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Studies were carried out into some attributes of the distribution and density of dicotyledonous weeds. A total of 100 fields were surveyed to include a range of habitats having different soil types, farming and topography; 39 from Galle district; 30 from Matara district and 31 from Hambantota district. 5 plots of 1m x 1m in each field were scored from 1-5 for their levels of infestation.

A total of 175 species which belong to about 50 families were recorded. The most common families and their number of species were Leguminosae (21), Euphorbiaceae (13), Compositae (11), Convolvulaceae (10), Malvaceae (8), Acanthaceae (07), Amaranthaceae (06), Labiatae (05), Rubiaceae (04), Verbenaceae (04) and Solanaceae (03). For the other families only one or two species were recorded.

The most frequently found weeds out of 100 fields were *Mikania scandens* (Watupalu) in 75%, *Eupatorium odoratum* (Podisingho maran) in 73%, *Mimosa pudica* (Nidikumba) in 71%, *Lanata camara* (Gandapana) in 69%, *Stachytarpheta indica* (Balunakuta) in 66%, *Eleutheranthera ruderalis* (Hulantala) in 57%, *Vernonia cinerea* (Monara kudumbiya) in 56%, *Desmodium beteuphyllum* (Maha undupiyaliya) in 51%, *Desmodium triflorum* (Heen undupiyaliya) in 51%. 43 species were recorded occurring in 17% or more fields. *Hedyotis auricularia* (Getakola), *Ageratum cornizoides* (Hulantala), *Urena lobata* (Epala), *Euphorbia hirta* (Bu dadakiriya), *Phyllanthus debilis* (Pitawakka), *Emilia sonchifolia* (Kadupahara) and *Acalypha indica* (Kuppameniya) were more frequent in the Galle district (Wet Zone) over the other 2 districts (intermediate and dry zone). *Martytina annua* (Naga darana) and *Gymnema sylvestre* (Masbedda) were only recorded in Hambantota district. *Amaranthus spinosus*, (Katu tampala) *Amaranthus viridis* (Kura tampala), *Achyranthera aspera* (Karal heba), *Aerva lanata* (Polpala), *Alteranthera sessilis* (Mukuruwenna), *Cassia tora* (Peti tora), *Cassia occidentalis* (Peni tora), *Ocimum sanctum* (Suwanda tala), *Commelina benghalensis* (Girapala), *Sida acuta* (Kesara bevila) and *Euphorbia heterophylla* (Dadakiriya) showed generally uniform distribution all over the province. Some species such as *Ipomoea pescaprae*, (Mudu Bimtabmuru), *Calotropis gigantea* (Wara) and *Clerodendron inerme* (Gas pinna) were dominant along the sea coast.

The occurrence and severity of infestation of weeds is determined mainly by their natural seed germination. This depends on the interactions of intrinsic properties of seeds and multitude of external factors mostly the environmental variables. Therefore the effect of those factors on seed germination should be studied to describe this weed distribution and severity of infestations.

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