifolia 50471 (syns *Jussiaea linifolia* [FWTA2], *J. hyssopifolia*)

records: Bamako (Boudet); Beni, Sangha, Boro (JH)

habitat: wet places, beside water, rice fields

notes: erect annual herb usually 2 feet tall, much-branched often persisting and becoming woody at base; elongate pneumatophores (type of aerial root) arising from buried submerged roots; 4 sepals 0.2-0.35 cm long, petals 0.3 cm long, 8 stamens; seeds in a single row at base and middle of each cell of capsule, expanding to two rows in upper part [based mostly on FWTA2 for *J. linifolia*]

reference: Raven (1963) p. 385

Ludwigia leptocarpa (syn *Jussiaea leptocarpa*)

records: Bamako, Labbezanga (Boudet)

habitat: ponds

notes: herb to 3 m tall, often somewhat woody below, reclining at base then erect and well-branched; numerous s.t. dense spreading hairs esp. on young parts; erect floating pneumatophores (type of aerial root) arising from roots under water; leaves with 11-12 lateral nerves on each side of midrib; seeds in a single row through the full length of each cell of capsule

reference: Raven (1963) p. 375 and Figure p. 420

Ludwigia octovalvis (syn *J. suffruticosa* [in part])

records: Nafadié, Bamako (Boudet)

habitat: wet places, swamps, pens, wet sand

notes: well-branched herb to about 4 feet high, s.t. woody at base or even shrubby; 3-4 sepals; seeds in 2 rows from base to apex of each cell in capsule

taxonomy: close to *L. stenorrhapha*

reference: Raven (1963) p. 356 and Figures pp. 417-18

Ludwigia perennis (syn *Jussiaea perennis*)

records: Niono, Banama (Boudet)

habitat: drying clay

notes: annual erect herb to 1 m; [FWTA2:] leaves lanceolate to linear; capsules 12 mm long or less, not particularly tapering to apex; seeds in 2 rows from base to apex of each cell in capsule

reference: Raven (1963) p. 367 and Figure pp. 419

Ludwigia pulvinaris (see *L. senegalensis*)

Ludwigia senegalensis (syn *L. pulvinaris*, *Jussiaea senegalensis*, *J. pulvinaris*)

records: Bourem-Bamba islands, Sotuba ("pulvinaris"), Gao, Koulikoro ("senegalensis") (Boudet)

habitat: wet places

notes: small prostrate herb, creeping at nodes, s.t. completely submerged, stem mostly 5-35 cm long; seeds in 2 rows from base to apex of each cell in capsule

reference: Raven (1963) p. 37a and Figures pp. 412 and 419 (“pulvinaris”), also p. 378 and Figure p. 419 (“senegalensis”)
Ludwigia stenorraphe subsp. stenorraphe (syn L. suffruticosa var. stenosperma, Jussiaea stenorraphe)
records: Bamako, Kita (Boudet)
habitat: swampy or wet open places
notes: erect, shrubby herb or soft shrub 1-3 m; [FWTA2:] plant pubescent/pilose; petals 0.6-1.6 cm long; sepals often turn bright red after petals fall; capsule 2-4 cm; seeds in 2 rows from base to apex of each cell in capsule
taxonomy: close to L. octovalvis
reference: Raven (1963) p. 367 and Figure pp. 419; FWTA2 1.1 p. 168 (illustration)
Ludwigia stolonifera (see *L. adscendens*)

Orchidaceae

[monocots]

Eulophia

Eulophia angolensis

Eulophia cristata

Opiliaceae

Opilia

Opilia celtidifolia 50702

notes: woody liana

records: none (JH, one false identification turned out to be Loeseneriella)

native terms: Pergue (dialect of Jamsay) kà:mbà-kê: is cognate to Nanga term for Strophanthus (scrambling liana with similar lenticellated branches)

Orobanchaceae

Cistanche

Cistanche phelypaea

records: Goundam, Gao (Boudet)

habitat: parasitic on other plants in sandy places

Orobanche

Orobanche aegyptiaca

records: Timbuktu, Kidal (Boudet)

habitat: parasite on Solanaceae and Cucurbitaceae

Orobanche ramosa var. ramosa (syn Phelypaea ramosa)

records: Timbuktu (Boudet)

Rhamphicarpa

Rhamphicarpa fistulosa

records: Kabara, Gao, lac Faguibine, Bamako

habitat: rice fields

notes: small erect herb up to 2 feet, much-branched, glabrous, half-woody below with fibrous roots; leaf pinnatisect into slender filiform segments; white (less often yellow) flowers, 5 petals; fruit obliquely ovoid with erect beak to one side; plant turns black when dried

Striga (ex-Scrophulariaceae) (several other spp. in southern Mali)

Striga hermonthica 50613 (spelled “hermontheca” in FWTA2)

records: Sanga, Nioro du Sahel, Bamako, Segou (Boudet); common in Hombori and Dogon country (JH)

notes: erect herb parasitic on millet (and sorghum) roots; leaves linear or slightly elliptic-linear, 3-9 cm x 0.3-0.7 cm; bracts lanceolate to lanceolate-elliptic; corolla often large, attractive bright pink flowers; specimens turn blackish when dry

Striga linearifolia [get photo]

records: Macina, Bamako (Boudet)

habitat: wet areas

notes: erect herb; hairs closely appressed to stem, directed upwards (not outwards); short leaf subulate (awl-shaped) 0.5 cm long, stems ribbed and square; bracts similar to leaves; flowers white, pale pink, or pale lilac in dense spikes, corolla tomentose-pubescent

reference: Kew Bull. 14:416 (1960)

Striga passargei

records: San, Bamako; also Senegal to Tanzania (Boudet)

habitat: edge of inundatable area (Boudet); rocky places (FWTA2)

notes: erect herb 4-18 inches, slightly scabrid; flower creamy white to pale yellow with pink center; leafy bracts up to 3 cm, much longer than calyx

***Palmae* (see *Arecaceae*)**

Papaveraceae

Argemone

Argemone mexicana [introduced sp.] (Mexican prickly poppy)

records: Nioro, Djenne (Boudet)

habitat: weed on sandy-clayey soils, banks of watercourses

notes: large thistly leaves; large cup-shaped yellow flower with red stamens

***Papilionaceae* (see *Fabaceae*--*Faboideae*)**

Pedaliaceae

Ceratotheca

Ceratotheca sesamoides 50472

records: Hombori, Kikara, Dianwely, Beni, Bounou, Bendiely (JH)

notes: erect herb, branched, 18-50 cm high; flowers pink or light red-purple outside, paler with purple streaks inside; flat rectangular capsule has 2 divergent horns or spines at the apex

Rogeria

Rogeria adenophylla 50473

records: Hombori, Kikara, Dianwely Maounde, Bendiely, Tanga, Segue (JH)

notes: tall erect herb to 3m; broad leaf with 3 shallow lobes 5-10 cm long; 1-3 subsessile flowers white to purplish, in leaf-axils; each capsule 2.5-3 cm long with thorny spines

Sesamum

Sesamum alatum 50474 (wild sesame)

records: Adrar, Gao, Hombori, Bandiagara (Boudet); Hombori, Douentza, Kikara, Walo (JH)

notes: erect herb (not branching); leaf divided 3-5 foliate or lobed at least near base of stem; flower lavender; seed winged

Sesamum indicum 50475 [cultivated sesame]

records: widely cultivated in Dogon country (JH)

notes: leaf undivided except some division near base of stem; seed not winged

Sesamum radiatum

records: Sotuba (Boudet); not observed in Dogon country (JH)

notes: close to S. indicum; erect herb 2 feet high, glandular hairs, unpleasant smell; leaf undivided; flowers purplish-pink; seed not winged

ethnobotany: can be cultivated

reference: illustrations in FWTA2 2, p. 390

Periplocaceae

(for Raphionacme see Apocynaceae, Periplocoideae)

Phrymaceae

(extracted from Scrophulariaceae)

Glossostigma (3-4 lobes in the calyx)

Glossostigma diandrum (also spelled diandra) (“mud mat”)

records: Timbuktu, Gao

habitat: mud, wet sand

notes: creeping herb 1 cm high, prostrate filiform stems rooting at nodes, forms a mat on mud; leaf spatulate 1 cm x 1-1.5 mm; solitary axillary flowers, calyx 3-lobed, corolla 5-lobed, 2 stamens, fruits 2-celled with many seeds

Phyllanthaceae

(separated off from Euphorbiaceae)

tribes:

Antidesmeae (*Antidesma*, *Uapaca*)

Brideliae (*Bridelia*)

Phyllanthae (*Flueggea*, *Margaritaria*, *Phyllanthus*)

Antidesma

Antidesma venosum 50476

records: Sanga, Koulikoro, Yanfolila (Boudet)

habitat: riverbanks

notes: small tree 2-3 m, leaves alternate, elliptical 6-12 cm x 4-7 cm, gently pointed; short petiole 0.5-1 cm, pubescent, with 2 stipules 5-6 mm long; petiole and central vein often red when young; young branch lenticillate, becoming silver-white; spiciform inflorescence on small branch; male and female flowers on different trees; ovoid fruits in spike, fruits 5-6 mm long, with short point at tip

Bridelia

Bridelia micrantha

records: Birgo (Boudet)

habitat: wooded savanna

notes: tree 10-15 m, alternate leaves, elliptical, 8-15 cm x 5-7 cm, slightly undulating edges corresponding to upper veins; petiole 0.6-1 cm; young branches lenticellate; old branches have obtuse thorns 3-10 mm here and there; greenish flowers in dense glomerules at petiole axils; ovoid berries, black at maturity, 7 mm x 5-6 mm

Flueggea

Flueggea virosa subsp. *virosa* 50477 (syn *Securinega virosa*, *S. microcarpa*) ("Chinese waterberry")

records: Koulikoro, Bamako, Macina, Sanga, Mossi, Yanfolila (Boudet); Tin Hama north of Gao, Kikara, Douentza, Adia (JH)

habitat: inundatable depressions

notes: tree; globular white fruits

Margaritaria

Margaritaria discoidea var. *discoidea* 50478 (syn *Phyllanthus discoideus*)

records: Yorobouboula, Doniena (Boudet)

habitat: gravelly slope

notes: tree

Phyllanthus (organized into shrub/tree vs. herb)

shrubs/trees

Phyllanthus beillei (see *P. welwitschianus*)

Phyllanthus muellerianus 50479

records: Bamako (Boudet); Walo (JH)

habitat: lateritic

notes: tree, thorns

Phyllanthus reticulatus var. *reticulatus* 50481

records: Ansongo, Gossi, Goundam, Sotuba, Sanga (Boudet); Timbuktu, Tupere, Tongo
Tongo, Kikara (JH)

habitat: riverbank

notes: shrub; trunk thin, erect, little branching

Phyllanthus welwitschianus (syn *P. beillei* [thus Berhaut])

records: Nièna, Kadondougou (Boudet)

habitat: thicket beside ravine (etc.)

notes: tree

herbs

Phyllanthus maderaspatensis

records: Gao, Tin Ahara (Boudet)

habitat: gravel, rubble

notes: herb

Phyllanthus pentandrus 50480

records: Macina, Mopti-San, Bamako, Sanga (Boudet); Timbuktu, Hombori, Kikara,
Beni (JH)

habitat: dunes, depressions

notes: herb

Phyllanthus rotundifolius var. *rotundifolius*

records: Sompi, Timbuktu (Boudet)

habitat: deep sandy soil

notes: herb

Securinega

Securinega virosa (see *Flueggea virosa*)

Piperaceae

[cultivated peppercorns]

Piper

Piper guineense 50482

ethnobotany: both spp. of peppercorn are sold as spices in Timbuktu and elsewhere in
Mali, but generally not part of Dogon cooking; *P. guineense* peppercorns are sold
with peduncles attached

Piper nigrum 50483

ethnobotany: see *P. guineense*

Plantaginaceae

Dopatrium

Dopatrium macranthum

records: Beni (JH)

habitat: shallow water in seasonal rock pool

notes: rooted underwater, erect stem emerging from water

Limnophila

[small aquatic herbs often submerged, leaves opposite, much divided]

Limnophila fluviatilis

records: Gao, Bourem, Macina, lac Debo (Boudet)

habitat: amphibious

reference: Adansonia ser 2 15(2):236 and plate 3 (1975)

Limnophila indica

records: Gao (Boudet)

habitat: amphibious

notes: flower yellow and blue

Plantago

Plantago ciliata

records: Sahara (Boudet)

Scoparia

Scoparia dulcis 50612 (habit resembles *Oldenlandia corymbosa*)

records: Timbuktu, Macina, Niono, Bamako, San, Sanga (Boudet)

habitat: sandy-clayey soil of temporary ponds

notes: bushy herb; glabrous ribbed stems; leaves opposite or whorled, glabrous, 2-5-5 cm x up to 1.5 cm, narrowly oblanceolate, narrowed and entire in the lower half, crenulate in the upper half; flowers by 1-2 in the upper reduced leaf-axils forming slender racemes, capsule globose 0.4 cm diameter

ethnobotany: important medicinal herb

Plumbaginaceae

Plumbago

Plumbago zeylanica 50484 (white leadwort)

records: Hombori (only record, Boudet)

habitat: crevices (Hombori) (Boudet)

notes: branching shrub, white flowers opening from long thin tubes, in racemes, leaves ovate 30 cm x 15 cm

Poaceae (= Gramineae)

[true grasses]

Kew grass database <http://www.kew.org/data/grasses-db/sppindex.htm>

world grass genera:

[http://www.tropicos.org/docs/meso/CLASSIFICATION%20OF%20world%20grasses%202013%20Oct%2029%20\(2\)fZedits%20April%205%202014.htm](http://www.tropicos.org/docs/meso/CLASSIFICATION%20OF%20world%20grasses%202013%20Oct%2029%20(2)fZedits%20April%205%202014.htm)

reference: Pierre Poilecot. *Les poacées du Niger*, Boissiera vol. 56

subfamilies and tribes

Arundinoideae

Aristideae (Aristida, Stipagrostis)

Arundineae (Crypsis, Phragmites)

Danthoneae (Elytrophorus)

Bambusoideae

Oryzodae or subfamily Oryzaceae (*Oryza* [rice])
 Bambuseae (*Oxytenanthera*)
 Centothecoideae
 Chloridoideae
 Pappophoreae (*Enneapogon*)
 Cynodonteae (*Chloris*, *Chrysochloa*, *Ctenium*, *Cynodon*, *Enteropogon*, *Leptothrium*,
 Microchloa, *Schoenefeldia*, *Tetrapogon*, *Tragus*)
 Eragrostidae (*Acrachne*, *Coelachyrum*, *Dactyloctenium*, *Dinebra*, *Eleusine*, *Eragrostis*,
 Leptochloa, *Oropetium*, *Sporobolus*, *Tripogon*)
 Panicoideae
 Arundinelleae (*Loudetia*)
 Paniceae (*Acroceras*, *Alloteropsis*, *Anthephora*, *Brachiaria*, *Cenchrus*, *Digitaria*,
 Echinochloa, *Eriochloa*, *Panicum*, *Paspalum*, *Pennisetum*, *Sacciolepis*, *Setaria*,
 Urochloa)
 Andropogoneae
 subtribe *Andropogoninae* (*Andropogon*, *Chrysopogon*, *Cymbopogon*, *Dichanthium*,
 Diectomis, *Diheteropogon*, *Hackelochloa*, *Hemarthria*, *Hyparrhenia*, *Hyperthelia*,
 Imperata, *Parahyparrhenia*, *Saccharum*, *Schizachyrium*, *Sehima*, *Sorghum*,
 Vetiveria)
 subtribe *Rottboelliinae* (*Chasmopodium*, *Elionurus*, *Lasiurus*, *Rhytachne*, *Rottboellia*,
 Vossia)
 Maydeae (*Zea*)
 Pooideae
 Tritieae (*Triticum*)

very tall wild species (2m or so), with page ref. to Poilecot, Poacées du Niger

Andropogon gayanus (rocks, hills),
Chasmopodium caudatum,
Chrysopogon nigritanus (ex-*Vetiveria nigritana*, clumpy near water),
Cymbopogon caesius subsp. *giganteus* (culms rise far above leaves),
Echinochloa pyramidalis (aquatic or marshes),
Echinochloa stagnina (aquatic),
Oryza spp. (aquatic wild rices),
Panicum anabaptistum
Panicum fluviicola
Panicum subalbidum (shallow water),
Setaria geminata (aquatic),
Phragmites australis (aquatic),
Phragmites karka, *Rottboellia cochinchinensis*,
Sorghum bicolor subsp. *verticilliflorum*,
Vossia cuspidata (rivers)

very tiny (excluding spike): *Enneapogon desvauxii*, *Tripogon minimus*, *Tragus* spp.

burrs that cling to clothing: *Cenchrus*

cottony spikes at top of long stems: *Cymbopogon*

spikes with long awns: *Dichanthium*, *Diheteropogon*, *Aristida*, *Stipagrostis*

multiple (4-10) branching spikes: *Acrachne*, *Dactyloctenium*, *Chloris*, *Cynodon*, *Digitaria*,
Dinebra

single spikes without long awns: *Elionurus*, *Elytrophorus*, *Tragus*

complex panicles: *Brachiaria*, *Eragrostis*, *Panicum*, *Sporobolus*

Arundinoideae

1. Aristideae (Aristida, Stipagrostis)

Aristida (close to Stipagrostis)

key (Aristida)

formal key < Poilecot

lemma or column not articulated at top: *A. adscensionis*

lemma or column articulated at top, breaking off at maturity

lemma continuous with awn (no spiral column): *A. hordeacea*

lemma prolonged by spiral column to base of awns

articulation at the base of the column (well below awns):

lower glume 3-6 mm, longer than upper glume: *A. funiculata*

lower glume shorter than upper glume

flower with bifid callus

panicle linear, column of awn 5-7 cm long: *A. kerstingii*

panicle diffuse, column of awn 1.5-3 cm long: *A. stipoides*

flower with conical callus, column of awn 1-3 cm long: *A. sieberiana*

articulation at the top of the column at the juncture with awns: *A. mutabilis*

habit:

tall (about 1m), in lax clumps, in sand: *A. stipoides*, *A. sieberiana*

A. stipoides: annual; leaf up to 0.5 cm wide flat at base; inflorescence in large, delicate panicles up to 50 cm long; floret (including awn) 5.5-7.5 cm long pale or purple

