

Common and spotted asparagus beetle as pests of asparagus

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Appearance and life cycle: Both common and spotted asparagus beetle feed exclusively on asparagus, but the common asparagus beetle is much more abundant in fields.

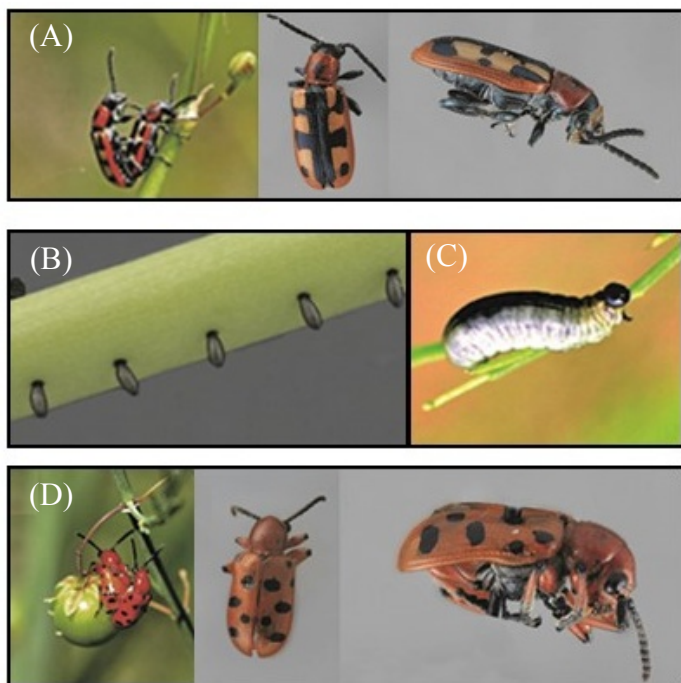


Figure 1. Common asparagus beetle (A) adults, (B) eggs, (C) larva, and spotted asparagus beetle adults (D). Common asparagus beetles are significant pests of asparagus; spotted asparagus beetles cause little damage. Photo credit: W.R. Morrison III

Common asparagus beetle adults overwinter in asparagus stems and field debris within and outside asparagus fields. In Michigan, adults emerge from their overwintering sites in early May. Beetles are approximately 8mm long, are reddish-colored with a broad black center stripe and large yellow spots (Fig. 1A). After mating, adults deposit eggs (~ 1.5mm long) on spears and ferns in a neatly spaced row (Fig 1B).

Eggs are firmly attached to the plant and do not wash off easily with water. Larvae hatch after 3-8 days and begin feeding on the plant (Fig 1C). Larvae are pale grey or cream-colored with a dark head. Larvae drop into the soil to pupate, and emerge as adults after 10-14 days. A single generation from egg to adult is roughly 30 days, allowing for three generations per year in Michigan (Fig 2).

Spotted asparagus beetle life cycle is similar to the common asparagus beetle, but adults emerge later in the season. Adult coloration is orange-red with 12 black spots (Fig 1D). Light-colored eggs are deposited singly on stems, and can be difficult to find. Larvae are difficult to distinguish from the common asparagus beetle.

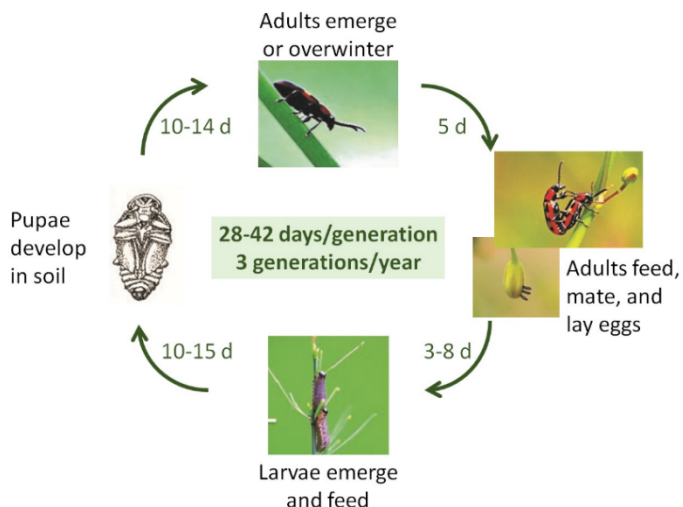


Figure 2. Life cycle of the common asparagus beetle. Photo credit: W.R. Morrison III; pupa image: Bernice DeMarco, Michigan State University

Damage: Common asparagus beetles cause pitted scars on spears, stems, and ferns (Fig 3), which decreases the market value of spears during harvest and hinders photosynthesis during the fern season. Larvae feed on needles and the outer surface of stems, and may leave behind a dark fluid waste product as they feed. The spotted asparagus beetle feeds only on asparagus berries, and is not considered a significant pest of asparagus.

