Mapping of Eco-geographic Distribution of Native Medicinal Plants of Sri Lanka: The Basis of Study, Conservation and Utilization

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Among the native flora of Sri Lanka, more than 1,400 plants are used in indigenous medicine for treating illnesses for over a thousand years. However, due to degradation of natural vegetation and unsustainable human activities, most of the native medicinal plants have lost their natural habitats. The commercial cultivation of native medicinal plants is also restricted to a few species. Though taxonomic information is available, the distributional ecology of native medicinal plants has not been studied adequately. The mapping of geographical distribution will provide the basis for study, conservation, and utilization as well as understanding the cultivation requirements. The based document was developed referring to 16 volumes of the flora of Ceylon and available checklists for Sri Lankan plants. It includes 12,450 localities of 983 species of medicinal plants. Based on that, the distribution pattern of native medicinal plants was mapped using QGIS software and Arc GIS software. Ten native species were selected based on records of the Export Development Board. A checklist of native medicinal plants was prepared. The list consists of 1059 species including 172 endemic species. Distributional maps were developed for 983 species and endemic species, separately. According to the Average Nearest Neighbor Analysis, species show clustered distribution patterns, and leading into hotspots for both native and endemic groups. Giving the Z-Scores; -124.89 and -50.54, there is a less than 1% likelihood that these clustered patterns of all species and endemic species could be the result of random chance, respectively. Nearly 58% of species have been distributed in the *Kandy* district followed by *Ratnapura* (36%) and *Matale* (34%). The distribution, climatic and soil maps were prepared for ten selected species aiming for commercial cultivation. The study provides required information for the study, conservation, and sustainable utilization of native medicinal plant species in Sri Lanka.

Keywords: Eco-geographical distribution, Mapping, Medicinal plants, Native, Sri Lanka

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