

Recent studies on the chemical ecology of the desert locust, *Schistocerca gregaria*, have unravelled a rich and complex system of pheromonal and other semiochemical-mediated communication in this insect. The key pheromones associated with such behavioural processes as social cohesion and communal egg-laying have been characterised. The semiochemical bases of such physiological processes as maturation of solitary insects before the arrival of seasonal rains, development of gregarious traits in crowded solitary insects, development of maturation synchrony in gregarious insects, and maternal transfer of gregarious characters to the offspring are better understood. Desert locust semiochemicals are finding two principal uses: as tools for studying the processes associated with gregarisation and, therefore, for elucidating the eco-physiological mechanisms underlying the development of locust outbreaks; and as agents for interfering or reversing the process of gregarisation. The status of this research and its implication for the development of novel ecologically friendly tactics for the management of different locust species are highlighted.