Supplementary Tables for ‘The modern pollen-vegetation relationships of a forest-savannah mosaic landscape, Ghana, tropical West Africa’

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Supplementary Table 1: Main components of the vegetation types of tropical West Africa as defined by White (1983). Taxa listed in this table are those which could feasibly be present in Ghana, i.e. not taxa specific to a certain soil type, elevation or geographic area outside of West Africa. In order to determine how the vegetation in these plots compares to the wider classification of African ecosystems as outlined by White (1983), we recorded the ecoregions that each taxon from the vegetation is found in, which was in many cases, more than one. See Figure 3 for a summary bar plot of these data.

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| --- | --- | --- | --- |
| Biome | Vegetation Type | Characteristic tree taxa | Climatic information |
| Guineo-Congolian regional centre of endemism | Guineo-Congolian short forest and shrub forest | *Parinari excelsa* Is characteristic of this vegetation type. Other taxa include; *Albizia ferruginea, Alstonia boonei, Anthonotha obanensis, Clausena anisata, Diospyros monbuttensis, Hildegardia barteri, Harungana madagascariensis, Holarrhena floribunda, Newbouldia laevis* | Rainfall 1200-1600 mm per year. |
| Guineo-Congolian regional centre of endemism | Mixed moist semi-evergreen rainforest | *Canarium schweinfurthii, Entandrophragma angolense, E. candollei, E, cylindricum, E. utile, Guarea cedrata, G. thompsonii, Lophira alata, Lovoa trichilioides, Maranthes glabra, Nauclea diderrichii, Oxystigma oxyphyllum, Parkia bicolor, Pericopsis elata, Petersianthus macrocarpus, Piptadeniastrum africanum, Ricinodendron heudlottii, Scorodophloeus zenkeri, Sterculia Scorodophloeus zenkeri, Terminalia superba* | Rainfall 1600-2000 mm per year. |
| Guineo-Congolian regional centre of endemism | Drier peripheral semi-evergreen rainforest | *Afzelia africana, Aningera altissima, A.robusta, Aubrevillea kerstingii, Canarium schweinfurthii, Celtis mildbraedii, C.zenker, Chlorophora excelsa, Chrysophyllum perpulchrum, Cola gigantea, Hildegardia barteri, Holoptelea grandis, Khaya grandifoliola, Mansonia altissima, Morus mesozygia, Nesogordonia papverifera, Piptadeniastrum africanum, Ricinodendron heudlottii, Sterculia oblonga, S.rhinopetala, Terminalia superba, Triplochiton scleroxylon* | Rainfall 1200-1600 mm per year. Dry season usually fairly humid. |
| Guineo-Congolian regional centre of endemism | Secondary Guineo-Congolian rain forest | *Musanga cecropiodes, Pycnanthus angolensis, Harungana madagascariensis, Trema orientalis* | Rainfall 1600-2000 mm per year. |
| Guineo-Congolian regional centre of endemism | Old secondary forest | *Alstonia boonei, Antrocaryon micraster, Canarium schweinfurthii, Ceiba pentandra, Chlorophora excelsa, Discogylpremna caloneura, Funtumia africana, Holoptelea grandis, Khaya anthotheca, Morus mesozygia, Petnaclethra macrophyla, Petersianthus macrocapus, Pterygota macrocarpa, Pycnanthus angolensis, Ricinodendron heudlotii, Terminalia superba, Triplochiton scleroxylon, Xylopia aethiopica* | Rainfall 1600-2000 mm per year. |
