

Appendix S1 Trait values per species. WD: Wood Density; SLA: Specific Leaf Area; HB ref: herbarium reference; WD ref: source of Wood Density data. Species names following the African Plant Database (Conservatoire et Jardin botaniques de la Ville de Genève and South African National Biodiversity Institute, 2021).

Species	WD	SLA	HB ref	WD ref
<i>Afrostryax lepidophyllus</i>	0.722	29.454	0 000005 60437 1	RMCA (DRYAD, 2021)
<i>Afzelia bipindensis</i>	0.615	10.983	BR0000015254221V	RMCA (DRYAD, 2021)
<i>Aidia micrantha</i>	0.931	11.665	BR0000013018009	RMCA (DRYAD, 2021)
<i>Albizia adianthifolia</i>	0.631	7.682	BR0000015842749	RMCA (DRYAD, 2021)
<i>Albizia ferruginea</i>	0.608	12.563	BR0000017659031	RMCA (DRYAD, 2021)
<i>Albizia gummifera</i>	0.612	20.396	BR0000016024120	RMCA (DRYAD, 2021)
<i>Albizia zygia</i>	0.512	11.454	BR0000016041707	RMCA (DRYAD, 2021)
<i>Allanblackia floribunda</i>	0.681	11.112	BR0000016603455	Harja et al. (2021)
<i>Alstonia boonei</i>	0.408	8.206	BR00000147045154	RMCA (DRYAD, 2021)
<i>Amphimas pterocarpoides</i>	0.851	23.662	BR0000016720497	RMCA (DRYAD, 2021)
<i>Angylocalyx pynaertii</i>	0.67	9.491	BR0000016706231	RMCA (DRYAD, 2021)
<i>Anonidium manni</i>	0.427	14.37	BR000001514159	RMCA (DRYAD, 2021)
<i>Anopyxis klaineana</i>	0.81	6.314	BR0000017685429	RMCA (DRYAD, 2021)

<i>Anthonotha macrophylla</i>	0.59	11.169	BR0000016133709	RMCA (DRYAD, 2021)
<i>Antiaris toxicaria</i>	0.443	6.112	BR0000016843929	RMCA (DRYAD, 2021)
<i>Aorranthe cladantha</i>	0.765	15.422	BR0000019099682	RMCA (DRYAD, 2021)
<i>Aphanocalyx microphyllus</i>	NA	5.767	BR0000016129900V	NA
<i>Barteria fistulosa</i>	0.673	12.071	BR0000017638104	RMCA (DRYAD, 2021)
<i>Blighia unijugata</i>	0.684	13.179	BR0000018152142	RMCA (DRYAD, 2021)
<i>Blighia welwitschii</i>	0.745	9.649	BR0000013258551	RMCA (DRYAD, 2021)
<i>Bridelia micrantha</i>	NA	12.015	BR0000015812896	NA
<i>Canarium schweinfurthii</i>	0.468	9.304	BR0000014228261	RMCA (DRYAD, 2021)
<i>Carapa procera</i>	0.721	6.312	BR0000013595647	RMCA (DRYAD, 2021)
<i>Celtis mildbraedii</i>	0.74	8.548	BR0000013285821	RMCA (DRYAD, 2021)
<i>Celtis tessmannii</i>	0.659	9.454	BR0000020351632	RMCA (DRYAD, 2021)
<i>Chaetocarpus africanus</i>	0.811	11.675	BR0000015794390	RMCA (DRYAD, 2021)
<i>Chlamydocola chlamydantha</i>	NA	10.168	BR0000018733488	NA
<i>Chrysophyllum africanum</i>	0.61	10.146	BR0000013987022	Harja et al. (2021)
<i>Chrysophyllum lacourtianum</i>	0.7	8.758	BR0000020188405	Carsan et al. (2012)
<i>Chrysophyllum pruniforme</i>	0.64	11.308	BR0000020189204	Carsan et al. (2012)
<i>Chytranthus carneus</i>	0.717	14.191	BR0000018160604	RMCA (DRYAD, 2021)
<i>Chytranthus macrobotrys</i>	0.691	16.061	BR0000018161908	RMCA (DRYAD, 2021)
<i>Cleistanthus caudatus</i>	0.896	18.741	BR0000015247087V	Harja et al. (2021)

