

Study on the Effect of Weather Variables on the Spider Abundance in Two Ecological Zones of Ogun State, Nigeria

Authors : Odejayi Adedayo Olugbenga, Aina Adebisi

Abstract : Weather variables (rainfall and temperature) affect the diversity and abundance of both fauna and flora species. This study compared the weather variables with spider abundance in two ecological zones of Ogun State, Nigeria namely Ago-iwoye (Rainforest) in the Ijebu axis and Aiyetoro (Derived Savannah) in the Yewa axis. Seven study sites chosen by Simple Random Sampling in each ecosystem were used for the study. In each sampling area, a 60 m x 120 m land area was marked and sampled, spider collection techniques were; hand picking, use of sweep netting, and Pitfall trap. Adult spiders were identified to the species level. Species richness was estimated by a non-parametric species estimator while the diversity of spider species was assessed by Simpson Diversity Index and Species Richness by One-way Analysis of Variance. Results revealed that spiders were more abundant in rainforest zones than in derived savannah ecosystems. However, the pattern of spider abundance in rainforest zone and residential areas were similar. During high temperatures, the activities of spiders tended to increase according to this study. In contrast, results showed that there was a negative correlation between rainfall and spider species abundance in addition to a negative and weak correlation between rainfall and species richness. It was concluded that heavy downpour has lethal effects on both immature and sometimes matured spiders, which could lead to the extinction of some unknown species of spiders. Tree planting should be encouraged, as this shelters the spider.

Keywords : spider, abundance, species richness, species diversity

Conference Title : ICWBC 2024 : International Conference on Wildlife Biology and Conservation

Conference Location : Montreal, Canada

Conference Dates : June 13-14, 2024