



SEEDLINGS DISEASES SPECTRA, THEIR SEVERITY ASSESSMENTS AND SYMPTOMOTOLOGY OF RATTAN SPECIES OF KARNATAKA

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ABSTRACT: Rattans are high export valued evergreen non timber forest producing species in India. The Rattans resource are depleting at very fast rate due to over exploitation for handicrafts, furniture and terminal shoots for food and incidence of diseases which affects growth and quality of nursery seedlings, their regeneration and yield. A field Survey was conducted during 2017-19. To assess disease incidence and per cent disease incidence in Rattan seedlings, the result revealed that rattan species are susceptible to leaf blight fungal pathogens which cause diseases in nurseries, fungal leaf blight disease have been recently recorded in the nursery, the major fungal pathogens isolates found to cause the leaf blight in different nurseries surveyed in the Western Ghats, in this study as *Alternaria dianthi* cause leaf blight in all the forest nurseries of western ghats. The highest per cent leaf blight disease incidence (DI) (34.50 %) and Percent disease index (PDI) (43.80 %) was recorded in Kathgal nursery and least was in Sampaje nursery (16.00 % and 35.58 %). This indicates the increasing importance of leaf blight disease in Western Ghats and need for effective disease management through bio-agent and chemical applications.

Key words: *Alternaria dianthi*, leaf blight, disease incidence, percent disease index.

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Rattan (*Calamus* sp.) is a high export valued evergreen non timber forest species belongs to Arecaceae family and found in the tropical regions of Africa, Asia Australasia and India. India has 5 genera with 70 species distributed in Western Ghats, Andaman and Nicobar Islands and North East India. Rattans are climbing habit with growing up to 10-15 m height and 6-120mm diameters (Renuka et al., 2005). All part of rattans has usage values. The stem is used for making baskets, mats, furniture, broom handles, carpet beaters, walking sticks, fish traps, animal traps and bird cages and old leaflets are woven for thatching and young leaflets as cigarette papers, young shoots and fruits have consumption as well as medicinal value (Dransfield, 1979).

The rattans were found in abundance in natural forests in the past, due to unscientific exploitation & management, conversion of Rattans growing areas into agricultural fields and intensive logging and opening of natural forests and degradation of natural habitat, many of Rattans wealth are threatened to the verge of extinction. Endemism in Indian rattans is very high and of the 70 species, 43 are endemic to the country. Natural

population is also reducing drastically and to some extent eroded genetically (Senthilkumar et al., 2014). Because of commercial demand, the major pressure mounted on natural Rattans population as there are no sufficient commercial plantations in Government forest land or private holdings. Throughout South India mature canes are very scarce due to over exploitation and are restricted to very remote areas.

Of them, vulnerability of Rattans to cause diseases in nurseries, plantations and natural stands is evident (Mohan, 2005). Fungal pathogens are considered as one of the most serious pathogens causing a significant reduction in Rattan's growth, development and production. In Western Ghats, rattans developing in forest department nurseries, encounters several constraints among which the wide spread of fungal diseases posing a serious threat for the growth and development of rattan species. Several important fungal pathogens have been isolated and identified as a causal agent for inducing diseases, including leaf blight disease (*Collectotricum* sp., *Pestalotiopsis* sp., and *Phomopsis* sp.), leaf spot (*Pestalotia* sp.) and root rot (*Fusarium oxysporum* and *Fusarium solani*) (Kalungi et al., 2005, Mohan, 2005). Initial survey observations show diversified diseases, disease induced mortality