<i>Coelocaryon botryoides</i>	NA	11.644	BR0000013439408	NA
<i>Coelocaryon preussii</i>	0.468	10.559	BR0000013966669	RMCA (DRYAD, 2021)
<i>Coffea canephora</i>	0.71	15.190	0 000006 430962	RMCA (DRYAD, 2021)
<i>Cola acuminata</i>	0.64	9.335	BR0000019774275	RMCA (DRYAD, 2021)
<i>Cola altissima</i>	NA	11.709	BR0000019680255	NA
<i>Cola bruneelii</i>	NA	17.841	BR0000013672645	NA
<i>Cola gigantea</i>	0.59	6.568	BR0000020100391	RMCA (DRYAD, 2021)
<i>Cola griseiflora</i>	0.689	13.897	BR0000013631611	RMCA (DRYAD, 2021)
<i>Cola lateritia</i>	0.609	9.627	BR0000019981123	RMCA (DRYAD, 2021)
<i>Cola marsupium</i>	NA	19.058	BR0000020015916	NA
<i>Cola urceolata</i>	NA	8.899	BR0000019982199	NA
<i>Combretum lokele</i>	0.717	9.116	BR0000013692183	RMCA (DRYAD, 2021)
<i>Copaifera mildbraedii</i>	0.709	7.57	0 000006 87232	RMCA (DRYAD, 2021)
<i>Cynometra hankei</i>	0.763	20.197	BR0000013624869	RMCA (DRYAD, 2021)
<i>Cynometra pedicellata</i>	NA	7.326	BR0000016551541	NA
<i>Dacryodes edulis</i>	0.532	15.576	BR0000014203947	RMCA (DRYAD, 2021)
<i>Desplatsia chrysochlamys</i>	0.426	24.475	BR0000019963600	RMCA (DRYAD, 2021)
<i>Desplatsia dewevrei</i>	0.395	21.656	BR0000020059361	RMCA (DRYAD, 2021)
<i>Dialium pachyphyllum</i>	0.923	8.049	BR0000013637620	Harja et al.
<i>Dichostemma glaucescens</i>	0.6	8.404	BR0000016228986	RMCA (DRYAD, 2021)
<i>Diogoia zenkeri</i>	0.715	7.302	BR0000017035712	RMCA (DRYAD, 2021)

<i>Diospyros crassiflora</i>	0.716	9.854	BR0000013251338	RMCA (DRYAD, 2021)
<i>Diospyros hoyleana</i>	0.717	9.897	BR0000015608345	RMCA (DRYAD, 2021)
<i>Diospyros iturensis</i>	0.785	11.789	BR0000013300692	RMCA (DRYAD, 2021)
<i>Dracaena arborea</i>	NA	13.189	BR0000013486368	NA
<i>Drypetes cinnabarina</i>	0.877	16.98	BR0000015261724	RMCA (DRYAD, 2021)
<i>Drypetes gossweileri</i>	0.744	11.498	BR0000013609733	RMCA (DRYAD, 2021)
<i>Drypetes ituriensis</i>	NA	12.195	BR0000015790019	NA
<i>Drypetes morocarpa</i>	NA	12.627	0 000006 77124 9	NA
<i>Entandrophragma angolense</i>	0.579	7.393	BR0000013596316	RMCA (DRYAD, 2021)
<i>Entandrophragma candollei</i>	0.644	9.885	BR0000013947231	RMCA (DRYAD, 2021)
<i>Entandrophragma cylindricum</i>	0.647	11.35	BR0000013990169	RMCA (DRYAD)
<i>Erythrophleum suaveolens</i>	0.876	13.7	BR0000013649449	RMCA (DRYAD, 2021)
<i>Euclinia longiflora</i>	0.724	18.824	0 00000875246 8	RMCA (DRYAD, 2021)
<i>Fernandoa adolfi-friderici</i>	NA	12.744	BR0000014165481	NA
<i>Funtumia africana</i>	0.489	12.551	BR0000014262906	RMCA (DRYAD, 2021)
<i>Garcinia kola</i>	0.824	12.379	BR0000016611474	RMCA (DRYAD, 2021)
<i>Garcinia ovalifolia</i>	0.825	10.227	BR0000015735027	RMCA (DRYAD, 2021)
<i>Garcinia punctata</i>	0.802	8.371	BR000001362192	Harja et al. (2021)
<i>Garcinia quadrifaria</i>	NA	12.807	BR0000016607576	NA
<i>Glyphaea brevis</i>	0.669	14.847	BR0000019969503	RMCA (DRYAD, 2021)
<i>Greenwayodendron suaveolens</i>	0.77	9.333	BR0000013690793	Carsan et al. (2012)

