

A Field Guide to Common Plants of the Petauke District (Partial Presentation)

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Abstract

To facilitate plant identification in the field experiment station in Petauke District, Eastern Zambia, a field guide to 80 most common plants in the area was compiled in Japanese for temporary use. Presented here is its partial English translation. The entire translation is in preparation to be made accessible via the internet.

1. Introduction

As described elsewhere in this volume, Dr. H. Shinjo et al. are conducting a field experiment in Mwelwa village, Petauke District, Eastern Zambia, to evaluate the effects of the slash-and-burn system and continuous cropping of maize on soil fertility and structure. This research involves monitoring of vegetation using the quadrat method from before the start of the experiment through various cropping and fallow sequences. In this research, plant identification has been frequently problematic, because trees, herbs, and seedlings often lack flowers and fruits in agricultural situations. To facilitate the vegetation survey, plants in the district were photographed and a field guide to 80 common plants in the area was compiled in Japanese for temporary use by non-botanists. Here, an English translation is presented for the most common species in the study plot. The entire field guide will be added to the project after some amendments and translation. This will make it accessible to all those involved in ecological/agricultural research in Zambia.

2. The field guide

(1)



Brachystegia manga De Wild.

Vernacular name: *mputi*

Family: FABACEAE

Habitat: Miombo

Notes: High tree. Leaflet bluish green, rhombic, in 3–4 pairs. Leaflets arranged in same plane as middle axis, so the whole leaf is flat (Cf. *B. allenii*). Pod purplish green, surface smooth.

(2)



Brachystegia allenii Hutch. & Burt Davy

Vernacular name: *mganza*

Family: FABACEAE

Habitat: Miombo

Notes: High tree. Leaflets bluish green, broadly elliptic, apex truncate to emarginate (having a central notch), base markedly asymmetrical, in 4 or more pairs along the mid-axis. Leaflets overlap each other, with their surfaces not in a single plane, giving a thick appearance to the leaf bunches. Pod brown, surface rough.

3)



Brachystegia stipulata De Wild

Vernacular name: *mfundanzinzi*

Family: FABACEAE

Habitat: Transition zone between miombo and dambo, common also in degraded miombo.

Notes: High to medium-height tree. Leaflet elliptic, deep green on upper side, pale green on lower side. Stipules ear-like, large, and persistent (note that stipule of *B. allenii* is also somewhat persistent).

4)



Julbernardia globiflora (Benth.) Troupin

Vernacular name: *kamponi*

Family: FABACEAE

Habitat: Degraded miombo, also in and around villages

Notes: Tree. Leaflets narrowly rhomboid-elliptic, blight green on both surfaces. Starts flowering and producing fruits at a much younger stage than *Brachystegia* spp. Pods have a brown suede-like surface.

5)



Dalbergiella nyasae Baker f.

Vernacular name: *kafundakweo*

Family: FABACEAE

Habitat: Degraded miombo

Notes: Tree with a narrow silhouette due to sparse branching and the narrow angle between branches and trunk. Pinnate leaves gathered near the top of each branch like umbrella ribs. Terminal leaflet may or may not be present (i.e., there may be an odd or even number of leaflets). Leaflets in 8 or more pairs, dull green on upper side, pale green on lower side, covered with indumentum (a layer of soft fine hairs).

6)



Pterocarpus angolensis DC.

Vernacular name: *mlombe*

Family: FABACEAE

Habitat: Miombo

Notes: Tree of medium height with a flat canopy. Leaf pinnate with a terminal leaflet. Unlike most other leguminous trees, leaflet has a rather long petiole and an acuminate apex. Each leaflet has thin but prominent veins running in a herring-bone pattern. When cut, the trunk produces copious amounts of blood-red resinous sap.

7)



Burkea africana Hook.

Vernacular name: *msase*

Family: FABACEAE

Habitat: Degraded miombo

Notes: Tree with bipinnate leaves. Leaf similar to that of *Albizia antunesiana*. Shoot tips covered with rust-colored short hairs.

8)



Albizia antunesiana Harms

Vernacular name: *msase-pouvuvu*

Family: FABACEAE

Habitat: Degraded miombo

Notes: Tree with bipinnate leaves. Leaf similar to that of *Burkea africana* but distinguishable by powdery white lower surface and asymmetrical base of each leaflet (much wider towards the rachis tip). Leaf upper surface often tinged purple.

9)



Dichrostachys cinerea (L.) Wight & Arn.

Vernacular name: *kalumpangala*

Family: FABACEAE

Habitat: Degraded miombo

Notes: Low tree with a rough shape due to coarse irregular branching. Trunk cross-section is irregular, not circular. Branches are thorny to varying degrees, and are sometimes thornless.

