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Distribution Pattern of Mangrove Saplings among Different Light Habitats, Rekawa Mangroves, Sri Lanka**Madhusanka D.L.C.* , Kumara M.P.***Faculty of Fisheries and Ocean Sciences, Ocean University of Sri Lanka, Sri Lanka***dlcmadhusanka92@gmail.com***Abstract**

Saplings are the first established regeneration class of mangrove life cycle, therefore proper growth performance of mangroves at their sapling stage is necessary. The current study aimed to study distribution patterns of mangrove saplings (40 to 150 cm taller) with respect to percent light in two mixed mangrove forest patches (N 06°02'49.1"/ E 80°51'07.4" and N 06°03'24.3"/ E 80°50'56.4") of Rekawa mangroves, southern, Sri Lanka. Sapling species, Height to first Live Branch (HLB), mean light intensity on sapling at 120 cm height (using triplicates) and mean light intensity in the nearest canopy open (using triplicates), were collected for each sapling between 11.30 am to 12.30 pm on selected five days in July 2018. The percent light on each sapling was determined using the standard equation: Percent Light=(mean light intensity on sapling) / (mean light intensity in the nearest canopy open)×100. The difference in the percent light on different sapling species were significant (Kruskal-wallis test; $p < 0.005$) thus, it was confirmed that the saplings showed species specific light preference for the studied site. Saplings of *Lumnitzera recemosa* were found under the highest (mean±SD) percent light (63.1±4.3) followed by *Avicennia marina* (57.0±4.3), *Bruguiera grmnorrhiza* (53.5±3.8), *Excoecaria agallocha* (44.8±5.8), *Aegiceras corniculatum* (41.8±6.9) and *Rhizophora mucronata* (40.4±5.1). Thus, the saplings of *L. recemosa* showed the least shady tolerance followed by *A. marina*, *B. grmnorrhiza*, *E. agallocha*, *A. corniculatum*, and *R. mucronata*. In other words, *L. recemosa* saplings showed the highest light demand followed by *A. marina*, *B. grmnorrhiza*, *E. agallocha*, *A. corniculatum*, and *R. mucronata*. Thus it was clear that the saplings of the studied six mangrove species likely to establish at varying light habitats in the forest showing spatially separation that would potentially reduce the interspecific competition. Relationship between HLB and percent light showed a significant positive relationship ($p < 0.00$; $R^2 = 0.604$; Regression test) only for *L. recemosa* saplings that indicated presence of more live lower branches for harnessing extra light in low light environments. Under high light, saplings this species tend to produces more upper branches causing mortality in lower branches. This light demanding nature of *L. recemosa* agreed with its opportunistic colonization nature in to light abundant cleared mangrove areas published by previous authors.

Keywords: Mangroves, Saplings, Light, Rekawa, Sri Lanka