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Annals of Biological Research, 2012, 3 (4):1757-1763  
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## The vascular flora on Asamagbe stream bank, Forestry Research Institute of Nigeria (FRIN) premises, Ibadan, Nigeria

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### ABSTRACT

Recent field inventory of vascular flora on both bank of the Asamagbe stream, within the Forestry Research Institute of Nigeria Premises was conducted. The vegetation consists of 159 species within 151 genera and 66 families. About 40 species, including 15 cultivated plants or 25% of the flora are non-native taxa. Most of the recorded non-native species are naturalized aliens rather than casuals. Flagship species which serves as markers of the plant community identified include *Christella dentata* (Forsk) Holttum; *Cleistopholis patens* (Benth) Engl & Dalz, *Bambusa vulgaris* Schrader ex Wendel; *Parkia bicolor* A. Chev and *Sparganophorus sparganophora* (Linn.) C. Jeffery. The vegetation contains rich flora diversity with a need for its continual conservation to safeguard the enormous genepool.

**Keywords:** Vascular flora, Non-native taxa, Flagship species, Conservation, Genepool.

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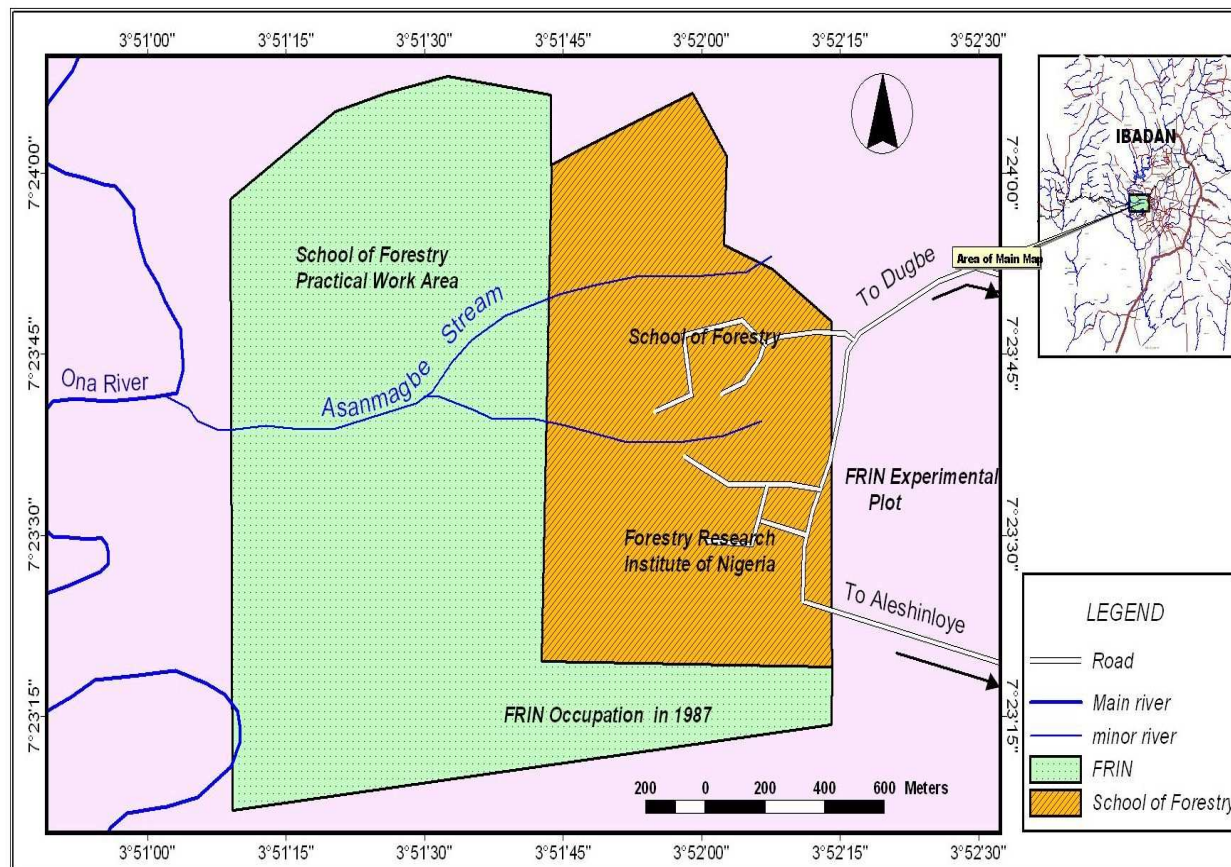
### INTRODUCTION

The knowledge of the world's species and ecosystems – global biodiversity - is woefully incomplete [1]. An estimate of 265,000 species of plants (Bryophytes and Vascular plants) is believed to occur in nature, with close to  $\frac{2}{3}$  of this figure present in the tropics [2]. [3] had earlier cited a figure of 30,000 vascular plant species for Tropical Africa. In Nigeria, [4] had documented a total of 7, 349 vascular species in the 'Flora of West Tropical Africa'. This is made up of 312 species of pteridophytes, 4 species of gymnosperms, 5,211 species of dicotyledons and 1,822 species of monocotyledons. Currently, there is no written flora of Nigeria; the compositional range of the Nigerian flora can only be inferred from the text, 'Flora of west tropical Africa'.