<i>Grewia oligoneura</i>	0.415	10.785	0 000006 87786 6	Harja et al. (2021)
<i>Heisteria parvifolia</i>	0.807	17.493	BR0000019331010	RMCA (DRYAD, 2021)
<i>Homalium africanum</i>	0.701	8.96	BR0000015975362	RMCA (DRYAD, 2021)
<i>Hua gaboni</i>	0.79	16.292	0 000008 71201 1	RMCA (DRYAD, 2021)
<i>Hymenocardia ulmoides</i>	0.777	5.98	BR0000021708930	RMCA (DRYAD, 2021)
<i>Irvingia excelsa</i>	0.76	11.236	BR0000013824440	Harja et al. (2021)
<i>Irvingia grandifolia</i>	0.948	9.962	BR0000013610326	RMCA (DRYAD, 2021)
<i>Klainedoxa gabonensis</i>	0.946	8.113	BR0000013613280	RMCA (DRYAD, 2021)
<i>Lannea welwitschii</i>	0.478	19.858	BR0000013722050	RMCA (DRYAD, 2021)
<i>Leplaea cedrata</i>	0.536	10.901	BR0000019201047	Harja et al. (2021)
<i>Leplaea laurentii</i>	0.563	17.389	BR0000019201788	Harja et al. (2021)
<i>Leptonychia tokana</i>	0.591	7.647	BR0000013680022	RMCA (DRYAD, 2021)
<i>Lovoa trichiloides</i>	0.635	9.452	BR0000019204079	RMCA (DRYAD, 2021)
<i>Macaranga monandra</i>	0.477	19.802	BR0000016376809	RMCA (DRYAD, 2021)
<i>Macaranga spinosa</i>	0.41	11.62	BR0000020752286	RMCA (DRYAD, 2021)
<i>Maesopsis eminii</i>	0.48	25.115	BR0000017141697	RMCA (DRYAD, 2021)
<i>Magnstipula butayei</i>	NA	7.652	BR0000013351922	NA
<i>Mammea africana</i>	0.765	11.381	BR0000013622770	RMCA (DRYAD, 2021)

<i>Maranthes glabra</i>	0.856	16.178	BR0000015660831	RMCA (DRYAD, 2021)
<i>Margaritaria discoidea</i>	0.77	14.049	BR000001441169	Harja et al. (2021)
<i>Massularia acuminata</i>	0.869	9.394	0 00000 9 51205 4	RMCA (DRYAD, 2021)
<i>Microdesmis yafungana</i>	0.659	33.731	BR00000133370008	RMCA (DRYAD, 2021)
<i>Milicia excelsa</i>	0.602	15.118	BR0000018005509	RMCA (DRYAD, 2021)
<i>Monodora angolensis</i>	NA	36.172	BR0000014057731	NA
<i>Monodora myristica</i>	0.528	5.079	BR0000015300850	RMCA (DRYAD, 2021)
<i>Musanga cecropioides</i>	0.317	11.379	BR0000018007480	RMCA (DRYAD, 2021)
<i>Myrianthus arboreus</i>	0.568	13.236	BR0000013477592	RMCA (DRYAD, 2021)
<i>Napoleonaea septentrionalis</i>	NA	12.172	BR0000015631510	NA
<i>Nauclea diderrichii</i>	0.695	9.23	BR0000019765631	RMCA (DRYAD, 2021)
<i>Nesogordonia kabingaensis</i>	0.718	21.018	BR0000013973933	Harja et al. (2021)
<i>Oncoba welwitschii</i>	0.704	9.041	BR000001328297	RMCA (DRYAD, 2021)
<i>Ongokea gore</i>	0.787	12.165	BR0000015994028	RMCA (DRYAD, 2021)
<i>Pancovia harmsiana</i>	0.802	11.698	BR0000013987466	RMCA (DRYAD, 2021)
<i>Pancovia laurentii</i>	0.759	12.433	BR0000015247650V	RMCA (DRYAD, 2021)
<i>Panda oleosa</i>	0.607	12.226	BR0000013565367	RMCA (DRYAD, 2021)
<i>Paramacrolobium coeruleum</i>	0.778	6.243	BR0000016627871	RMCA (DRYAD, 2021)