| Guineo-Congolian regional centre of endemism | Guineo-Congolian transition woodland | *Afzelia africana, Antiaris toxicaria, Annona senegalensis, Anogeissus leiocarpus, Butryospermum paradoxum, Ceiba pentandra, Celtis brownii, Crossopteryx febrifuga, Daniellia oliveri, Diospyros mespiliformis, Maranthes polyandra, Parkia biglobosa, Piliostigma thonningii, Pseudocedrela kotschyi, Pterocarpus erinaceous* | Rainfall 1600-2000 mm per year. |
| Guineo-Congolian regional centre of endemism | Guineo-Congolian secondary grassland and wooded grassland | *Annona senegalensis, Afzelia africana, Borassus aethiopum, Bridelia ferruginea, Burkea afriana, Butryospermum paradoxum, Combretum collinum, Crossopteryx febrifuga, Cussonia arborea, Daniellia oliveri, Detarium senegalense, Dichrostachys cinera, Entada abyssinica, Gardenia ternifolia, Hymenocardia acida, Lophira lanceolata, Maranthes polyandra, Maytenus senegalensis, Nauclea latifolia, Parinari curatellifolia, Parkia biglobosa, Pericopsis laxiflora, Piliostigma thonningii, Pseudocedrela kotschyi, Psorospermum febrifugum, Pterocarpus erinaceus, Securidaca longepedunculata, Stereospermum kunthianum, Strychnos madagascariensis, S. spinosa, Syzygium guineense, Terminalia glaucescens, T. laxiflora, Uapaca togoensis, Vitex doniana, V. madiensis* | Rainfall 1600-2000 mm per year |
| Sudanian regional centre of endemism | Sudanian Woodland | *Acacia dudgeonii, A. gourmaensis, A. hockii, A. macrothyrsa, A. polyacantha subsp. campylacantha, A. sieberana, Afzelia africana, Amblygonocarpus andongensis, Annona senegalensis, Anogeissus leiocarpus, Antidesma venosum, Bombax costatum, Boswellia dalziellii, Bridelia ferruginea, Burkea africana, Butyrospermum paradoxum, Cassia sieberana, Combretum collinum, C. fragrans, C. glutinosum, C. molle, C. nigricans, Crossopteryx febrífuga, Cussonia arborea, Daniellia oliveri, Detarium microcarpum, Dichrostachys cinerea, Diospyros mespiliformis, Ekebergia capensis, Erythrophleum africanum, Faurea saligna, Ficus glumosa, Haematostaphis barteri, Hymenocardia acida, Khaya senegalensis, Isoberlinia doka, Lannea schimperi, Lophira lanceolata, Maprounea africana, Maranthes polyandra, Mitragyna inermis, Monotes kerstingii, Nauclea latifolia, Ochna afzelii, O.* *schweinfurthiana, Parinari curatellifolia, Parkia biglobosa, Pericopsis laxiflora, Piliostigma thonningii, Prosopis africana, Protea madiensis, Pseudocedrela kotschyi, Pterocarpus erinaceus, Steganotaenia araliacea, Sterculia setigera, Stereospermum kunthianum, Strychnos madagascariensis, Swartzia madagascariensis, Syzygium guineense subsp. guineense, Terminalia avicennioides, T. glaucescens, T. laxiflora, T. macroptera, Trichilia emetica, Uapaca togoensis, Vitex doniana, Xeroderris stuhlmannii, Ziziphus abyssinica, Z. mucronata* | Rainfall 500-1400 mm per year |
| Sudanian regional centre of endemism | Sudanian Transition Woodland | *Anogeissus leiocarpus, Antiaris toxicaria, Borassus aethiopum, Ceiba pentandra, Celtis integrifolia, Combretum molle, Diospyros mespiliformis, Khaya senegalensis, Kigelia africana, Parkia biglobosa, Piliostigma thonningii, Stereospermum kunthianum, Terminal laxiflora, Vitex doniana, Ziziphus mucronata* | Rainfall 500-1400 mm per year |
| Sudanian regional centre of endemism | Sudanian Grassland | *Balanites aegyptiaca, Combretum glutinosum, Diospyros mespiliformis, Gardenia ternifolia, Isoberlinia doka, Mitragyna inermis, Nauclea latifolia, Piliostigma reticulatum, Pseudocedrela kotschyi, Terminalia avicennioides, T. laxiflora, T. macroptera* | Rainfall around 1000 mm per year |