The Nigerian flora is constantly changing as a result of the introduction of new species, either accidentally or deliberately including weeds and garden plant escape from cultivation [5]. The biological effect of alien plant species on native flora and ecosystem had been studied [6, 7]. Recently, [8 & 9] have placed inventory taxonomy (description and mapping of the world biota) as one of the two most important tasks facing modern systematics. This could be attributed to its significant role in plant diversity conservation and preservation of the enormous gene pool present in the diverse ecosystems. High genetic variability in rainforest ecosystems as obtained in the Nigeria lowland rainforest, bespeak high niche specificity. As such, some taxa seem to be more soil-specific, preferring wet soils throughout its range of occurrence than others. The present study, was therefore, initiated with the objectives: 1: To contribute to the floristic taxonomy of Southwestern Nigeria and 2: To aid researchers in indentifying plants and allow for biogeographic comparison with other similar habitat in the region.

## MATERIALS AND METHODS

The Forestry Research Institute of Nigeria (FRIN) premises is situated in Ibadan and lies on Latitude 7°23'15'' to 7°24'00''N and Longitude 3°51'00''N to 3°52'15''E of the Greenwich Meridian (Figure 1). The Asamagbe stream has its source within the FRIN premises. The stream flows in an East-West direction to a distance of about 2.13km, and drains into the Ona river, a main drainage channel of Alalubosa Forest Reserve constituted in 1916 by the colonial Administration [10].



The vegetation on both sides of the stream which is an important watershed can be described as a near-natural plant community with few record of anthropogenic disturbance. Topography is undulating with underlying ferruginous sandy loam soils on crystalline rocks of undifferentiated pre-Cambian basement complex. The rainfall pattern is bimodal with peak around (June and July) and September to October. Mean total annual rainfall is 420.06mm in about 109 days [10]. Mean maximum temp is 21.42°C. Relative humidity is 74.6%.

The study was initiated in June, 2009 and completed in October, 2010. Field collection of plant samples occurring at 50 meters distance on both sides of the Asamagbe stream bank were identified and documented. Each taxon was determined using the following: Hutchinson & Dalziel [11] for dicotyledons, pontederiaceae and palmae (Arecaceae); Lowe and Stanfield [12] for Cyperaceae (sedges); Lowe [5] for Graminae (Poaceae) and Airy Shaw [13] for pteridophytes (ferns). Herbarium vouchers of each taxon were prepared and deposited at the Forest Herbarium, Ibadan (FHI) listed in [14]. The checklist is divided into the following categories: vascular cryptogams (pteridophytes), gymnosperms, dicots and monocots. The concept of families follows Hutchinson and Dalziel [11]. Families are arranged in alphabetical order under each category.

## RESULTS AND DISCUSSION

The vascular flora of the Asamagbe stream bank consists of 159 species within 151 genera and 66 families (Table 2). Forty species, including fifteen cultivated plants or 25% of the flora are not native to the region. A statistical summary is shown in Table 1.

Table 1: Statistical summary of the vascular flora on the stream bank

|            | Pteridophytes | Gymnosperms | Dicotyledons | Monocotyledons | Total |
|------------|---------------|-------------|--------------|----------------|-------|
| Families   | 3             | 0           | 51           | 12             | 66    |
| Genera     | 3             | 0           | 126          | 22             | 151   |
| Species    | 3             | 0           | 132          | 24             | 159   |
| Native     | 3             | 0           | 99           | 17             | 119   |
| Non Native | 0             | 0           | 33           | 7              | 40    |

Furthermore, 30% of the total number of vascular flora encountered are contained in 6 families: Moraceae, Asteraceae, Euphorbiaceae, Papilionaceae, Caesalpinaceae and Rubiaceae. Most species are represented by a single genus, with the largest genera: *Ficus*, *Chrysophyllum*, *Alchornea* and *Sida* are represented by 2 species each.