A. sieberiana: perennial, tinged grey-green; filiform leaf up to 0.2 cm wide often convoluted; inflorescence in linear to lanceolate panicles to 8-25 cm long; floret to 2 cm (excluding awn) yellow or s.t. tinted purple

shorter

A. adscensionis: annual; leaf up to 2 cm long x 0.3 cm wide; panicle up to 30 cm long; coriaceous lemma extends slightly beyond upper glume before 3-pronged awn, central prong of awn 0.7-2.5 cm long, lateral prongs often shorter

A. funiculata: annual; small leaf up to 10 cm long x 0.2 cm wide; sparse linear panicle up to 10 cm long; florets 9-11 cm long including awn; spiral column of awn 3-4.5 cm long; prongs of awn subequal 3.5-4.5 cm long; articulation in middle of column (part of which breaks off with awn)

A. mutabilis: annual; thin (often filiform) leaf up to 14 cm long; narrowly oval panicle 1.2-2 cm long with florets grouped at top of branches; articulation at base of awn (at top of column)

Aristida adscensionis 50502

records: Gao, Adrar, Timbuktu, Bandagara to Mopti (Boudet); Kikara, Beni, Tongo Tongo, Segue (JH)

habitat: sandy soil (Boudet); also in gravel on inselbergs (JH)

notes: forms small bushy clumps; when mature, may have a blackish look; culms 10-100 cm; awns 3-pronged

Aristida funiculata 50503

records: Gao, Bandiagara to Mopti, Macina, Nioro (Boudet); Tupere, Kikara, Boui, Segue (JH)

habitat: sand, also clayey soil

notes: low but dense plant, culms 15-30 cm; leaf 4-10 cm x 0.1-0.2 cm; long awns (much longer than *A. mutabilis*), 3-pronged; distinguishable from the (also taller) *A.*

kerstingii in that the lower glume extends above the upper glume

Aristida hordeacea

records: Kidal, Macina, Tilemsi (Boudet)
habitat: clayey zones and moist sand
notes: culms 10-90 cm; leaf 5-20 cm x 0.2-0.5 cm; awns 3-pronged

Aristida kerstingii 50696

records: Yanfolila, Koulikoro (Boudet); (if correctly identified) Segue, Bendiely (JH)
habitat: gravelly zones; on inselbergs
notes: annual; culms 30-90 cm; long awns, awns 3-pronged; resembles *A. sieberiana*;
unlike *A. funiculata* (which is also smaller), the upper glume is longer than the lower
glume

Aristida mutabilis 50504

records: Timbuktu, Niono, Tilemsi (Boudet); Boya (near Gao), Hombori, Boui (JH)
habitat: sand
notes: tall not very dense; culms 30-70 cm long; leaf 6-14 cm x 0.1-0.2 cm; fairly long
awns (shorter than *A. funiculata*), 3-pronged, at end of stem

Aristida pungens (see *Stipagrostis pungens*)

Aristida sieberiana 50505

records: Timbuktu, Gourma Rharous, Niono, Bamako (Boudet); Dianwely, Wakara,
Anda (JH)
habitat: dunes, occasionally ravines
notes: perennial; culms 30-100 cm long, woody; lateral branches suffrutescent; leaf 5-30
cm x 0.1-0.2 cm; awns much longer than for *A. stipoides*, in compact inflorescence
(not open inflorescence like *A. stipoides*)

Aristida stipoides 50507

records: Gao, Ouan Foras, Segou (Boudet); Hombori, Anda (JH)
habitat: dunes
notes: robust annual; long culms 90-150 cm long; leaf flat 15-30 cm x 0.2-0.4 cm;
inflorescence widely open (not compact like *A. sieberiana*)

Stipagrostis [mostly Saharan, close to *Aristida*]

Stipagrostis acutiflora

records: Adrar, Araouan (Boudet)
habitat: sand, gravel, rocks

Stipagrostis hirtigluma

records: Kidal (Boudet)
habitat: rocks

Stipagrostis plumosa

records: far north (Boudet)
habitat: gravel, rocks, sand

Stipagrostis pungens (syns *Aristida pungens*, in part *S. vulnerans*)

records: Araouan, Azawad (Boudet)
habitat: dunes
taxonomy: Boudet pp. 383-4 refers indications for “*Aristida pungens*” to *S. vulnerans*
 (“probablement”); African Flowering Plants Database (2007) distinguishes *S.*
pungens (N and Tropical Africa) and *S. vulnerans* (N and Tropical Africa) noting that
 “*S. pungens*” has been misapplied by some to *S. vulnerans*; Kew grass site (2007)
 distinguishes *S. pungens* (N and W Africa) from *S. vulnerans* (N Africa only)

Stipagrostis uniplumus

records: Bamba, Adrar, Kidal (Boudet)
habitat: rocks, sand

Stipagrostis vulnerans (see discussion under *S. pungens*)

2. Arundineae (Crypsis, Phragmites)

Crypsis

Crypsis schoenoides [introduced]
records: Bamako, Niafunke, Gao-Kokoromme
habitat: depressions after water recedes

Phragmites

Phragmites australis 50703
records: (if correctly identified) near Irigili (Dogulu speaking zone) (JH)
notes: very tall, aquatic, dense inflorescence
Phragmites karka 50508
records: Kayes (Boudet); Adia (JH)
notes: tall grass 2m, moist areas, dense inflorescence

3. Danthoneae (Elytrophorus)

Elytrophorus

Elytrophorus spicatus
records: Macina, Ansongo, Niono, Gao, Kita (Boudet)
habitat: swamps, old rice fields

Bambusoideae

1. Oryzodae or subfamily Oryzaceae (Oryza)

Oryza [rices]

cultivated

[reference for cultivars: Portères, *J. Agric. Trop.* 3:833-856, 1956]

Oryza glaberrima (indigenous rice, traditionally cultivated farther south)
Oryza sativa 50540 (rice)

wild

Oryza barthii 50538
records: Niono, Segou (Boudet); Niger R. in Timbuktu-Gao zone, Hombori, margins of ponds near Bore (JH)
habitat: aquatic, weed in rice fields
notes: annual herb (weakly developed roots); distinguished from *O. longistaminata* by short ligule on lower leaves

Oryza longistaminata 50539
records: Gossi, Gourma Rharous, Mopti (Boudet); Ansongo, Bamba (on Niger R.), Walo, Bounou (JH)
habitat: aquatic, weed in rice fields
notes: perennial herb (well-developed roots); distinguished from *O. barthii* by long pointed ligule on lower leaves
taxonomy: this sp. was called “*O. barthii*” in first ed. of FWTA

2. Bambuseae (Oxytenanthera)

Oxytenanthera [bamboo]

Oxytenanthera abyssinica 50510
records: Yanfolila (Boudet); near Kikara at base of inselberg (JH)
notes: tall bamboo (only native bamboo in the region)

ethnobotany: used for light roofing (sheds) and sold for skiff poles

Chloridoideae

1. Pappophoreae (Enneapogon)

Enneapogon (chiefly Saharan)

Enneapogon desvauxii

records: Kidal (Boudet)

habitat: rocks

Enneapogon lophotrichus

records: Adrar, Gao-Korogoussa

taxonomy: has been confused with *E. desvauxii* and *E. schimperianus* (Boudet)

Enneapogon scaber

records: Adrar (Boudet)

habitat: dry rocky areas, dry oueds

2. Cynodonteae (Chloris, Chrysochloa, Ctenium, Cynodon, Enteropogon, Leptothrium, Microchloa, Schoenefeldia, Tetrapogon, Tragus)

Chloris (more or less erect digitate racemes [spikes] emerging from tip of stem, see also Digitaria, Eleusine, Dinebra, Cynodon, Enteropogon)

long hairlike awns on florets: *C. virgata* (2 awns per floret), *C. barbata* (3 awns)

short awns: *C. robusta*, *C. pilosa*, *C. gayana*

Chloris barbata 50511 [can be confused with *Enteropogon*, probably absent from Mali]

records: none (Boudet)

notes: annual; culms 20-100 cm; few or no lateral branches; leaf-blade 4-40 cm x 0.2-0.3 cm; 5-20 spikes at tip of stem, 4-8 cm long, with hairlike protrusions, florets with three awns (versus 4-6 for *Enneapogon*)

Chloris gayana 50512

records: Gao, Timbuktu, Dire to Bandiagara, Bamako (Boudet)

habitat: wet depressions

notes: perennial, with stolons; culms 50-220 cm; leaf 25-50 cm x 0.3-0.9 cm; 7-20 thin spikes 4-15 cm long, emerging from tip of stem

ethnobotany: good fodder

Chloris lamproparia

records: Bore (Boudet)

habitat: wet sand, limy soils, iron pans (cuiresse latéritique)

notes: annual; leaf 4-16 cm x 0.3-0.5 cm; 2-4 spikes 4-11 cm long

Chloris pilosa 50513

records: Tikimsa, Djenne, Koulouba (Boudet); Anda, Segue (JH)

habitat: brousse tigrée, roadside, fallow

notes: annual; culms 50-100 cm; leaf 20-35 cm x 0.3-0.5 cm; 3-12 short, fairly thick spikes emerging from tip of stem, 2-10 cm long, turning purple then noir at maturity

Chloris prieurii (see *Enteropogon prieurii*)

Chloris robusta 50514

records: Bamako-Sotuba (Boudet); Boya near Gao (JH)

habitat: sandy oueds

notes: perennial; woody culms 1-3 m; many branches; leaf 15-40 cm x 0.3-0.8 cm; 10-28 thick spikes 10-15 cm long

Chloris virgata

records: Gao-Tabankort, Dire, lac Debo (Boudet)

habitat: sand
notes: annual; culms 50-100 cm; leaf 10-130 cm x 0.2-0.6 cm; 4-12 spikes 2-10 cm long

Ctenium

Ctenium newtonii var. *newtonii* 50515
records: Koulikoro, Bamako, Sanga (Boudet)
habitat: thin soil, gravel
notes: single long curling spike 7-20 cm long (cf. *Tetrapogon cenchrifomis*)

Chrysochloa

Chrysochloa hindsii
records: Bore (Boudet)

Cynodon

Cynodon dactylon 50516 (couch grass or Bermuda grass, Fr chien-dent)
records: Mopti, Timbuktu, Bamako, lac Debo (Boudet); Ansongo, Hombori, Douentza on exit to Kubewel, Beni, Anda (JH)
notes: perennial, forms dense mats by spreading laterally and sending down roots from nodes that touch the ground; culms 8-40 cm long; leaf 1-12 cm x 0.2-0.4 cm; 4-6 digitate thin seed spikes 1.5-6 cm long, branching off a short erect stem (cf. *Digitaria*)
ethnobotany: widely used in house lawns in e.g. Bamako (cf. *Dactyloctenium*)

Enteropogon

Enteropogon prieurii 50517 (syn *Chloris prieurii*)
records: Adrar, Timbuktu, Niono, lac Debo, Nioro du Sahel, Sanga (Boudet); Dianwely, Beni, Anda, Bendiely, Severe, Segue (JH)
habitat: depressions, sandy places
notes: 4-9 flexible spikes 4-12 cm long emerging from same point at top of stem (cf. *Chloris*)
Enteropogon rupestris
records: Koki, Tikimsa (Boudet)

Leptothrium

Leptothrium senegalense
records: Goundam, Timbuktu, Tessaguella (Boudet)
habitat: dry sand

Microchloa

Microchloa indica
records: Mopti, Niono, Bamako (Boudet)
habitat: thin soil, gravel

Schoenefeldia

Schoenefeldia gracilis 50518
records: Bandiagara to Mopti, Tabankort-Kidal, Nampala (Boudet); Menaka, Timbuktu, Hombori, Douentza, Kikara, Dianwely, Bendiely (JH)
habitat: sandy soil in plains (Boudet); most common grass in dry sandy plains from Timbuktu to Douentza (JH)
notes: annual; culms 15-90 cm; leave 1-3 mm wide; 2-4 (usually 2) long erect spikes emerging from tip of stem, not widely separated, 6-15 cm

Tetrapogon

Tetrapogon cenchrifomis 50519

records: Ouan Foras, Gao (Boudet)

habitat: dry sandy, sandy-clayey, or gravelly soil

notes: short curling “cat-tail” spike 3-6 cm (cf. *Ctenium newtonii*)

Tragus [small grasses with leaves near base and a spike at the end of a long erect stem]

Tragus berteronianus 50520

records: Goundam, Gao, Tabankort-Kidal (Boudet); Dianwely (JH)

habitat: sand, also iron pans

Tragus racemosus 50521

records: Adrar, Tabankort-Kidal, Ansongo (Boudet); Hombori (JH)

habitat: sand

3. **Eragrostidae** (*Acrachne*, *Coelachyrum*, *Dactyloctenium*, *Dinebra*, *Eleusine*, *Eragrostis*, *Leptochloa*, *Oropetium*, *Sporobolus*, *Tripogon*)

Acrachne

Acrachne racemosa

records: Timbuktu

habitat: sand

Coelachyrum

Coelachyrum brevifolium

records: Sahara (Boudet)

Dactyloctenium

Dactyloctenium aegyptium 50522

records: Timbuktu, Niono, Sanga, Adrar, Koulikoro (Boudet); ubiquitous (JH)

notes: low grass, can form turfs; 4-5 thick digitate spikes, more or less horizontal (cf.

Digitaria and *Chloris*), becoming brittle

ethnobotany: used for lawns in e.g. Bamako

Dinebra

Dinebra retroflexa var. *retroflexa*

records: Kogoni (Boudet); Hombori in sand (JH)

notes: semi-erect digitate spikes emerging at various points near end of stem (JH)

Eleusine

Eleusine indica

records: Kayes, Macina, Sanga, Bamako (Boudet); Bounou, Beni (in valley), Tanga (JH)

habitat: ruderal (roadside etc.)

Eragrostis (thin culms of several spp. used for brooms by Songhay)

Eragrostis atrovirens

records: Gao, Macina, San (Boudet)

habitat: moist or swampy zones

Eragrostis barteri

records: Bandiagara to Mopti, Macina, Gao, Diarafabe (Boudet)

habitat: oueds

notes: woody stems produce fascicles of flowering branches in dry season (Boudet)

- Eragrostis cilianensis* 50526 (“stink grass”) [get info and photo/JH 2010]
records: Timbuktu, Macina, San, Djenne, Niore, Niono, lakes near Goundam, Segou (Boudet)
habitat: wet sand, clay
ethnobotany: good fodder
- Eragrostis ciliaris* 50527
records: Labbezanga, Sanga, Koulomba (Boudet); Anda, Beni (JH)
habitat: fallow fields, beside roads
notes: soft inflorescence, tiny florets easily detached by touching (JH)
- Eragrostis domingensis*
records: Kabara, Gourma Rharous, Niafunke (Boudet)
habitat: sand beside watercourses
- Eragrostis gangetica* 50528
records: Timbuktu, San, Bamako (Boudet); Boya (near Gao), Beni (JH)
habitat: moist depressions
notes: florets reddish, densely clustered
- Eragrostis japonica* (syn *E. namaquensis* [thus in Boudet])
records: Gourma Rharous, Segou, Banankoro (Boudet)
habitat: inundatable depressions
- Eragrostis namaquensis* (see *E. japonica*)
- Eragrostis pilosa* 50529
records: Kidal, Timbuktu, Sanga, Niore du Sahel (Boudet); Boumbam, Dianwely, Segue (JH)
habitat: inundatable depressions
ethnobotany: light brooms
- Eragrostis tremula* 50531
records: Timbuktu, Niono, San, Segou (Boudet); Anda, Beni, Kubewel, Songho (JH)
habitat: sandy soil (Boudet); forms prairies in sandy plains (e.g. Dianwely to Anda) (JH)
notes: florets turning white, in broad panicles with each floret well-separated by a peduncle
flower (CIRAD): http://fleurs.cirad.fr/fleurs_d_afrique_tropicale/e/eragrostis_tremula
- Eragrostis turgida* 50532
records: Sanga, San, Bamako (Boudet)
habitat: moist zones
- Leptochloa*
Leptochloa caeruleascens
records: Labbezanga, El Oualadji (Boudet)
habitat: near water
Leptochloa malabarica
records: Dire to Bandiagara (Boudet)
habitat: wet areas
- Oropetium*
Oropetium capense
records: Ansongo (Boudet)
- Sporobolus*
Sporobolus festivus 50533 (resembles *S. microprotus*)
records: Bamako, Niono, Tikimsa, Niore du Sahel, Sanga (Boudet); Anda, Segue (JH)
habitat: rocky crevices, thin soils

notes: perennial (well-developed roots); culms erect 10-60 cm; thin linear leaf 2-7 cm x 0.1-0.2 cm often folded over; broad spreading panicle open 3-22 cm long, panicle branches hair-like (red) with lowest ones often pointing up, tiny florets 1-1.5 mm long (gold or purple)

reference: Adventices

Sporobolus helvolus 50534

records: Bandiagara, Labbezanga, Gourma Rharous, Kidal (Boudet); Anda (JH)

habitat: temporarily inundated areas

notes: annual (well-developed roots), stolons; vigorous culm 1 mm diameter; panicle linear to narrowly lanceolate 4-12 cm long s.t. contracted (spiciform), florets 1.4-2 mm long (reddish)

Sporobolus microprotus 50535 (resembles *S. festivus*)

records: Sanga, Ansongo, Bore, Douentza (Boudet); Kikara, Kubewel, Anda (JH)

habitat: roadsides, uncultivated areas

notes: annual (weakly-developed roots); culms 10-50 cm; leaf 2-14 cm x 0.3-0.7 cm; broad-spreading panicle 3-12 cm long of tiny florets 1-1.2 mm long (grey-green), panicle branches verticillate and horizontal at base

ethnobotany: not always named in Dogon languages even where present (small and inconspicuous species)

Sporobolus pyramidalis

records: Segou, Djenne, Sikasso

habitat: wet areas

notes: perennial (well-developed roots), in dense clumps; leaf to 50 cm x 0.3-1 cm, panicle 10-45 cm variably linear (spiciform) or narrowly pyramidal

