

Habitat quality and climate variability determine odonate species diversity and distribution patterns in selected habitats of southern Sri Lanka

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(Received: June 03, 2019; Revised: June 20, 2019; Accepted: July 05, 2019)

ABSTRACT

Present study was conducted to reveal the odonate diversity and distribution patterns in selected habitats with reference to habitat quality and climate variability in order to determine the conservation status of odonate species and to predict any future threats to odonate assemblages in selected habitats. Odonate assemblages were investigated for six month period at seven different sites in Matara and Hambantota district, Sri Lanka. Their exuviae, key vegetation types, water quality parameters and habitat disturbances were also studied. Climate data from 1998 to 2018 for studied habitats were analyzed. A total 40 odonate species were identified including 11 endemic species. Heat tolerant species and species which can scarcely be seen in dry zone were abundantly recorded at dry zone habitats in present study. Present study reveals that there might be a significant direct effect of habitat quality on odonate species assemblages and distribution patterns in studied habitats and there might be an indirect effect of climate variability on odonate species assemblages and distribution patterns in studied habitats. Therefore, these data of relationship among odonate species diversity, habitat quality and climate variability in different ecological habitats will useful for conservation of odonates in particular habitats.

Key words: Odonates, Habitat quality, Climate variability, Species assemblages, Dry zone