The life form of plant species recorded shows that the tree species has a total number of 66 species or 42% of the total flora. It was closely followed by herbs with 39 species or 25%; shrubs: 29 species or 18%; climbers: 19 species or 12% and grasses/sedges: 6 species or 4%. The high number of trees recorded, indicate that the tree component plays a major ecological function amongst which is the prevention of siltation of the stream. Flagship species defined as the dominant species of the plant community which serves as markers recorded include: *Christella dentata* (Forsk) Holttum; *Cleistopholis patens* (Benth) Engl & Dalz, *Bambusa vulgaris* Schrade ex Wendel; *Parkia bicolor* A. Chev and *Sparganophorus sparganophora* (Linn.) C. Jeffery. Conservation of the ecosystem is important to safeguard the variability of genetic materials present.

Each entry includes the following information sequence: scientific name; pertinent synonyms in parenthesis. Also, included at the end is a designation of native or non-native taxa\*. Native is defined as putatively occurring in South Western Nigeria before European colonization. Native taxa were determined following Klopper *et al* [15].

Table 2. List of plant species documented from Asamagbe stream bank

| S/no | Plant Groups          | Scientific Name                                                                                             | Family           | Habit            |
|------|-----------------------|-------------------------------------------------------------------------------------------------------------|------------------|------------------|
| 1    | Pteridophytes (Ferns) | <i>Christella dentata</i> (Forssk) Holttum. (Syn: <i>Cyclorus dentatus</i> (Forssk) Ching)                  | Thelypteridaceae | Fern             |
| 2    |                       | <i>Platynerium stagelephantotis</i> Desv.                                                                   | Polypodiaceae    | Fern             |
| 3    |                       | <i>Nephrolepis biserrata</i> (SW) Scott.                                                                    | Davalliaceae     | Fern             |
| 4    | Dicotyledons          | <i>Agelaea pentagyna</i> (Lam) Baill (Syn: <i>Agelaea oblique</i> (P.Beauv.) C. B. Cl)                      | Connaraceae      | Scrambling shrub |
| 5    |                       | <i>Albizia ferruginea</i> (Guill & Perr) Benth                                                              | Mimosaceae       | Tree             |
| 6    |                       | <i>Albizia zygia</i> (DC) J. F. Machr. (Syn: <i>A. lesteui</i> Pellegr.)                                    | Mimosaceae       | Tree             |
| 7    |                       | <i>Alchornea cordifolia</i> (Schumach & Thonn) Muell. Arg. (Syn: <i>Schousboea cordifolia</i> Shum & Thonn) | Euphorbiaceae    | Shrub            |
| 8    |                       | <i>Alchornea laxiflora</i> (Benth) Pax et K. Hoffm (Syn: <i>A. Engleri</i> Pax)                             | Euphorbiaceae    | Shrub            |
| 9    |                       | <i>Allophylus africana</i> P. Beauv (Syn: <i>A. Cataractarum</i> Baker. f)                                  | Sapindaceae      | Shrub            |
| 10   |                       | <i>Alstonia boonei</i> De Wild (Syn: <i>Alstonia congensis</i> Auct.)                                       | Apocynaceae      | Tree             |
| 11   |                       | <i>Alternanthera sessilis</i> (Linn) R. Br ex (Syn: <i>A. achyranthoides</i> Forssk. (L.)                   | Amaranthaceae    | Herb             |
| 12   |                       | <i>Anacardium occidentale</i> Linn *                                                                        | Anacardiaceae    | Tree             |
| 13   |                       | <i>Aningeria robusta</i> (A. Chev) Aubrev & Pellegr. (Syn: <i>Pouteria aningeri</i> Baehm.)                 | Sapotaceae       | Tree             |
| 14   |                       | <i>Anthocephalus cadamba</i> Rich *                                                                         | Rubiaceae        | Tree             |
| 15   |                       | <i>Anthocleista vogelli</i> Planch (Syn: <i>Anthocleista auriculata</i> De Wild.)                           | Gentianaceae     | Tree             |
| 16   |                       | <i>Antiaris toxicaria</i> Lesch (Syn: <i>Antiaris africana</i> Engl)                                        | Moraceae         | Tree             |
| 17   |                       | <i>Aspilula africana</i> (Pers.) C.D. Adams. Syn: <i>A. helianthiodes</i> Chev.                             | Asteraceae       | Herb             |
| 18   |                       | <i>Asystasia gangetica</i> (Linn) T. Anders (Syn: <i>Justicia gangetica</i> Linn) *                         | Acanthaceae      | Herb             |
| 19   |                       | <i>Azadirachta indica</i> A. Juss *                                                                         | Meliaceae        | Tree             |
| 20   |                       | <i>Baphia nitida</i> Lodd (Syn: <i>B. barombiensis</i> Taub.)                                               | Papilionaceae    | Small tree       |
| 21   |                       | <i>Berlinia grandiflora</i> (Vahl) Hutch & Dalz. (Syn: <i>Berlinia acuminata</i> Sol. ex Hook.f & Benth)    | Caesalpiniaceae  | Tree             |
| 22   |                       | <i>Bombax buonopozense</i> P. Beauv (Syn: <i>B. angulicarpum</i> Ulbr.)                                     | Bombacaceae      | Tree             |
| 23   |                       | <i>Brachystegia eurycoma</i> Harms (Syn: <i>B. ferruginea</i> De Wild.)                                     | Caesalpiniaceae  | Tree             |
| 24   |                       | <i>Bridelia micrantha</i> (Hochst) Baill (Syn: <i>B. stenocarpa</i> Mull. Arg.)                             | Euphorbiaceae    | Small tree       |
| 25   |                       | <i>Byrsocarpus coccinea</i> (Schum & Thonn) Benth (Syn: <i>B. tisserantii</i> ) Aubrev. & Pellegr.          | Connaraceae      | Shrub            |
| 26   |                       | <i>Campylospermum flavum</i> (Schum & Thonn) Ferron (Syn:                                                   | Ochnaceae        | Shrub            |

