

Table S1. Total number of individuals and total basal area (m²) for each of the 105 species of trees with dbh ≥ 1cm recorded in the Ngel Nyaki 20.28-ha plot.

Family	Species	Individuals	Basal Area (m ²)
Achariaceae	<i>Dasylepis racemosa</i> Oliv.	38	0.675
Anacardiaceae	<i>Lannea barteri</i> (Oliv.) Engl.	9	0.002
Anacardiaceae	<i>Sorindeia</i> sp.	1057	4.956
Annonaceae	<i>Isolona</i> sp.	1253	20.220
Apocynaceae	<i>Pleiocarpa pycnantha</i> (K. Schum.) Stapf	2142	12.348
Apocynaceae	<i>Rauvolfia vomitoria</i> Afzel.	23	0.266
Apocynaceae	<i>Tabernaemontana contorta</i> Stapf	809	4.279
Apocynaceae	<i>Voacanga africana</i> Stapf	875	4.692
Araliaceae	<i>Polyscias fulva</i> (Hiem) Harms	359	15.089
Araliaceae	<i>Schefflera abyssinica</i> (Hochst. ex A. Rich.) Harms	6	0.605
Asparagaceae	<i>Dracaena</i> sp.	1	0.004
Asteraceae	<i>Vernonia amygdalina</i> Delile	11	0.053
Asteraceae	<i>Vernonia</i> sp.	2	0.012
Bignoniaceae	<i>Kigelia africana</i> (Lam.) Benth.	63	0.861
Boraginaceae	<i>Cordia millenii</i> Baker	1	0.234
Burseraceae	<i>Santiria</i> sp.	4	0.061
Burseraceae	<i>Santiria trimera</i> (Oliv.) Aubrév.	800	42.448
Capparaceae	<i>Ritchiea albersii</i> Gilg	352	6.102
Clusiaceae	<i>Garcinia smeathmannii</i> (Planch. & Triana) Oliv.	11961	23.384
Clusiaceae	<i>Symphonia globulifera</i> L. f.	39	0.604
Combretaceae	<i>Combretum molle</i> R. Br. ex G. Don	13	0.859
Combretaceae	<i>Terminalia ivorensis</i> A. Chev.	1	0.158
Ebenaceae	<i>Diospyros monbuttensis</i> Gürke	57	0.204
Euphorbiaceae	<i>Croton macrostachyus</i> Hochst. ex Delile	2	0.011
Euphorbiaceae	<i>Disocloaxylon haxandrum</i> (Müll. Arg.) Pax & K. Hoffm.	300	1.633
Euphorbiaceae	<i>Macaranga occidentalis</i> (Müll. Arg.) Müll. Arg.	673	15.256
Euphorbiaceae	<i>Mallotus oppositifolius</i> (Geiseler) Müll. Arg.	40	0.099
Euphorbiaceae	<i>Sapium ellipticum</i> (Hochst.) Pax	24	0.389
Euphorbiaceae	<i>Shirakiopsis elliptica</i> (Hochst.) Esser	12	3.143
Fabaceae	<i>Albizia gummifera</i> (J.F. Gmel.) C.A. Sm.	247	10.211
Fabaceae	<i>Anthonotha noldeae</i> (Rossberg) Exell & Hillc.	853	64.596
Fabaceae	<i>Entada abyssinica</i> Steud. ex A. Rich.	20	0.489
Fabaceae	<i>Milletia barteri</i> (Benth.) Dunn	434	4.687
Fabaceae	<i>Newtonia buchananii</i> (Baker f.) G.C.C. Gilbert & Boutique	1009	16.083
Fabaceae	<i>Parkia filicoidea</i> Welw. ex Oliv.	29	0.600
Gentianaceae	<i>Anthocleista nobilis</i> G. Don	11	0.057
Gentianaceae	<i>Anthocleista vogelii</i> Planch.	3	0.003
Hypericaceae	<i>Harungana madagascariensis</i> Lam. ex Poir.	2	0.016
