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Comparative Demography of Lady Beetle, Coccinella septempunctata Linnaeus (Coleoptera: Coccinellidae) with Respect to Different Aphid Species

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Abstract : Comparative demography of Coccinella septempunctata Linnaeus (Coleoptera: Coccinellidae) was studied with respect to four host aphid species viz; Rhopalosiphum padi, Rhopalosiphum maidis, Sitobion avenae, and Shizaphis graminum under laboratory conditions using Two-sex Age-stage life table instead of traditional age specific life table which considers only female. Results revealed that developmental period from egg to adult of C. septempunctata were shorter on R. padi (16.49 days) whereas longer on R. maidis (22.83 days). Net reproductive rate varied from 110.01 offspring on R. maidis to 288.78 offspring on R. padi. Mean generation time (T) ranged from 29.02 d on R. padi to 39.788 d on R. maidis. Highest to lowest values of intrinsic rate of increase (rm) were recorded on R. padi, S. graminum, S. avenae, and R. maidis (0.194, 0.143, 0.140 and 0.117 d^{-1}, respectively). Highest finite rate of increase was observed on R. padi (1.214 d^{-1}) followed by S. graminum (1.154 d^{-1}) whereas lowest values were obtained on R. maidis and S. avenae (1.124 and 1.150 d^{-1}, respectively). In this study, the data on the life table of both predator and prey provide useful information in the mass rearing and practical application of a natural agent to biological control systems.

Keywords : C. septempunctata, two-sex age-stage life table, population parameters, aphid species
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