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Abstract

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Diversity of phytoseiid mite (Acari: Mesostigmata) fauna from Andaman & Nicobar Islands, India*

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The highly biodiverse group of mesostigmatid mites belonging to the family of Phytoseiidae are globally recognized as potential predators of small soft-bodied arthropods and destructive mite pests owing to their high searching capacity, good adaptability to a wide range of climatic regimes from arctic to tropics, short life cycle (1 week approx.), high multiplication capability (40–60 offspring per female) with high feeding potential. Phytoseiid mites that are commercially exploited as efficient biocontrol agents are regarded as farmers' friends as they play a pivotal role in managing the pest population below the economic injury level to ensure a safe and sustainable pattern of food production system keeping aside hazardous chemicals. At present, the global scientific communities are deeply involved with this group of mites and due to their higher attention, the number of nominal phytoseiid species has increased from 34 in 1950 to more than 2500 in 2021.

India, the world's 8th highest megadiverse country, has a vast coastline of 7517 km which comprises of two hotspots of biodiversity viz. Sundalands and Western Ghats. The Sundaland hotspot, comprising of Andaman & Nicobar Islands with present forest coverage of 86.2% of the total land area, is one of the biologically richest hotspots in the world which harbours over 15,000 endemic plant, 115 mammal and 138 bird species. This tropical rain forest, despite its isolation from the vast mainland, is surprisingly rich with its bountiful diversity of animal life. Our present study was urged to explore the phytoseiid mite fauna of these richly biodiverse understudied areas, which lead us to discover new species and generate worthy information regarding their habitat. During the present study, 250 specimens of phytoseiid mites under 3 subfamilies were collected. The present paper provides a comprehensive account on the taxonomic identification, distribution, feeding behaviour and scope of utilization of phytoseiid mites occurring in this area.

Key words: Biodiversity, Phytoseiidae, Andaman & Nicobar Islands, potential species

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