

## PATTERNS OF SEASONAL ABUNDANCE AND DIVERSITY IN THE WATERBIRD COMMUNITY OF ANAVILUNDAWA SANCTUARY

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**ABSTRACT -** Diurnal species richness and diversity of aquatic avifauna at three reservoirs of the Anavilundawa Ramsar site of Northwestern Sri Lanka was recorded using line transect method from October 2009 to March 2010. Populations of the water birds were recorded from 7:00 hrs to 10:00 hrs, three times each month. Twenty eight species of water birds belonging to six orders and twelve families were recorded from Anavilundawa, Suruwila and Maiyawa reservoirs. These included two nationally threatened species, Spot-billed Pelican (*Pelecanus philippensis*) and Great Cormorant (*Phalacrocorax carbo*) and one winter visitor, Garganey (*Anas querquedula*). Relative abundance and rank correlation indicated that Lesser Whistling-Duck was the most common water bird species followed by the Purple Coot and Garganey. Common Moorhen was the least common bird followed by, Little Ringed Plover and Black Bittern. Birds belonging to Anatidae, Ardeidae, Phalacrocoracidae, Rallidae and Jacanidae families were recorded in high numbers. Among the families recorded, Anatidae family had the highest number of birds. Three waterfowl species belonging family Anatidae were recorded. They were, Lesser Whistling Duck (*Dendrocygna javanica*), Cotton Pygmy Goose (*Nettapus coromandelianus*) and migratory waterfowl Garganey (*Anas querquedula*). Suruwila reservoir had the highest Shannon diversity ( $H'$ ) index of 2.345 while Anavilundawa had the lowest diversity index of 2.104. Water birds diversity of the Anavilundawa reservoir differed significantly from the Maiyawa reservoir ( $t = 0.140$ ,  $df = 2133$ ). However it did not differ significantly from the Suruwila reservoir ( $t = 3.022$ ,  $df = 3047$ ). The diversity of water birds between Suruwila reservoir and Maiyawa reservoir did not differ significantly ( $t = 2.644$ ,  $df = 1840$ ). Evenness was high in the Maiyawa reservoir (0.747) and low in the Anavilundawa reservoir (0.638). Present study revealed that the three reservoirs of the Anavilundawa Ramsar wetland provide an important habitat for twenty eight water bird species, and thus warrant protection.

**KEY WORDS :** Aquatic avifauna, Diversity, Abundance, Anavilundawa Ramsar wetland