Hypericaceae	<i>Psorospermum aurantiacum</i> Engl.	99	0.186
Icacinaeae	<i>Leptaulus zenkeri</i> Engl.	1491	30.953
Lamiaceae	<i>Vitex doniana</i> Sweet	4	0.331
Lauraceae	<i>Beilschmiedia</i> sp. 2	5	0.078
Lauraceae	<i>Beilschmiedia</i> sp. 1	248	3.771
Leeaceae	<i>Leea guineensis</i> G. Don	263	0.466
Malvaceae	<i>Bombax</i> sp.	3	0.002
Malvaceae	<i>Dombeya ledermannii</i> Engl.	23	0.531
Malvaceae	<i>Grewia</i> sp.	2	0.007
Melastomataceae	<i>Memecylon</i> sp.	6	0.029
Melastomataceae	<i>Warneckea cinnamomoides</i> (G. Don) Jacq.-Fél.	51	0.516
Meliaceae	<i>Carapa oreophila</i> Kenfack	1160	42.164
Meliaceae	<i>Entandrophragma angolense</i> (Welw. ex C. DC.) C. DC.	99	11.452
Meliaceae	<i>Guarea cedrata</i> (A. Chev.) Pellegr.	57	1.116
Meliaceae	<i>Trichilia monadelpha</i> (Thonn.) J.J. de Wilde	568	27.597
Monimiaceae	<i>Xymalos monospora</i> (Harv.) Baill. ex Warb.	38	0.330
Moraceae	<i>Ficus lutea</i> Vahl	33	6.610
Moraceae	<i>Ficus</i> sp.	63	5.148
Moraceae	<i>Ficus sur</i> Forssk.	449	24.782
Moraceae	<i>Trilepisium madagascariense</i> DC.	254	3.343
Myrsinaceae	<i>Maesa lanceolata</i> Forssk.	15	0.054
Myrtaceae	<i>Eugenia gilgii</i> Engl. & Brehmer	120	0.350
Ochnaceae	<i>Campylospermum flavum</i> Farron	332	1.196
Ochnaceae	<i>Ochna afzelii</i> R. Br. ex Oliv.	1	0.022
Olacaceae	<i>Olax</i> sp.	1	0.009
Olacaceae	<i>Strombosia scheffleri</i> Engl.	1006	54.881
Oleaceae	<i>Chionanthus africanus</i> (Welw. ex Knobl.) Stearn	97	0.691
Phyllanthaceae	<i>Antidesma</i> sp.	51	0.350
Phyllanthaceae	<i>Bridelia speciosa</i> Müll. Arg.	158	2.165
Putranjivaceae	<i>Drypetes gossweileri</i> S. Moore	1047	11.608
Rosaceae	<i>Prunus africana</i> (Hook. f.) Kalkman	1	0.001
Rubiaceae	<i>Argocoffea</i> sp.	5	0.003
Rubiaceae	<i>Cuviera</i> sp.	1	0.002

Rubiaceae	<i>Keetia venosa</i> (Oliv.) Bridson	3	0.017
Rubiaceae	<i>Oxyanthus speciosus</i> DC.	784	8.444
Rubiaceae	<i>Pavetta corymbosa</i> (DC.) F.N. Williams	192	1.136
Rubiaceae	<i>Psychotria peduncularis</i> (Salisb.) Steyerf.	776	0.202
Rubiaceae	<i>Psychotria</i> sp.	273	0.392
Rubiaceae	<i>Psychotria</i> sp.	108	0.179
Rubiaceae	<i>Rothmannia urcelliformis</i> (Schweinf. ex Hiern) Bullock ex Robyns	359	1.159
Rubiaceae	Unidentified	73	0.171
Rubiaceae	<i>Rytiginia</i> sp.	345	0.693
Rutaceae	<i>Clausena anisata</i> (Willd.) Hook. f. ex Benth.	116	0.550
Rutaceae	<i>Zanthoxylum lepreurii</i> Guill. & Perr.	294	2.298
Rutaceae	<i>Zanthoxylum</i> sp.	2	0.002
Salicaceae	<i>Oncoba spinosa</i> Forssk.	7	0.011
Sapindaceae	<i>Allophylus africanus</i> P. Beauv.	14	0.044
Sapindaceae	<i>Allophylus</i> sp.	1	0.000
