Supplementary Text 4: Removing plots with basal area less than 20 m^2 ha^{-1}

There were 15 plots with basal area less than 20 m^2 ha^{-1} (11 plots from Oyan, 2 from Sangha, and 2 from Uppangala).

1 CORRELATION BETWEEN BIOMASS AND BASAL AREA

Pearson's correlation coefficient between observed biomass and observed basal area on the 118 plots with basal area $\geq$ 20 m^2 ha^{-1} was 0.70 (Figure S1A). The correlation between modeled biomass and modeled basal area according to the exponential null model was 0.96 (Figure S1B). The correlation between the deviations of biomass and basal area to the predictions equaled -0.49 and was significantly different from zero (p-value < 0.001). When excluding data from the Oyan and Ngouha2 sites, the correlation coefficient between biomass and basal area was 0.85 for observations, 0.96 for modeled data, and negative but < 0.01 in absolute value for the deviations to the model predictions (p-value = 0.99).

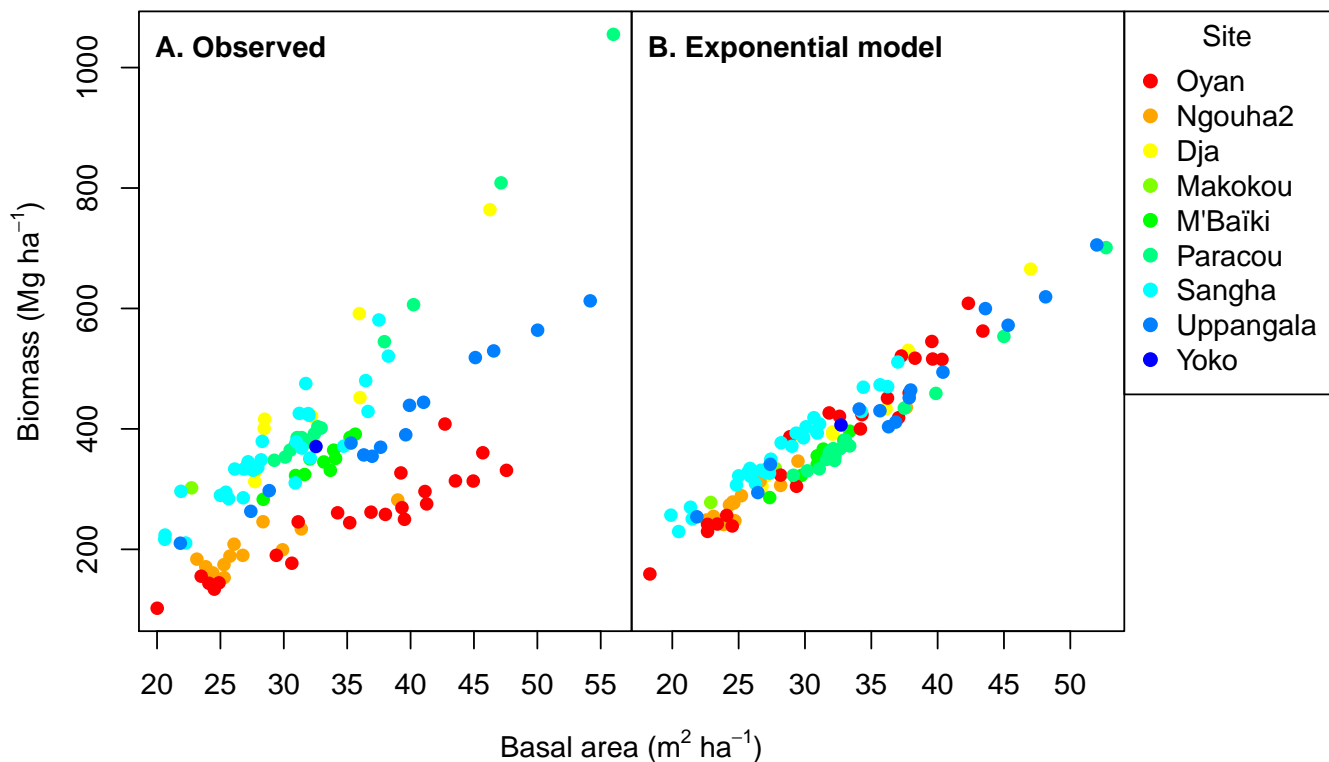**Figure S1.** Aboveground biomass versus basal area for 118 forest stands with basal area $\geq$ 20 m^2 ha^{-1} at 9 sites as (A) observed, (B) modeled by the exponential null model. The different colors correspond to the different sites as shown in the legend.