<i>Parinari excelsa</i>	0.699	12.796	BR00000177367233	RMCA (DRYAD, 2021)
<i>Paropsia guineensis</i>	0.855	3.539	0 000009 12887 3	RMCA (DRYAD, 2021)
<i>Pentaclethra macrophylla</i>	0.861	21.836	BR0000018853162	RMCA (DRYAD, 2021)
<i>Pericopsis elata</i>	0.753	8.075	BR0000013588564	RMCA (DRYAD, 2021)
<i>Petersianthus macrocarpus</i>	0.681	19.911	BR0000013200152	Harja et al. (2021)
<i>Phyllocosmus africanus</i>	0.782	15.396	BR0000016431492	RMCA (DRYAD, 2021)
<i>Piptadeniastrum africanum</i>	0.725	9.416	BR0000018855456	RMCA (DRYAD, 2021)
<i>Platysepalum chevalieri</i>	0.85	6.102	BR0000018332056	Harja et al. (2021)
<i>Pleiocarpa pycnantha</i>	0.681	10.593	BR0000014550300	RMCA (DRYAD, 2021)
<i>Prioria balsamifera</i>	0.546	10.585	BR0000013573249	RMCA (DRYAD, 2021)
<i>Prioria oxyphylla</i>	0.648	8.444	BR0000013573812	RMCA (DRYAD, 2021)
<i>Psyrax subcordata</i>	0.609	7.901	0 00001256721 8	RMCA (DRYAD, 2021)
<i>Pteleopsis hylodendron</i>	0.72	9.669	BR000001509065	RMCA (DRYAD, 2021)
<i>Pterocarpus soyauxii</i>	0.663	10.729	BR0000013263430	RMCA (DRYAD, 2021)
<i>Pterygota bequaertii</i>	0.56	15.371	BR0000013256852	RMCA (DRYAD, 2021)
<i>Pycnanthus angolensis</i>	0.551	20.316	BR0000024584968	RMCA (DRYAD, 2021)
<i>Quassia silverstris</i>	NA	12.237	BR0000019682662	NA
<i>Ricinodendron heudelotii</i>	0.354	15.746	BR0000013987336	RMCA (DRYAD, 2021)

<i>Rothmannia hispida</i>	0.825	19.179	BR0000021251078	RMCA (DRYAD, 2021)
<i>Rothmannia macrocarpa</i>	NA	17.387	BR0000018694598	NA
<i>Scaphopetalum thonneri</i>	0.68	6.338	BR0000018066937	RMCA (DRYAD, 2021)
<i>Schumanniophyton magnificum</i>	0.57	10.823	BR0000013554675	RMCA (DRYAD, 2021)
<i>Scorodophloeus zenkeri</i>	0.655	6.977	0 00006 27433 7	RMCA (DRYAD, 2021)
<i>Scytometalum pierreanum</i>	NA	11.307	BR0000018120851	NA
<i>Staudtia kamerunensis</i>	0.786	7.715	BR0000013978556	Harja et al. (2021)
<i>Streblus usambarensis</i>	NA	19.626	BR0000017940542	NA
<i>Strombosia grandifolia</i>	0.761	6.876	BR0000013964429	RMCA (DRYAD, 2021)
<i>Strombosia pustulata</i>	0.767	9.797	BR0000015997296	RMCA (DRYAD, 2021)
<i>Strombosiosopsis tetrandra</i>	0.677	18.816	BR0000015225771V	RMCA (DRYAD, 2021)
<i>Symphonia globulifera</i>	0.713	9.652	BR0000015548511	RMCA (DRYAD, 2021)
<i>Synsepalum brevipes</i>	1.034	14.39	BR0000019415031	RMCA (DRYAD, 2021)
<i>Synsepalum stipulatum</i>	0.741	5.804	BR0000019421896	RMCA (DRYAD, 2021)
<i>Synsepalum subcordatum</i>	0.76	5.616	BR0000019411927	RMCA (DRYAD, 2021)
<i>Tabernaemontana crassa</i>	0.585	8.69	BR0000014341700	RMCA (DRYAD, 2021)
<i>Tessmannia africana</i>	0.75	16.142	BR0000021547508	RMCA (DRYAD, 2021)
<i>Tessmannia anomala</i>	0.836	6.733	0 000009 88703 9	RMCA (DRYAD, 2021)
<i>Tetrapleura tetraptera</i>	0.726	9.303	BR0000016148314	RMCA (DRYAD, 2021)