Sapindaceae	<i>Deinbollia pinnata</i> Schumach. & Thonn.	3078	9.629
Sapotaceae	<i>Chrysophyllum albidum</i> G. Don	1153	4.157
Sapotaceae	<i>Pouteria altissima</i> (A. Chev.) Baehni	268	27.550
Sapotaceae	<i>Synsepalum</i> sp.	11	0.016
Simaroubaceae	<i>Hannoa klaineana</i> Pierre ex Engl.	18	1.867
Solanaceae	<i>Solanum incanum</i> L.	1	0.000
Stilbaceae	<i>Nuxia congesta</i> R. Br. ex Fresen.	28	0.374
Thymelaeaceae	<i>Dicranolepis grandiflora</i> Engl.	1038	0.853
Ulmaceae	<i>Celtis gomphophylla</i> (L.) Blume	87	2.579
Ulmaceae	<i>Trema orientalis</i> (L.) Blume	119	1.699
Unknown	Unidentified	424	0.268
Unknown	Unidentified	15	0.431
Unknown	Unidentified	13	0.193
Unknown	Unidentified	5	0.030
Unknown	Unidentified	7	0.881
Unknown	Unidentified	77	0.690
Unknown	Unidentified	1	0.002
Unknown	Unidentified	6	0.129
Unknown	Unidentified	48	0.357

Table S2. Associations between the distribution of the all species and four environmental gradients in Ngel Nyaki plot (Nigeria).

Species	% of Grass in 20 × 20 m around		Distance to the Grass		Elevation		Distance to Streams	
	Prop. of obs.>null	Association	Prop. of obs.>null	Association	Prop. of obs.>null	Association	Prop. of obs.>null	Association
<i>Allophylus africanus</i>	0	forest	0.374	NA	0.659	NA	0.023	wet
Unidentified	0	forest	0.002	edge	0.997	high	0.35	NA
<i>Albizia gummifera</i>	0	forest	0.136	NA	0.98	high	0.664	NA
<i>Allophylus</i> sp.	0	forest	0.577	NA	0.722	NA	0.975	dry
Unidentified	0	forest	0.001	edge	0.408	NA	0.742	NA
<i>Anthocleista nobilis</i>	0	forest	0.433	NA	0.104	NA	0.43	NA
<i>Anthonotha noldeae</i>	0	forest	0	edge	0.968	high	0.696	NA
<i>Antidesma</i> sp.	0	forest	0.515	NA	0.196	NA	0.675	NA
<i>Anthocleista vogelii</i>	0	forest	0.221	NA	0.594	NA	0.583	NA
<i>Argocoffea</i> sp.	0	forest	0.753	NA	0.528	NA	0.795	NA
<i>Beilschmiedia</i> sp. 2	0	forest	0.435	NA	0.824	NA	0.612	NA
<i>Beilschmiedia</i> sp. 1	0	forest	0.013	edge	0.816	NA	0.464	NA
<i>Bombax</i> sp.	0	forest	0.675	NA	0.132	NA	0.031	wet
<i>Bridelia speciosa</i>	0	forest	0	edge	0.51	NA	0.847	NA
<i>Campylospermum flavum</i>	0	forest	0.961	core	0.234	NA	0.035	wet
<i>Carapa oreophila</i>	0	forest	0.411	NA	0.032	low	0.063	NA
<i>Chionanthus africanus</i>	0	forest	0.989	core	0.144	NA	0.988	dry
<i>Celtis gomphophylla</i>	0	forest	0.43	NA	0.154	NA	0.662	NA
<i>Chrysophyllum albidum</i>	0	forest	0.998	core	0.143	NA	0.818	NA
<i>Clausena anisata</i>	1	savanna	0	edge	0.966	high	0.783	NA
<i>Cordia millenii</i>	0	forest	0.502	NA	0.924	NA	0.83	NA
<i>Combretum molle</i>	1	savanna	0	edge	0.997	high	0.794	NA
