




A RARE OCCURRENCE OF ADVENTITIOUS ROOTS IN *GARCINIA IMBERTI*, AN ENDANGERED ENDEMIC TREE OF SOUTHERN WESTERN GHATS

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Garcinia imberti Bourd. of Clusiaceae is an endangered [1] endemic species of the southern Western Ghats. Originally described by Bourdillon from Tirunelveli hills [2], Mohanan *et al.* [3] relocated this species after a century from the Travancore area also. Critically endangered status of *G. imberti* population may be due to the habitat being exposed to fire, grazing, fragmentation, commercial plantations and fuel woods [1].

Among the three *G. imberti* populations, baring Bonacaud and Ponmudi areas, particularly certain trees of the sloughy slopes of Chemmunji area produce adventitious roots from their stem bole (Fig. 1B). Generally, the formation of adventitious roots is a quantitative genetic trait regulated by both environmental (especially temperature, light, relative humidity) and endogenous factors (hormones, sugars, mineral salts and other molecules) [4]. A similar case of flood related lenticel hypertrophy initiated adventitious root development was reported in *Calophyllum brasiliense* [5]. This observation on such adventitious root initiation among those *G. imberti* trees which face some constraints for existence as landslide may be a stress factor for root induction. It was observed that the more inclined trees produce more adventitious roots as depicted by a partially fallen female tree with positively geotropic adventitious roots (Fig. 1C). Though the presence of adventitious roots in most of the Clusiacean members is a frequent feature [6] rare occurrence of stress induced aerial roots stands out the *G. imberti*. Thus this report is on an adaptive feature of *G. imberti* with narrow distribution, particularly with those individual trees surviving at the slopes of the Agasthyamala Biosphere Reserve.



Fig. 1: A. Single tree, B. Adventitious roots, C. Fallen female tree of *G. imberti* with adventitious roots

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