|    |                                                                                                   |                 |                  |
|----|---------------------------------------------------------------------------------------------------|-----------------|------------------|
| 27 | <i>Ouratea flava</i> (Schum & Thonn) Hutch & Dalz ex Stapf.                                       | Caricaceae      | Tree             |
| 28 | <i>Carica papaya</i> Linn *                                                                       | Polygalaceae    | Shrub            |
| 29 | <i>Carpolobia lutea</i> G. Don                                                                    | Meliaceae       | Tree             |
| 30 | <i>Cedrella odorata</i> Linn *                                                                    | Bombacaceae     | Tree             |
| 31 | <i>Ceiba pentandra</i> (Linn) Gaertn (Syn: <i>Bombax pentandra</i> L.)                            | Amaranthaceae   | Herb             |
| 32 | <i>Celosia argentea</i> Linn (Syn: <i>Celosia debilis</i> S. Moore) *                             | Papilionaceae   | Climber          |
| 33 | <i>Centrosema pubescens</i> Benth *                                                               | Rubiaceae       | Shrub            |
| 34 | <i>Chassalia kolly</i> (Schum) Hepper (Syn: <i>Psychotria kolly</i> Schumach.)                    | Menispermaceae  | Climber          |
| 35 | <i>Chasmanthera dependens</i> Hochst                                                              | Asteraceae      | Herb             |
| 36 | <i>Chromolena odorata</i> (L.) King & Rob. (Syn: <i>Eupatorium odoratum</i> Linn.) *              | Sapotaceae      | Tree             |
| 37 | <i>Chrysophyllum albidum</i> G. Don (Syn: <i>Gambeya albidum</i> (G. Don) Aubrev & Pellegr)       | Sapotaceae      | Tree             |
| 38 | <i>Chrysophyllum canito</i> Linn. *                                                               | Rutaceae        | Tree             |
| 39 | <i>Citrus sinensis</i> (L) Osb*                                                                   | Vitaceae        | Climbing plant   |
| 40 | <i>Cissus arguta</i> Hook.f (Syn: <i>Vitis arguta</i> (Hook. f.) Bak.)                            | Annonaceae      | Tree             |
| 41 | <i>Cleistopholis patens</i> (Benth) Engl & Dals (Syn: <i>C. brevipetala</i> Exell.)               | Verbenaceae     | Climbing shrub   |
| 42 | <i>Clerodendrum volubile</i> P. Beauv                                                             | Cucurbitaceae   | Climber          |
| 43 | <i>Coccinia barteri</i> (Hook. f) Keay (Syn: <i>Staphylosyce barteri</i> Hook. f)                 | Combretaceae    | Climber          |
| 44 | <i>Combretum platypterum</i> (Welw) Hutch & Dalziel. (Syn: <i>C. bracteata</i> M. A. Lawson)      | Tiliaceae       | Woody herb       |
| 45 | <i>Corchorus olitorius</i> Linn                                                                   | Connaraceae     | Shrub            |
| 46 | <i>Cnestis ferruginea</i> Vahl ex DC (Syn: <i>C. oblongifolia</i> Bak.)                           | Burseraceae     | Tree             |
| 47 | <i>Dacryodes edulis</i> (G. Don) H. J. Lam (Syn: <i>Pachylobus edulis</i> G. Don)                 | Caesalpinaceae  | Tree             |
| 48 | <i>Daniellia ogea</i> (Harms) Rolfe ex Holland (Syn: <i>D. thurifera</i> Benn)                    | Papilionaceae   | Tree             |
| 49 | <i>Dalbergia sisso</i> Roxb *                                                                     | Papilionaceae   | Shrub            |
| 50 | <i>Dalbergiella welwitschii</i> (Baker) Barkf. (Syn: <i>Ostryocarpus welwitschii</i> Baker)       | Ebenaceae       | Scrambling shrub |