Sporobolus spicatus

records: Timbuktu, Gourma Rharous (Boudet)

habitat: alkaline or salty soil

notes: perennial, forms mats, stolons present; culms 10-100 cm; stiff leaf 2-30 cm x 0.1-0.4; inflorescence is a spiciform panicle (like a spike)

Sporobolus stolzii

records: Bamako, Boré

habitat: sand

notes: annual 10-90 cm high, narrowly elliptical panicle

Sporobolus subglobosus

records: Koro (Boudet)

habitat: brousse tachetée

notes: annual to 90 cm, leaf 4-15 cm x 0.2-0.6 cm, panicle lanceolate (many short branches), rather large florets 1.5-2 mm (reddish)

Tripogon

Tripogon minimus 50536

records: Niono, Koulikoro, Tin Zazi (Boudet); Kubewel, Tanga, Diangassagou, Bendiely, Segue (JH)

habitat: shallow soil near rocky outcrops

notes: tiny plant

native terms: may be grouped into a taxon with *Digitaria ciliaris*, based on a vague similarity of the inflorescences

Panicoideae

1. Arundinelleae (Loudetia)

Loudetia (several other spp. in far south)

Loudetia togoensis 50509

records: Niono, Bandiagara, Koulikoro, Nioro du Sahel (Boudet); Beni (JH)

habitat: iron pans

notes: very long awns

2. Paniceae (Acroceras, Alloteropsis, Anthephora, Brachiaria, Cenchrus, Digitaria, Echinochloa, Eriochloa, Panicum, Paspalum, Pennisetum, Sacciolepis, Setaria, Urochloa)

Acroceras

Acroceras amplexans

records: Niono, Dogo, Tillabery to Gao (Boudet); Ayorou (Rep. of Niger), Djenne (JH)

habitat: swamps, shallow water

Alloteropsis paniculata

records: San, Djenne to Sofara (Boudet)

habitat: moist soil and swampy areas

Anthephora

Anthephora pubescens

records: Kidal (Boudet)

habitat: rocky

Brachiaria

inflorescence consists of several spikes with numerous florets in 1-2 rows

[cf. Echinochloa colona with 3-4 rows]

no of racemes (raceme length, inflorescence axis length)

2-8 *Urochloa xantholeuca* (2-7 cm, 2-10 cm)

4-8 orthostachys (1-4 cm, 5-10 cm)

5-10 villosa (1-4 cm, 3-7 cm)

3-15 ramosa (1-8 cm, 3-10 cm)

7-15 deflexa (2-10 cm, 6-15 cm)

5-20 mutica (2-10 cm, 7-20 cm)

5-30 lata (2-8 cm, 1-12 cm)

length of culms in cm

10-50 villosa

20-60 *Urochloa xantholeuca*

20-60 orthostachys (nodes pubescent)

10-70 ramosa

15-70 deflexa (weak)

25-125 mutica

30-150 lata (robust)

length of leaf blade in cm

1-7 villosa

3-8 orthostachys

3-15 *Urochloa xantholeuca*

2-25 ramosa

4-25 deflexa

5-20 lata (widest)

6-30 mutica

width of leaf blade in cm

widest: 1-2.5 lata
0.4-2.2 deflexa
medium: 0.3-1.5 mutica
0.4-1.4 ramosa
narrow: 0.4-1 *Urochloa xantholeuca*
0.2-0.7 orthostachys
0.2-0.6 villosa

florets solitary (not in pairs): xantholeuca, sometimes ramosa

Brachiaria deflexa

records: Sanga, Niono, Bore (Boudet)

habitat: moist sandy soil, s.t. in shade

notes: annual; weak culms 15-70 cm; leaf blade and often sheath finely pubescent, short hairs on margins of sheath, leaf margin scabrous, short membranous ligule with hairs; leaf 4-25 cm x 0.4-2.2 cm; 7-15 racemes 2-10 cm long on a central axis 6-15 cm long; elliptic florets 2.5-3.5 mm long, spreading in pairs, florets (or pairs) well-spaced from each other, outer florets on pedicels longer than the floret; uppermost leaf may envelope base of inflorescence

taxonomy: close to (and perhaps a geographic variant of) *B. ramosa* (Poilecot, Niger)

ethnobotany: cultivated in part of Guinea-Conakry, has spread elsewhere as a weed

Brachiaria lata 50542

records: Djenne, Bore, Sanga, Gao, Koulouba, Niore du Sahel (Boudet); Tupere, Anda, Perge, Segue (JH)

habitat: moist areas e.g. beside ponds

notes: annual; long robust culms 30-150 cm; broad leaf 5-20 cm x 1-2.5 cm wide; 5-30 racemes 2-8 cm long, on a central axis 1-12 cm; floret packing crowded, irregular; oblong florets 2.5-3.5 mm long, by pairs with one of pair slightly pedicellate

reference: image in *Adventices*

Brachiaria mutica 50543

records: Niger R., e.g. Timbuktu, Gao (JH)

habitat: aquatic, important weed of ricefields (JH)

notes: perennial; culms rambling 25-125 cm long, rooting from lower nodes; leaf 6-30 cm x 0.3-1.5 cm; 5-20 racemes 2-10 cm long on central axis 7-20 cm long; floret packing irregular; elliptic florets 2.5-3.5 mm long, in pairs

Brachiaria orthostachys

records: Gourma Rharous, Gossi (Boudet)

habitat: dunes

notes: annual; culms 20-60 cm, nodes pubescent; short leaf 3-8 cm x 0.2-0.7 cm, densely hairy on both sides; 4-8 racemes 1-4 cm long, on a central axis 5-10 cm

Brachiaria ramosa

records: Timbuktu, Bore, Niono, Macina, Gao, Ouan Foras (Boudet)

habitat: psammophile (in sun) in wet zones

notes: annual, culms 10-70 cm; short membranous ligule with hairs; wide leaf 2-25 cm x 0.4-1.4 cm; 3-15 racemes 1-8 cm long on central axis 3-10 cm long; floret packing irregular; elliptic florets 2.5-3.5 mm long, in pairs

Brachiaria villosa 50697

records: Macina, Niono, Bamako (Boudet); Segue (JH)

habitat: sand, often in fields

notes: annual; culms decumbent 10-50 cm; leaf 1-7 cm x 0.2-0.6 cm; leaf margin cartilaginous and spiny; 5-10 racemes 1-4 cm long on central axis 3-7 cm; floret

packing irregular; florets solitary or in pairs; elliptic florets 2-2.7 mm sometimes with hairs extending 0-0.5 mm beyond apex of upper glume

Brachilaria xantholeuca (see *Urochloa xantholeuca*)

Cenchrus

taxonomy: Pennisetum has been (controversially) moved into Cenchrus on the grounds that the two genera cannot be consistently segregated on morphological or genetic characters; see reference under Pennisetum.

cultivated

Cenchrus americanus 50564 (syns *C. spicatus*, *Pennisetum glaucum*, *P. americanum*)

[=cultivated pearl millet, sometimes also stray outside of fields]

cultivars: the main distinction made by Dogon is between "early millet" which is harvested and often consumed early (plant is smaller and its grain spike rather thin), and the main variety which is harvested around late October

growth stages: notable stages in the development of the grain head are the appearance of a reddish fuzz (i.e. the flowers), and the development of a milky liquid in the unripe grains

pests: a disease whose signature is red blotches on stems and leaves; grubs include weevil larvae that attack the roots of young plants, the millet stem borer (*Coniesta ignefusalis*, a pyralid butterfly larva), and the millet head-miner (*Heliocheilus albipunctella*, a noctuid butterfly larva); beetles (cetonid beetles *Pachnoda cordata* and *P. interrupta*, meloid beetles such as *Psalydolytta fusca* and *P. vestita*), grasshoppers (e.g. *Kraussaria angulifera*, *Oedaleus senegalensis*, *Hieroglyphis daganensis*); among birds, especially the large migratory flocks of *Quelea quelea* (black-faced dioch) and *Passer luteus* (golden sparrow) that come before harvest time; millet grains are very hard when harvested and the grain spikes can be stored in granaries for long periods

ethnobotany:

grains: the staple grain in most Dogon and montane Songhay villages, since it requires less rainfall than other grain crops; half-ripe grain spikes can be lightly roasted and eaten around September; harvested grain spikes are stored in granaries, often divided into lower-quality spikes to be consumed in the months after the harvest, and higher-quality spikes for later consumption or for long-term storage; grains are used in staple foods, notably millet cakes (local French *tô*, often served with baobab-leaf sauce) and several varieties of cream of millet (*crème de mil*); millet-flour fritters give some competition to wheat-flour fritters in large towns

stems: the robust culms are used for heavy thatching (e.g. roofs of shelters) and as fodder for livestock; the culms are piled up and burned beside the field, and the ashes are collected and made into soda ash (*potasse*)

cultivation: in large fields, often side by side with smaller fields of sorghum (*Sorghum bicolor*) and peanut; millet can be interspersed with roselle (*Hibiscus sabdariffa*) and/or cow-pea (*Vigna unguiculata*); harvested around late October by cutting stems with a quick stroke just below the grain spike using a hand-knife attached to the palm; if the grain spike is too high to reach, the stem is bent over, or in some areas (Togo Kan) the stems are knocked down first and the grain spikes are cut off later; nowadays harvested grain spikes are frequently jammed into large baskets and carried on the head directly to the village, or tied into bundles (Fr. *fagots*) and brought by cart; in large and/or distant fields, grain spikes are temporarily piled in very large heaps, or inside stone enclosures, and transported some time later to the village

reference on genetic basis for cultivated/weedy distinction: Miura & Terauchi (2005)
Molecular Ecology 14: 1251-1261

wild

- Cenchrus biflorus* 50546 (burrgrass, Fr. cram-cram)
records: Timbuktu, Gao, Sanga, Bamako (Boudet); Timbuktu, Hombori, Tupere, Douentza, Bendiely, Segue (JH)
habitat: sandy soil (Boudet); extensive prairies in the Gourma (JH)
notes: classic burrgrass, burrs stick to clothing (see also *Pupalia lappacea*, *Amaranthaceae*); burrs green when fresh, turning dark brown
ethnobotany: important fodder grass for livestock at certain growth stages (i.e. when not prevented by growth of burrs)
- Cenchrus ciliaris* 50547 (“buffel grass”)
records: Bamba, Tabankort to Kidal, Timbuktu (Boudet)
habitat: variable soil types
notes: perennial, rhizomatous; dense inflorescence 2-2.6 cm wide, feathery silks inside burrs
- Cenchrus hordeoides* (syn *Pennisetum hordeoides*)
records: Macina, south (Boudet)
habitat: disturbed soils, gravel, often in shade
notes: to 90-150 cm high; leaf 3-25 cm long 2-15 mm wide, densely hairy; inflorescence with spikes 3-18 cm x 4-8 mm plus silky hairs to 5-8 mm long
- Cenchrus pedicellatus* 50565 (syn *Pennisetum pedicellatum*)
records:
Hombori, Tupere, Dianwely, Bounou, Bendiely, Segue (JH)
-- subsp. *pedicellatum*: Segou, Sanga, Ouan Foras, Gao (Boudet)
-- subsp. *unispiculum*: Koulikoro, Koulouba (Boudet)
habitat: disturbed soil
- Cenchrus polystachios* subsp. *polystachios* 50566 (syn *Pennisetum polystachion* subsp. *polystachion*)
records: Diafarabe, Niono, Bamako (Boudet); Boui, Bendiely, Nando (JH)
habitat: disturbed soil (Poilecot: humid soil beside ponds, in shade)
notes: to 1-2 m high; leaf 10-40 cm long 3-16 mm wide, glabrous or hairy; inflorescence yellow 3-25 cm x 10 mm plus silky hairs (feathery at base) to 15-25 mm long
- Cenchrus prieurii* 50548
records: Timbuktu, Gao, Kidal (Boudet); Beni, Nando (JH)
habitat: sand
notes: annual, broad inflorescence 2-4 cm wide; no feathery silks inside burrs
- Cenchrus purpureus* (“elephant grass”) (syn *Pennisetum purpureum*)
records: Bamako, Oualia
habitat: edge of watercourse or forest, also cultivated (elephant grass, Napier grass)
- Cenchrus spicatus* (see *Cenchrus americanus*)
- Cenchrus violaceus* (syn *Pennisetum violaceum*)
records: Gao, In Tillit, Kidal, Gossi, Niore du Sahel (Boudet)
habitat: fallow fields, roadside (Poilecot: weed in sandy zones)
notes: plant is highly variable; to 30-120 cm high; leaf 4-12 cm x 6-10 mm; inflorescence in spike 3-8 cm x 6-10 mm often tinted violet, with silky hairs to 8 mm, feathery at base

Digitaria (digitate spikes, see also *Chloris*, *Eleusine*, *Dinebra*, *Cynodon*)

cultivated

Digitaria exilis (cultivated fonio grain)

records: formerly widely cultivated in Dogon country, now absent from northern Dogon country and cultivated only here and there in central and southern Dogon country (small fields seen at Songho, Bendiely, and Diangassagou) (JH)

cultivation: since fonio fields are level (lightly turned over and not furrowed) and since the young plants look like ordinary wild grass, a common problem is that others do not recognize fonio fields and may let donkeys and other animals graze it; harvested around early October by slashing stems with a sickle; seeds are later dislodged by threshing large piles of the stems

wild

Digitaria acuminatissima

records: lac Faguibine, San, Gao, Bandiagara to Mopti, Djenne (Boudet)

habitat: beside watercourses

Digitaria barbinodis

records: Bourem, Gao, Kabara (Boudet)

habitat: rice fields, bourgou

Digitaria ciliaris var. *ciliaris* 50549 [very similar to *D. horizontalis*]

records: Macina, Timbuktu, Dioura (Boudet); ubiquitous (JH)

habitat: weed of millet fields (JH)

notes: 5-12 racemes subdigitate (emerge at same point or close together); racemes thin, 6-22 cm, rigid; racemes sometimes have white hairs; common axis up to 4 cm long; hairs along glumes

Digitaria debilis

records: Kabara, Djenne, Kara (Boudet)

habitat: wet sand, often beside watercourses

Digitaria gayana

records: In Tikinissa, Sanga, Segou (Boudet)

habitat: sand, esp. in fields, also clayey-limey soil

Digitaria horizontalis 50551 [very similar to *D. ciliaris*]

records: Macina, Timbuktu, Niono, Gao, Tin Ahara, Douentza (Boudet)

habitat: sand, gravely sand

notes: often has hairs on racemes; 4-15 racemes emerge up and down the axis; common axis 2-8 cm long; racemes thin, 3-16 cm, not rigid; noticeable hairs coming off racemes, but virtually no hairs on glume

Digitaria leptorhachis

records: Bamako, Segou, Gourma Rharous

habitat: wet areas

Digitaria longiflora

records: Gourma-Rharous, Sanga

habitat: roadside, old fields

Echinochloa

Echinochloa colona 50553 [can be confused with *Brachiaria* spp., observe ligules and leaf width]

records: Djenne, Gao, Bamako, Niono, Bandiagara (Boudet); Gao, Boumbam, Boro (JH)
habitat: lightly inundated areas e.g. at pond edges (cf. *Brachiaria lata*)

notes: much shorter than other *Echinochloa* sp., 20-80 cm high; no ligules (where leaf emerges from sheath); leaf 6-30 cm x 0.4-0.8 cm wide; florets in 3-4 rows

native term: may be combined with *Brachiaria lata*, *B. villosa* (similar habitat and appearance)

Echinochloa geminata (see *Setaria geminata*)

Echinochloa lelievrei (see *E. stagnina*)

Echinochloa pyramidalis 50554

records: Niger R. (like *E. stagnina*); Kubewel-Adia (JH)

habitat: riverbanks, marshes (not usually in deep water)

notes: very tall, 2-3m; 20 or more racemes up to 8 cm long; florets awnless; substantial rhizome

Echinochloa stagnina 50555 (bourgou grass) (syn *E. lelievrei* [FWTA2])

records: very common along Niger R. e.g. Timbuktu, lac Debo, Walo (JH)

habitat: aquatic, grows in fairly deep water e.g. in Niger River, may form floating prairies (e.g. in lac Debo)

notes: tall, 2m; 5-15 racemes up to 6 cm long; florets with distinct awns; rhizomes may float

ethnobotany: culms sold as fodder; riverine Songhay make a syrup from it using special filtering baskets

Eriochloa

Eriochloa fatmensis

records: Bore, Niono (Boudet)

habitat: sandy depressions with water and shade

Panicum [close to *Brachiaria*]

inflorescence is a much-branching panicle

florets

widely gaping from early stages: *anabaptistum*, *fluviicola*, *walense*

gaping at maturity: *nigerense*

acute (not gaping): *subalbidum*, *laetum*, *repens*, *turgidum*

tall perennials with short rhizomes: *turgidum* (to 1.4m, forms clumps, far north), *anabaptistum* (to 1.5m, narrow leaf only up to 0.6 cm wide), *subalbidum* (to 2m, florets not gaping), *fluviicola* (to 2.3m, florets gaping)

Panicum anabaptistum 50557

records: Djenne, San, Dogo, Niono, Macina, Bamako (Boudet); Hombori (JH)

habitat: inundated or recently dried areas, usually sandy

notes: perennial to 1.5 m; culms hard; narrow leaf to 25-30 cm x 0.4-0.6 cm; lax panicle, base of panicle enclosed by the sheath of the last leaf; inflorescence with relatively few branches (not verticillate); florets gaping, about 4mm long

Panicum fluviicola 50558

records: Macina, Mopto to Djenne, Bougoun (Boudet); Kikara (JH)

habitat: edge of watercourses, inundated plains

notes: tall perennial to 2.3 m; short rhizome; leaf 25-50 cm x 0.3-1.2 cm; nodes and florets often purplish; inflorescence with many branches, more or less verticillate; small florets gaping (with two tips), about 2.5mm long

Panicum humile (syn *P. walense*)

records: Niono, Macina, Bamako

habitat: thin soils

notes: erect annual to 18-70 cm; narrow leaf 3-20 cm x 0.2-0.6 cm; tiny florets gaping, often tinted purple; inferior glume about $\frac{3}{4}$ as long as floret

