**Appendix S1.** Liana species and functional trait (CM: climbing mechanism, FT: fruit type, DM: Dispersal mode) abundance in different forest stand ages in Bobiri Forest Reserve, Ghana.

Species Abundance

2-year-old 14-year-old 40-year-old 68-year-old Old-growth CM FT DM

**Apocynaceae**

*Alafia barteri* 80 118 101 86 83 STW FO WI

*Alafia whytei*  21 22 36 35 102 STW FO WI

*Baissea breviloba* — — — 3 — STW FO WI

*Gongronema latifolium* — 3 3 — — STW FO WI

*Landolphia hirsuta* 5 3 3 — 6 STD BE AN

*Landolphia owariensis* — — — 2 — STD BE AN

*Motandra guineensis* 29 34 36 62 257 STD BE AN

*Secamone afzelii*  — — — 5 8 STW FO WI

*Strophanthus gratus* 24 14 10 44 72 STW FO WI

*Strophanthus preussii*  13 10 10 — — STW FO WI

**Celastraceae**

*Hippocratea africana* — — — 2 — BT PD WI

*Salacia camerunensis* 11 17 16 5 11 BT PD AN

*Salacia elegans* 37 46 60 33 22 BT PD AN

*Salacia erecta* — — — 2 19 BT PD AN

*Salacia owabiensis* 16 17 10 2 — BT PD AN

**Combretaceae**

*Combretum bipindense* 6 3 3 13 11 STW SA WI

*Combretum cuspidatum* 32 34 36 38 36 STW SA WI

*Combretum smeathmannii* — — 5 — 6 STW SA WI

**Connaraceae**

*Agelaea paradoxa* 8 5 — — — STW PD AN

*Agelaea trifolia* 16 32 13 2 42 STW PD AN

Note: STW: stem twining, STD: stem tendril, BT: branch twining, GB: grappling branch, HK: hooks, TH: Thorns, PD: pod, SA: samara, FO: follicle, BE: berry, CP: capsule, DP: drupe, NT: nut, AN: animal dispersal, WI: wind dispersal, EX: explosive dispersal, WT: water dispersal

**Appendix S1** *Cont’d*.

Species Abundance

2-year-old 14-year-old 40-year-old 68-year-old Old-growth CM FT DM

**Convolvulaceae**

*Calycobolus africanus*  275 202 193 42 127 STW SA WI

**Dichapetalaceae**

*Dichapetalum madagascariense* — 3 3 — — GB DP AN

**Dilleniaceae**

*Tetracera affinis* — — — 5 — STW FO AN

**Euphorbiaceae**

*Manniophyton fulvum* 54 88 72 60 130 STW CP AN

**Fabaceae**

*Acacia kamerunensis* 6 — 3 13 127 TH PD WI, EX

*Acacia pentagona* — — 3 2 — TH PD WI, EX

*Dalbergiella welwitschii* 13 22 18 11 3 STW SA WI

*Entada pursaetha* 3 — — — — STD PD WT

*Griffonia simplicifolia* 104 108 110 130 321 STW PD EX

*Leptoderris micrantha*  — 7 8 2 28 STW SA WI

*Leptoderris miegei* — — 3 — — STW SA WI

*Leptoderris* sp. — — 5 — — STW SA WI

*Mezoneuron benthamianum* — 5 10 16 30 TH PD WI

*Millettia chrysophylla*  32 84 52 24 69 STW PD EX

**Icacinaceae**

*Iodes africana*  — — 3 — — STD DP AN

Note: STW: stem twining, STD: stem tendril, BT: branch twining, GB: grappling branch, HK: hooks, TH: Thorns, PD: pod, SA: samara, FO: follicle, BE: berry, CP: capsule, DP: drupe, NT: nut, AN: animal dispersal, WI: wind dispersal, EX: explosive dispersal, WT: water dispersal

**Appendix S1** *Cont’d*.

Species Abundance

2-year-old 14-year-old 40-year-old 68-year-old Old-growth CM FT DM

**Loganiaceae**

*Strychnos spinosa* 3 3 — — — HK BE AN

**Malpighiaceae**

*Acridocarpus smeathmanii* — — — 3 — STW SA WI

**Marantaceae**

*Hypselodelphys poggeana* — — — 5 22 BT NT AN

**Menispermaceae**

*Albertisia scandens* 3 5 — — — STW DP AN

*Tiliacora dielsiana* 11 10 8 — 3 STW DP AN

**Passifloraceae**

*Adenia cissampeloides* — 3 3 — — STD CP AN

**Sapindaceae**

*Paullinia pinnata* — — — — 8 STD CP AN

**Tiliaceae**

*Grewia hookerana* — 3 3 — — BT DP AN

**Vitaceae**

*Cissus adenocaulis* 6 10 10 — 14 STD BE AN

*Cissus petiolata* — 3 3 2 — STD BE AN

Note: STW: stem twining, STD: stem tendril, BT: branch twining, GB: grappling branch, HK: hooks, TH: Thorns, PD: pod, SA: samara, FO: follicle, BE: berry, CP: capsule, DP: drupe, NT: nut, AN: animal dispersal, WI: wind dispersal, EX: explosive dispersal, WT: water dispersal

**Appendix S2.** Nested PERMANOVA comparing liana species composition among different forest stand ages in Bobiri Forest Reserve, Ghana

Forest stand age pair *t* *P*(MC)

2-year-old vs 14-year-old 1.12 0.352

2-year-old vs 40-year-old 3.33 0.002

2-year-old vs 68-year-old 4.08 0.001

2-year-old vs 200-year-old 4.73 0.001

14-year-old vs 40-year-old 1.65 0.066

14-year-old vs 68-year-old 3.13 0.005

14-year-old vs 200-year-old 4.02 0.001

40-year-old vs 68-year-old 3.89 0.001

40-year-old vs 200-year-old 4.54 0.001

68-year-old vs 200-year-old 2.68 0.002

*P(MC): P values generated by Monte Carlo simulations*

**Appendix S3.** PERMDISP showing homogeneity of multivariate dispersion among different forest stand ages in Bobiri Forest Reserve, Ghana

Forest stand age pair *t* *P*(perm)

2-year-old vs 14-year-old 0.36 0.749

2-year-old vs 40-year-old 0.34 0.755

2-year-old vs 68-year-old 1.23 0.267

2-year-old vs 200-year-old 0.46 0.672

14-year-old vs 40-year-old 0.91 0.403

14-year-old vs 68-year-old 1.22 0.280

14-year-old vs 200-year-old 0.19 0.857

40-year-old vs 68-year-old 1.71 0.122

40-year-old vs 200-year-old 0.97 0.388

68-year-old vs 200-year-old 0.99 0.367

*P(perm): P values generated by permutation test*