

Soft-Bodied *Collops* Likes Soft Bodies

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Collops, members of the Soft-wing Flower Beetle family (Melyridae), differ from other beetles in that their bodies are not hard and shell-like. They are important predators that have a penchant for soft-bodied insects like whiteflies (eggs, nymphs, and adults), small *Lygus* nymphs, aphids, mites, and lepidopteran eggs and caterpillars. With so much Bt cotton around (94.5% in 2011), there aren't many leps to eat. So *Collops* concentrate on what we do have: whiteflies, *Lygus*, and a variety of immature insects. They graze on pollen and nectar resources, too.

Two *Collops* beetle species are found in cotton and other field crops during Arizona's summer season: *Collops vittatus* (Fig. 1) and *Collops quadrimaculatus* (Fig. 2A). *C. vittatus* tends to be more abundant and some cotton fields are loaded with them right now, though extreme hot weather will reduce their numbers by limiting reproduction and immature development. Larvae are predaceous in the soil litter, but are rarely seen. Adults are about ¼ inch long with very dark, iridescent blue and red stripes on their back. Their appearance is striking and in other parts of the country *Collops* are sometimes referred to as "red-cross" beetles. In Australia, there is a related predatory species that inhabits cotton where they are called "red and blue" beetles (Fig. 2B). Males and females can be distinguished by clearly visible structures present on the base of male's antennae (Fig. 1A, C). *Collops* beetles can be important early to mid-season predators that help suppress the development of economic populations of a wide array of insects. Arizona research suggests that they can be very important in the natural control of whiteflies in cotton, especially in conjunction with selective insecticides.

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Also see:

Ellsworth & Naranjo. IPM in Arizona Cotton: Successful adoption of selective controls for multiple key insect pests. Presented at 6th International IPM Symposium, Portland, OR. 3/26/09.

<http://ag.arizona.edu/crops/presentations/09IPMPortlandBiorational/F71a.pdf>

Naranjo & Akey. 2004. Comparative efficacy and selectivity of acetamiprid for the management of *Bemisia tabaci*. In UA-CALS, Cotton Report P-138, pp. 198-205. <http://cals.arizona.edu/pubs/crops/a-1335/a-13356b.pdf>

Figure 1. *Collops vittatus* adult males (A, C) & female (B); note enlarged base of antennae in the males.

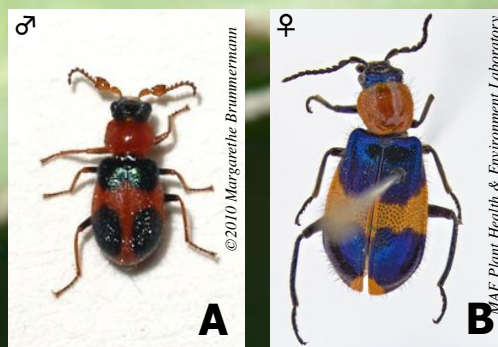
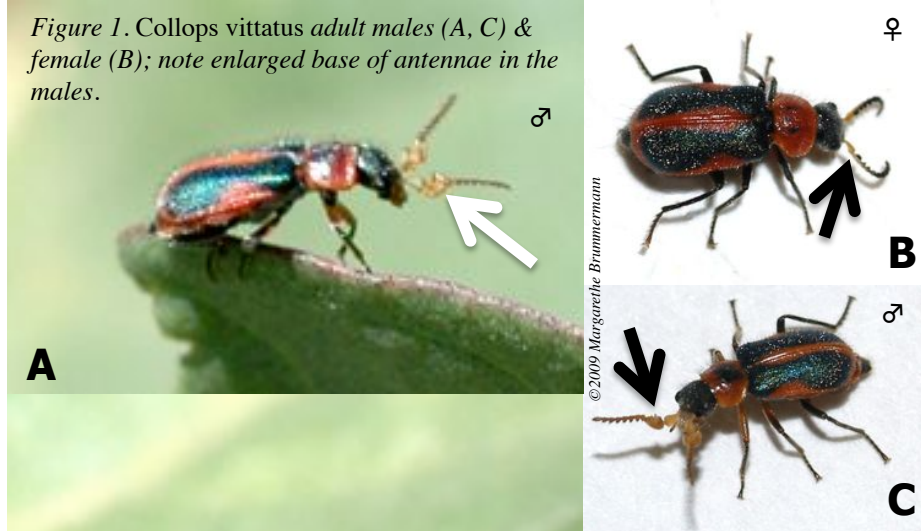


Figure 2. *Collops quadrimaculatus* (A, adult male) & similar Australian species (B, *Dicranolaius bellulus*); note 4 patches or spots on back of these two species.

Selective insecticides for whitefly control (Courier, Knack, & moderate rates of Oberon) or Lygus control (Carbine) conserve *Collops* and other beetle predators. Avoid neonicotinoids & broad spectrum insecticides.



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