Panicum laetum 50559 ("wild fonio")

records: Niono, Gao, Ouan Foras, Douentza-Hombori, Koulikoro (Boudet); Gao, Hombori, Boni, Dianwely, Beni, Bendiely (JH)

habitat: moist soils, can form prairies

notes: short, compact annual 17-70 cm high; leaf 4-24 cm x 0.5-1 cm; abundant large rounded florets 2.5-3 mm long (not gaping), green to yellow

ethnobotany: formerly an important crisis food, still occasionally harvested; abundant grains can be collected by swishing a special basket through the plants (Tupere, Hombori), or by placing a basket underneath and beating the plants with sticks

Panicum nigerense

records: Macina, Koloni (Boudet)

habitat: dry sandy soil

notes: annual 60-150 cm; leaf 25-50 cm x 0.8 cm; large panicles with filiform branches; large florets to 6 mm long, acuminate (but gaping when ripe), yellow to red-brown

Panicum repens (“torpedo grass”)

records: Goundam, Dire, Niono, Bamako-Sotuba (Boudet)

habitat: swamps and inundatable grassland

notes: perennial 30-100 cm with long rhizome and stolons, spreads along ground; florets acute (not gaping); inferior glume very short (up to 1/3 length of floret)

Panicum subalbidum 50560

records: Ansongo, Macina, Bandiagara to Mopti, Niono, Bamako (Boudet); Bamba (on Niger R.), Douentza, Beni, Anda, Boui, Boro (JH)

habitat: swamps, in shallow water during flood season

notes: perennial to 2 m; short rhizome; culms thick and spongy; nodes blackish, leaf 7-40 cm x 0.3-1.5 cm; florets usually acuminate (not gaping), pale green or tinted purple; inferior glume very short (up to 1/3 length of floret), not sharply pointed

Panicum turgidum 50561

records: Timbuktu, Sompi (Boudet); Gao area (JH)

habitat: dry sandy soil, sandy-rocky river beds

notes: perennial in large tufts to 140 cm high, culms woody; leaf 10-20 cm x 0.4-0.7 cm; florets acuminate

Panicum walense (see *P. humile*)

Paspalidium (for entire genus, see *Setaria*)

Paspalum

Paspalum scrobiculatum 50563 (also spelled scrobiculare)

records: Mopti, Labbezanga, Diafarabe, Niono, Macina (Boudet); Walo, Beni, Bendiely (JH)

habitat: moist areas, s.t. in shade

reference: Adventices

Pennisetum (now moved into *Cenchrus*, see reference)

reference

Chemisquy, M. Amelia, Liliana M. Giussani, María A. Scataglini, Elizabeth A. Kellogg and Osvaldo Morrone. 2010. Phylogenetic studies favour the unification of *Pennisetum*, *Cenchrus* and *Odontelytrum* (Poaceae): a combined nuclear, plastid and morphological analysis, and nomenclatural combinations in *Cenchrus*. *Annals of Botany* 106(1):107-130.

Pennisetum glaucum (cultivated millet) (see *Cenchrus americanus* [syn *C. spicatus*])

Pennisetum hordeoides (see *Cenchrus hordeoides*)

Pennisetum pedicellatum (see *Cenchrus pedicellatus*)

Pennisetum polystachion subsp. *polystachion* (see *Cenchrus polystachios* subsp. *polystachios*)

Pennisetum purpureum (see *Cenchrus purpureus*)

Pennisetum violaceum (see *Cenchrus violaceus*)

Sacciolepis

Sacciolepis africana

records: Gao, Mopti to Sofara, south (Boudet); Ansongo, Gao (JH)

habitat: rice fields (Boudet); shallow water at edge of river (JH)

notes: grains tightly attached to long spike, more or less erect, bright green

Sacciolepis chevalieri

records: Niger Delta, Bamako (Boudet)

habitat: in shade near springs

Sacciolepis ciliocincta

records: Sanzana (Boudet)

habitat: temporary ponds on rocks

Setaria (including ex-Paspalidium)

reference: R. D. Webster. 1995. Nomenclatural changes in *Setaria* and *Paspalidium* (Poaceae: Paniceae). *SIDA, Contributions to Botany* 16(3):439-446.

reference: Elizabeth A. Kellogg, Sandra S. Aliscioni, Osvaldo Morrone, José Pensiero & Fernando Zuloaga. 2009. A Phylogeny of *Setaria* (Poaceae, Panicoideae, Paniceae) and Related Genera Based on the Chloroplast Gene ndhF. *International Journal of Plant Sciences* 170(1): 117-131

Setaria barbata

records: Segou, Niono (Boudet)

habitat: well-watered soil, ruderal

Setaria geminata 50562 (syn *Paspalidium geminatum*, *Echinochloa geminata*)

records: Bourem, Gao (Boudet); Timbuktu to Gao in rice fields; Kikara in small but deep pool at spring (JH)

habitat: aquatic, common weed of rice fields

Setaria pumila 50567

records: Gossi, Niono, Sanga, Segou, Bamako (Boudet); Tupere, Walo, Segue, Bendiely, Diangassagou (JH)

habitat: wet sand

notes: terminal spiciform inflorescence 1.5-12 cm, florets pale or tinted reddish

Setaria sphacelata var. *sphacelata* [also other varieties in southern Mali]

records: Bamako, San, Dogo (Boudet)

habitat: various humid or inundated zones

Setaria verticillata 50568

records: Gao, Nioro du Sahel (Boudet); Anda (JH)

habitat: grassy, moist, shady areas, anthropic

notes: terminal spiciform inflorescence 3-10 cm long, florets pale green; silky hairs on florets have tiny downward-facing hooks that catch

Urochloa

Urochloa trichopus

records: Gao, Gossi, Tin Ahara (Boudet)

habitat: sandy-clayey depressions

Urochloa xantholeuca 50544 (syn *Brachiaria xantholeuca*)

records: Gao, Tikimsa, Gossi, Douentza (Boudet); Beni (JH)

habitat: moist sandy areas

notes: annual; culms 20-60 cm; slender leaf 3-15 cm x 0.4-1 cm; velvety pubescence on leaves and sheathes; leaf margins with hairs esp. at base; ligule is a fringe of hairs; 2-8 racemes 2-7 cm long on a central axis 2-10 cm long; elliptical florets 2.7-4 mm long, solitary and sessile in 2 rows, acuminate

3. Andropogoneae

3a. subtribe Andropogoninae (Andropogon, Chrysopogon, Cymbopogon, Dichanthium, Diheteropogon, Hackelochloa, Hemarthria, Hyparrhenia, Hyperthelia, Imperata, Parahyparrhenia, Saccharum, Schizachyrium, Sehima, Sorghum, Vetiveria)

Andropogon

Andropogon africanus

records: Diafarabe, Macina, Bamako (Boudet)

habitat: inundatable areas

Andropogon canaliculatus

records: Macina, San, Diafarabe, south (Boudet)

habitat: inundatable areas

notes: culms 25 cm to 2 m tall; leaf 10-40 cm x 0.1-0.5 cm

Andropogon fastigiatus (see *Diectomis fastigiata*)

Andropogon gayanus 50486

key to varieties (< Poilecot)

hairs on just one side of pedicel (base of upper spikelet)

upper spikelet glabrous, height 100-350 cm, beside ponds and watercourses

var. gayanus

upper spikelet woolly or pubescent, height 120-180 cm, leaf linear, between dunes

var. tridentatus

hairs on both sides of pedicel (base of upper spikelet)

upper spikelet glabrous, plant to 300 cm, leaf variable

var. polycladus 50488

upper spikelet woolly, plant often more than 300 cm, leaf long (to 100 cm) and broad (to 3 cm), leaf very hairy behind the ligule, inflorescence may occupy upper third of plant

var. bisquamulatus 50487

records: the common tall grass on inselbergs and in other rocky areas in Dogon and montane Songhay country, mainly var bisquamulatus (JH)

var. gayanus: Timbuktu, Macina (Boudet)

var. tridentatus: Kidal, Bamako (Boudet)

var. polycladus 50488: Gao, Macina, Segou, Niore du Sahel, Timbuktu (Boudet)

var. bisquamulatus 50487: Gao, Koulouba (Boudet); appears to be the dominant variety in Dogon country, but retreating from the plains due to desertification (JH)

ethnobotany (var. bisquamulatus): culms widely used for thatching (more robust than those of *Chrysopogon nigritanus* (=Vetiveria), but thinner than those of millet

Andropogon pseudapricus

records: Bandiagara, Segou, Bamako

habitat: thin soils, gravelly soil, often on stone shelves

notes: culms 50-150 cm; leaf 8-40 cm x 0.1-0.5 cm

Chrysopogon

Chrysopogon fulvibarbis (syn *Vetiveria fulvibarbis*)

records: San, Macina, Koulikoro (Boudet)

habitat: inundated areas

Chrysopogon nigritanus 50550 (syn *Vetiveria nigritana*)

records: Mopti, Macina, Nioro du Sahel, Sanga, Gao (Boudet); fairly common in moist pond margins in northern Dogon country, e.g. Walo, Bamba (JH)

habitat: beside water courses, inundated areas

notes: clumpy at base, stems to 2m if undisturbed but culms usually cut off near base

ethnobotany: culms (stems) woven into light matting; culms are thinner and less robust than those of *Andropogon gayanus*

Cymbopogon [aromatic lemon-grasses; cottony seed spikes rise far above leaves on erect culm]

Cymbopogon caesius subsp. *giganteus* 50489 (syn *C. giganteus*)

records: Hombori, Walo, Anda, Dianwely, Boni, Perge, abundant beside seasonal ponds on highway near Boussouma (JH)

var. *giganteus*: Bamako, Ansongo, Nioro du Sahel, Segou, Hombori-Gossi (Boudet)

var. *inermis*: Macina (Boudet)

habitat: rocky or gravely plateaus

notes: culms 1-3 m; broad leaf 15-60 cm x 0.8-3 cm, dark green

ethnobotany: culms (stems) used in thatch (shelter coverings); medicinal

Cymbopogon giganteus (see *C. caesius* subsp. *giganteus*)

Cymbopogon schoenanthus 50490

records: Hombori, Tupere (JH)

subsp. *schoenanthus*: Ansongo (Boudet)

subsp. *proximus*: Douentza-Hombori, Ansongo, Gao (Boudet)

habitat: sand, or sand-strewn areas

notes: culms 30-120 cm; filiform to linear leaf 10-35 cm x 0.1-0.4 cm

ethnobotany: medicinal

Dichanthium (Saharan spp.)

Dichanthium annulatum var. *annulatum*

records: Kidal (Boudet)

habitat: rocky or clayey areas

Dichanthium foveolatum

records: Adrar (Boudet)

habitat: rocky or gravely zones

Diectomis (alternatively part of *Andropogon*)

Diectomis fastigiata 50485 (syn *Andropogon fastigiatus*)

records: Bore, Niono, Gossi, south (Boudet)

habitat: gravely soil, s.t. swamps on slabs

notes: culms 15 cm to 2 m tall; leaf 5-30 cm x 0.1-0.4 cms

Diheteropogon

Diheteropogon hagerupii 50491

records: Ansongo, Sanga, Bandiagara to Mopti, Macina, Niono, Bamako (Boudet); Walo (beside path up to village), Bendiely, road to Segue (JH)

habitat: heavy sands, or sandy-clayey gravel

notes: resembles *Hyperthelia dissoluta* (but ligules hairless); culms yellow (when leaf sheathes removed); long bent awns with "kneecap" at bend

Hackelochloa

Hackelochloa granularis

records: Bamako, Labbezanga (Boudet)

habitat: often in shade; sandy, clayey-sandy, or gravelly soil

Hemarthria

Hemarthria altissima

records: north of Mopti, lac Tenda (Boudet)

habitat: shallow waters and muddy areas beside watercourses and lakes (Boudet)

Hyparrhenia

Hyparrhenia dissoluta (see *Hyperthelia dissoluta*)

Hyparrhenia rufa

records: Macina, south (Boudet)

habitat: moist areas in savanna, elsewhere in stunted form

Hyperthelia

Hyperthelia dissoluta (syn Hyparrhenia dissoluta)

records: Gourma Rharous, Nioro du Sahel, Macina, Bamako (Boudet)

habitat: moist areas in savanna

notes: long awns, bent multiply near base; ligules usually with conspicuous hairs (unlike *Diheteropogon hagerupii*)

Imperata

Imperata cylindrica

records: Bamako and south (Boudet)

habitat: cultivated areas

Parahyparrhenia

Parahyparrhenia annua

records: Nioro du Sahel, south (Boudet)

habitat: ponds on rock pans

note: highly variable plant

Saccharum

Saccharum officinarum 50495 [sugar cane, cultivated]

ethnobotany: sold in markets for sucking (see also *Sorghum bicolor*, one variety of which has similar sweet stems)

Schizachyrium

Schizachyrium brevifolium

records: Niono, south (Boudet)

habitat: wet areas

Schizachyrium exile 50496

records: Niono, Ansongo, Tin Zazi, Bamako (Boudet); Kikara, near Anda, Diangassagou (JH)

habitat: dry or poor soil

notes: entire plant turns blood red when dry (as for *S. sanguineum*)

taxonomy: close to *S. sanguineum*

Schizachyrium sanguineum

records: Nioro du Sahel, Segou (Boudet)

habitat: wide range from thin stony soil to beside water

Sehima

Sehima ischaemoides

records: Gao-Tabankort, Sokolo (Boudet)

habitat: brousse tigrée

Sorghastrum

Sorghastrum stipoides

records: Diafarabe, Bamako, Macina, San, Dogo (Boudet)

habitat: inundated areas

Sorghum

cultivated

Sorghum bicolor 50498 [sorghum, Fr *sorgho* or *gros mil*]

cultivars: several varieties that tolerate different growing conditions; main distinction is between sweet sorghum 50498 (stems sucked like sugar cane) and regular sorghum; further distinctions by color of grains (red to white to dark), density of grain spikes, and erect or decumbant position of grain spike at maturity

ethnobotany: important grain crop in northern Dogon country, second to millet

cultivation: often side by side with millet (*Cenchrus americanus* [= *Pennisetum glaucum*]), though sorghum needs more moisture and is planted in lower sections of fields; generally harvested late after millet

wild

Sorghum aethiopicum

records: Kidal (Boudet)

habitat: brousse tigrée

Sorghum bicolor subsp. *verticilliflorum* 50497 (Syn *S. arundinaceum*)

records: Gao, Gossi, Segou (Boudet); Beni, Nando, this is probably the "wild sorghum" throughout Dogon country (JH)

habitat: clayey depressions (Boudet); weed in moist areas beside fields (JH)

notes: tall grass, culms 30 cm to 4 m; leaf 5-75 cm x 0.5-7 cm

Sorghum purpureo-sericeum

records: Macina (Boudet)

habitat: inundatable area

Sorghum virgatum

records: Tilemsi, Dire, Gao, Sanga (Boudet)

notes: annual, culms 50-100 cm

Vetiveria

Vetiveria fulvibarbis (see *Chrysopogon fulvibarbis*)

Vetiveria nigritana (see *Chrysopogon fulvibarbis*)

3b. subtribe Rottboelliinae (*Chasmopodium*, *Elionurus*, *Lasiurus*, *Rhytachne*, *Rottboellia*, *Vossia*)

Chasmopodium (close to *Rottboellia*)

Chasmopodium caudatum

records: Bandiagara to Mopti, Koulouba (Boudet)

habitat: fields, dry forest

notes: tall grass, culms 2-4 m

Elionurus

Elionurus elegans 50492

records: Niono, Bore, Sanga, Macina, Nioro du Sahel, Bougouni (Boudet); Bounou village east of Mopti in stony ground at schoolhouse (JH)
habitat: rocky shelves, gravel, rocky debris
notes: central spike is silvery-silky; resembles Lasiurus scindicus

Lasiurus

Lasiurus scindicus

records: Tessalit (Boudet); mostly north of Timbuktu-Gao line
habitat: various, including stony oueds, regg, oasis
notes: resembles Elionurus elegans

Rhytachne

Rhytachne triaristata

records: Niono, Gossi, Koulouba (Boudet)
habitat: wet areas on edges of watercourses, thin soils

Rottboellia

Rottboellia cochinchinensis 50484

records: Macina, Gao, Koulouba (Boudet); Adia village east of Douentza (JH)
notes: tall grass, culms 30 cm to 3 m; leaf 15-45 cm x 0.5-2 cm, surface scaberulous (has small rough bulges)

Vossia

Vossia cuspidata 50501

records: Gao, Timbuktu (Boudet); Niger R. near Timbuktu (JH)
habitat: in water near banks of watercourses and lakes

4. Maydeae (Zea)

Zea

Zea mays [cultivated maize]

ethnobotany: cultivated here and there in central and southern Dogon country, absent farther north

5. Pooideae

Triticeae (Triticum)

Triticum

Triticum aestivum 50569 [cultivated wheat]

records: Bamako (Boudet); not cultivated in Dogon and Songhay country [JH]
ethnobotany: wheat flour used for bread and fritters in large towns

Polygalaceae

Polygala

Polygala arenaria 50570

records: Sanga, southern Mali (Boudet); Walo (JH)
habitat: psammophile (sun-seeking) annual in south, farther north in edges of drying floodplains

notes: flowers and fruits appear in winter

Polygala erioptera

records: Timbuktu, Tabankort to Kidal, Dire to Bandiagara (Boudet)

habitat: like *P. arenaria* but more sahelian

Polygala irregularis

records: Timbuktu, Tagant Keina (Boudet)

habitat: fixed dunes

Securidaca

Securidaca longepedunculata 50694

records: Bamako, Segou (Boudet); Kundialang (planted) (JH)

ethnobotany: well-known beyond its range, as bark and leaves are sold in markets for medicine (snakebite, headaches) (JH)

Polygonaceae

[alternate simple leaves with sheathing ochrea stipules]

[ochrea on stem](#)

