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## Size-dependence of the respiration of *Kandelia obovata* trees at Manko Wetland

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Aboveground nighttime respiration of *Kandelia obovata* Sheue, Liu & Yong trees was measured monthly throughout a year to determine the size-dependence of the respiratory behavior in the field conditions; to detect the seasonal variation of size-dependence of the respiration rate of individual trees and finally to investigate the annual respiration. Six *K. obovata* sample plants of different sizes were selected for the seasonal measurement of nighttime respiration. The respiration of the sample trees was nondestructively measured with an enclosed standing tree method under the field conditions. At the end of the year all the plants were harvested to measure the individual aboveground mass. Twenty five plants including the six sample plants were harvested to establish an allometric relationship for estimating aboveground individual mass. The aboveground individual mass  $w_T$  showed a strong allometric relationship when plotted against  $D_{0.1H}^2 H$  ( $H$ , height;  $D_{0.1H}$ , diameter at  $H/10$ ). Respiration of *K. obovata* trees increased with increasing their size. The size-dependence of annual respiration rate  $r$  was described by a power function of aboveground mass  $m$  ( $r = g \times m^h$ ;  $g$ ,  $h$ , coefficients). Based on observed individual mass the exponent value  $h$  was found as 0.918, which was not significantly different from 1.0 and 0.75 (3/4), but significantly different from 0.67 (2/3). The monthly exponent value  $h$  decreased with increasing temperature. As part of this research the relationship of the respiration rate with the surface area of individual *Kandelia obovata* trees will be also discussed.