

Current Status of Medicinal Plant Diversity in Paalameenmadu, Batticaloa, Eastern Province of Sri Lanka

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Sri Lanka possesses rich medicinal plant diversity that is important for ecosystem conservation and pharmaceutical development. This study aimed to document and evaluate the diversity of medicinal plant species recorded in Paalameenmadu, a mangrove ecosystem located in Batticaloa, Eastern Province of Sri Lanka. The study area was identified using maps, and field surveys were conducted from April 2024 to April 2025 using the Belt Transect Method to identify and record medicinal plant species. Specimens collected during the fieldwork were authenticated using the Herbarium of the Faculty of Siddha Medicine, University of Jaffna. A total of 130 medicinal plant species belonging to 43 botanical families were recorded, with Fabaceae being the dominant family. According to an analysis of growth forms, trees accounted for 42.31% of living forms, with herbs coming in second at 20.77%, shrubs at 18.46%, climbers at 13.84%, and creepers at 4.62%. According to a life cycle study, 66.92% of species were perennials, 20% were annuals, and 13.08% were biennials. Among the recorded medicinal flora, 10 species were identified as mangroves. The most commonly used plant part was leaves (n = 102), which were followed by seeds (n = 75), fruits (n = 49), roots (n = 44), flowers (n = 32), bark (n = 24), whole plants (n = 11), and tubers (n = 9). Exudates such as toddy (n = 2) and milky latex (n = 4) were also utilized. A total of 17 species produced edible fruits, while 18 species were used as edible leafy vegetables. Despite their rich medicinal plant diversity, mangrove ecosystems are increasingly threatened by climate change and human activities such as urbanization, deforestation, aquaculture expansion, pollution, and runoff. These findings provide valuable baseline data for biodiversity conservation, ethnobotanical research, and the sustainable management of mangrove ecosystems in Sri Lanka.

Keywords: Diversity, Mangroves, Medicinal plants