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Seasonal variation in spider abundance in Kuttanad rice agroecosystem, Kerala, India (Araneae)

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Abstract: The present study attempts to improve the understanding of resident spider population and seasonal variations in their diversity in the rice agroecosystem of Kuttanad, one of the "Rice Bowls of Kerala". The investigation was carried out for a period of 2 years from June 2001 to February 2003. Fortnightly sampling was done in four cropping seasons viz., Rabi 1 (June 2001 to September 2001), Kharif 1 (November 2001 to February 2002), Rabi 2 (June 2002 to September 2002) and Kharif 2 (November 2002 to February 2003). Spiders were collected from quadrates in 8 sites by hand-picking method. Different indices were calculated using the SPDIVERS.BAS programme. Spider population in Rabi and Kharif seasons exhibited slightly different species abundance and composition. Among the 94 species of spiders collected during the study, 70 species of 17 families were recorded in the Rabi season and 94 species of 20 families in the Kharif season. All families except Amaurobiidae, Pisauridae and Pholcidae were present in both seasons. A total of 68 species had common occurrence in both crop seasons. Results indicate that the interaction of seasons on spider abundance/assemblage was significant for Shannon, Richness and Evenness indices, but non-significant for Simpson's index. Population fluctuation of spiders showed insignificant difference between the two seasons.

Key words: diversity, abundance, spiders, rice agroecosystem, Kuttanad, India