Unidentified	0	forest	0.805	NA	0.283	NA	0.612	NA
Unidentified	0	forest	0.12	NA	0.75	NA	0.411	NA
<i>Croton macrostachyus</i>	0	forest	0.192	NA	0.658	NA	0.628	NA
<i>Cuviera</i> sp.	0.866	NA	0.139	NA	0.873	NA	0.862	NA
<i>Dasylepis racemosa</i>	0	forest	0.925	NA	0.68	NA	0.441	NA
Unidentified	0	forest	0.363	NA	0.634	NA	0.723	NA
<i>Deinbollia pinnata</i>	0	forest	0.104	NA	0.855	NA	0.841	NA
<i>Dicranolepis grandiflora</i>	0	forest	0.992	core	0.157	NA	0.51	NA
<i>Discoclaoxylon haxandrum</i>	0	forest	0.963	core	0.119	NA	0.843	NA
<i>Diospyros monbuttensis</i>	0	forest	0.743	NA	0.353	NA	0.913	NA
<i>Dombeya ledermannii</i>	1	savanna	0	edge	0.84	NA	0.467	NA
<i>Dracaena</i> sp.	0	forest	0.68	NA	0.051	NA	0.853	NA
<i>Drypetes gossweileri</i>	0	forest	0.978	core	0.133	NA	0.028	wet
<i>Entada abyssinica</i>	1	savanna	0	edge	0.999	high	0.852	NA
<i>Entandrophragma angolense</i>	0	forest	0.133	NA	0.063	NA	0.885	NA
<i>Eugenia gilgii</i>	0	forest	0.001	edge	0.806	NA	0.457	NA
Unidentified	0	forest	0.033	edge	0.475	NA	0.553	NA
Unidentified	0	forest	0.257	NA	0.865	NA	0.617	NA
<i>Ficus lutea</i>	0	forest	0.051	NA	0.729	NA	0.213	NA
<i>Ficus</i> sp.	0	forest	0	edge	0.945	NA	0.44	NA
<i>Ficus sur</i>	0	forest	0.211	NA	0.351	NA	0.165	NA
<i>Garcinia smeathmannii</i>	0	forest	0.905	NA	0.141	NA	0.712	NA

<i>Grewia</i> sp.	1	savanna	0	edge	0.999	high	0.667	NA
<i>Guarea cedrata</i>	1	savanna	0	edge	0.3	NA	0.896	NA
<i>Hannoa klaineana</i>	0	forest	0.018	edge	0.879	NA	0.408	NA
<i>Harungana madagascariensis</i>	0	forest	0.583	NA	0.186	NA	0.014	wet
<i>Isolona</i> sp.	0	forest	0.01	edge	0.87	NA	0.649	NA
<i>Keetia venosa</i>	1	savanna	0.002	edge	0.905	NA	0.974	dry
<i>Kigelia africana</i>	0	forest	0.606	NA	0.272	NA	0.397	NA
<i>Lannea barteri</i>	0	forest	0.111	NA	0.867	NA	0.836	NA
<i>Leea guineensis</i>	0	forest	0.202	NA	0.62	NA	0.569	NA
<i>Leptaulus zenkeri</i>	0	forest	1	core	0.159	NA	0.47	NA
Unidentified	0	forest	0.405	NA	0.669	NA	0.323	NA
<i>Maesa lanceolata</i>	0	forest	0.169	NA	0.034	low	0.318	NA
<i>Macaranga occidentalis</i>	0	forest	0.107	NA	0.327	NA	0.008	wet
<i>Mallotus oppositifolius</i>	0	forest	0.317	NA	0.418	NA	0.115	NA
<i>Memecylon</i> sp.	0	forest	0.995	core	0.36	NA	0.587	NA
<i>Millettia barteri</i>	0	forest	0.007	edge	0.796	NA	0.326	NA
<i>Newtonia buchananii</i>	0	forest	1	core	0.272	NA	0.157	NA
<i>Nuxia congesta</i>	0	forest	0.167	NA	0.017	low	0.382	NA
<i>Ochna afzelii</i>	0.993	savanna	0	edge	0.996	high	0.802	NA
<i>Olax</i> sp.	0.905	NA	0.08	NA	0.842	NA	0.869	NA