| 51 | <i>Diospyros barteri</i> Hiern (Syn: <i>D. hirta</i> Gurke ex Hutch ex Dalz)                      | Acanthaceae     | Herb             |
| 52 | <i>Elytraria marginata</i> Vahl (Syn: <i>E. lyrata</i> Vahl)                                      | Euphorbiaceae   | Herb             |
| 53 | <i>Euphorbia heterophylla</i> Linn. (Syn: <i>Poinsetia heterophylla</i> (L.) Klotzch & Garcke.) * | Euphorbiaceae   | Shrub            |
| 54 | <i>Flueggea virosa</i> (Roxb ex Willd) Voigt (Syn: <i>Securinea virosa</i> (Roxb. ex Willd) Bail) | Moraceae        | Tree             |
| 55 | <i>Ficus exasperata</i> Vahl (Syn: <i>F. punctifera</i> Warb.)                                    | Moraceae        | Tree             |
| 56 | <i>Ficus mucoso</i> Wele. Ex Ficalho (Syn: <i>F. Corylifolia</i> Warb)                            | Moraceae        | Tree             |
| 57 | <i>Ficus sur</i> Forssk (Syn: <i>F. capensis</i> Thunb)                                           | Apocynaceae     | Tree             |
| 58 | <i>Funtumia elastic</i> (Preuss) Stapf. ( Syn: <i>Kickxia elastic</i> Preuss.)                    | Papilionaceae   | Small tree       |
| 59 | <i>Gliricidia sepium</i> (Jacq) Walp *                                                            | Tiliaceae       | Small tree       |
| 60 | <i>Glyphaea braevis</i> (Spreng) Monachino (Syn: <i>Capparis brevis</i> Spreng)                   | Verbenaceae     | Tree             |
| 61 | <i>Gmelina arborea</i> Roxb *                                                                     | Rubiaceae       | Tree             |
| 62 | <i>Hallea stipulosa</i> (DC) Leroy (Syn: <i>Mitragyna stipulosa</i> (DC) Kuntze)                  | Melastomataceae | Creeping herb    |
| 63 | <i>Heterotis rotundifolia</i> (SM) Jac-Fel (Syn: <i>Dissotis rotundifolia</i> (Sm.) Triana)       | Apocynaceae     | Tree             |
| 64 | <i>Holarrhena floribunda</i> (G. Don) Dur & Schinz (Syn: <i>H. landolphioides</i> A. DC)          | Icacinaeae      | Shrub            |
| 65 | <i>Icacinia tragacantha</i> Oliv                                                                  | Convolvulaceae  | Creeper          |
| 66 | <i>Ipomoea involucreta</i> P. Beauv. (Syn: <i>Convolvulus perfoliatus</i> Schum & Thonn)          | Irvingiaceae    | Tree             |
| 67 | <i>Irvingia gabonensis</i> (O'Rorke) Baill. (Syn: <i>I. barteria</i> Hook. f)                     | Crassulaceae    | Herb             |
| 68 | <i>Kalanchoe pinnata</i> (Lam) Persoon. (Syn: <i>Bryophyllum pinnatum</i> (Lam) Oken) *           | Meliaceae       | Tree             |
| 69 | <i>Khaya grandifolia</i> C. DC (Syn: <i>K. punchii</i> Stapf)                                     | Lythraceae      | Tree             |
| 70 | <i>Lagerstroemia speciosa</i> (Linn) Pers. *                                                      | Urticaceae      | Herb             |
| 71 | <i>Laportea aestuans</i> (Linn.) Chew (Syn: <i>Fleurya aestuans</i> (L) Gaudich)                  | Sapindaceae     | Small tree       |
| 72 | <i>Lecaniodiscus cupanioides</i> Planch ex Benth                                                  | Papilionaceae   | Climbing shrub   |
| 73 | <i>Leptoderris micrantha</i> Dunn                                                                 | Mimosaceae      | Small tree       |
| 74 | <i>Leucaena leucocephala</i> (Lam) Dewit (Syn: <i>L. glauca</i> Benth.) *                         | Onagraceae      | Herb             |
| 75 | <i>Ludwigia decurrens</i> Walter (Syn: <i>Jussiaea decurrens</i> (Walt.) DC.                      | Euphorbiaceae   | Shrub            |
|    | <i>Mallotus oppositifolius</i> (Giesel) Muell. Arg. (Syn: <i>Croton oppositifolius</i> Geisel)    |                 |                  |

