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Volume 36, Issue 4, 20 December 2017, Pages 388-402**Effect of Environmental Disturbances on Odonata Assemblages along a Tropical Polluted River** (Review)Abdul, N.H.¹, Rawi, C.S.M.¹, Ahmad, A.H.¹, Al-Shami, S.A.²¹School of Biological Sciences, Universiti Sains Malaysia, Penang, Malaysia²Department of Biology, University College of Taymma, University of Tabuk, Taymma, P. O. Box 741, Tabuk, Saudi Arabia

Abstract

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Odonata larvae have been intensively used as bioindicators for freshwater pollution as their community structure closely follow changes in the environment and habitat settings. In this study, 28 taxa of **Odonata** larvae were collected from three stations (upper, middle and lower) of a **polluted river** in Malaysia. The upper **river** basin receives effluents from an oil palm plantation. However, the middle station is presumably contaminated with anthropogenic wastes. The lower station is found to receive **polluted** discharges from aquaculture outlet. Several environmental parameters of water and sediment were continuously measured during the study. The water parameters showed no significant differences amongst the three stations. The species richness of **Odonata** was 22, 24 and 20 in the upper, middle and lower stations, respectively. The abundance of **Odonata** was significantly different among the studied sites. The tolerant damselfly, *Pseudagrion* sp. (41.22%), and facultative dragonflies, *Onychothemis* sp. (17.12%), were the most dominant taxa along the **river** stations. *Onychothemis* sp. and *Paragomphus capricornis* were equally important at the upper station (Important Species Index (ISI) 25.3 and 24.2%, respectively). *Pseudagrion* sp. only scored an ISI value of 9.7%. *Pseudagrion* sp., *P. capricornis* and *Onychothemis* sp. were dominant in the middle station (ISI: 41.2%, 25.9% and 10.9% respectively), and *Pseudagrion* sp., *Onychothemis* sp. and *Prodasineura* sp. dominated the areas with dense growth of submerged aquatic weeds *Hydrilla* sp. in the lower station (ISI: 47.9, 24.5 and 13.8%, respectively). On the basis of the variations in larval abundance and ISI values, microhabitats differences partly in response to different types of pollutions entering the water structured the **Odonata** communities in this **river** basin. © by Che Salmah Md Rawi.

Author keywords

[distribution and abundance](#) [dragonfly](#) [larval assemblage](#) [pollution](#) [tropical river](#)

Indexed keywords

Species Index: [Anisoptera \(dragonflies\)](#) [Capricornis](#) [Elaeis](#) [Odonata](#) [Prodasineura](#) [Pseudagrion](#) [Zygoptera](#)

Funding details

Funding number	Funding sponsor	Acronym
1001/PBI/LOGI/850716	Universiti Sains Malaysia	USM

Funding text

We are indebted to the Dean of School of Biological Sciences, Universiti Sains Malaysia, for providing laboratory facilities and transportation to the study sites. We are grateful to Dr. Rodolfo Novelo Gutierrez of Instituto Ecologia, Xalapa, Mexico for verifying the identification of larval dragonflies. Our warm appreciation goes to Adibah Mohd Isaid, Mohd Shaqiq Zaheyuddin and Wan Hafezul Wan Abdul Ghani for tireless help in the field. This research was funded by the Research University Grant no 1001/PBI/LOGI/850716.

ISSN: 1335242X
CODEN: EKOLOE
Source Type: Journal
Original language: EnglishDOI: 10.1515/eko-2017-0030
Document Type: Review
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