

Field surveys at five sites within desert locust breeding habitats around Port Sudan during three successive seasons indicated that early in the rainy season the incoming solitary females oviposited predominantly in the vicinity of *Heliotropium* spp. (66%) and millet (32%) seedlings. Solitary nymphs also preferred to feed on these plants. Follow-up cage experiments were conducted in the field in which solitary and gregarious female locusts were presented with choices of selected desert plants and egg pods. When presented with bulrush millet, *Heliotropium* spp., *Zygophyllum simplex*, and untreated moistened sand, solitary females oviposited adjacent to the first two plants (40% and 60%, respectively). However, when offered a choice of either or both of these plants together with egg pods derived from gregarious and/or solitary insects, solitary females showed a significantly higher preference for ovipositing near gregaria egg pods than near the plants, with solitaria egg pods eliciting the least response. In contrast with solitary females and in the absence of gregaria egg pods, gregarious females preferred to oviposit in untreated moist (control) sand (74–77%) away from the plants (6–14%) or solitaria egg pods (4%). However, when present, gregaria egg pods elicited significantly more oviposition. These and previous results indicate a hierarchy of phase-dependent oviposition preferences in the desert locust and are interpreted in terms of a strong propensity of the species to exploit opportunities under appropriate conditions to facilitate congregation and the gregarization of the progeny.