Latitudinal changes in tree height and species composition of mangrove forests along the Ryukyu Archipelago

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The study focusing on latitudinal changes in their structure and functions is helpful to predict the effect of global warming on mangrove forests. To evaluate the structure of mangrove forests along the Ryukyu Archipelago, tree censuses were performed in three mangrove forests at different latitudes (Amamiooshima, Okinawajima and Iriomotejima). Several belt-transects (5 m wide and 15-30 m long) were established in each study site. The trees (tree height > 60 cm) existing in the belt-transects were counted, and their height and diameter were measured. *Bruguiera gymnorrhiza* and *Kandelia candel* were appeared in all study sites. The relationship between mean tree height and density changed gradually along latitude, and the carrying capacity for mangrove forests decreased with increasing latitude. Tree height decreased with increasing soil salinity in each site. When the soil salinity was the same among the sites, the tree of *B. gymnorrhiza* was taller at low latitude than at high latitude. On the other hand, the latitudinal change in tree height of *K. candel* was unclear. This difference between the two species is probably due to the difference in their cold tolerance.