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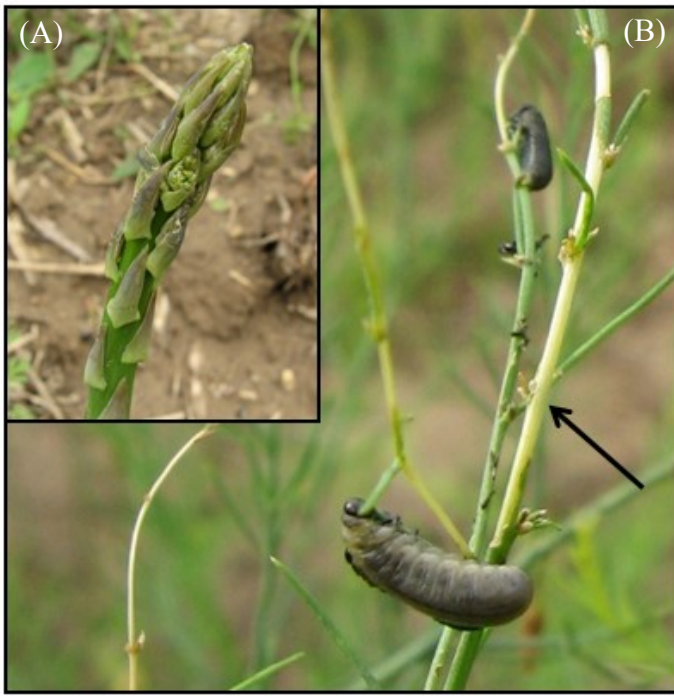
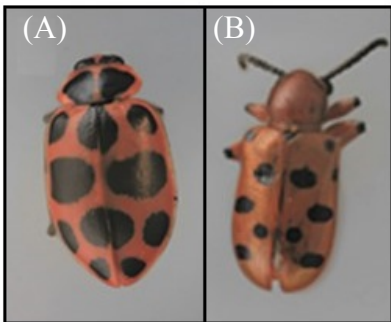


Figure 3. (A) Adult asparagus beetle damage on spear, and (B) larva damage on fern. Larvae first consume needles, then strip outer layer of stem, leaving yellow damaged areas (arrow). Photo credit: A.J. Ingrao

Similar species: Spotted asparagus beetles may be mistaken for the pink spotted lady beetle. The species can be distinguished by two dark spots on the thorax of the spotted lady beetle, which the spotted asparagus beetle lacks (Fig 4). At 5-6 mm long, pink spotted lady beetles are smaller than spotted asparagus beetles. Lady beetles are one of the most efficient predators of asparagus beetles and their presence should be encouraged.



The coloration of the common asparagus beetle is distinct and not likely to be mistaken for another insect.

Figure 4. (A) Pink spotted lady beetle and (B) spotted asparagus beetle. Photos are not to scale: the lady beetle is roughly 2/3 the size of the asparagus beetle. Photo credit: W.R. Morrison III

Management: *Chemical controls* include broad-spectrum insecticides including the active ingredients carbaryl and permethrin. Newer classes of insecticides such as spinetoram and spinosad are also registered for use in asparagus and may be effective options during the fern stage. Scouting should begin in early spring, and take place in the afternoon when both adults and larvae are active. Check 20 plants at random from 5 areas of the field (100 plants total).

Threshold for spray during harvest:

- >2% of spears have eggs, or
- >5% of spears have adults

Threshold for spray post-harvest:

- >2% of plants have eggs,
- >10% of plants have adults,
- 50-75% of plants have larvae, or
- plants have >10% defoliation

Cultural controls can also help manage asparagus beetle populations. Areas surrounding fields should be kept clear of volunteer asparagus, which can serve as an extra food source for asparagus beetles. In small-scale production, burn or otherwise clear plant debris from fields at the end of the season to eliminate overwintering habitat for asparagus beetle adults. Parasitoid wasps and lady beetles are important natural enemies of asparagus beetles.

Other resources

MSU Enviro-weather – up to date temps and degree days:
enviroweather.msu.edu/homeMap.php

MSU vegetable entomology asparagus information:
<http://vegetable.ent.msu.edu/extension/bulletins/asparagus/>

Information about vegetable growing in Michigan:
<http://msue.anr.msu.edu/topic/info/vegetables>

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