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A NEW KIND OF EPICOTYL DORMANCY IN CRYPTOVIVIPAROUS FRUITS OF *AEGICERAS CORNICULATUM* (L.) BLANCO, A MANGROVE SPECIES IN SRI LANKA

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Mangroves are salt tolerant evergreen forests, consisting of woody plants that have highly developed morphological and physiological adaptations to extreme conditions. However, information on the germination ecology of most mangroves is scant. *Aegiceras corniculatum* (L.) Blanco (Myrsinaceae) is an ecologically important mangrove tree producing cryptoviviparous fruits. The objective of this research was to investigate the storage behavior, dormancy and germination of *A. corniculatum* fruits. Mature fruits of the species were collected from at least five individuals in Kalamatiya, Sri Lanka. Moisture content (MC) of the fresh fruits was determined using an oven dry method. Tests to determine root versus shoot emergences were conducted on moistened tissue papers under ambient light and temperature conditions. Salinity tolerance was determined by incubating fruits on filter papers moistened with NaCl solutions having different osmotic potentials (0, -0.1, -0.3, -0.5, -1.0, -2.5, -5 and -7 MPa). Time taken to radicle emergence and shoot emergence was recorded for both untreated intact fruits (in above mentioned different osmotic potentials and in GA_3 (500 ppm)) and fruits without fruit coat (distilled water) to ascertain whether seeds have epicotyl dormancy.

MC of the fresh fruits was 44.9 %. None of the fruits germinated when they were dried to < 15 % MC, showing that they are recalcitrant. High percentages of radicles emerged from fruits within 30 days at room temperature (~27 ^{o}C) in light and in darkness, suggesting that *A. corniculatum* fruits have no light requirement for radicle emergence. When fruits were incubated on different osmotic potentials, radicles emerged from 90 % of them at > - 1.0 MPa, and from only 30, 4, and 0 % of them at -2.5, -5.0 and -7 MPa, respectively. Substantial time occurred between root and shoot emergence. However, this time interval could be reduced with GA_3 (500 ppm) treatment and with removal of the fruit coat. Our data suggest that radicles of this species are non-dormant and that shoots are dormant. This is the first report of epicotyl dormancy in a fruit with a cryptoviviparous hypocotyl. Thus, fruits of *A. corniculatum* exhibit a new type of epicotyl dormancy in the seed dormancy classification system and that can be described with the formula C_{crv} (root) – C^{p}_{1b} (epicotyl).

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