|     |                                                                                                                   |                |                 |
|-----|-------------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| 76  | <i>Mangifera indica</i> Linn. *                                                                                   | Anacardiaceae  | Tree            |
| 77  | <i>Manihot esculenta</i> Crantz. (Syn: <i>M. utilisimma</i> Pohl) *                                               | Euphorbiaceae  | Shrub           |
| 78  | <i>Margaritaria discoidea</i> (Baill) G. L Webster                                                                | Euphorbiaceae  | Tree            |
| 79  | <i>Melanthera scandens</i> (Schum & Thonn) Brenan (Syn: <i>Buphthalmum scandens</i> Schum & Thonn.)               | Asteraceae     | Scrambling herb |
| 80  | <i>Merremia tridentata</i> (L) Hallier F. (Syn: <i>Xenostegia tridentata</i> (L.) D. F. Astin & Staples.)         | Convolvulaceae | Climber         |
| 81  | <i>Microdesmis pruberula</i> Hook f. ex Planch (Syn: <i>M. zenkeri</i> Pax)                                       | Pandaceae      | Shrub           |
| 82  | <i>Milicia excelsa</i> (Welw) C. C. Berg (Syn: <i>Chlorophora excelsa</i> (Welw) Benth & Hook. f.)                | Moraceae       | Tree            |
| 83  | <i>Momordica charantia</i> Linn. *                                                                                | Cucurbitaceae  | Climber         |
| 84  | <i>Monodora myristica</i> (Gaertn) Dunal (Syn: <i>Annona myristica</i> Gaertn)                                    | Annonaceae     | Tree            |
| 85  | <i>Morus mesozygia</i> Stapf ex A. Chev (Syn: <i>Morus lacteal</i> (Sim) Milder)                                  | Moraceae       | Tree            |
| 86  | <i>Mucuna pruriens</i> (L.) DC (Syn: <i>Dolichos pruriens</i> Linn)                                               | Papilionaceae  | Climber         |
| 87  | <i>Musanga cecropioides</i> R. Br (Syn: <i>M. smithii</i> R. Br.)                                                 | Moraceae       | Tree            |
| 88  | <i>Myrianthus arboreus</i> P. Beauv. (Syn: <i>M. talbotii</i> Rendle)                                             | Moraceae       | Tree            |
| 89  | <i>Nauclea diderrichii</i> (De Wild & Th. Dur) (Syn: <i>Sarcocephalus diderrichii</i> De Wild & Th. Dur (Merrill) | Rubiaceae      | Tree            |
| 90  | <i>Newbouldia laevis</i> (P. Beauv) Seaman ex Bureau. (Syn: <i>Spathodea laevis</i> P. Beauv)                     | Bignoniaceae   | Tree            |
| 91  | <i>Parkia bicholor</i> A. Chev. (Syn: <i>Parkia agboensis</i> A. Chev)                                            | Mimosaceae     | Tree            |
| 92  | <i>Parquetina nigrescens</i> (Afzel) Bullock (Syn: <i>P. gabonica</i> Baill)                                      | Periplocaceae  | Climber         |
| 93  | <i>Paullinia pinnata</i> Linn                                                                                     | Sapindaceae    | Woody climber   |
| 94  | <i>Pauridantha hirtella</i> (Benth) Bremek. (Syn: <i>Urophyllum hirtellum</i> Benth.)                             | Rubiaceae      | Shrub           |
| 95  | <i>Pavetta corymbosa</i> (DC) Williams (Syn: <i>Baconia corymbosa</i> DC)                                         | Rubiaceae      | Shrub           |
| 96  | <i>Peltophorum pterocarpum</i> (DC) Backer *                                                                      | Caesalpinaceae | Tree            |
| 97  | <i>Pergularia daemia</i> (Fork) Chior (Syn: <i>Asclepia daemia</i> Forsk)                                         | Asclepiadaceae | Climber         |
| 98  | <i>Peperomia pellucida</i> (L) Kunth (Syn: <i>Piper pellucidum</i> Linn.)                                         | Piperaceae     | Herb            |