<i>Oncoba spinosa</i>	0	forest	0.671	NA	0.157	NA	0.766	NA
Unidentified	0	forest	1	core	0.286	NA	0.202	NA
<i>Oxyanthus speciosus</i>	0	forest	0.975	core	0.326	NA	0.726	NA
<i>Pavetta corymbosa</i>	0	forest	0.974	core	0.479	NA	0.495	NA
<i>Parkia filicoidea</i>	0	forest	0.355	NA	0.048	low	0.939	NA
<i>Pleiocarpa pycnantha</i>	0	forest	0.03	edge	0.892	NA	0.53	NA
<i>Pouteria altissima</i>	0	forest	0.103	NA	0.833	NA	0.226	NA
<i>Polyscias fulva</i>	0	forest	0.442	NA	0.228	NA	0.536	NA
<i>Prunus africana</i>	0	forest	0.559	NA	0.575	NA	0.89	NA
<i>Psorospermum aurantiacum</i>	1	savanna	0	edge	0.751	NA	0.907	NA
<i>Psychotria peduncularis</i>	0	forest	0.547	NA	0.263	NA	0.831	NA
<i>Psychotria</i> sp.	0	forest	0.189	NA	0.358	NA	0.855	NA
<i>Psychotria</i> sp.	0	forest	0	edge	0.602	NA	0.923	NA
<i>Rauvolfia vomitoria</i>	0	forest	0.002	edge	0.52	NA	0.829	NA
<i>Ritchiea albersii</i>	0	forest	0.001	edge	0.996	high	0.774	NA
<i>Rothmannia urcelliformis</i>	0	forest	0.002	edge	0.999	high	0.551	NA
Unidentified	0	forest	0.998	core	0.359	NA	0.518	NA
<i>Rytiginia</i> sp.	1	savanna	0	edge	0.797	NA	0.804	NA
<i>Sapium ellipticum</i>	0	forest	0.841	NA	0.121	NA	0.014	wet
<i>Santiria</i> sp.	0	forest	0.48	NA	0.573	NA	0.664	NA
<i>Santiria trimera</i>	0	forest	0.922	NA	0.024	low	0.085	NA
<i>Schefflera abyssinica</i>	0.994	savanna	0.008	edge	0.898	NA	0.349	NA
<i>Shirakiopsis elliptica</i>	0	forest	0.516	NA	0.44	NA	0.523	NA
<i>Solanum incanum</i> .	0	forest	0.185	NA	0.726	NA	0.623	NA
<i>Sorindeia</i> sp.	0	forest	0	edge	0.754	NA	0.713	NA
<i>Strombosia scheffleri</i>	0	forest	0.872	NA	0.027	low	0.099	NA
<i>Symphonia globulifera</i>	0	forest	0.444	NA	0.056	NA	0.409	NA
<i>Synsepalum</i> sp.	0	forest	0.42	NA	0.039	low	0.44	NA
<i>Tabernaemontana contorta</i>	0	forest	0	edge	0.971	high	0.922	NA
<i>Terminalia ivorensis</i>	1	savanna	0	edge	0.644	NA	0.817	NA
<i>Trilepisium madagascariense</i>	0	forest	0.451	NA	0.479	NA	0.64	NA

<i>Trichilia monadelpha</i>	0	forest	0.862	NA	0.22	NA	0.046	wet
<i>Trema orientalis</i>	0	forest	0.169	NA	0.011	low	0.236	NA
<i>Vernonia amygdalina</i>	0.998	savanna	0.002	edge	0.866	NA	0.806	NA
<i>Vernonia</i> sp.	0	forest	0.623	NA	0.244	NA	0.564	NA
<i>Vitex doniana</i>	0.999	savanna	0	edge	0.981	high	0.571	NA
<i>Voacanga africana</i>	0	forest	0.992	core	0.154	NA	0.518	NA
<i>Warneckea cinnamomoides</i>	0	forest	0.005	edge	0.664	NA	0.623	NA
<i>Xymalos monospora</i>	0	forest	0.398	NA	0.667	NA	0.172	NA
<i>Zanthoxylum lepreurii</i>	0	forest	0.215	NA	0.803	NA	0.54	NA
<i>Zanthoxylum</i> sp.	0	forest	0.798	NA	0.487	NA	0.811	NA