

ABSTRACTS FOR ISSUE 103(1) FEBRUARY 2001

FEATURE ARTICLES

IMPORTANCE OF THE SUPRATIDAL HABITATS FOR MAINTAINING OVERWINTERING SHOREBIRD POPULATIONS: HOW REDSHANKS USE TIDAL MUDFLATS AND ADJACENT SALTWORKS IN SOUTHERN EUROPE¹

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Abstract. The prey-size selection, foraging behavior, and intake rate of overwintering Redshanks (*Tringa totanus*) were studied in a supratidal-intertidal system with high intertidal densities of shorebirds (100 birds ha⁻¹). For assessing the importance of the energy obtained in the supratidal habitat (saltworks), daily consumption in this habitat was compared with the total daily energy requirement. Redshanks passively select prey within a certain size range from those accessible on the intertidal area. Despite the high prey biomass on the mudflats, Redshanks exhibited a low intake rate during winter (0.321 kJ min⁻¹). This low intake seems to be related to the influence of the high densities of foraging shorebirds on the behavior of prey. Although intake rate was higher in the saltworks, the majority of Redshanks did not choose to feed there in winter. This foraging pattern seems to be related to density-dependent effects in habitat occupancy, as social interactions could have kept Redshanks out of the saltworks in winter according to the predictions of the ideal-despotic model. Energy intake in the supratidal habitat contributed 23% and 82% of the total daily energy requirement in winter and the pre-migration period, respectively. Redshanks were able to meet the total daily energy requirement during the pre-migration period by increasing foraging time in the saltworks. The availability of supratidal foraging habitats seems to contribute significantly to the maintenance of the population of overwintering Redshanks.

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