Calligonum

Calligonum comosum [see Boudet p. 434, Supplement]

records: near Algerian border (Boudet)

habitat: desert scrub, mostly North African desert

notes: branching bushy plant to 1.2 m

Emex

Emex spinosa [introduced weed]

records: Bamba (ruderal in village), central Saharan oases (Boudet)

notes: fruit with several thorny spines

Persicaria

Persicaria decipiens 50571 (syn *Polygonum salicifolium*)

notes: ochrea with distinct long cilia at apex; leaf glabrous underneath except on margin and middle vein, linear-lanceolate up to 15 cm x 1-5 cm, broad, abruptly narrowed into short petiole; inflorescence lax and slender, flowers not densely crowded

ethnobotany: soft root material used as tinder for flint lighters

Persicaria limbata (syn *Polygonum limbatum* [thus FWTA2])

records: Mopti, Niafunke (Boudet)

habitat: swamps

notes: perennial, 3-4 feet long, more or less ascending, may form mats; stems hollow, ochrea with a spreading or recurved herbaceous ciliate limb, long-pilose on the outside; leaf linear-lanceolate to 10 cm x 2 cm; racemes densely flowered, flowers pinkish white; fruit a small smooth shiny nut, reddish-brown to black

reference: illustration in FWTA2 1.1, p. 141

Persicaria senegalensis (syn *Polygonum senegalense*, *P. lanigerum* var. *africanum*, *P. lanatum*)

records: Niger R. near Gao (JH)

forma senegalensis: Djenne (Boudet) [syn Polygonum senegalense]

forma albotomentosa 50572: Mopti, Diafarabe, Niafunke (Boudet) [syn Polygonum lanigerum var. africanum]

notes (forma albotomentosa [syn Polygonum lanigerum var. africanum]): aquatic; robust perennial herb to 2m; few or no cilia at apex of ochrea; leaves white and woolly beneath with hairs closely matted, lanceolate 10-30 cm x 2-5 cm, petiole 2-4 cm as leaf narrows, leaf apex acutely acuminate, leaf more or less glabrous; flowers pink and white

notes (forma senegalensis [syn Polygonum senegalense]): robust perennial herb to 3m, erect or semi-decumbent; cilia at apex of ochrea absent or small and weak; leaf elongate ovate-lanceolate 15-20 cm x 3-5 cm, glutinous, grey-tomentose; leaves more or less glabrous

habitat: often in water

references: FWTA2 1.1 p. 140 re Polygonum senegalense and Polygonum lanigerum var. africanum

Polygonum

Polygonum lanatum (see *Persicaria senegalensis*)

Polygonum lanigerum var. *africanum* (see *Persicaria senegalensis*)

Polygonum limbatum (see *Persicaria limbata*)

Polygonum plebeium (knotweed)

notes: much-branched, prostrate annual herb; leaves oblong or linear-oblong, subsessile, acute, 0.5-1 cm x 0.2-0.3 cm with revolute margins; ochrea white; flowers solitary or in axillary clusters; nutlet smooth and shining

habitat: drying mud-flats and river beds

reference: Boulos, Flora of Egypt vol 1, p. 28

Polygonum salicifolium (see *Persicaria decipiens*)

Polygonum senegalense (fsee *Persicaria senegalensis*):

Rumex

Rumex dentatus [introduced weed] [\[get description\]](#) [\[not at CIRAD\]](#)

records: El Oualadji, Dire (Boudet)

habitat: weed in irrigated fields and along irrigation canals

notes: leaves hastate, more or less triangular, acuminate, 6-15 cm x 15 cm, flowers in much-branched panicles, persistent perianth segments

reference: Boulos, Fl. Egypt, vol 1, p. 31

Pontederiaceae

[plants of shallow inundated areas with broad, very glossy leaves]

Eichhornia

Eichhornia natans

records: Bourem, Kabara, Gao, Sotuba (Boudet); previous record for Kikara probably a misidentification of *Heteranthera callifolia* (JH)

habitat: aquatic, upper leaves floating

notes: herb; submerged and floating leaves very different; submerged leaves linear 3-6 cm, floating leaves long-petiolate, ovate to ovate-orbicular and cordate at the base, 1.5-2.5 cm long, minutely pustulate on the surface, many close nerves below; flowers solitary; 6 stamens

reference: drawing in FWTA2 vol. 3, p. 110

Heteranthera

Heteranthera callifolia 50573

records: Gao, Niono, Dogo (Boudet); Kikara, Beni, Douentza (JH)

habitat: aquatic (Boudet); lightly inundated edges of ponds (JH)

notes: herb; leaves all alike; leaves petiolate, ovate to lanceolate, cordate to rounded at base, 5-7 cm x 1.5 cm, glabrous, numerous slender nerves ascending from the base; petiole sheathing at the base and embracing the capsule; few flowers, spicate; stamens 3 or reduced to 1

ethnobotany: sometimes called "false water lily" in native languages

Monochoria

Monochoria brevipetiolata 50574 (close to M. africana = M. vaginalis var. africana)

records: Sangha, Niono (Boudet)

habitat: ponds

notes: basal leaves reduced to membranous sheaths; leaves narrowly lanceolate, acutely acuminate, 6 cm x 1 cm, narrowed into a false petiole about as long as the blade; racemes at first embraced by the leaf-sheath, then exserted, 8-12 flowered; stout pedicels 0.4 cm long; stamens 6; fruit capsule enclosed by the persistent perianth

Portulacaceae

[succulent herbs, more or less prostrate; dried specimens deteriorate badly]

Portulaca

Portulaca foliosa 50575

records: Bourem, San, Douentza, Niore (Boudet); Severe, Gao (JH)

habitat: wet areas

notes: erect or decumbent herb, often woody below; stipules thread-like and more or less persistent, leaves terete (circular in cross-section) and succulent (very similar to P. grandiflora), 0.7-2 cm long x 1-1.5 mm wide; clusters of 1-3 flowers yellow to orange, solitary or in small heads

Portulaca grandiflora

records: none (Boudet); planted around houses as ground cover, e.g. Timbuktu (JH)

notes: to 20 cm high; stem diffuse with long pale hairs (up to 0.7 cm long) at the nodes; stipules thread-like and more or less persistent, leaves terete (circular cross-section) and linear, 1-3 cm long x 0.2 cm wide; clusters of 3-5 terminal large white or yellow to rose-red flowers with woolly hairs around base

Portulaca oleracea 50576

records: Timbuktu, Macina (Boudet); Hombori, Douentza, Severe (JH)

habitat: common annual weed in gardens and moist debris

notes: prostrate, a few stems radiating out from root; succulent reddish stems; stipules minute or obsolete, leaves flat, spatulate-oblongate, rounded at apex, flowers yellow

Portulaca quadrifida 50577

records: Dire, Timbuktu (Boudet)

habitat: uncultivated areas

notes: prostrate or decumbent herb, stems pinkish, stipules thread-like and more or less persistent, leaves highly variable, fleshy, lanceolate or ovate-lanceolate to obovate, conspicuously woolly at the nodes, smallish yellow flowers

Ranunculaceae

Clematis

[Clematis site: <http://members.home.nl/hanninkj/eigenclm.htm>]

Clematis hirsuta var. glabrescens 50578

records: southern Mali (Boudet); if correctly identified, Hombori (JH)

habitat: moist galleries or undershrub

notes: liana, climbs to 20 feet on trees or rocks; leaflets less than 8 cm x 5 cm; numerous flowers in a panicle, sepals white to greenish-white

Nigella

Nigella sativa (imported spice: “nigella” or “love in the mist”)

records: sold in Timbuktu as a spice (JH)

Resedaceae

Reseda

Reseda villosa (Saharan)

records: at a well on caravan route to Azaouad (Boudet)

Rhamnaceae

Ziziphus

key:

flowers solitary or 2(-3) together; leaves roughly ovate, smaller than 1.2 cm x 1 cm; fruits 1 cm diameter (far northern Mali) Z. lotus

flowers many, in cymes; leaves usually larger than 2 cm x 1.5 cm

underside of leaf densely tomentose all over

base of leaves roughly symmetrical and equal, flowers in sessile or very shortly pedunculate subcapitate cymes, leaves 2-7 cm x 1-1.3 cm Z. mauritiana

base of leaves asymmetrical and unequal, flowers in shortly but distinctly pedunculate, branched cymes; leaves 3.5-10 cm x 1.3-5.5 cm Z. abyssinica

underside of leaf glabrous, or pubescent mainly on the nerves

leaves asymmetrical & subcordate at base, narrowed at top, often but not always acuminate; flowers in branched pedunculate many-flowered cymes; branches and branchlets red-brown Z. mucronata

leaves more or less symmetrical and rounded to cuneate at base, branchlets whitish Z. spina-christi

Ziziphus abyssinica 50579

records: none (Boudet); summit of Tabi mountain (JH)
notes: shrub to 12 feet, purple-brown bark, branchlets and underside of leaves with fawn colored indumentum; flower yellow-green; fruit deep purple-brown

Ziziphus jujuba

planted, fruits harvested

Ziziphus lotus subsp. *saharae*

records: Gao, Bourem (Boudet)

notes: much-branched shrub to 4 feet

Ziziphus mauritiana 50580 (jujube)

records: Adrar, Gao, Sanga, Bamako, Niono (Boudet); common in flat plains (JH)

habitat: riverbanks, moist spots in flat plains

notes: thorny shrub or tree; can be cultivated and some hybrids with *Z. spina-christi* are known

ethnobotany: the jujube fruit is sold in markets in dried form (fleshy part can be sucked or chewed); a hard dry cake made from the fruits is sold in markets

Ziziphus mucronata 50581

records: Segou, Macina, Mopti to Niafunke, San, Bamako (Boudet); Djenné area, scattered in northern Dogon country (JH)

habitat: beside ponds

notes: erect or scrambling shrub, spreading branches, old branches may zigzag (cf. *Faidherbia albida*); leaf ovate to broadly ovate, mucronate, 2.5-8 cm x 2.9-8 cm, shiny; thorns in pairs, one of each pair curved; small yellow flowers; reddish-brown glossy drupe, in two sizes on the same tree, fruits may remain on tree after defoliation

Ziziphus spina-christi (variants *spina-christi* and *microphylla*)

records: San, southern Mali (Boudet); Djenné area (JH)

habitat: banks of water courses

notes: tree to 30 feet, pale grey bark, flowers greenish-yellow, fruits reddish when ripe

Rosaceae

Neurada procumbens

records: Agueraktem, Timbuktu (Boudet)

habitat: sand dunes

taxonomy: (Boudet:) can be confused with *Coldenia procumbens*

notes: woody tomentose annual with short spreading prostrate branches; leaf 1.5 cm long, long-petiolate, pinnately lobed or deeply toothed, densely white-woolly tomentose; solitary axillary flowers, roundish, surrounded by bristly bracteoles, woody globular fruit 1.5 cm diameter with spines

reference: Ibis

Rubiaceae

[interpetiolar stipules present, leaves simple and usually entire, calyx reduced usually 4-5-lobed, corolla usually 4-5-lobed]

subfamilies and tribes (subject to much controversy)

Rubioideae

Hedyotideae: Kohautia, Oldenlandia, Thecorchus

Spermacoaceae: Mitracarpus, Spermacoce

Cinchonoideae

Coptosapelteae: Mitragyna

Naucleaeae: Sarcocephalus

Vanguerieae: Keetia

Ixoroideae

Gardenieae: Gardenia, Macrosphyra, Morelia

Octotropideae: Feretia

Pavetteae: Pavetta

1. Rubioideae

1a. Hedyotideae: Kohautia, Oldenlandia, Thecorchus

Kohautia (close to Oldenlandia)

Kohautia aspera (syn Oldenlandia leclercii)

records: Adrar (Boudet)

Kohautia senegalensis (see *K. tenuis*)

Kohautia tenuis (syn *K. senegalensis* [thus Boudet, Adventrop, FWTA2])

records: Timbuktu, Bamako, Dire to Bandiagara (Boudet)

habitat: cleared sandy land, beside roads, often with karité or Faidherbia (Boudet)

notes: [FWTA2 2:209 for *K. senegalensis*] erect, slender-branched annual 1-3 feet; stems

smooth; leaf linear 3-5 cm x 0.1-0.3 cm, glabrous; pedicels 1-3.2 cm long in fruit,

slightly shorter in flower; flowers dull brownish, white, or pink

reference: Adventrop (*K. senegalensis*)

Oldenlandia (close to Kohautia and Thecorchus)

Oldenlandia capensis

records:

var. *capensis* 50587: San, Djenne, Bamako, Bandiagara, Sofara, Timbuktu (Boudet)

var. *pleiosepala*: San (Boudet)

habitat: rice fields, pond edges

notes: annual herb 3-4 inches to 1 foot; flowers white; (from photo of CIRAD specimen):

flowers at branching axes (more or less sessile)

Oldenlandia corymbosa 50588 (resembles *Scoparia dulcis*, Plantaginaceae)

records: southern Mali (Boudet)

notes: (from photo of CIRAD specimen) tiny fruits bunched 2-3 on short branching peduncles

flower (CIRAD) (misspelled):

Oldenlandia sclerophylla

records: Timbuktu, Gao (Boudet)

notes: small branched herb

taxonomy: very close to *C. capensis* but leaves wider; Boudet p. 240 unsure of status of

sp.; not in CIRAD herbarium as a separate species; in African Flowering Plant

Database as separate sp.

Thecorchus [close to Oldenlandia]

Thecorchus wauensis

records: lac Debo, Segou, San

habitat: sandy margins of rivers and lakes

1b. Spermacoceae: Mitracarpus, Spermacoce

Borreria

Borreria chaetocephala (see *Spermacoce chaetocephala*)

Borreria compressa (see *Spermacoce hepperana*)

Borreria filifolia (see *Spermacoce filifolia*)

Borreria radiata (see *Spermacoce radiata*)

Borreria ruelliae (see *Spermacoce ruelliae*)

Borreria scabra (see *Spermacoce ruelliae*)

Borreria stachydea (see *Spermacoce stachydea*)

Borreria verticillata (see *Spermacoce verticillata*)

Mitracarpus (resembles Spermacoce)

Mitracarpus hirtus 50590 (syns *Mitracarpus scaber* [thus FWTA2], *Mitracarpus villosus* [thus Boudet])

records: Timbuktu, Niafuke, lac Fati, Sanga, Sikasso, Bamako (Boudet); common in most of northern Dogon country (JH)

habitat: moist sand, recently cleared fields

notes: small erect weed; leaf lanceolate 3-6 cm x 0.7-1.5 cm (leaf shorter than for *Spermacoce* spp. of similar size); large white flower clusters

taxonomy: there has been an extended debate among botanists about the choice between "M. hirta" and "M. villosa" revolving around rules of nomenclature going back to Linnaeus' *Spermacoce hirta*

Mitracarpus scaber (see *Mitracarpus hirtus*)

Mitracarpus villosus (see *Mitracarpus hirtus*)

Spermacoce (small erect herbs, some spp. hard to distinguish; similar to *Mitracarpus* and superficially similar to *Monechma ciliaris*, *Acanthaceae*)

[reference: Adventrop features *S. chaetocephala*, *S. radiata*, *S. stachydea*]

[when collecting, observe flowers (many or few, throat narrow or bell-shaped; if no flowers present, observe stem cross-sectional shape, presence of hairs on stems, and texture of leaves (sleek, coarse, or hairy), before specimens shrivel]

key:

stems pilose or densely pubescent (not merely hairs in a vertical line)

conspicuous nerve along each leaf margin: radiata

no such conspicuous nerve

perennial, straggling or tufted & ascending stachydea var. stachydea

annual herb, more or less erect

to 30 cm, bracteate leaves narrowed at base, sharply angled quadrangular stem, coarsely pubescent, flowers with narrow throat

ruelliae

to 60 cm, bracteate leaves widened at base, rounded quadrangular stem, hairy plant, flower bell-shaped stachydea var. stachydea

stems glabrous (sleek) or hairy only on the angles

flowers few and large, leaves linear-lanceolate hepperana

flowers small and numerous, often in globose heads

stem square, hairy or ciliate on angles chaetocephala

stem obscurely angled, glabrous

terminal inflorescence globose verticellata

terminal inflorescence if any overtopped by leafy bracts filifolia

- Spermacoe chaetocephala **50591** (syn Borreria chaetocephala)
 records: Adrar, Niono, Sikasso, Nioro du Sahel (Boudet); Konna, Segue (JH)
 habitat: sandy or sandy-clayey soil
 notes: erect annual herb with rather stout stem, slightly branched; to 60 cm high; stem quadrangular and robust; leaf 3-7 cm long, 4-15 mm wide; many small flowers in glomerules up to 2 cm wide
 reference: Adventices
- Spermacoe filifolia **50592** (syn Borreria filifolia)
 records: San, Ansongo, Macina, Bamako, Niono, Bandiagara to Mopti (Boudet); Bendiely, Segue, Nando, rare or absent in northern Dogon country (JH)
 habitat: wet sand, temporary ponds, clay (Boudet); among grasses in moist places (FWTA2)
 notes: erect slender glabrous herb, simple or branched, 1-2 feet or less; stem obscurely angled; flowers white, corolla-lobes s.t. purple; terminal inflorescence if any overtopped by leafy bracts, numerous filiform bracteoles between the flowers and of the same length; leaf filiform, 4-7 cm long (cf. S. hepperana)
- Spermacoe hepperana (syn Borreria compressa) **[get photo]**
 records: Diafarabe, Bamako (Boudet)
 habitat: riverside, sand or clayey sand; rock outcrops (FWTA2)
 notes: herb decumbent at base then strictly erect and practically unbranched, glabrous, 1-2 feet; leaf linear-lanceolate 4-15 cm x 0.2-0.9 cm; flowers white, yellowish, or s.t. tinged mauve
- Spermacoe radiata **50594** (syn Borreria radiata)
 records: Timbuktu, Niono, Gossi, Koulikoro (Boudet); common in far north, apparently rare or absent in Dogon country (JH)
 habitat: sand, more xerophile and heliophile (i.e. likes dry and sunny zones) than other spp. of the genus
 notes: plant to 30 cm high, s.t. half-woody below; stem cylindrical, pilose or densely pubescent, often tinted reddish-purple, may be semi-woody at the base; leaf 3-6 cm long, 4-6 mm wide, with conspicuous nerve along each margin (in addition to central nerve); glomerules with tiny white or mauve flowers may be penetrated by several small leaves
- Spermacoe ruelliae **50595** (syn Borreria scabra, B. ruelliae) [like S. stachydea but smaller and less hairy]
 records: Macina, Bandiagara to Mopti, Sikasso (Boudet); Konna, Djenne, fairly common in Dogon country (JH)
 habitat: clear underbrush on sand, edge of shrubby forests (Boudet); weed (FWTA2)
 notes: erect annual herb with or without branches, 30 cm high, scabrid and coarsely pubescent; sharp-angled quadrangular stem; leaf linear to linear-lanceolate; flower white or s.t. pink with narrow throat, more wide-open at top than S. stachydea; calyx with filiform teeth 3 mm long, leaf narrowed at base
- Spermacoe stachydea var. stachydea **50597** (syn Borreria stachydea) [similar to S. ruelliae but much bigger and more hairy]
 records: Niono, Macina, Segou (Boudet); Anda, fairly common in Dogon country (JH)
 habitat: clear underbrush, alluvial plains
 notes: erect or spreading hairy annual or perennial plant to 60 cm high; leaf broadened at base, 3-9 cm long, 7-20 mm wide; rounded quadrangular stem; flower bell-shaped, mauve-tinged, calyx has 4 lobes of which 2 are full-sized and two reduced
- Spermacoe verticillata **50598** (syn Borreria verticillata)
 records: San, Gao-Ansongo, Segou, Bourem (Boudet)

habitat: rice fields, alluvions from streams
notes: erect, glabrous branched undershrub or half-woody herb 1-2 feet; stem obscurely angled; globose terminal inflorescence 1-1.5 cm diam usually with 2 leafy bracts 1 cm long reflexed beneath; leaf 3-5 cm long, 5-10 mm wide

