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PE-9 Phenology of *Kandelia candel* (L.) Druce stands in Manko Wetland, Okinawa Island

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Phenology of *K. candel* has been investigated on the basis of litterfall collection, individual leaf growth, leaf recruitment and leaf death since April 2005. The area of a leaf was estimated using the logistic growth equation, while the litter production was quantified by monthly mass collection.

The leaves of *K. candel* required around 56 days to reach their maximum area. The mean maximum leaf area was estimated as 15.3 cm² in summer, 14.9 cm² in spring and 12.1 cm² per leaf in autumn. The maximum leaf area was significantly different among seasons. The lowest temperature could be a reason of the smallest maximum mean leaf area in autumn. The coefficients of growth also differed significantly among seasons. The mean coefficient of growth was found to be highest in spring, while it was found to be lowest in summer.

The highest leaf recruitment was found to be 1.57 per shoot in July, while the highest leaf death was found to be 1.51 per shoot in August. The similar trend was found in each litterfall. Total litterfall was estimated as 7.628 Mg ha⁻¹ (9 months). The contributions of leaves, stipules, propagules, branches and flower parts to the total litterfall were 67.7, 11.9, 6.4, 6.1 and 7.9 %, respectively.

The highest amount of litterfall was found in the middle of the stand, while the lowest was recorded near the land. The amount of leaf recruitment was positively correlated to the phytomass and day length, and the amount of leaf litter showed a positive correlation to the biomass and temperature ($P < 0.05$).