Arthropods taxon richness in selected manmade and natural habitats in the low country wet-zone

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The objective of this study is to document and compare the arthropods assemblages present in the three selected agro-ecosystems with a natural ecosystem. Four sites with different land use types were selected in the Yakkalamulla divisional secretariat division, Galle district. These four sites represent three agro-eco systems (tea, rubber and oil palm) and a natural ecosystem (Kottawa forest). Numbers of different techniques were used for this purpose. This includes pitfall traps, water pan traps, window traps, light traps, and litter extraction. In this study arthropods taxa were classified up to "Order" level due to lack of proper identification guides. From pitfall traps highest numbers of individuals were captured in the natural forest (1073). From window traps highest number of individuals was captured in the rubber plantation (291) and lowest number from natural forest (203). From light trap the highest numbers of individuals were collected from the natural forest (841) followed by oil palm plantation (465), rubber plantation (420) and tea plantation (374). From yellow pan traps the highest number of individuals was recorded from the natural forest (2073). From litter extraction the highest number of individuals was recorded from the litter samples collected from the natural forest (1404) followed by oil palm plantation (333), rubber plantation (325) and tea plantation (114). When all the sampling methods are considered, the highest number of individuals (5417) and taxa (25) were recorded from the natural forest followed by oil palm (2745 individuals and 16 taxa) rubber (2422 individuals and 19 taxa) and tea (1745 individuals and 18 taxa). In the species level

Campodea spp. was abundant in the natural forest and Diacamma spp. was abundant in the oil palm plantation furthermore both tea and rubber plantation Oecophylla smaragdina was abundant. The results indicate that the diversity of arthropods is quite high in all four-study sites. However, majority of the individuals collected could not be classified in detail due to lack of taxonomic expertise. The results further indicate that the natural forest had a significant individual density compared to agro ecosystems. However, the agro ecosystems also supported a rich arthropod assemblage even though it is subjected to high degree of modification. Finally, this study shows the need to conduct detailed taxonomic investigations on the arthropods of Sri Lanka.