

AN INVESTIGATION OF SOME PHENOLOGICAL EVENTS IN THREE MANGROVE GENERA WITH REFERENCE TO SELECTED CLIMATIC FACTORS IN NEGOMBO LAGOON

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Mangroves consist of few tree species which are adapted to grow under tidal conditions. Studies on the phenology of mangroves is scarce. The main objective of this research was to study major phenological cycles of some overexploited species and to compare these with previous observations on the same species samples from three other lagoons.

Phenological cycles of leafing, flowering and fruiting of *Rhizophora apiculata*, *R. mucronata*, *Bruguiera gymnorhiza*, *B. Sexangula* and *Ceriops tagal* were studied for a period of 24 months at selected sites in Negombo lagoon which is located in the wet zone of Sri Lanka. Phenological cycles were followed and phenological indices were calculated. These data were compared with monthly variations in rain fall, temperature and humidity of the study area.

Leaf production showed two distinct maxima per year in all species. Rainfall seemed to exert a great influence on leaf reflushing. Peaks of leaf reflushing coincided with lulls of flowering and fruiting. Annual bimodality was observed for flowering fruiting in all species. These species showed unimodal pattern of some of these events when they were growing in dry zone.

Phenological cycles constructed using data obtained show no intraspecific variation in the time required to complete a single flowering-fruiting cycle. Similarly, intrageneric variation was absent in the life time of leafing cycles.

In *Rhizophora* species, leaf bud jut emerged took 1 - 1.5 yrs to complete a single cycle where as in *Bruguiera* species this period was 2 - 2.5 yrs. In *Ceriops tagal*, it was 1.5 - 2 yrs. Similarly, a flower bud of *Rhizophora* species took 1.5 - 2.5 yrs, *Bruguiera* species 1 yr and *C. tagal* about 1.5 yrs to form a mature hypocotyl.

A comparison of these observations with findings of the previous study proves that phenological cycles in studies species are environmentally dependent and not species specific.

Unimodality of floral phenology in dry zone species may be due to the seasonal variation in ground water salinity.