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PE-11 Tree size dynamics of mangrove *Kandelia obovata* stands in Manko Wetland, Okinawa Island

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Tree size dynamics of *Kandelia obovata* (S., L.) Yong stands were monitored over 4 years. Tree height H , stem diameter at $H/10$ $D_{0.1H}$, height at the lowest living leaves H_L , crown length C_L ($= H - H_L$) and crown width C_W , were measured. The coefficient variation C.V. of H , $D_{0.1H}$ and w_T decreased as stands grew, which indicates that relative variation of H , $D_{0.1H}$ and w_T became small as stands grew. Most of skewness b_1 of H was negative, which means that the frequency distribution of H is J-shaped and is stable with the J-shape even if stands grow. On the other hand, most of the b_1 -values of $D_{0.1H}$ were positive, which indicates that the frequency distribution of $D_{0.1H}$ was L-shaped and is stable with the L-shape even if stands grow. All of the b_1 -values of w_T were significantly positive at a significance level of 0.05, which indicates that the frequency distribution of w_T is L-shaped and is also stable with the L-shape even if stands grow. The correlation coefficient r between $D_{0.1H}$ and H decreased significantly as stands grew ($t = 8.33$, $p = 4.87 \times 10^{-13}$), which indicates that the linearity between $D_{0.1H}$ and H decreases with stand growth. This is because H attains its maximum height, whereas $D_{0.1H}$ is still growing. The H_L increased significantly ($t = 40.60$, $p = 4.31 \times 10^{-63}$) with increasing H , so that C_L decreased as stands grew. The C_W increased and then decreased as stands grew, which means that there exists the year for C_W to attain its maximum width. The year when C_W becomes maximum decreased from the riverside landward, which indicates that trees near the riverside (younger stands) later attain the year as compared with trees near the landward (mature stands). The C_L/C_W ratio decreased as stands grew, which indicates that the crown changes from a thick type to a thin type with stands grow. These results may imply that trees transform their crown shapes for reducing the stress of competition.