<i>Tetrorchidium didymostemon</i>	0.449	16.785	BR0000016237407	RMCA (DRYAD, 2021)
<i>Treculia africana</i>	0.625	14.329	BR0000017940900	RMCA (DRYAD, 2021)
<i>Tricalysia coriacea</i>	NA	6.968	BR0000019622866	NA
<i>Trichilia gillettii</i>	0.597	11.732	BR0000019211183	RMCA (DRYAD, 2021)
<i>Trichilia priureana</i>	0.668	14.489	BR0000013015251	RMCA (DRYAD, 2021)
<i>Trichilia rubescens</i>	0.557	12.468	BR0000019216119	RMCA (DRYAD, 2021)
<i>Trichilia welwitschii</i>	0.58	15.084	BR0000019218625	RMCA (DRYAD, 2021)
<i>Tridesmostemon omphalocarpoides</i>	0.782	8.247	BR000001914676	RMCA (DRYAD, 2021)
<i>Trilepisium madagascariense</i>	0.499	28.334	BR0000013570606	Harja et al. (2021)
<i>Turreanthus africanus</i>	0.5	13.601	BR0000013975265	Harja et al. (2021)
<i>Uapaca guineensis</i>	0.712	20.062	BR0000017450331	RMCA (DRYAD, 2021)
<i>Vangueriella orthacantha</i>	0.727	27.368	0 00000 9 02617 9	RMCA (DRYAD, 2021)
<i>Vernonia conferta</i>	NA	7.239	BR000001494128	NA
<i>Vitex ferruginea</i>	NA	8.368	BR0000018426083	NA
<i>Voacanga africana</i>	NA	19.003	BR0000014680915	NA
<i>Xylopia aethiopica</i>	0.646	14.254	BR0000014585104	RMCA (DRYAD, 2021)
<i>Xylopia phloiodora</i>	NA	11.23	BR0000014129766	NA
<i>Xylopia staudtii</i>	0.498	11.882	BR0000014130816	RMCA (DRYAD, 2021)
<i>Zanthoxylum gillettii</i>	0.646	27.513	BR0000019428314	RMCA (DRYAD, 2021)

Appendix S2 plot level data. Cat: forest category including undisturbed old-growth forest (UO), disturbed old-growth forest (DO), and regrowth forest (R); Plot: forest inventory plot; m: sample size; sc: sample completeness; q0: hill number of zeroth order; q1: hill number of first order; EV: evenness; NT: number of trees; OV: overstory density; WD: community-weighted mean of wood density; SLA: community-weighted mean of specific leaf area; SD: structural diversity