| 99  | <i>Phaulopsis ciliata</i> (Wild) Hepper (Syn: <i>P. falcisepala</i> C. B. C)                                      | Acanthaceae    | Herb            |
| 100 | <i>Plukenetia conophora</i> Mull. Arg (Syn: <i>Tetracarpidium conophorum</i> (Müll. Arg. Hutch & Dalz.)           | Euphorbiaceae  | Climber         |
| 101 | <i>Portulaca oleraceae</i> L.                                                                                     | Portulacaceae  | Herb            |
| 102 | <i>Pouzolzia guineensis</i> Benth (Syn: <i>Margarocarpus schimperianus</i> Wedd.)                                 | Urticaceae     | Herb            |
| 103 | <i>Psidium guajava</i> Linn *                                                                                     | Myrtaceae      | Tree            |
| 104 | <i>Pterocarpus osun</i> Craib                                                                                     | Papilionaceae  | Tree            |
| 105 | <i>Pycnanthus angolensis</i> (Welw) Warb (Syn: <i>Myristica angolensis</i> Welw)                                  | Myristicaceae  | Tree            |
| 106 | <i>Rauvolfia vomitoria</i> Afzel Syn: <i>R. congolana</i> De Wild. & T. Duranel                                   | Apocynaceae    | Tree            |
| 107 | <i>Reissantia indica</i> (Wild) N.Italle (Syn: <i>Hippocratea indica</i> Wild)                                    | Celastraceae   | Shrub           |
| 108 | <i>Rhigiocarya racemifera</i> Miers (Syn: <i>R. nerrosa</i> (Miers) A. Chev                                       | Menispermaceae | Climbing plant  |
| 109 | <i>Rytigynia nigerica</i> (S. Moore) Robyns. (Syn: <i>Vangueria nigerica</i> S. Moore)                            | Rubiaceae      | Shrub           |
| 110 | <i>Sabicea venosa</i> Benth (Syn: <i>S. discolor</i> Chev.)                                                       | Rubiaceae      | Climbing shrub  |
| 111 | <i>Salacia pallescens</i> Oliv                                                                                    | Celastraceae   | Shrub           |
| 112 | <i>Sanchezia nobilis</i> Hook.f *                                                                                 | Acanthaceae    | Shrub           |
| 113 | <i>Secamone afzelia</i> (Roem et Schult) K. Schum (Syn: <i>Chnocarpus afzelia</i> Schult)                         | Asclepiadaceae | Climber         |
| 114 | <i>Senna alata</i> (L.) Roxb (Syn: <i>Cassia alata</i> L.)                                                        | Caesalpinaceae | Shrub           |
| 115 | <i>Senna hirsuta</i> (L.) Irwin & Barneby (Syn: <i>Cassia hirsuta</i> Linn.) *                                    | Caesalpinaceae | Shrub           |
| 116 | <i>Sida garckeana</i> Polak (Syn: <i>Sida corymbosa</i> R.F. Fries) *                                             | Malvaceae      | Woody herb      |
| 117 | <i>Sida pilosa</i> Retz. (Syn: <i>S. veronicifolia</i> Lam)                                                       | Malvaceae      | Creeping herb   |
| 118 | <i>Sphenocentrum jollyanum</i> Pierre                                                                             | Menispermaceae | Shrub           |
| 119 | <i>Solenostemon monostachyus</i> (P. Beauv) (Syn: <i>Occimum monostachyus</i> P. Beauv. Briq.)                    | Lamiaceae      | Herb            |
| 120 | <i>Sparganophorus sparganophora</i> (Linn) C. Jeffery (Syn: <i>Struchium sparganophora</i> (L) Kuntze.)           | Asteraceae     | Herb            |
| 121 | <i>Spemacoce ruelliae</i> DC (Syn: <i>Borreria ruelliae</i> (DC). Thons)                                          | Rubiaceae      | Herb            |
| 122 | <i>Spondias mombin</i> Linn. (Syn: <i>S. lutea</i> Linn.) *                                                       | Anacardiaceae  | Tree            |
| 123 | <i>Stachytarpheta indica</i> (L.) Vahl (Syn: <i>S. augustifolia</i> (Mill.) Vahl)                                 | Verbenaceae    | Shrub           |

