

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/336846174>

Floristic diversity and tree biomass studies at Jathika Namal Uyana, Anuradhapura; A tropical dry forest in Sri Lanka

Conference Paper · September 2019

CITATIONS

0

READS

74

2 authors, including:



Jeyavanan Karthigesu

University of Jaffna

47 PUBLICATIONS 29 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Ecology and Management of Tropical Dry Forests [View project](#)



Assessment of Ecosystem Services of Homegarden Agroforestry in Jaffna District [View project](#)

Floristic diversity and tree biomass studies at Jathika Namal Uyana, Anuradhapura; A tropical dry forest in Sri Lanka

Jeyavanan Karthigesu and M.K.P.C Ekanayake

University of Jaffna, Sri Lanka

The Jathika Namal Uyana is a strict nature reserve at Anuradhapura district, located in north central province of Sri Lanka. It represent a tropical dry forest type in Sri Lanka. This study aimed to assess the floristic diversity and soil carbon stock of this forest. The study area covers an extent of 105 ha. A total of 30 sampling plots were randomly selected at a size of 20 m × 20 m, with three replicates. A total of 735 trees, 2019 saplings and 1438 seedlings were enumerated. A total species of 42 woody trees and 13 lianas were identified among 20 families. Based on the importance value index (IVI), the forest was dominated by *Mesua ferrea* (43.53%), followed by *Dimocarpus longan* 16.73%) and *Pterospermum suberifolium* (12.78%). The mean densities of trees, saplings and seedlings were 1,500, 1,484 and 1,057 individuals ha⁻¹, respectively. Mean values of Shannon wiener index for trees, saplings and seedlings were 1.52±0.0499, 1.96±0.034 and 1.42±0.076, respectively. Mean value of evenness for trees, saplings and seedlings were 0.77±0.02, 0.86±0.02 and 0.87±0.01, respectively. Mean value of species richness for trees, saplings and seedlings were 6.6±0.41, 6.1±0.33 and 9.7±0.32, respectively and this result revealed that seedlings were more equally distributed than the trees and saplings. Mean value of canopy cover was 76.77%, revealing that the forest has a high density. Mean values of total tree biomass and carbon stock were 366.35 and 172.18 tha⁻¹, respectively. Soil carbon, soil pH and soil EC were 3.4 %, 5.5 and 140.21 (cmol (+) kg⁻¹), respectively.

Email: kjvanan@gmail.com