Cat	Plot	m	sc	q0	q1	EV	NT	OV	WD	SLA	SD
DO	1	592	0.96	92	46.81	23.81	296	89.08	0.686	11.898	2.82
DO	2	588	0.96	86	46.10	23.80	294	92.72	0.688	11.888	2.93
DO	3	556	0.95	88	46.64	23.98	278	91.37	0.672	12.890	2.92
R	4	444	0.95	74	38.19	20.42	222	90.80	0.660	13.111	4.04
DO	5	514	0.96	85	46.73	24.21	257	90.28	0.654	12.167	3.17
R	6	572	0.97	90	52.72	26.99	286	91.68	0.690	11.840	3.19
R	7	622	0.99	83	32.96	17.14	209	73.63	0.621	12.486	3.25
R	8	418	0.94	82	52.05	27.22	311	90.54	0.626	11.925	2.95
R	9	380	0.92	86	48.81	25.25	190	90.33	0.652	13.441	3.89
R	10	640	0.96	103	36.97	18.37	320	91.21	0.628	11.930	2.92
DO	11	496	0.96	86	41.77	21.57	248	93.34	0.610	12.292	3.25
DO	12	638	0.97	93	50.18	25.51	319	93.45	0.688	12.480	3.12
R	13	424	0.94	75	34.46	18.35	212	89.86	0.683	12.520	2.80
R	14	590	0.93	113	60.06	29.24	295	94.28	0.671	11.760	3.98
DO	15	522	0.95	104	55.76	27.62	261	91.89	0.644	12.390	3.12
UO	16	712	0.98	78	31.59	16.70	356	90.02	0.710	12.794	3.29
UO	17	700	0.98	83	35.72	18.61	350	89.91	0.710	12.952	2.44
UO	18	828	0.98	82	28.79	15.03	414	92.51	0.701	13.424	2.62
UO	19	718	0.98	75	33.94	18.07	359	91.73	0.725	11.893	2.34
UO	20	556	0.95	96	37.81	19.08	278	91.84	0.700	12.106	3.13
UO	21	622	0.97	82	34.69	18.13	311	91.21	0.681	12.487	2.84
UO	22	674	0.97	92	43.01	21.91	337	91.47	0.688	12.531	2.56
UO	23	580	0.95	93	41.68	21.17	290	90.59	0.690	12.322	2.65
UO	24	688	0.99	72	30.40	16.37	344	95.32	0.683	13.244	2.56
UO	25	676	0.95	99	39.31	19.68	338	94.28	0.689	12.981	2.59

Appendix S3 Indicator species across the three forest categories including undisturbed old-growth forest (UO), disturbed old-growth forest (DO), and regrowth forest (R), with their corresponding indicator value and p-value.

SPECIES	CAT	VALUE	P
<i>Leplaea cedrata</i>	DO	0.711	0.0394
<i>Cola acuminata</i>	DO	0.697	0.0134
<i>Diospyros iturensis</i>	DO	0.697	0.0137
<i>Diospyros crassiflora</i>	DO	0.690	0.0128
<i>Cola griseiflora</i>	UO	0.831	0.0001
<i>Cola gigantea</i>	UO	0.823	0.0016
<i>Drypetes morocarpa</i>	UO	0.792	0.0023
<i>Chlamydocola chlamydantha</i>	UO	0.785	0.0058
<i>Drypetes gossweileri</i>	UO	0.779	0.0015
<i>Garcinia punctata</i>	UO	0.759	0.0082
<i>Synsepalum subcordatum</i>	UO	0.756	0.0078
<i>Dialium pachyphyllum</i>	UO	0.751	0.0096
<i>Cynometra hankei</i>	UO	0.730	0.0454
<i>Prioria oxyphylla</i>	UO	0.721	0.0174
<i>Monodora myristica</i>	UO	0.713	0.0449
<i>Greenwayodendron suaveolens</i>	UO	0.711	0.0143
<i>Massularia acuminata</i>	UO	0.701	0.0199
<i>Scorodophloeus zenkeri</i>	UO	0.695	0.0368
<i>Xylopia phloiodora</i>	UO	0.665	0.0476
<i>Cola urceolata</i>	UO	0.632	0.0280
<i>Tessmannia anomala</i>	UO	0.632	0.0237
<i>Heisteria parvifolia</i>	R	0.866	0.0003
<i>Myrianthus arboreus</i>	R	0.814	0.0018
<i>Carapa procera</i>	R	0.760	0.0318
<i>Turraeanthus africanus</i>	R	0.728	0.0235
<i>Combretum lokele</i>	R	0.707	0.0067
<i>Dacryodes edulis</i>	R	0.681	0.0376