

B-22 Microhabitat selection and resource partitioning by waders at the Bundala lagoon

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The microhabitat preferences and resource partitioning of the 7 most common species of waders at Bundala lagoon were investigated during February to April 1997. Based on the preliminary observations that each species was distributed in relation to the water's edge, the area was divided into 6 microhabitat zones (deep, shallow, edge, moist, semi-dry and dry zones). Direct counts of the foraging birds in each microhabitat zone and their foraging behaviour were recorded using a telescope between 7 am and 10 am. Sampling of the invertebrates, on which the waders fed, was carried out using pitfall traps, sweep nets, plankton nets and the collection of sediments.

There was a significant difference in the distribution of the waders and each species was seen to have one or two preferred foraging microhabitats ($p < 0.0001$, one-way ANOVA) as noted by their significantly higher numbers in these zones. The 4 species, Black-winged Stilt, Redshank, Little Stint and the Kentish Plover had only one preferred microhabitat while the others (Little-ringed Plover, Curlew Sandpiper and Marbled Sandpiper) occupied 2 contiguous preferred microhabitats. Invertebrates consisted mainly of insects in the exposed areas (moist, semi-dry and dry zones) and insect larvae and gastropods in the inundated zones.

It was evident, therefore, that each species had an exclusive foraging niche. Many factors such as behaviour and morphological differences, type, size and density of prey and the degree of competition between species influenced microhabitat selection. This resulted in resource partitioning which enabled several species of waders to coexist in a common competitive environment.