2. Cinchonoideae

2a. Coptosapelteae: Mitragyna

Mitragyna

Mitragyna inermis 50586

records: San, Nampala (Boudet); northern Dogon country, Hombori (JH)

habitat: lightly inundatable areas in savanna

notes: shrub to low-branching tree 20-40 feet; scaly bark; leaf obovate-elliptic 6-9 cm x 3.5-5 cm, petiole 1 cm, stipules 1.5-2 cm (early caducous); flower-heads white

2b. Naucleaeae: Sarcocephalus

Nauclea (see *Sarcocephalus*)

Sarcocephalus

Sarcocephalus latifolius 50589 (syn *Nauclea latifolia* [thus Boudet])

records: Bamako, south (Boudet); Kikara, Beni, Anda, Kubewel, Gouna (JH)

habitat: wet sand, riverbanks, moist rocky areas

notes: straggling shrub or small tree to 10 feet; fragrant white flowers; very large round reddish fruits

2c. Vanguerieae: Keetia

Canthium

Canthium cornelia (see *Keetia cornelia*)

Keetia

Keetia cornelia (syn *Canthium cornelia* [thus Boudet])

records: lac Debo, Niafunke to Dire, San, Kita (Boudet)

habitat: riverbanks, moist thickets

notes: straggling shrub; leaf usually cuneate 4-10 cm x 2.5 cm, pubescent at least on nerves below; flowers greenish-yellow in closely-bunched inflorescence, calyx deeply lobed

3. Ixoroideae

3a. Gardenieae: Gardenia, Macrosphyra, Morelia

Gardenia

Gardenia erubescens 50701

records: Gouna (Tomo Kan speaking zone) (JH)

ethnobotany: yellow fruit edible (versus inedible fruit of *G. ternifolia*)

Gardenia sokotensis 50583

records: Bamako, Sanga-Nigari (Boudet); Kiri (near Koro), Bounou (JH)

habitat: rocky shelves, granite, shaded gravel

notes: shrub 1-2.5 m; leaf oblong-elliptic, 2-10 cm x 1-5 cm; flowers white, corolla-tube 1-1.2 cm, with 5 lobes; reddish fruit with pointed extensions at tip (remainder of dried calyx)

Gardenia ternifolia subsp. *jovis tonantis* var. *goetzei* 50584

records: Diafarabe, Segou, south (Boudet); Songho, Diangassagou (JH)

habitat: savanna

notes: shrub 5-15 feet; plant glabrous; leaf obovate to 19 cm x 7 cm; fragrant white flowers opening at night, turning yellow next day, corolla-tube 4-9 cm; large hard fruit

ethnobotany: fruit (medicinal) was seen in the possession of a man at Tupere (Tabi mountain), well north of the current range of the tree

Macrosphyra

Macrosphyra longistyla 50585

records: Sanga, south (Boudet); Walo (JH)

habitat: shaded banks, fractures in stone shelves

notes: scandent shrub; velvety leaf obovate to obovate-lanceolate 9-19 cm x 5.5-11 cm; fragrant flowers white, cream, or yellowish; large spherical fruit 4-5 cm wide, green turning black, with small extension at tip (remainder of calyx)

Morelia

Morelia senegalensis

records: Macina, Bamako, Segou (Boudet)

habitat: forest galleries

notes: tree to 40 feet high, low-branching; leaf oblong-elliptic, 12 cm x 5-6 cm, petiole 1 cm; fragrant white flowers in abundant cymes

3b. Octotropideae: *Feretia*

Feretia

Feretia apodanthera 50582

records: Bamako, Sanga, Bandiagara, Mopti to San, Nioro du Sahel, Ouan Foras, Macina (Boudet)

habitat: moist areas, sandy pond margins

notes: shrub

ethnobotany: straight branches widely used in making stirring-sticks

3c. Pavetteae: *Pavetta*

Pavetta

Pavetta cinereifolia

Boudet: southern Mali

Pavetta gardeniifolia var. *gardeniifolia* (syn *P. saxicola* [thus FWTA2])

records: Douentza, Ouarsada (Boudet)

habitat: wooded savanna on gravel; rocky hills

notes: erect shrub to 6 feet; glossy leaves, obovate or oblanceolate 3-6.5 cm x 1.2-2 cm, almost sessile at base, glabrous; yellow flowers, corolla-tube 0.8-1.2 cm; black fruits

Pavetta saxicola (see *P. gardeniifolia* var. *gardeniifolia*)

Ruscaceae

[for Sansevieria see Dracaenaceae]

Rutaceae

Citrus

[global name for citrus, esp. lemon and orange, is *lemuru*]

Citrus grandis 50599 (grapefruit)

records: uncommon in Dogon country, but some at Anda (JH)

Citrus limon 50600 (lemon)

records: common in towns and cities, often in courtyards (JH)

Citrus reticulata (tangarine, mandarine)

Citrus sinensis 50601 (orange)

records: common in towns and cities, often in courtyards (JH)

native name: often *lemuru ba.*, from Bambara

Vepris

Vepris heterophylla 50603 (one of the “kinkéliba” trees)

records: souther Mali (Boudet); Kikara, increasingly rare in northern Dogon country due to excessive harvesting of foliage (JH)

habitat: inselbergs

ethnobotany: leaves sold in markets especially during Ramadan; a “tea” made from it is drunk to break the daily fast in Ramadan; also medicinal; Combretum micranthum is used similarly at Hombori

Teclea (teak; not in Mali)

Salvadoraceae

Salvadora

Salvadora persica 50604

records: from Timbuktu-Gao, becoming less common in northern Dogon country, seen at Bounou (JH)

notes: scrambling shrub; thick rubbery leaf

ethnobotany: chewsticks, especially for Songhay

Sapindaceae

Allophylus

Allophylus africanus subsp. africanus

records: Sikasso, lac Debo, Macina (Boudet)

habitat: riverbanks

notes: shrub to small tree; trifoliolate leaf; flowers creamy-white, good-smelling; ripe fruits red

Aphania

Aphania senegalensis (see *Lepisanthes senegalensis*)

Cardiospermum

Cardiospermum halicacabum

records: Kabara, Niono (Boudet)

notes: climbing herb with tendrils, leaves biterminate (with three pinnae each subdivided into three pinnules, cf. *Bidens biterminata*), deeply lobed leaflets; fruits bladder-like (air-filled, cf. *Physalis*)

Lepisanthes

Lepisanthes senegalensis 50605 (syn *Aphania senegalensis* [thus Boudet etc.])

records: Nokara, Dogo, Mopto to Djenne (Boudet); Kikara (JH)

habitat: slopes of inselbergs, ravines

notes: tree to 55 feet high, short bole, dense drooping branches; branchlets and petioles yellowish-pubescent; leaves paripinnate with 1-2 pairs; flowers greenish-white, fragrant; ripe fruits red

ethnobotany: fruits edible, but seeds are extremely toxic to livestock

Sapotaceae

[trees]

corolla-lobes with petaloid external appendages (appearing to be 3 series of petals): *Manilkara*
no such appendages

leaves & flowers densely clustered at top of shoots: *Vitellaria* (karité)

usually not clustered

stamens inserted on the corolla between and at the base of lobes: *Malacantha*

stamens inserted in the corolla tube and alternate with the lobes: *Pachystela*

Malacantha

Malacantha alnifolia var. *alnifolia* (see *Pouteria alnifolia* var. *alnifolia*)

Manilkara

Manilkara multinervis (see *M. obovata*)

Manilkara obovata 50607 (syn *M. multinervis*)

records: Bamako, Bandiagara Boudet); a single tree seen in Iril area of summit east of Kikara, not known to or named by local Songhay and not observed elsewhere in Dogon country (JH)

habitat: edge of forest galleries, rocky escarpments

notes: large tree to 40 feet, often low-branched; leaf oblong or narrowly oblong-obovate 7-14 cm x 4-6 cm, without stipules, usually crowded toward the end of branchlets, petiole up to 3 cm; clustered white or brown flowers among leaves, corolla-lobes with petaloid external appendages (appearing to be 3 series of petals)

Pachystela

Pachystela pobeguiniiana (see *Synsepalum pobeguianum*)

Pouteria

Pouteria alnifolia var. *alnifolia* 50608 (syn *Malacantha alnifolia* [thus Boudet, FWTA2])
records: mountains near Douentza (JH)

notes: shrub or small tree, scaly bark; leaves up to 23 cm x 6-12 cm, with pellucid dots, tomentose becoming glabrescent, 15-20 pairs of very prominent lateral nerves, drying leaves turn dark brown or greenish brown; flower clusters dense in axils of fallen leaves, flowers sessile, corolla-lobes without external appendages; ellipsoid fruit up to 2.5 cm long

Synsepalum

Synsepalum pobeguianum 50609 (syn *Pachystela pobeguianiana*)

records: Kikara (Boudet); not confirmed for Kikara or northern Dogon zone (JH)

notes: tree to 45 feet; leaves with whitish tomentum when young, obovate up to 22 cm x 7 cm, slightly cordate at base, shortly acuminate at apex, about 16 pairs of conspicuous lateral nerves very prominent and distinct below, short petiole 0.3-0.4 cm, small whitish flowers in dense clusters along older branches in the axils of fallen leaves, corolla-lobes without external appendages

Vitellaria

Vitellaria paradoxa subsp. *paradoxa* 50610 (karité) (syn *Butyrospermum paradoxum*)

records: now rare in northern Dogon country, much more common farther south (JH)

notes: tree; leaves clustered at the end of shoots; fruit with large pit (seed) surrounded by yellowish pulp and a green skin

ethnobotany: oil from seeds is the source of shea-butter (beurre de karité); fruits edible (soft pulp around pit)

shea-butter website <http://www.sheabutter.ca/en/product.htm>

Scrophulariaceae

(this family is now much reduced by reassignment of genera to other families)

[for *Striga* and *Rhamphicarpa* see *Orobanchaceae*]

[for *Dopatrium* and *Scoparia* see *Plantaginaceae*]

[for *Glossostigma* see *Phrymaceae*]

Anticharis

Anticharis linearis (see *A. senegalensis*)

Anticharis senegalensis 50611 (syn *A. linearis* [thus FWTA2])

records: Ansongo, Tin Ahara, Adrar, Gao, Hombori (Boudet)

habitat: sandy to sandy-clayey soil, more or less inundatable

notes: herb, leaves alternate, narrowly linear 2-5.5 cm x 0.3 cm with glandular hairs; solitary axillary flowers, very slender pedicels 1-2 cm long with a pair of bracteoles above the middle; 2 stamens; fruits ovoid 0.8 cm, beaked

Solanaceae

Solanaceae website: <http://www.nhm.ac.uk/research-curation/projects/solanaceaesource/>

Capsicum 50616 (cultivated chili peppers, cayenne peppers)

Capsicum annuum 50614 (Fr. *piment*)

notes: stout herb 2-5 feet high; white flowers, blue to purple anthers, toothed calyx
Capsicum frutescens 50615 (Fr. *piment*)

notes: shrubby habit; greenish flowers, blue anthers, non-toothed calyx

Datura 50619 (narcotic bushes)

stem and branches green or purple, sub-glabrous

corolla limb rounded with 5 primary teeth alternating with 5 sinuses

fruit an **erect, dry, spiny capsule** splitting regularly into 4 valves

stem and branches green

corolla 10 cm, white

fruit ovoid with **spines of equal length**

D. stramonium

stem and branches green, **stem under the hypocotyls (transition of stem to root) purple**

corolla 10 cm, white

fruit ovoid with **few, stout spines**

D. ferox

corolla limb rounded, pentagonal or decagonal with 5 primary teeth alternating with 5

secondary teeth or alternating with 5 sinuses

fruit a **deflexed (nodding), berry-like**, spiny capsule splitting regularly into 4 valves or
irregularly into scattered fragments

stem and branches green or purple

corolla 16-20 cm, white or colored, single or double. Corolla limb rounded with 5-9
primary teeth alternating with 5-9 sinuses

fruit ovoid with **short conical spines or tubercles**

D. metel

corolla limb white or colored, rounded, pentagonal or decagonal, with 5 primary teeth

alternating with 5 secondary teeth or 5 sinuses

fruit a **deflexed (nodding), berry-like**, spiny capsule, Spines soft or sharp.

stem and branches cinnerous pubescent

leaves large, somewhat succulent with cordate base

corolla 16-20 cm, entirely white. Corolla limb rounded or pentagonal with 5 primary
teeth alternating with 5 secondary teeth or 5 sinuses

fruit with **long, soft spines**

D. inoxia

Datura ferox (introduced)

records: Bamako (Boudet)

habitat: weed

notes: fruit erect, few stout spines, stems green; stem under hypocotyls purple; small
corolla 10 cm

Datura inoxia 50617 (introduced)

records: Gao, Bamako, Bandiagara (Boudet); Hombori, Douentza, Sevare, Beni (JH)

habitat: weed, usually in shade

notes: fruit deflexed (nodding), many long thin spines (often soft); stems cinnerous
(cinnamon-colored) pubescent; large corolla 16-20 cm wide

Datura metel 50618

records: Bandiagara, Kikara (Boudet)

habitat: ruderal, s.t. cultivated

notes: fruit deflexed (nodding), short conical spines or turbercules; stems green or purple;
large corolla 16-20 cm wide

Datura stramonium 50620 (“jimson weed”)

records: Kabara (Boudet)

habitat: clayey soils near ponds

notes: fruit erect, many equal spines; stems green; leaf more sharply incised than other
spp.; small corolla 10 cm

Lycopersicon

Lycopersicon esculentum (syn *Solanum lycopersicum*) (cultivated tomato)

Nicotiana 50622 (tobacco, all spp. native to S. America)

Nicotiana rustica 50621 (cultivated indigenous tobacco)

records: Bamba (Boudet)

notes: herb, branched up to 4 feet, short greenish-yellow flowers that are villous (woolly) outside; corolla not more than 2 cm long

Nicotiana tabacum 50623 (ordinary tobacco)

notes: robust annual to 6 feet high; long tubular flower white, pinkish, or cream, viscid-glandular outside, corolla about 4 cm long

Physalis 50626 (herb, stem hollow, often hexagonal, air-filled fruits [like those of *Halicacabum*])
[observe size and stem pubescence in the field]

Physalis angulata 5064 (“husk tomato”)

records: Macina (Boudet); Beni, Douentza, Bendiely (JH)

habitat: common on moist clayey soil, s.t. on sand, mostly in gardens

notes: more erect, bushy, up to 90 cm high; stem entirely glabrous; calyx covering fruit 2 cm wide, 2-3 cm long

Physalis lagascae 50625 (syns *P. micrantha* [thus Boudet], *P. minima* [misapplied by Berhaut etc.])

records: Sikasso, Djenne, Bamako (Boudet); Beni (JH)

notes: bushy, but often decumbent, rarely more than 50 cm high; stem finely pubescent; calyx covering fruit 0.8 cm wide, 1.3-1.5 cm long

Physalis micrantha (see *P. lagascae*)

Physalis minima (see *P. lagascae*)

Schwenkia

Schwenkia americana

records: Sanga, south (Boudet)

habitat: weed of cultivation

notes: erect herb with slender stems, freely branching, 1-3 feet; lower leaves petiolate, elliptic to ovate, up to 4 cm x 2.5 cm, rounded to subacute, entire; upper leaves becoming narrowly oblong, sessile; inflorescence a lax panicle, small greenish-yellow flowers, corolla narrowly tubular; subglobose capsule surrounded by persistent calyx and dehiscing by two valves

reference: Adventrop; drawing in FWTA2 vol 2, p. 327

Solanum

cultivated

Solanum aethiopicum

cultivars (both sold regularly in markets):

a) 50631 fruit rather hard with rugged creased surface, eaten only after cooking

b) 50630 succulent fruit with smooth surface and thin skin, eaten raw or cooked

taxonomy: cultivar (a) is definitely this sp., and cultivar (b) may be as well

Solanum lycopersicum (see *Lycopersicon esculentum*)

Solanum macrocarpon 50632 (another “African eggplant”) [get description] [not in CIRAD]

distribution: W and E Africa; not confirmed for Mali (JH)

notes: (FWTA2 vol 2 p. 334) half-woody usually unarmed undershrub with rather stout branches up to 5 feet high, hairy or sometimes glabrescent, flowers white or bluish-purple, often cultivated

Solanum melongena 50633 (cultivated European eggplant, large, black-skinned)

Solanum tuberosum 50629 (cultivated potato; see also yam, *Dioscorea alata*)

wild

Solanum americanum (native to western hemisphere and/or Australia; sometimes extended to include *S. nigrum*)

records:

“*S. americanum*”: none (Boudet) (but see comments below)

taxonomy: ripe fruits are shiny black, each fruit has its own peduncle

Solanum forskalii (syn *S. heudelotii*) [get description]

records: Niafunke in forest (Boudet)

reference: Hepper & Wood, Kew Bull. 38:85 (1983)

Solanum incanum 50627

records: Douentza, Mopti, Timbuktu, Sotuba (Boudet); scattered but well-known for toxic properties from Dogon country to Timbuktu-Gao area

notes: entire plant hairy and thorny, thorns emerge even from middle of leaf blade; small tomato-like fruits, usually yellow to orange when ripe (JH)

ethnobotany: fruits look like tomatoes, but entire plant is toxic (used by Songhay to kill dogs and other animals)

Solanum nigrum 50628 (very close to and arguably conspecific with *S. americanum*)

records: “*S. nigrum*”: Timbuktu, Gao, Hombori (Boudet); Djenne (JH)

notes: bushy plant with small edible blackish berries similar to huckleberries (JH); ripe fruits are black but not shiny; fruits have branched peduncles.