10)



Diplorhynchus condylocarpon (Müll.Arg.) Pichon

Vernacular name: *mtowa*

Family: APOCYNACEAE

Habitat: Degraded miombo

Notes: Low to medium-height tree with long slender flexible branches. All parts excrete copious amounts of white latex when cut. Fire-tolerant because of the bulky bark, which has both longitudinal and transverse fissures resembling the pattern on an alligator's back. Easily regenerates from stumps in slash-and-burn fields, forming low dense thickets.

11)



Bridelia cathartica G. Bertol.

Vernacular name: *shimpombo*

Family: PHYLLANTHACEAE

Habitat: Degraded miombo, also around villages.

Notes: Leaves elliptic to obovate, rough on both surfaces, distinctly smaller on fruiting branches and becoming even smaller towards the branch end. Ripe fruits are dark purple.

12)



Pseudolachnostylis maprouneifolia Pax

Vernacular name: *msolo*

Family: PHYLLANTHACEAE

Habitat: Degraded miombo

Notes: Medium-height tree. Leaf nearly circular, quite smooth, concave above, convex below. Fruits fleshy but hard, dull green to yellow-green even when ripe.

13)



Lannea discolor Engl.

Vernacular name: *shaomboa*

Family: ANACARDIACEAE

Habitat: Degraded miombo

Notes: Medium-height tree. Lower surface of leaves distinctly whitish. Produces copious amounts of clear resin when cut. At the beginning of the dry season leaves turn yellow and fall earlier than most other trees.

Notes: Shrub to low tree producing edible fleshy fruits. Leaf hairiness and branch thorn size highly variable, sometimes thornless.

14)



Flacourtia indica (Burm.f.) Merr.

Vernacular name: *nkondonkondo*

Family: SALICACEAE

Habitat: From degraded miombo to surroundings of villages



15)



Melinis repens (Willd.) Zizka

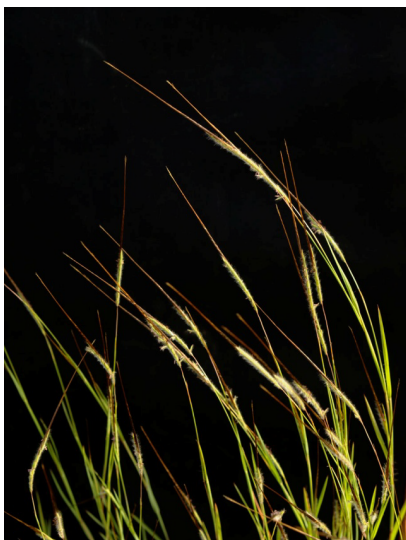
Vernacular name:

Family: POACEAE

Habitat: Cultivated field

Notes: One of the most dominant weeds in maize field. Lower part trails on the ground and produce roots from each node.

16)



Heteropogon contortus Beauv. ex Roem. & Schult.

Vernacular name: Sajje

Family: POACEAE

Habitat: Disturbed grassland and roadsides

Notes: Sometimes forms pure stand on gravelly soil on the roadside. Mature spikelets are pungent when detached from the plant, very notorious, piercing the clothing and even skin.



17)



Rottboellia exaltata L. f.

Vernacular name:

Family: POACEAE

Habitat: Cultivated field

Notes: Tall grass sometimes outgrows and suppresses maize. A notorious weed that can injure skin by its coarse hairs on its culm.

18)



Hyparrhenia filipendula Stapf

Vernacular name:

Family: POACEAE

Habitat: Forest margin

Notes: Branch shoots from the upper leaf axils stay green long after the main culm senesced.

19)



Hyparrhenia variabilis Stapf

Vernacular name:

Family: POACEAE

Habitat: Half shade in the woodland

Notes: Produce stiff supportive aerial roots from lower nodes.

20)



Hyparrhenia dichroa Stapf

Vernacular name:

Family: POACEAE

Habitat: Roadside and disturbed grassland

Notes: The tallest of all *Hyparrhenia* species found in the area.

21)



Bidens schimperi Sch.Bip. ex Walp.

Vernacular name:

Family: ASTERACEAE

Habitat: Cultivated field but apparently native to woodlands.

Notes: One of the most troublesome weed of maize especially when the field is fertilized.

22)



Vernonia petersii Oliv. & Hiern ex Oliv.

Vernacular name:

Family:

Habitat:

Notes: One of the most common weeds in newly established slash-and-burn field.

23)



Vernonia poskeana Vatke & Hildeb.

Vernacular name:

Family: ASTERACEAE

Habitat: Cultivated field

Notes: Common weed both in new and old fields.



24)



Trichodesma zeylanicum R.Br.

Vernacular name:

Family: BORAGINACEAE

Habitat: Cultivated field

Notes: Common weed in continuously cultivated field. The whole plant is covered by white hairs, which look soft but are actually dangerous: they sting on skin badly.

25)



Amaranthus hybridus L.

Vernacular name:

Family: AMARANTHACEAE

Habitat: Cultivated field, sometimes on termite hill

Notes: Being a member of weedy *Amaranthus*, likely to require high concentration of nitrogen. Rare in newly opened field.