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Occurrence and Habitat Preference of two Endemic Aquatic Macrophytes: A Case Study in Baduluoya Catchment

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Abstract

Records of the occurrence of endemic aquatic macrophytes in Sri Lanka are scanty compared to the other terrestrial plant species. *Cryptocoryne* and *Legenandra* are rare two endemic aquatic macrophytic genera where most of them are listed in threatened categories in the National Red list. Baduluoya catchment, a right bank tributary of river Mahaweli, harbours a rich biodiversity and still less explored for ecological research. The catchment area covers climatologically and physiographically different regions, and elevation range from 1,500 m to 100 m. During its flow path the river feeds several feeder tributaries with different environmental and land use backgrounds. The present study attempts to explore and report the new localities of *Cryptocoryne* and *Legenandra* and their habitat preferences. The study was conducted throughout one year period in 72 locations along main channel (59 km) and its micro catchments recording plant cover as a percentage with in a 10×2 m belt transect stretched in the river bank. The selected river section covers highland, midland and lowland part of the river. *Cryptocoryne* are mostly confined in the gravelly and the sandy lower river sections rather than uppermost fast flow regions in the upstream where only a few *Legenandra* were recorded. Out of 10 recorded crypts in Sri Lanka the study recorded 6 species (*Cryptocoryne parva*, *C. wendtii*, *C. warkary*, *C. beckettii*, *C. bogneri* and *C. nevillei*) in seven locations and *Lagenandra praetermissa* in thirty locations. They were mostly perennial, rooting species that preferred the gravelly, sandy, humid and shady habitats. Further crypts showed a strong association and a healthy growth with roots of *Terminalia arjuna* (Kumbuk). Spearman rank correlation reveals that significant (<0.05) positive correlation with shade, substrate, temperature and stream order with the plant cover. The plant cover seasonally changed and highest cover was recorded during April to August prevailing dry climate to the catchment. These species showed a high tendency to occur in lower and mid elevation ranges where nutrients were more logged and flow rates are smooth rather than the fast flowing upstream areas. Unless proper conservation measures are initiated, such important hidden habitats would not be highlighted and many of valuable plant records will be wiped out without leaving any records of its nurtured biodiversity since most of these habitats are now occupied for diverse human activities.

Keywords: Endemic, Aquatic, Macrophytes, Habitat preference