

The effects of anthropogenic disturbance and seasonality on the ant communities of Lang Tengah Island

ABSTRACT

Anthropogenic disturbances and seasonal changes significantly impact diversity and community composition of ants, but their effects are often intertwined. We investigated these drivers on Lang Tengah Island, a location with a pronounced monsoon season and three resorts that close during this period. We surveyed four sites, two disturbed and two undisturbed, before and after the monsoon season, using pitfall traps to sample epigaeic ant communities. Undisturbed habitats had higher species diversity, but both habitats (undisturbed and disturbed sites) have a high proportion of ants with characteristics of being encroached by generalist and invasive/tramp ant species. Post-monsoon sampling yielded an increase in species richness and diversity. Seasonal changes, such as monsoonal rains, can temporarily alter ant interactions and resource distribution, potentially maintaining diversity. Future studies should validate these findings for ant communities under similar pressures, using ant composition and functional roles for conservation and management purposes.