ABSTRACT

Habitat Utilization of Animals and Their parasitic burden with special reference to elephants in vazhachal forest division, Kerala

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An investigation was carried out in Vazhachal Forest Division, Kerala, South India during 1994-95 to identify the habitat utilization and seasonal movement patterns of the wild elephants (*Elephas maximus indicus*). Estimating the population of elephants, finding out the impacts of elephants on woody vegetation, identifying the internal parasites of elephants, studying the need and type of mineral supplements and assessing the importance of Vazhachal as a zone of tourism were also aimed by this study.

Habitat utilisation and seasonal movements were studied by indirect methods based on dropping count. Population was estimated by a direct simultaneous count. Vegetation damages were assessed by demarcating plots of size 25x25 m randomly in the study area. Parasitic analysis of fresh dungs was done by centrifugal sedimentation technique and microscopical examination. Mineral mixtures of different concentrations were placed in the area to study the preference for minerals. Data on income from Vazhachal was collected to assess the importance of Vazhachal as tourism centre.

Seasonal movements reflected the habitat utilization patterns. Preference of habitats by elephants varied with season. Moist deciduous forests were preferred most in winter season whereas it was least preferred in summer. Evergreen forests were preferred over the moist deciduous forests only during summer season. Acacia plantations were most preferred in summer seasons and was least preferred in first rainy season. Preference for teak plantations were comparatively high during summer and first rainy season. A seasonal movement from thickly vegetated east end of the division to open and secondary forest dominated west end was evident. Great variations in dung densities of individual transects indicated a continuous movement of elephants in the study area. Elephant population at Vazhachal comprised of 155 elephants with a sex ratio (male : female) of 1:6.5 and a crude density of 0.38 elephant/km^2. Debarkbing and breaking tops were the main forms of damages in Teak (*Tectona grandis*), Papitta (*Pterocymbium tinctorium*) and Albizia (*Albizia falcataria*) plantations. Breaking of tops and pushing over accounted for main damages in Bombax (*Bombax ceiba*) plantations. Damages were comparatively less in moist deciduous and evergreen forests. A total of 35 species were found to be debarked in whole of the study area. Elephants preferred mineral mixture with high concentration of minerals and this stresses the need of supplementation of required minerals. Majority of the dungs analysed showed the presence of parasites strongylus and tape worm, indicating heavy infection. Increase in income from tourism in Vazhachal indicates the increasing importance of Vazhachal forests in the tourism map of Kerala. The tourist influx was found to vary with changes in rainfall pattern. The effect of season on the nutrient content to bark of the selected tree species is presented. The level of nutrient content varies with season. Some mineral level increases in rainly season and some increases in summer season.

ABSTRACT

Studies on Spider Diversity in Selected Sacred Groves in Kerala

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Sacred groves are remnants of low land forests occurring in patches mostly throughout the coastal region. A study was conducted in three selected sacred groves of Kerala to document the spider fauna along with the details of its occurrence at different height. The habitat of each species encountered and the web details were also collected. The study was conducted in Iringole, Mookuthala and Sangukulangara sacred groves.

A total of 14 species of spiders belonging to 9 families were observed in this study. Mookuthala had 8 species followed by Sangukulangara (7) and Iringole (6). Some of the species were confined to a particular grove. An analysis for abundance estimation indicates uniform abundance of spider species. However, Sangukulangara was rich though the diversity was more or less equal in all the groves.

Four types of webs were identified. Orb web was the commonest contributing 50% of the webs observed. The sheet and irregular types contributed 20% each. The rest was social type. Higher number of web rings was in the 21-30 and 31-40 class interval. The number of web radial was highest in 21-30 class interval.

There were species specific variations in the web height. Four of the species observed had a high preference for the height between 1 and 2 meters. Three of them were seen only below 1 meter and one at a height of more than 3 meters.

Animals were observed to spend more time for resting compared to other activities. Results indicate a higher probability of sighting of spider species in the afternoon hours.

ABSTRACT

An Anthropocentric and Biocentric approach to the medicinal plants in Denkanikottai Range, Dharmapuri, District, Tamil Nadu

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A study of the medicinal plants in different habitats of Denkanikottai range, Dharmapuri district, Tamil Nadu was made. Anthropocentric and Biocentric approach were given. 91 species of medicinal plants belonging to different vegetative types namely trees, shrubs, herbs were identified and recorded, information about their properties, curable diseases, were collected from tribal people by oral interviews. Diversity, species richness, dominant species for each habitat was studied. Species diversity was estimated by quadrate sampling, method. The diversity index calculated by Simpson index and species richness using Gleansons formula. The utilization of medicinal plants by wild animals for food, roosting and nesting was also studied.