

Analysis of zooplankton diversity and abundance in Bundala lagoon in Bundala National Park with reference to the aquatic habitat characters

P.B.I.A.K. Dayasiri¹, E.P.S. Chandana¹, N.J. de S. Amarasinghe¹ and L.A. Samayawardhena²

¹Departemnt of Zoology, University of Ruhuna, Matara, Sri Lanka,

² Present address: 07, Kuruppu Road. Colombo 07

Bundala National Park (BNP) of Sri Lanka has been designated as a Ramsar wetland in 1993. Present study (year 2009) has investigated the physicochemical parameters and zooplankton diversity in the aquatic environments of northern and southern periphery of Bundala lagoon with reference to the data collected in a study conducted in this area during 2001-2003. In this study relatively high salinity levels (42.5 to 10 ppt) were recorded in northern periphery of Bundala lagoon when compared to the salinity levels (46 to 13.6 ppt) reported during 2001-2003. Highest dissolved nitrate concentrations were 5.46 mg/l in Bundala lagoon while it was 1.2 mg/l during 2001-2003. The pH value of the study area was lower than that of reported during 2001-2003. *Gammarus pulex*, *Limnaea franculata*, *Cyclops* spp. and *Candona candida* were the major zooplankton taxa reported in this study while calanoid copepods, rotiferans i.e; *Brachionus plicatilis*, *Brachionus urceolaris* and ostracods i.e.; *Cypriodopsis* spp. were the major zooplankton recorded during 2001-2003. Change of zooplankton composition when compared to the previous study might be a result of the decreased salinity levels (Mann Whitney Test $W=49$, $P=0.011$), enhanced aquatic nitrates (Mann Whitney Test $W=27$, $P=0.033$) and reduced pH (Mann Whitney Test $W=21$, $P=0.025$) levels.

Key words: *Bundala National Park, Ramsar Wetlands, Zooplanktons*