Solanum torvum

records: none (Boudet)

notes: shrubby weed to 10 feet, with flattened spines, white or lilac flowers (leaf resembles *S. incanum*)

Withania

Withania somnifera

records: Labbezanga, Timbuktu (Boudet), also Europe, Canaries, India, Palestine, etc.

habitat: shaded sand

notes (FWTA2 vol 2 p. 329): shrubby herb, stems stellate-tomentose; leaves alliptic to broadly ovate-lanceolate, apex acute to rounded, abruptly acute to long-decurrent at base, 5-10 cm x 2-5 cm, entire or sinuate; petiole 1-2 cm; flowers 2-6 in axillary fascicles, calyx and corolla campanulate (bell-shaped), corolla twice as long as calyx; fruit a red globose berry

Sphenocleaceae

Sphenoclea

Sphenoclea zeylanica 50635

records: Beni, Walo, Adia (JH)

notes: herb; leaf lanceolate 10 cm x 3 cm, glabrous; terminal spiciform flower spike (cf.

Nelsonia canescens, Acanthaceae); spike turns orange when mature

ref.: illustration FWTA2 p. 308

***Sterculiaceae* (see *Malvaceae s.l.*, subfamilies as indicated below)**

[for *Cola* and *Sterculia*, see *Malvaceae s.l.*, subfamily *Sterculioideae*]

[for *Melhania*, see *Malvaceae s.l.*, subfamily *Dombeyoideae*]

[for *Melochia* and *Waltheria*, see *Malvaceae s.l.*, subfamily *Byttnerioideae*]

***Taccaceae* (see *Dioscoreaceae*)**

Tamaricaceae

Tamarix (evergreen trees, native to Sahara)

Tamarix amplexicaulis (syns *T. balansae*, *T. pauciovulata*)

records: Kessert Gani (Boudet)

habitat: oueds

notes: larger tree, usually wider than tall

Tamarix aphylla (syn *T. orientalis*, *T. articulata*)

records: Kessert Gani (Boudet)

habitat: oueds

notes: larger tree

Tamarix gallica

records: none (Boudet); common in southern Algeria

[comment on Sahara-Nature website Jan 2008: “Le nom tamahaq Azaoua donné à

Tamarix pauciovulata J. Gay, est également le nom donné à *Tamarix gallica* (L.) ”]

Tiliaceae

(see *Malvaceae*, subfamily *Greioideae*)

Turneraceae

Tricliceras

Tricliceras pilosum 50655 (syn *Wormskioldia pilosa*)

records: Macina, Bamako (Boudet)

notes: branched herb 1 foot high; leaf linear or linear-lanceolate, denticulate or

pinnatilobed, up to 18 cm x 1 cm; flowers in raceme, tubular calyx 1 cm long; slender

pod 5 cm long, beaked; about 20 seeds

reference: *Adventices*; drawing FWT2 vol 1 p. 85

Wormskioldia (see *Tricliceras*)

Typhaceae

[monocot; “bulrush” or “cattail”]

Typha

Typha domingensis 50656
records: Diré, Niono, San (Boudet); entrance to Mopti, also at Boussouma (on the highway between Douentza and Boni)
habitat: permanent water

***Ulmaceae* (see *Cannabaceae*)**

***Umbelliferae* (see *Apiaceae*)**

Urticaceae

Laportea

Laportea aestuans 50659 (syn *Fleurya aestuans* [thus FWT A2])
records: Sanga (Boucet); Anda among rocks beside creek (JH)
habitat: moist areas (JH)
notes: herb 1-5 feet high; broadly ovate, closely serrate leaf, narrowly acuminate at tip; male and female flowers in panicles; fruits 1 mm long
ref.: drawing FWT A2 vol 1 p. 619 as *Fleurya aestuans*

Vahliaceae

close to Boraginaceae botanically

Vahlia (much-branched herbs with opposite leaves, 5 valvate sepals, 5 petals barely exceeding the sepals, 5 stamens, capsule dehiscent [breaking open] at the apex)

Vahlia dichotoma 50660
records: Timbuktu, Bandiagara, Douentza, lac Fabi (Boudet); Beni (JH)
habitat: wet sand, damp fields
notes: plant resembles *Oldenlandia*; not particularly viscous; leaf linear; flowers paired on axillary peduncles; petals yellow, fading to white or pink
ref.: drawing FWT A2 vol 1 p. 119

Vahlia digyna

records: Dire, Gao to Bourem (Boudet)
habitat: clayey limey soil, sandy river beds, swampy meadows
notes: herb 5-33 cm high, sparsely to much-branched; very viscous with gland-tipped hairs; leaf ovate(-lanceolate) 0.5-2 cm x 0.2-0.6 cm, acute at apex, tapering or rounded at base; flowers (sub-)sessile; petals yellow fading to white, always shorter than sepals
ref.: Fl Egypt vol 1 p. 243

Vahlia geminiflora 50661 (syn *Bistella geminiflora*) (similar to *V. digyna*) [get description]

records: Hombori, Gao, In Tebezas
habitat: wet clayey or limey zones, near water or wells; not south of 4 N.
notes: annual erect branching herb, 5-35 cm tall; stems covered with often glandular hairs; leaf ovate(-lanceolate) 0.5-2.5 cm x 0.2-0.6 cm, acute at apex, tapering or rounded as base; flowers (sub-)sessile, calyx-tube 1.1-2 mm long
ref.: Fl Egypt vol 1 p. 243

taxonomy: some specimens previously assigned to *V. digyna* are now assigned to *V. geminiflora*

Verbenaceae

[leaves opposite or whorled, no stipules; drupe or nutlets]

[*Vitex*, *Tectona*, and *Clerodendrum* have been reassigned to *Lamiaceae*]

tribes:

Lantaneae: *Chascanum*, *Lantana*, *Phyla*, *Stachytarpheta*

other tribes: *Duranteae* (including *Citharexyleae*), *Petreae*, *Verbeneae*

Chascanum [very close to *Stachytarpheta*]

Chascanum laetum 50662 (syn *Svensonia laeta*) [get description]

records: In Tillit, Ndaki (Boudet)

habitat: brousse tigrée

taxonomy: close to *Chascanum marrubiiifolium* but absolutely glabrous

Chascanum marrubiiifolium 50663

records: Adrar, Gao, Tilemsi (Boudet)

habitat: sandy, sub-desert open spaces

notes: small shrub or semi-woody herb to 1 m high; woody rootstock bearing narrow spikes of white flowers

Lantana

Lantana camara 50664 [introduced < Americas]

records: Bamako (Boudet); Walo and Anda in northern Dogon country, also seen beside the highway near San (JH)

habitat: escapee from cultivated specimens

notes: erect or spreading much-branched shrub, square stem; leaves, petioles, and peduncles pilose or strigose, not or very sparsely glandular; stems usually armed with short recurved prickles; showy flowers in convex heads; bunches of black-violet berries

Lantana glandulosissima [introduced < Mexico] [not in CIRAD]

records: Douentza-Djimal (Boudet)

notes: like *L. camara*, but leaves, petioles, and peduncles densely glandular; stems unarmed; flowers yellow or orange

Phyla

Phyla nodiflora

records: Timbuktu, San (Boudet)

habitat: inundatable clayey soil

notes: prostrate creeping herb; woody rootstock; stems rooting at nodes; leaves opposite, oblanceolate or obovate 1.5-4 cm x 0.5-3 cm, with entire cuneate base and acute serrate apex; leaves and bracts often tinged purple; flowers mauve or pink on a long-stalked spike

Stachytarpheta [very close to *Chascanum*]

Stachytarpheta angustifolia (see *S. indica*)

Stachytarpheta cayennensis

[CIRAD Montpellier has specimen from Menaka, Mali; species listed as valid in African Flowering Plants database 2010]

Stachytarpheta indica (syn *S. angustifolia*)

records: Timbuktu, Madina, Gao, Sotuba (Boudet); Bounou (JH)

habitat: moist areas

notes: herb 1 foot tall, often rather succulent; long spike; flowers pale blue or violet, s.t. with a white center

ref. in Adventrop (as *S. angustifolia*)

Svensonia

Svensonia laeta (see *Chascanum laetum*)

Vitaceae

broad-leafed climbing or trailing vines, perennial roots with annual leaves
(in Berhaut under Ampelidaceae)

genus key: Ampelocissus vs. Cissus

tendrils borne on the inflorescence; flowers polygamo-monoecious Ampelocissus

tendrils never borne on the inflorescence; flowers bisexual Cissus

Ampelocissus (leaf can be confused with *Cissus rufescens*)

Ampelocissus africana 50665 (in Berhaut as *A. grantii*)

records: Niono, Bamaka, Sanga (Boudet)

habitat: dunes, laterite (in shade)

notes: perennial, woody liana; large leaves about as broad as long, with at least hints of lobes on sides, deeply cordate at base, with many fairly deep dentations all around; tiny flowers appear in panicles at about 1/3 point on the tendril ("vrille") opposite the leaf; clusters of berries

native name: often called "herder's wild grape (*Lanea microcarpa*)" because of similarity of fruit clusters, but not eaten

Cissus

Cissus populnea var. *populnea* 50666

records: Bamako, Koulouba (Boudet); Douentza to Dianwely (JH)

habitat: savanna

notes: liana with pale woody terete stems up to 9 cm diameter, exuding watery sap when cut; cordiform leaf 10-28 cm diameter, without dentations, summit in acute point; petiole 2-4 cm or longer; reddish papery stipules on stem at base of petiole; opposite the petiole is either a tendril or a flower panicle (several green or cream flowers, then large berries 2-2.5 cm x 1.5 cm, dark violet when mature)

Cissus quadrangularis 50667

varieties: *quadrangularis* and *pubescens*

records:

fairly common in Dogon and montane Songhay country especially among rocks or in thickets, e.g. Hombori, Kikara, Konna, Tongo Tongo, Tanga (JH)

var. *quadrangularis*: San (Bani R.), Nampala, Niono

var. *pubescens*: Segou, Sanga, San (Boudet)

habitat: clayey

notes: thick stems with unmistakable square cross-section; red fruits

Cissus rufescens 50568 (can be confused with *Ampelocissus africana*)

records: Koulikoro, Bamako, Yanfolila

habitat: savanna

notes: herb with perennial underground rootstock and annual branches, can climb but often trailing on ground; stems and petioles crimson; tendrils absent or short and unbranched and not coiled; broad leaf 5-13.5 cm long, often nearly circular but with slight bulge to side or s.t. with 3-5 lobes, somewhat cordate at base, finely dentate all around; tiny flowers in umbels grouped at tip of peduncle, flower buds red, open flowers yellow

Cyphostemma

Cyphostemma cymosum 50669 [get info]

records: Anda village (JH)

notes (from specimen photos): composite (digitate) leaf with five large leaflets emerging at the same node, leaflet margins gently serrate, leaflets narrowed at base, multi-branched inflorescence

***Xanthorrhoeaceae* (see *Asphodelaceae*)**

Ximeniaceae (< Olacaceae)

Ximenia

Ximenia americana 50468

records: region of Timbuktu, Bamako (Boudet); Kikara, Tongo Tongo (JH)

notes: low-branching shrub 3 m; leaves alternate or clustered; bark greyish but branches can be purple-red, flower yellow-green or white; usually has axillary thorns (not paired), yellow-orange fruits 2.5 cm diameter containing one pit surrounded by pulp
ethnobotany: pulp of fruit edible

Zingiberaceae

[monocots]

Aframomum

Aframomum melegueta 50670 [fruit imported for sale]

ethnobotany: large hard fruits sold in markets e.g. for eye medicine

Zingiber

Zingiber officinale 50671 (ginger)

records: sold in markets in large towns (for beverages) (JH)

Zygophyllaceae

Balanites

Balanites aegyptiaca 50116

records: ubiquitous from Timbuktu-Gao to Dogon country (JH)
habitat: arid sandy thorn scrub, often co-dominant with *Vachellia tortilis*
notes: tree, decumbent branches, long thorns, fruits with tan-colored exterior look vaguely like dates
ethnobotany: pulp around pit can be sucked; nut inside pit can be eaten as an almond; oil is pressed from the nut; dried nuts are boiled with *Balanites* pits and liquid soda ash to make a black soap

Fagonia

[fruits pyramidal, opening at bottom into 5 compartments with 1 seed each]

Fagonia glutinosa var. *glutinosa*

records: Sahara (Boudet)

habitat: rocks and sand

notes: spiny annual or perennial herb 20-40 cm tall, with woody base; stems prostrate, much-branched, brittle

reference: Fl Egypt vol 2 p. 18; Flore du Sahara 2nd ed p. 317; Ibis (image)

Fagonia jolyi (see *F. indica*)

Fagonia indica (syns *F. oliveri*, *F. jolyi*)

records: Saharan (Boudet)

habitat: sand

notes: perennial shrublet with procumbent or erect branches to 60 cm tall, stems woody at base; conspicuous long spines

Fagonia oliveri (see *F. indica*)

Seetzenia

Seetzenia lanata

records: “à rechercher au Mali” (Boudet p. 105)

notes: prostrate herb, glabrous plant; trifoliolate leaves, medial leaflet losenge-form, lateral leaflets oblong; small isolated flowers without petals on long axillary peduncles; ovoid capsule

Tetraena

Tetraena simplex (syn *Zygophyllum simplex* [thus Boudet etc.])

records: Sahara (Boudet)

Tetraena gaetula subsp. *waterlotii* (syns *Zygophyllum waterlotii*, *Zygophyllum gaetulum*)

[[get description](#)]

records: Sahara (Boudet)

notes: fleshy herb to 20-30 cm

ethnobotany: browsed by camels; fleshy foliage made into a plaster to draw furuncles (< Jstor)

Tribulus (Saharan except *T. terrestris*)

[fruit dividing into usually 5 carpels, each with 3-5 compartments each with 1 seed]

Tribulus alata (see *T. pentandrus*)

Tribulus longipetalus (see *T. macropterus* and *T. pentandrus*)

Tribulus macropterus subsp. *macropterus* (syn *T. longipetalus* subsp. *macropterus*)

records: Saharan (Boudet)

habitat: sand

ref.: Fl Egypt vol 2 p. 27

Tribulus mollis (syn *T. ochroleucus*)

records: Adrar, Sahara (Boudet)

habitat: sand

notes: annual herb with procumbent flexuous stems 25-30 cm long, branched from the base

ref.: Fl Egypt vol 2 p. 30

Tribulus ochroleucus (see *T. mollis*)

Tribulus pentandrus var. *pentandrus* (syn *T. longipetalus*, *T. alatus*)

records: Sahara (Boudet); also Arabia, Pakistan, Egypt

habitat: sand

notes: annual (or biennial) herb, branches prostrate (rarely procumbent) to 80 cm long

Tribulus terrestris 50672

records: Timbuktu, Gao, Tassaguella (Boudet); common in Timbuktu-Gao region and at Hombori, occasional in northern Dogon country (JH)

habitat: often in towns as a rainy-season weed with *Boerhavia repens* and *Portulaca oleracea* (JH)

notes: annual herb, prostrate, yellow flower, notorious spiny fruits (dangerous if stepped on)

Zygophyllum

Zygophyllum gaetulum (see *Tetraena gaetula*)

Zygophyllum simplex (see *Tetraena simplex*)

Zygophyllum waterlotii (see *Tetraena gaetula*)

alphabetical list of genera (family on right)

Abildgaardia	Cyperaceae
Abrus	Fabaceae—Faboideae
Abutilon	Malvaceae
Acacia	Fabaceae—Caesalpinioideae
Acanthospermum	Asteraceae
Achyranthes	Amaranthaceae
Acroceras	Poaceae
Acrodocarpus	Malpighiaceae
Actionipteris	ferns (Actiniopteridaceae)
Adansonia	Malvaceae
Adenium	Apocynaceae
Adiantum	ferns (Adiantaceae)
Aerva	Amaranthaceae
Aeschynomene	Fabaceae—Faboideae
Afrotrilepis	Cyperaceae
Azalia	Fabaceae—Detarioideae
Agave	Asparagaceae
Agelanthus	Loranthaceae
Ageratum	Asteraceae
Albizia	Fabaceae—Caesalpinioideae
Allium	Amaryllidaceae
Allophylus	Sapindaceae

Alloteropsis	Poaceae
Aloe	Asphodelaceae
Alternanthera	Amaranthaceae
Alysicarpus	Fabaceae—Faboideae
Amaranthus	Amaranthaceae
Ambrosia	Asteraceae
Ammannia	Lythraceae
Ammodaucus	Apiaceae
Amorphophallus	Araceae
Ampelocissus	Vitaceae
Anacardium	Anacardiaceae
Anastatica	Brassicaceae
Andira	Fabaceae—Faboideae
Andropogon	Poaceae
Aneilema	Commelinaceae
Anethum	Apiaceae
Annona	Annonaceae
Anogeissus	Combretaceae
Anthephora	Poaceae
Anticharis	Scrophulariaceae
Antidesma	Phyllanthaceae
Aphania (> Lepisanthes)	Sapindaceae
Arachis	Fabaceae—Faboideae
Arachne	Poaceae
Argemone	Papaveraceae
Aristida	Poaceae
Aristolochia	Aristolochiaceae
Artemisia	Asteraceae
Asparagus	Asparagaceae
Aspilia	Asteraceae
Asteriscus	Asteraceae
Astraea	Euphorbiaceae
Astragalus	Fabaceae—Faboideae
Azadirachta	Meliaceae
Azolla	ferns (Azollaceae)
Baissea	Apocynaceae
Balanites	Zygophyllaceae
Bassia	Amaranthaceae
Bauhinea	Fabaceae—Cercidoideae
Bergia	Elatinaceae
Bidens	Asteraceae
Blainvillea	Asteraceae
Blepharis	Acanthaceae
Blumea	Asteraceae
Boerhavia	Nyctaginaceae
Bolbitis	ferns (Lomariopsidaceae)
Bolboschoenus	Cyperaceae
Bombax	Malvaceae
Borassus	Areaceae