|     |                |                                                                                               |               |                   |
|-----|----------------|-----------------------------------------------------------------------------------------------|---------------|-------------------|
| 124 |                | <i>Sterculia tragacantha</i> Lindl                                                            | Sterculiaceae | Tree              |
| 125 |                | <i>Synedrella nodiflora</i> Geartn. (Syn: <i>Wedelia cryptocephala</i> Peter) *               | Asteraceae    | Herb              |
| 126 |                | <i>Tectona grandis</i> Linn.f *                                                               | Verbenaceae   | Tree              |
| 127 |                | <i>Telfaria occidentalis</i> Hook.f *                                                         | Cucurbitaceae | Climber           |
| 128 |                | <i>Terminalia ivorensis</i> A. Chev.                                                          | Combretaceae  | Tree              |
| 129 |                | <i>Theobroma cacao</i> Linn *                                                                 | Sterculiaceae | Tree              |
| 130 |                | <i>Treculia africana</i> Decne (Syn: <i>Ficus whytei</i> Stapf.)                              | Moraceae      | Tree              |
| 131 |                | <i>Trema orientalis</i> (Linn) Blume (Syn: <i>Celtis guineensis</i> Schum & Thonn.)           | Ulmaceae      | Tree              |
| 132 |                | <i>Tridax procumbens</i> Linn. *                                                              | Asteraceae    | Herb              |
| 133 |                | <i>Triplochiton scleroxylon</i> K. Schum (Syn: <i>T. johnsoni</i> C H Wright)                 | Sterculiaceae | Tree              |
| 134 |                | <i>Triumfetta rhomboidea</i> Jacq                                                             | Tiliaceae     | Weedy under-shrub |
| 135 | Monocotyledons | <i>Ananas comosus</i> (L) Merrill *                                                           | Bromeliaceae  | Herb              |
| 136 |                | <i>Aneilema beniniense</i> (P. Beauv) Kunth                                                   | Commelinaceae | Herb              |
| 137 |                | <i>Bambusa vulgaris</i> Schrad ex Wendel *                                                    | Poaceae       | Giant grass       |
| 138 |                | <i>Caladium bicolor</i> (Aiton) Vent (Syn: <i>Arum bicolor</i> Ait) *                         | Araceae       | Herb              |
| 139 |                | <i>Cocos nucifera</i> Linn *                                                                  | Arecaceae     | Tree              |
| 140 |                | <i>Commelina erecta</i> Linn. (Syn: <i>C. bracteosa</i> Hassk.)                               | Commelinaceae | Herb              |
| 141 |                | <i>Costus afer</i> Ker Gawl                                                                   | Costaceae     | Tall herb         |
| 142 |                | <i>Crinum jagus</i> Baker (Syn: <i>C. bequaertii</i> De Wild.)                                | Amarylidaeae  | Herb              |
| 143 |                | <i>Culcasia esculenta</i> (L) Schott & Endl. *                                                | Araceae       | Herb              |
| 144 |                | <i>Culcasia scandens</i> P. Beauv (Syn: <i>C. gracilis</i> N. E. Br)                          | Araceae       | Herb              |
| 145 |                | <i>Digitaria horizontalis</i> Wild.                                                           | Poaceae       | Grass             |
| 146 |                | <i>Dioscorea bulbifera</i> Linn (Syn: <i>D. anthropophagorum</i> A. Chev.)                    | Dioscoreaceae | Climber           |
| 147 |                | <i>Dioscorea dumentorum</i> (Kunth) Pax (Syn: <i>D. bucholsiana</i> Engl.)                    | Dioscoreaceae | Climber           |
| 148 |                | <i>Elaeis guineensis</i> Jacq                                                                 | Arecaceae     | Tree              |
| 150 |                | <i>Eragrostis tenella</i> (Linn.) P. Beauv ex Roem & Schult                                   | Poaceae       | Grass             |
| 151 |                | <i>Hyselodelphys violacea</i> (Rindl) Milne-Redh (Syn: <i>Trachyphrynium violaceum</i> Ridl.) | Maranthaceae  | Shrub             |
| 152 |                | <i>Musa paradisiaca</i> L. *                                                                  | Musaceae      | Gigantic herb     |
| 153 |                | <i>Optismenus burmanii</i> (Retz) P. Beauv.                                                   | Poaceae       | Grass             |
| 154 |                | <i>Panicum maximum</i> Jacquin                                                                | Poaceae       | Grass             |
| 155 |                | <i>Raphia hookeri</i> Mann & Wendl (Syn: <i>R. gigantea</i> A. Chev.)                         | Arecaceae     | Tree              |
| 156 |                | <i>Scleria depressa</i> (C. C. Cl) Nelmes (Syn: <i>S. racemosai</i> Poir.)                    | Cyperaceae    | Grass             |
| 157 |                | <i>Smilax anceps</i> Wild.                                                                    | Smilacaceae   | Climber           |
| 158 |                | <i>Thaumatococcus danielli</i> (Bennet) Benth.                                                | Maranthaceae  | Herb              |
| 159 |                | <i>Xanthosoma mafaffa</i> Schott. (Syn: <i>X. sagittifolium</i> Dalz.) *                      | Araceae       | Herb              |

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