



Plate 7.5 Coccinellids as intraguild predators. (a) Intraguild predation by a fourth instar larva of *Harmonia axyridis* preying upon a pupa of *Adalia bipunctata*. Picture by Serge Laplante; (b) Intraguild predation by an adult of *Stethorus punctillum* preying upon a first instar of the mullein bug *Campylomma verbasci*. Picture by Olivier Aubry (Laboratoire de Lutte biologique, UQAM, 2008).



Plate 7.6 Coccinellids as intraguild prey. (a) Intraguild predation by an adult *Podisus maculiventris* on a larva of *Coleomegilla maculata lengi* in a soybean field. Picture by Florent Renaud, 2007; (b) Intraguild predation by a *Thanatus* sp. spider on an adult of *Harmonia axyridis* in an apple orchard. Picture by Jennifer de Almeida, 2008 (Both pictures from Laboratoire de Lutte biologique, UQAM).



Plate 8.6 *Cowperia indica* (photo courtesy of J. Poorani).



Plate 8.7 A pupa of *Nothoserphus mirabilis* attached to the ventral side of its killed host, a larva of *Menochilus sexmaculatus* (photo courtesy of J. Poorani).



Plate 8.8 The underside of the elytron of an *Adalia bipunctata* infected with *Coccipolipus hippodamiae* (six large adult female mites and their eggs are visible) (photo courtesy of Emma Rhule).

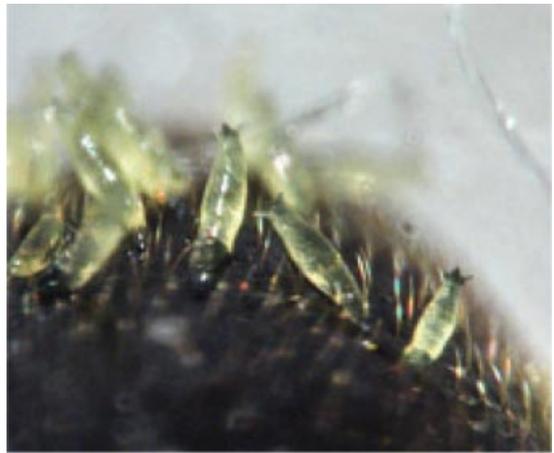


Plate 8.9 Thalli of *Hesperomyces coccinelloides* on the elytra of *Stethorus pusillus* (photo courtesy of Johan Bogaert).



Plate 8.10 A clutch of *Adalia bipunctata* eggs and young larvae in which only half the offspring have hatched, due to the action of a male-killing *Rickettsia* (Photo: Remy Ware).



Plate 10.2 An exclusion cage designed for assessing impact of coccinellids and other natural enemies on aphids and psyllids infesting expanding grapefruit terminals. The cage is constructed from a clear plastic 2-litre soda bottle with mesh sleeves attached to either end with silicone and fastened to the branch with a length of wire secured to the inside of the bottle with packing tape. The sleeve mesh can be selected to permit the passage of particular insects (in this case, parasitoids), while excluding larger ones (coccinellids). The basal sleeve is attached tightly around the branch with a zip tie; the terminal sleeve is sufficiently long to permit unimpeded growth of the shoot for 2–3 weeks and can be untied to permit periodic access and counting of insects (photo: J.P. Michaud).



Plate 10.1 Exclusion cages mounted in an alfalfa field to determine impact of coccinellid species feeding on pea aphids, *Acyrtosiphon pisum* (photo: Edward Evans).

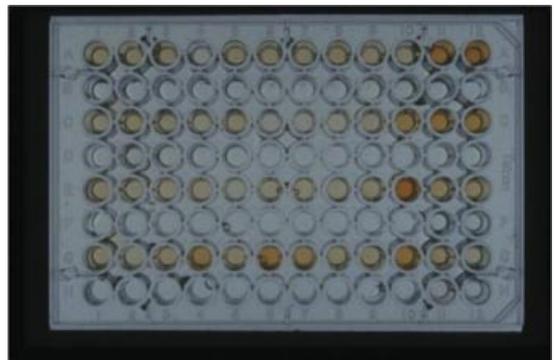


Plate 10.5 A 96-well microtitre plate following enzyme-linked immunosorbent assay. The amount of antigen–antibody binding is signified by the intensity of the reaction: absorbance is typically monitored by spectrophotometer to infer qualitative (and occasionally semi-quantitative) assessments of predation (photo: James Harwood).



Plate 11.1 An assassin bug (Reduviidae) preying on an adult *Hippodamia convergens* (J.P. Michaud).



Plate 11.5 Close-up of an adult *Hippodamia convergens* drinking extra-floral nectar from the petiole of a sunflower plant *Helianthus annuus* (J.P. Michaud).



Plate 11.2 The vedalia beetle *Rodolia cardinalis* with eggs and neonate larva on a mature cottony cushion scale (Jack Kelly Clark, courtesy UC Statewide IPM Program).



Plate 11.3 Aggregation of *Harmonia axyridis* attempting to enter a house under a door (courtesy of Marlin Rice).



Plate 11.6 A 'beetle bank' comprising a strip of perennial grasses forming dense tussocks to serve as overwintering habitat for coccinellids and other beneficial insects (Otago Regional Council, New Zealand).