

ABSTRACT

Avicennia marina in Gazi Bay, Kenya, displays a disjunct zonation pattern across the intertidal zone with a seaward and a landward *A. marina* fringe. Earlier studies revealed significant differences in its vegetation structure, physiognomy, root system and leaf morphology, which can be attributed to salinity and tidal inundation differences that characterise the forest zones. The main objective of this study was to investigate the phenology of *A. marina* in the disjunctly zoned stands by direct shoot observation. Vegetative and reproductive phenology of *A. marina* was studied from January 2005 to December 2006. Four natural and one reforested sites were used for the study in the landward and the seaward intertidal zone. Randomly selected shoots (54 per site) were carefully tagged for direct shoot observation and sampling done every fortnight for leaf emergence and fall, and bud, flower and fruit production. Vegetative and reproductive attributes of the species were clearly seasonal in both zones with distinct patterns. However, shifts in peaks in leaf fall and emergence were observed in 2006. Unimodal and bimodal leaf fall patterns were respectively observed at the landward and seaward sites. Monthly leaf emergence and fall was significantly different ($p < 0.05$) within sites, but not significantly different ($p > 0.05$) between sites. Mean leaf longevity was 11 months with a significant difference ($p < 0.05$) between the seaward reforested site and the landward site. Bud initiation occurred in November in both zones. However, flowering occurred earlier and the fruiting period was shorter in the landward zone compared to late flowering and prolonged fruiting in the seaward zone. Fruit fall peaked in April and May during the wet season. Differences in the vegetative and reproductive phenology of *A. marina* across the intertidal zone are discussed.