

The response of nymphal and adult gregarious phase desert locust, *Schistocerca gregaria*, to a choice of two columns of air, one permeated with airborne volatiles emanating from nymphs or adults and the other untreated, was investigated in a single-chamber bioassay arena. The nymphs, whether released individually or in groups, preferred to be within the precinct of the air column treated with airborne volatiles of the nymphs but were indifferent to volatiles of the adults. Conversely, older adults responded only to their own volatiles but not to those of the nymphs or young adults. The young adults were responsive only to volatiles of the older adults. Charcoal-trapped volatiles from the nymphs and the adults reproduced the effect of living locusts. These results indicate that there are two different aggregation pheromones in *S. gregaria*: a juvenile pheromone produced by nymphs and an adult pheromone specific to adults.