Borreria (> Spermaceae)	Rubiaceae
Boscia	Capparaceae
Brachiaria	Poaceae
Brachystelma (> Raphionacme)	Apocynaceae
Bridelia	Phyllanthaceae
Bubonium (> Asteriscus)	Asteraceae
Bulbostylis	Cyperaceae
Burkea	Fabaceae—Caesalpinioideae
Butomopsis	Alismataceae
Cadaba	Capparaceae
Calligonum	Polygonaceae
Calotropis	Apocynaceae
Canavalia	Fabaceae—Faboideae
Canthium (> Keetia)	Rubiaceae
Caperonia	Euphorbiaceae
Capparis	Capparaceae
Capsicum	Solanaceae
Caralluma	Apocynaceae
Cassia	Fabaceae—Caesalpinioideae
Cassytha	Lauraceae
Ceiba	Malvaceae
Celosia	Amaranthaceae
Celtis	Cannabaceae
Cenchrus	Poaceae
Centaurea	Asteraceae
Ceratotheca	Pedaliaceae
Ceropegia	Apocynaceae
Ceruana	Asteraceae
Chamaecrista	Fabaceae—Caesalpinioideae
Chascanum	Verbenaceae
Chasmopodium	Poaceae
Chenopodium	Amaranthaceae
Chloris	Poaceae
Chlorophytum	Asparagaceae
Christella (>Thelypteris)	ferns (Thelypteridaceae)
Chrozophora	Euphorbiaceae
Chrysochloa	Poaceae
Chrysopogon	Poaceae
Cienfuegosia	Malvaceae
Cissampelos	Menispermaceae
Cissus	Vitaceae
Cistanche	Orobanchaceae
Citrullus	Cucurbitaceae
Clematis	Ranunculaceae
Cleome	Cleomaceae
Coalisina	Cleomaceae
Coccinia	Cucurbitaceae
Cocculus	Menispermaceae
Coelachyrum	Poaceae

Cola	Malvaceae
Coldenia	Coldeniaceae
Colocasia	Araceae
Colocynthis (> Citrullus)	Cucurbitaceae
Combretum	Combretaceae
Commelina	Commelinaceae
Commicarpus	Nyctaginaceae
Commiphora	Burseraceae
Convolvulus	Convolvulaceae
Conyza	Asteraceae
Corchorus	Malvaceae
Cordia	Cordiaceae
Coreopsis (> Bidens)	Asteraceae
Cornulaca	Amaranthaceae
Cotula	Asteraceae
Crataeva	(see Crateva)
Crateva	Capparaceae
Crinum	Amaryllidaceae
Crotalaria	Fabaceae—Faboideae
Croton	Euphorbiaceae
Crypsis	Poaceae
Ctenium	Poaceae
Ctenolepis	Cucurbitaceae
Cucumis	Cucurbitaceae
Cucurbita	Cucurbitaceae
Cuminum	Apiaceae
Cussonia	Araliaceae
Cyamopsis	Fabaceae—Faboideae
Cyanotis	Commelinaceae
Cyathula	Amaranthaceae
Cyclosorus	ferns (Thelypteridaceae)
Cymbopogon	Poaceae
Cynanchum	Apocynaceae
Cynodon	Poaceae
Cyperus	Cyperaceae
Dactyloctenium	Poaceae
Dalbergia	Fabaceae—Faboideae
Dalechampia	Euphorbiaceae
Daniellia	Fabaceae—Detarioideae
Datura	Solanaceae
Daucus	Apiaceae
Desmidorchis (> Caralluma)	Apocynaceae
Desmodium	Fabaceae—Faboideae
Detarium	Fabaceae—Detarioideae
Dichanthium	Poaceae
Dichrostachys	Fabaceae—Caesalpinioideae
Dicliptera	Acanthaceae
Dicoma	Asteraceae
Diectomis	Poaceae

Digitaria	Poaceae
Diheteropogon	Poaceae
Dinebra	Poaceae
Dioscorea	Dioscoreaceae
Diospyros	Ebenaceae
Dipcadi (> Ornithogalum)	Asparagaceae
Dopatrium	Plantaginaceae
Drimia	Asparagaceae
Echinochloa	Poaceae
Echinops	Asteraceae
Eclipta	Asteraceae
Ehretia	Ehretiaceae
Eichhornia	Pontederiaceae
Elatine	Elatinaceae
Eleocharis	Cyperaceae
Eleusine	Poaceae
Elionurus	Poaceae
Elytrophorus	Poaceae
Emex	Polygonaceae
Endostemon	Lamiaceae
Englerastrum	Lamiaceae
Englerina	Loranthaceae
Enneapogon	Poaceae
Entada	Fabaceae—Caesalpinioideae
Enteropogon	Poaceae
Epaltes (> Litogyne)	Asteraceae
Eragrostis	Poaceae
Eremobium	Brassicaceae
Eriochloa	Poaceae
Erythrina	Fabaceae—Faboideae
Erythrophleum	Fabaceae—Caesalpinioideae
Euploca	Heliotropiaceae
Eulophia	Orchidaceae
Euphorbia	Euphorbiaceae
Evolvulus	Convolvulaceae
Fagonia	Zygophyllaceae
Faidherbia	Fabaceae—Caesalpinioideae
Farsetia	Brassicaceae
Feretia	Rubiaceae
Ficus	Moraceae
Fimbristylis	Cyperaceae
Floscopa	Commelinaceae
Flueggea	Phyllanthaceae
Foeniculum	Apiaceae
Francoeuria (> Pulicaria)	Asteraceae
Fuirena	Cyperaceae
Gardenia	Rubiaceae
Gisekia	Gisekiaceae
Gilgella	Cleomaceae

Glinus	Molluginaceae
Gloriosa	Colchicaceae
Glossonema	Apocynaceae
Glossostigma	Phrymaceae
Gnaphalium	Asteraceae
Gossypium	Malvaceae
Grangea	Asteraceae
Grewia	Malvaceae
Guiera	Combretaceae
Gymnosporia	Celastraceae
Gyrocarpus	Hernandiaceae
Hackelochloa	Poaceae
Heeria	Anacardiaceae
Helichrysum	Asteraceae
Heliotropium	Heliotropiaceae
Hemarthria	Poaceae
Herderia	Asteraceae
Herniaria	Caryophyllaceae
Herniaria	Illecebraceae
Heteranthera	Pontederiaceae
Hexalobus	Annonaceae
Hibiscus	Malvaceae
Hoslundia	Lamiaceae
Hydrolea	Hydroleaceae
Hygrophila	Acanthaceae
Hyparrhenia	Poaceae
Hyperthelia	Poaceae
Hyphaene	Arecaceae
Hypoestes	Acanthaceae
Hyptis	Lamiaceae
Imperata	Poaceae
Indigofera	Fabaceae—Faboideae
Ipomoea	Convolvulaceae
Jacquemontia	Convolvulaceae
Jatropha	Euphorbiaceae
Jussiaea (> Ludwigia)	Onagraceae
Kedrostis	Cucurbitaceae
Keetia	Rubiaceae
Khaya	Meliaceae
Kigelia	Bignoniaceae
Kleinia	Asteraceae
Kohautia	Rubiaceae
Kyllinga	Cyperaceae
Lablab	Fabaceae—Faboideae
Lactuca	Asteraceae
Lagarosiphon	Hydrocharitaceae
Lagenaria	Cucurbitaceae
Landolphia	Apocynaceae
Lannea	Anacardiaceae

Lantana	Verbenaceae
Laportea	Urticaceae
Lasiurus	Poaceae
Lauaea	Asteraceae
Laurus	Lauraceae
Lawsonia	Lythraceae
Lemna	Araceae
Leonotis	Lamiaceae
Lepidagathis	Acanthaceae
Lepisanthes	Sapindaceae
Leptadenia	Apocynaceae
Leptochloa	Poaceae
Leptothrium	Poaceae
Leucas	Lamiaceae
Limeum	Limeaceae
Limnophila	Plantaginaceae
Limnophyton	Alismataceae
Lipocarpa	Cyperaceae
Litogyne	Asteraceae
Loeseneriella	Celastraceae
Lonchocarpus	Fabaceae—Faboideae
Lotus	Fabaceae—Faboideae
Loudetia	Poaceae
Luffa	Cucurbitaceae
Lycopersicon	Solanaceae
Macrosphyra	Rubiaceae
Maerua	Capparaceae
Malacantha (> Pouteria)	Sapotaceae
Mangifera	Anacardiaceae
Manihot	Euphorbiaceae
Manilkara	Sapotaceae
Margaritaria	Phyllanthaceae
Mariscus	Cyperaceae
Marsilea	ferns (Marsileaceae)
Maytenus	Celastraceae
Melhania	Malvaceae
Melochia	Malvaceae
Merremia	Convolvulaceae
Microcharis	Fabaceae—Faboideae
Microchloa	Poaceae
Mimosa	Fabaceae—Caesalpinioideae
Mitracarpus	Rubiaceae
Mitragyna	Rubiaceae
Mollugo	Molluginaceae
Moltkiopsis	Boraginaceae
Momordica	Cucurbitaceae
Monechma	Acanthaceae
Monochoria	Pontederiaceae
Monodora	Annonaceae

Monsonia	Geraniaceae
Morelia	Rubiaceae
Morettia	Brassicaceae
Moricandia	Brassicaceae
Moringa	Moringaceae
Mukia	Cucurbitaceae
Mundulea	Fabaceae—Faboideae
Murdannia	Commelinaceae
Musa	Musaceae
Najas	Hydrocharitaceae
Nauclea (> Sarcocephalus)	Rubiaceae
Nelsonia	Acanthaceae
Neocarya	Chrysobalanaceae
Neptunia	Fabaceae—Caesalpinioideae
Neurada	Rosaceae
Nicotiana	Solanaceae
Nigella	Ranunculaceae
Nothosaerva	Amaranthaceae
Notonia (> Kleinia)	Asteraceae
Nucularia	Amaranthaceae
Nymphaea	Nymphaeaceae
Nymphoides	Menyanthaceae
Ocimum	Lamiaceae
Oldenlandia	Rubiaceae
Orbea	Apocynaceae
Ornithogalum	Asparagaceae
Oropetium	Poaceae
Orthosiphon	Lamiaceae
Oryza	Poaceae
Ottelia	Hydrocharitaceae
Oxycaryum	Cyperaceae
Oxystelma	Apocynaceae
Oxytenanthera	Poaceae
Ozoroa	Anacardiaceae
Pachystela (> Synsepalum)	Sapotaceae
Pancratium	Amaryllidaceae
Pandiaka	Amaranthaceae
Panicum	Poaceae
Parahyparrhenia	Poaceae
Parinari	Chrysobalanaceae
Parkia	Fabaceae—Caesalpinioideae
Parkinsonia	Fabaceae—Caesalpinioideae
Paspalidium	Poaceae (see Setaria)
Paspalum	Poaceae
Patellifolia	Amaranthaceae
Pavetta	Rubiaceae
Pavonia	Malvaceae
Pegolettia	Asteraceae
Pennisetum	Poaceae

Pentanema	Asteraceae
Pentatropis	Apocynaceae
Pergularia	Apocynaceae
Peristrophe	Acanthaceae
Persicaria	Polygonaceae
Philenoptera	Fabaceae—Faboideae
Phoenix	Arecaceae
Phragmites	Poaceae
Phyla	Verbenaceae
Phyllanthus	Phyllanthaceae
Physalis	Solanaceae
Phyzedra (> Ruthalicia)	Cucurbitaceae
Picris	Asteraceae
Piliostigma	Fabaceae—Cercidoideae
Pimpinella	Apiaceae
Piper	Piperaceae
Pistia	Araceae
Plantago	Plantaginaceae
Plectranthus	Lamiaceae
Plumbago	Plumbaginaceae
Podaxis	fungi
Polycarpha	Caryophyllaceae
Polycarpon	Caryophyllaceae
Polygala	Polygalaceae
Polygonum	Polygonaceae
Portulaca	Portulacaceae
Pouteria	Sapotaceae
Premna	Lamiaceae
Prosopis	Fabaceae—Caesalpinioideae
Pseudevernia	lichens
Pseudoconyza	Asteraceae
Pseudowolfia (> Wolffia)	Araceae
Psidium	Myrtaceae
Psoralea	Fabaceae—Faboideae
Pteleopsis	Combretaceae
Pterocarpus	Fabaceae—Faboideae
Ptychlobium	Fabaceae—Faboideae
Pulicaria	Asteraceae
Pupalia	Amaranthaceae
Pycnus	Cyperaceae
Ranalisma	Alismataceae
Raphionacme	Apocynaceae
Requienia	Fabaceae—Faboideae
Reseda	Resedaceae
Rhamphicarpa	Orobanchaceae
Rhynchosia	Fabaceae—Faboideae
Rhynchospora	Cyperaceae
Rhytachne	Poaceae
Ricinus	Euphorbiaceae

Rikliella (> Lipocarpha)	Cyperaceae
Ritchiea	Capparaceae
Robbairia (> Polycarpon)	Caryophyllaceae
Rogeria	Pedaliaceae
Rotala	Lythraceae
Rottboellia	Poaceae
Rotula	Ehretiaceae
Ruellia	Acanthaceae
Rumex	Polygonaceae
Ruspolia	Acanthaceae
Ruthalicia	Cucurbitaceae
Saba	Apocynaceae
Saccharum	Poaceae
Sacciolepis	Poaceae
Salsola	Amaranthaceae
Salvadora	Salvadoraceae
Sansevieria	Asparagaceae
Sarcocephalus	Rubiaceae
Sarcostemma	Apocynaceae
Scadoxus	Amaryllidaceae
Schizachyrium	Poaceae
Schoenefeldia	Poaceae
Schoenoplectiella	Cyperaceae
Schoenoplectus	Cyperaceae
Schouwia	Brassicaceae
Schwenkia	Solanaceae
Scirpus	Cyperaceae
Scleria	Cyperaceae
Sclerocarya	Anacardiaceae
Scoparia	Plantaginaceae
Securinea	Phyllanthaceae
Seetzenia	Zygophyllaceae
Sehima	Poaceae
Senecia	Asteraceae
Senegalia	Fabaceae—Caesalpinioideae
Senna	Fabaceae
Sesamum	Pedaliaceae
Sesbania	Fabaceae—Faboideae
Sesuvium	Aizoaceae
Setaria	Poaceae
Sida	Malvaceae
Sieruela	Cleomaceae
Solanum	Solanaceae
Solenostemon	Lamiaceae
Sonchus	Asteraceae
Sorghastrum	Poaceae
Sorghum	Poaceae
Sphaeranthus	Asteraceae
Sphenoclea	Sphenocleaceae

Spigelia	Loganiaceae
Spondias	Anacardiaceae
Sporobolus	Poaceae
Stachytarpheta	Verbenaceae
Sterculia	Malvaceae
Stereospermum	Bignoniaceae
Stipagrostis	Poaceae
Striga	Orobanchaceae
Strophanthus	Apocynaceae
Strychnos	Loganiaceae
Stylochaeton	Araceae
Stylochiton	<i>see Stylochaeton</i>
Stylosanthes	Fabaceae—Faboideae
Suaeda	Amaranthaceae
Svensonia (> Chascanum)	Verbenaceae
Synedrella	Asteraceae
Synsepalum	Sapotaceae
Syzygium	Myrtaceae
Tacca	Dioscoreaceae
Taccazea	Apocynaceae
Tamarindus	Fabaceae—Detarioideae
Tamarix	Tamaricaceae
Tapinanthus	Loranthaceae
Teclea	Rutaceae
Tectona	Lamiaceae
Tephrosia	Fabaceae—Faboideae
Terminalia	Combretaceae
Tetraena	Zygophyllaceae
Tetrapogon	Poaceae
Thecorchus	Rubiaceae
Thelypteris	ferns (Thelypteridaceae)
Tinospora	Menispermaceae
Traganum	Amaranthaceae
Tragus	Poaceae
Trema	Cannabaceae
Trianthema	Aizoaceae
Tribulus	Zygophyllaceae
Trichodesma	Boraginaceae
Tricliceras	Turneraceae
Tridax	Asteraceae
Tripogon	Poaceae
Triticum	Poaceae
Triumfetta	Malvaceae
Trochomeria	Cucurbitaceae
Typha	Typhaceae
Urena	Malvaceae
Urginea (> Drimia)	Asparagaceae
Urochloa	Poaceae
Utricularia	Lentibulariaceae

Uvaria	Annonaceae
Vaccaria	Caryophyllaceae
Vachellia	Fabaceae—Caesalpinioideae
Vahlia	Vahliaceae
Vepris	Rutaceae
Vernonia	Asteraceae
Vetiveria	Poaceae
Vicoa (> Pentanema)	Asteraceae
Vigna	Fabaceae—Faboideae
Vitellaria	Sapotaceae
Vitex	Lamiaceae
Voandzea (> Vigna)	Fabaceae—Faboideae
Vossia	Poaceae
Waltheria	Malvaceae
Wissadula	Malvaceae
Withania	Solanaceae
Wolffia	Araceae
Wolffiella	Araceae
Wolffiopsis (> Wolffiella)	Araceae
Womskioldia (> Tricliceras)	Turneraceae
Ximenia	Olacaceae
Xylopia	Annonaceae
Xysmalobium	Apocynaceae
Zaleya	Aizoaceae
Zea	Poaceae
Zilla	Brassicaceae
Zingiber	Zingiberaceae
Ziziphus	Rhamnaceae
Zornia	Fabaceae—Faboideae
Zygophyllum (> Tetraena)	Zygophyllaceae