2 ORDINATION OF PLOTS BASED ON STRUCTURAL VARIABLES

When removing plots with basal area < 20 m^2 ha^{-1}, the sum of the first two eigenvalues of the PCA was 6.9 for observations, 8.8 for modeled data using the exponential model, and 7.2 (with p-value < 0.01) for deviations to the exponential model (Figure S2).
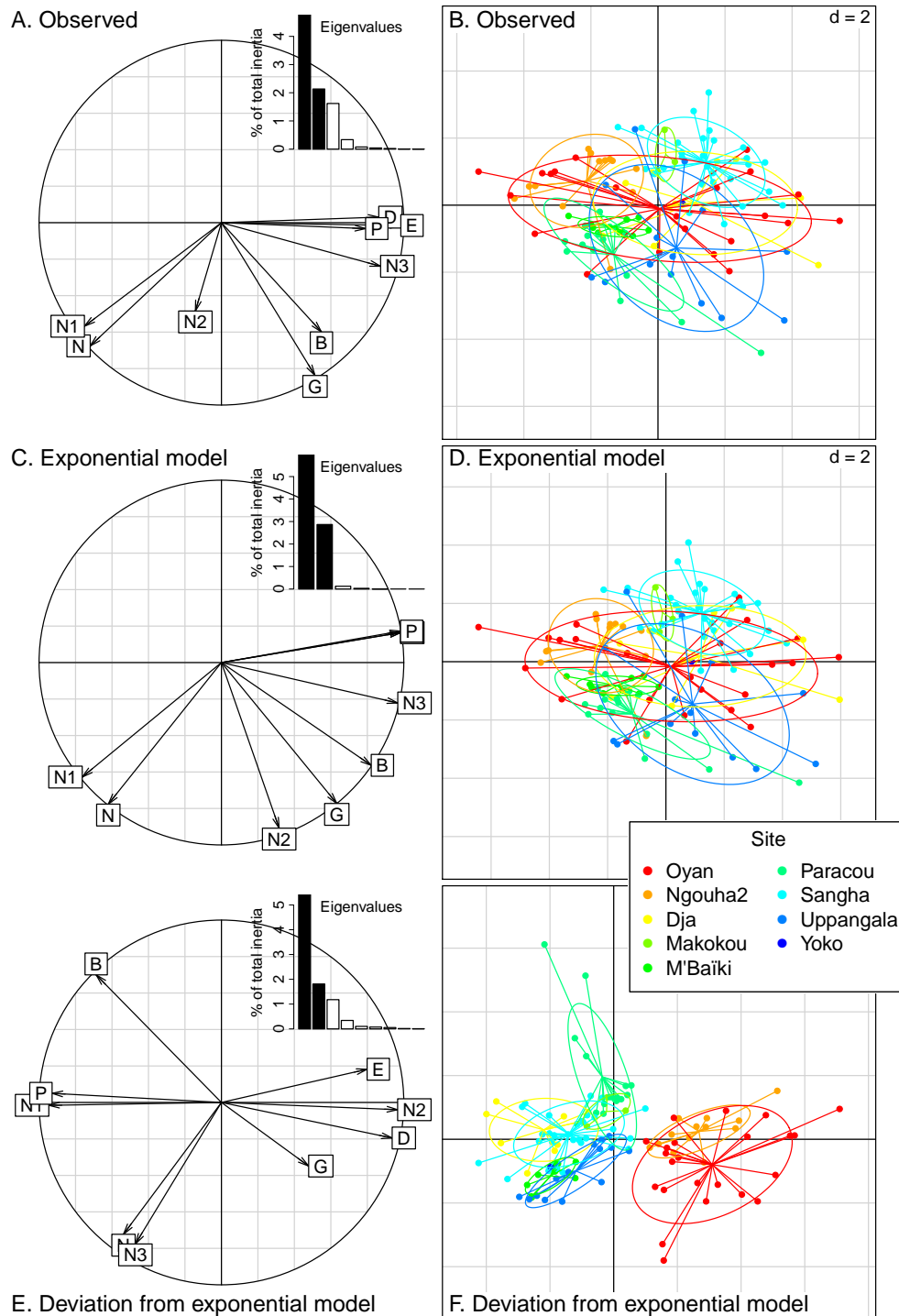
Figure S2. Principal component analysis (PCA) of structural characteristics of 118 forest plots with basal area $\geq$ 20 m^2 ha^{-1} at 9 sites. The PCA is performed either on observations (A, B), on the modeled data using the exponential model (C, D), or on the deviations of observations to the predictions of the exponential model (E, F). (A, C, E): correlation circle between the first two axes of the PCA and structural characteristics (N = density of trees, G = basal area, D = mean diameter, E = equivalent diameter, N_1 = density of trees with dbh $<$ 30 cm, N_2 = density of trees with dbh in the range 30-60 cm, N_3 = density of trees with dbh $\geq$ 60, B = aboveground biomass, and P = proportion of biomass represented by trees with dbh $\geq$ 60 cm). The insets show the eigenvalues of the PCA. (B, D, F): projection of the forest plots on the first two axes of the PCA. Each dot corresponds to a plot with the color indicating the site. Lines and ellipses highlight the dispersion of the plots of each site.