

**Text S1.** Methods for functional trait measurements.

*Measurement of maximum photosynthesis rate, stomatal conductance and transpiration rate.*

Measurements of maximum photosynthesis rate, transpiration rate and stomatal conductance were conducted between 9:00 and 11:00 on sunny days with a Li-6400 portable photosynthesis system (Li-6400, Li-Cor, Lincoln, Nebraska, USA). Based on preliminary trials, photosynthetic photon flux density was set at  $1500 \mu\text{mol m}^{-2} \text{s}^{-1}$  to ensure that light-saturated photosynthetic rates were measured for all species. Ambient  $\text{CO}_2$  and air temperature were maintained at  $390 \mu\text{mol mol}^{-1}$  and  $28^\circ\text{C}$ , respectively. Before data were recorded, leaves were exposed to the above conditions for about 5 minutes to allow photosynthetic parameters to stabilize. Three to five mature individuals were selected and five to six fully expanded and sun-exposed leaves were sampled from each individual for the measurements of maximum photosynthesis rate, transpiration rate and stomatal conductance.

*Measurement of leaf hydraulic conductivity and leaf turgor loss point*

Leaf-bearing branches from three to five individuals of each species were harvested and transported to the laboratory where the basal ends of the branches were immersed in distilled water and re-cut. The branch samples were rehydrated until leaf water potential was greater than  $-0.05 \text{ MPa}$ . Then 20 fully expanded and health leaves were selected to measure leaf hydraulic conductivity using rehydration technique following Brodribb & Holbrook (2003) [1]. We also selected another 20 fully expanded and health leaves to obtain the initial fresh mass and then immediately

placed in a pressure chamber to determine the initial water potential. Leaf mass and water potential were measured periodically during slow desiccation in the laboratory. Finally, leaves were oven-dried for 72 h at 70°C to determine their dry mass. Leaf turgor loss point was determined using a pressure-volume relationship analysis program developed by Schulte & Hinckley (1985) [2].

### **Reference**

1. Brodribb, T.J.; Holbrook, N.M. Stomatal Closure during Leaf Dehydration, Correlation with Other Leaf Physiological Traits. *Plant Physiol.* **2003**, 132(4), 2166-2173.
2. Schulte, P.; Hinckley, T. A. comparison of pressure-volume curve data analysis techniques. *J. Exp. Bot.* **1985**, 36(2), 1590-1602.

**Fig. S1.** The variations of mean precipitation in wet (June to October) and dry season (November to May) respectively, based on precipitation record per month from local weather bureau in Sanya City, China.