Supplementary Table 2: Species that occurs at >3% in the Forest vegetation plot (KOG02), their reproductive strategy (Hermaphrodite, Monoeocious or Dioeceous), and their pollination syndrome (if known).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Family | Species | Stems (%) | Basal area (%) | Flower structure | Pollination syndrome |
| Malvaceae | *Cola gigantea* A. Chev | 12.3 | 13.3 | Monoecious | Entomophilous |
| Malvaceae | *Sterculia tragacantha*  Lindl. | 10.7 | 5.7 | Hermaphrodite | Entomophilous |
| Burseraceae | *Dacryodes klaineana* (Pierre) H.J.Lam | 9.6 | 13.7 | Monoecious | Entomophilous |
| Sapotaceae | *Pouteria alnifolia* (Baker) Roberty | 8.6 | 5.4 | Hermaphrodite | Entomophilous |
| Bignoniaceae | *Spathodea campanulata* P.Beauv. | 8.0 | 4.9 | Hermaphrodite | Zoophilous |
| Malvaceae | *Ceiba pentandra* (L.) Gaertn. | 4.8 | 5.4 | Hermaphrodite | Zoophilous |
| Fabaceae | *Erythrophleum*  *suaveolens*(Guill. & Perr.) Brenan | 4.8 | 4.4 | Hermaphrodite | Entomophilous |
| Fabaceae | *Afzelia africana* Pers. | 3.7 | 5.8 | Hermaphrodite | Entomophilous |
| Arecaceae | *Elaeis guineensis* Jacq. | 3.2 | 3.0 | Monoecious | Entomophilous |

Supplementary Table 3: Species that occurs at >3% in the Transition vegetation plot (KOG04), their reproductive strategy (Hermaphrodite, Monoeocious or Dioeceous), and their pollination syndrome (if known).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Family | Species | Stems (%) | Basal area (%) | Flower structure | Pollination syndrome |
| Malvaceae | *Sterculia*  *tragacantha* Lindl. | 26.9 | 18.6 | Hermaphrodite | Entomophilous |
| Fabaceae | *Pterocarpus*  *erinaceus*Poir. | 10.7 | 12.8 | Hermaphrodite | Entomophilous |
| Chrysobalanaceae | *Maranthes*  *polyandra* (Benth.) Prance | 6.8 | 5.9 | Hermaphrodite | Chiropterophilous |
| Combretaceae | *Terminalia*  *glaucescens*Planch. ex Benth. | 6.4 | 6.0 | Hermaphrodite | Entomophilous |
| Sapotaceae | *Manilkara obovata* (Sabine & G.Don) J.H.Hemsl. | 6.0 | 7.8 | Hermaphrodite | Entomophilous |
| Phyllanthaceae | *Bridelia ferruginea* Benth. | 3.8 | 2.3 | Monoecious | Entomophilous |
| Fabaceae | *Pericopsis laxiflora*  (Baker) Meeuwen | 3.8 | 2.9 | Hermaphrodite | Unknown |
| Combretaceae | *Terminalia*  *avicennioides*Guill. & Perr. | 3.8 | 3.7 | Hermaphrodite | Entomophilous |
| Anacardiaceae | *Lannea velutina*  A.Rich. | 3.4 | 5.4 | Monoecious | Entomophilous |

Supplementary Table 4: Species that occurs at >3% in the Savannah vegetation plot (KOG05), their reproductive strategy (Hermaphrodite, Monoeocious or Dioeceous), and their pollination syndrome (if known).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Family | Species | Stems (%) | Basal area (%) | Flower structure | Pollination syndrome |
| Phyllanthaceae | *Bridelia ferruginea*Benth. | 27.7 | 16.8 | Monoecious | Entomophilous |
| Fabaceae | *Pterocarpus erinaceus*  Poir. | 10.7 | 16.7 | Hermaphrodite | Entomophilous |
| Phyllanthaceae | *Uapaca togoensis* Pax | 8.1 | 5.4 | Dioecious | Unknown |
| Combretaceae | *Terminalia glaucescens*  Planch. ex Benth. | 6.4 | 11.1 | Hermaphrodite | Entomophilous |
| Combretaceae | *Anogeissus leiocarpa*   (DC.) Guill. & Perr. | 6.0 | 10.3 | Hermaphrodite | Unknown |
| Meliaceae | *Trichilia emetica* Vahl | 6.0 | 3.1 | Hermaphrodite | Entomophilous |
| Sapotaceae | *Vitellaria paradoxa*   C.F.Gaertn. | 5.4 | 7.9 | Hermaphrodite | Entomophilous |
| Anacardiaceae | *Lannea velutina* A.Rich. | 3.3 | 3.8 | Monoecious | Entomophilous |