

IDENTIFICATION, DISTRIBUTION AND HOST SPECIFICITY OF LOWLAND
CUSCUTA IN SRI LANKA

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ABSTRACT

The study included currant distribution, host range, taxonomy, and anatomy of host parasitic association and phenological comparison of *Cuscuta* in five agro-ecological zones.

It was observed that *Cuscuta* is widely distributed in the dry areas such as Anuradhapura, Polonnarwa and Hambantota. However, it was also found in Low country wet zone. In the dry zone it was found frequently along the banks of irrigation canal, agricultural lands and road side vegetations. In the coastal areas *Cuscuta* was distributed mostly along the railway track, roadsides and wastelands. In the up country area (Horton plains) found only one *Cuscuta* spp. such as *Cuscuta reflexa*.

About 162 host plants including rice were observed. Host range consists with among that host 59 families and 139 genera. There were 31 cultivated species, 15 crops, 34 weeds, 64 were medicinal plants and 32 ornamental plants among them. Twenty two host species were found in the wild. Out of the recorded hosts 26 were trees, 60 were shrubs, 16 were creepers and 78 were herbs. 24 were monocots, 45 were dicots and 04 were ferns. The hosts also included 69 exotic plants, 99 indigenes plants and 12 invasive plants. *Mikania cordata* and *Wedelia trilobata* appears to be the primary hosts to the lowland *Cuscuta*.

.The lowland *Cuscuta* species is not similar to *Cuscuta chinensis* as previously reported. That appears to be a new *Cuscuta* species or a new strain of *Cuscuta chinensis*. In taxonomically our low land *Cuscuta* very much similar to the world problematic parasitic weed *Cuscuta campestris*.

Haustoria has not clear vascular differentiation but that can form different shapes size and length those characters determined by the hardness of the host stem. Also some host species show resistance against the *Cuscuta* infestation. That resistance mechanism can be hypersensitivity reaction or programmed cell death reaction.

Cuscuta can be propagated by both vegetatively and sexually. However vegetative reproduction is more successful than that of sexually. Vegetative propagation ability may be a reason rapid increase *Cuscuta* population of the country.

Result of Phenology studies of *Cuscuta* collected from five different agro-ecological zones namely, Mid-country wet zone (WM3), Low country dry zone (DL 1), Low country wet zone (WL 4), Low country Intermediate zone (IL 1) shows no significance differences ($p>0.05$) in number of seed per head, time taken to haustoria formation and final dry weight of the parasite. However flowers per head of *Cuscuta* from agro-ecological zone (WM3) showed a significant difference with others It appears that in agro-ecological zones, same *Cuscuta* spp. is found. However there can be small deviation due to environmental factors.