

Other Insects and Pests



FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4

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PHOTOGRAPHS: Courtesy of F.B. Peairs (CSU), K.K.Mauna (Asiatic Agr. Ind.), and M. Sheppard et al. (SE Asia, Bugwood.org). [09/2011]

COMMON HOSTS: Legumes such as *Phaseolus vulgaris* are affected by various insects and other pests that are widespread in tropical to semi-tropical growing regions around the world. **NOTE:** Additional insect information is available on Legume ipmPIPE Diagnostic Pocket Series Cards “Legume Insect Pests” and “Legume Insect Vectors of Viruses”.

FIGURE 1 • Bean fly, *Ophiomyia phaseoli* is a shiny, metallic black fly 2 mm in length, with a wing span of 5 mm. Eggs are laid on the upper or lower surface of leaves. Maggots tunnel through leaf tissue (silvery mines), to the petiole, branch and/or upper part of the stem, and then down to the root. Affected plants may exhibit wilting, stunting, cracked or swollen stems, and death. It is important in tropical Africa and Asia.

FIGURE 2 • Bruchids (Weevils), *Acanthoscelides obtectus*, *Zabrotes subfasciatus* (left) are important dry bean pests in the Americas. Several *Callosobruchus* species infest stored tropical legumes worldwide. *A. obtectus* scatters eggs among stored seeds or infests bean pods in the field, while *Z. subfasciatus* attaches eggs to seeds. *C. maculatus* (right) attaches its eggs on cowpea seed either in the pod or in storage. Newly hatched larvae (1–2 mm) of all three species penetrate the seed coat and feed internally.

FIGURE 3 • Pod borers, *Apion godmani* (upper), *Epinotia aporema*, *Heliothis* spp., and *Maruca testulalis* (lower) lay eggs on or near pods, after which larvae penetrate pod walls and feed on pod tissue and seeds. *A. godmani* is a weevil, while the others are caterpillars.

FIGURE 4 • Bean slug, *Sarasinuola plebeia*, can consume entire leaves or even seedlings and also feed on pods. Slime trails often are present on affected plants. Adults live 12-18 months and reach 5-7 cm in length. Most damage occurs along the borders of fields, especially in weedy fields near streams. An estimated economic injury level is 0.25 slugs/m². It is an intermediate host for *Angiostrongylus costaricensis*, and *A. cantonensis* which are human pathogenic nematodes.

FACTORS FAVORING:

- Presence of previously infested crop debris
- Lack of crop rotation
- Poor sanitation of previous legume and weed debris
- Contaminated seed
- Susceptible varieties
- Moderate to high moisture conditions favor slugs

ADDITIONAL DIAGNOSTICS AVAILABLE AT:

<http://legume.ipmpipe.org>

<http://wiki.bugwood.org/PIPE:Legume>

<http://www.apsnet.org/> —Dry Bean Production & Pest Management