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Entomology

Plants that Attract Insect Predators and Parasitoids

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Natural enemies are beneficial arthropods (insect and mites) that attack and control other arthropods some of which are pests that can harm our fruits, vegetables, field crops and ornamental plants. These natural enemies can be predators such as green lacewings, lady beetles, minute pirate bugs, flower fly larvae (syrphid flies), damsel bugs, big eyed bugs, and spiders. They can also be insect parasitoids such as tachinid flies, braconids, ichneumonids and other micro hymenopteran wasps.

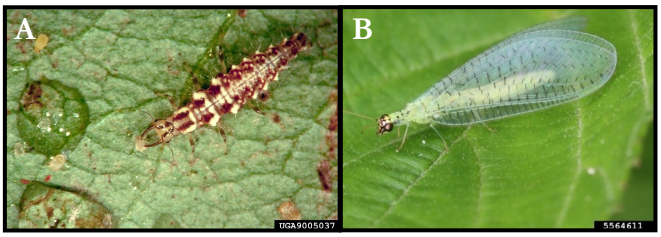

Figure 1: Green lacewing. A. Larva. Photo credit: Bradley Higbee, Paramount Farming, Bugwood.org (UGA9005037), B. Adult. Photo credit: Johnny N. Dell, Bugwood.org (564541).

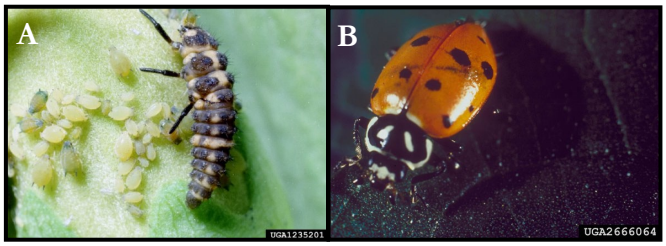

Figure 2: Lady beetle. A. Larva. Photo credit: Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org (UGA1235201), B. Adult. Debbie Waters, University of Georgia, Bugwood.org (UGA2666064).

Predators and Parasitoids

Arthropod predators in their adult and /or immature stages actively search out and eat prey insects and mites. A parasitoid is an insect that lives in or on its host's body at the host's expense, and eventually kills it by feeding on host tissues.

Importance of Natural Enemies

Natural enemies provide a free service in controlling pest insects and mites and help us to reduce the use of pesticides and the cost of crop production. They are critically important for sustainable agriculture because they play an important role in integrated pest management (IPM). In IPM, we use all possible management practices such as physical (use of traps and lures, catch and remove pests), cultural (land preparation, removal of weeds and pest damaged plant parts, maintain sanitary conditions, planting date and crop rotation) biological (use of natural enemies) and keep chemical control (use of insecticides) as a last resort.

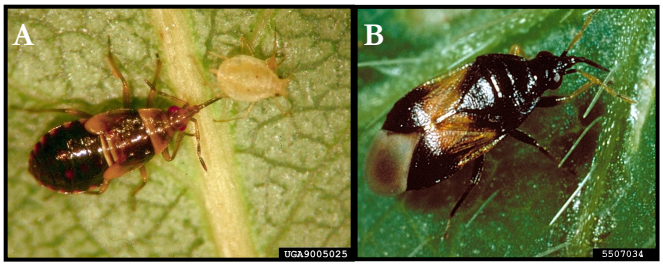

Figure 3: Minute pirate bug. A. Nymph. Photo credit: Bradley Higbee, Paramount Farming, Bugwood.org (UGA9005025). B. Adult. Photo credit: Phil Sloderbeck, Kansas State University, Bugwood.org (5509034).

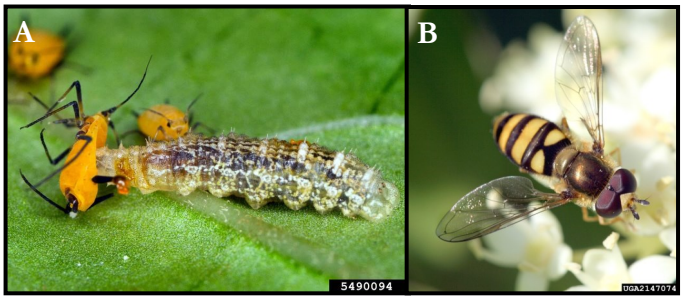

Figure 4: Flower fly. A. Larva. Photo credit: Bradley Higbee, Paramount Farming, Bugwood.org (UGA9005025). B. Adult. Photo credit: David Cappaert, Bugwood.org (UGA2147074).

Plants that Attract Natural Enemies

There are many herbs, flowering plants, woody ornamentals, forage and row crops that attract natural enemies to fruit and vegetable gardens, small and large farms and fruit orchards. Growing these plants provides additional benefits such as using them for family consumption and /or to sell. In addition, flowers bring beauty to your garden and attract insect pollinators such as bees, flower flies and butterflies. The table below shows some of the plants you can grow in or around the garden and/or crop field to attract natural enemies.

Table 1: Plants that Attract Natural Enemies

Type of plant	Common Name	Scientific Name	Natural Enemies Attracted
Herb	Coriander (cilantro or Chinese parsley)	*Coriandrum sativum*	Green lacewings, lady beetles, flower flies, parasitoids
	Dill	*Anethum graveolens*	Green lacewings, lady beetles, parasitoids
	English lavender/ lavender	*Lavandula angustifolia*	Flower flies, bees
	Fennel:	*Foeniculum vulgare*	Green lacewings, lady beetles, minute pirate bugs, damsel bugs, big eyed bugs, parasitoids
	Lemon balm	*Melissa officinalis*	Flower flies, tachinid flies, parasitoids
	Parsley	*Petroselinum crispum*	Flower flies, tachinid flies, parasitoids
	Spearmint	*Mentha spicata*	Flower flies, minute pirate bugs, damsel bugs, big eyed bugs
Flowering plants	Cosmos	*Cosmos* spp.	Minute pirate bugs, damsel bugs, big eyed bugs, parasitoids
	Breckland/Crimson thyme	*Thymus serpyllum*	Tachinid flies, parasitoids, flower flies
	Golden marguerite	*Cota tinctoria*	Tachinid flies, parasitoids, flower flies, green lacewings, lady beetles
	Marigold	*Tagetes spp.*	Lady beetles, minute pirate bugs, damsel bugs, big eyed bugs, parasitoids
	Phacelia	*Phacelia tanacetifolia*	Bees, flower flies, tachinid flies
	Prairie sunflower/ lesser sunflower	*Helianthus petiolaris*	Green lacewings, lady beetles
	Summer beauty	*Allium spp.*	Flower flies
	Sweet alyssum – white	*Lobularia maritima*	Flower flies, parasitoids
	Tansy	*Tanacetum vulgare*	Tachinid flies, parasitoids, lacewings, lady beetles
	Zinnia	*Zinnia spp.*	Flower flies, parasitoids
	Mountain mint	*Pycnanthemum virginianum*	Bees, lady beetles, flower flies, parasitoids, soldier beetles
Woody perennial ornamental plants:	Crape myrtle	*Lagerstromia indica*	Lady beetles, lacewings
Forage and row crops:	Alfalfa	*Medicago sativa*	Minute pirate bugs, damsel bugs, big eyed bugs
	Buckwheat	*Fagopyrum esculentum*	Tachinid flies, lady beetles, flower flies

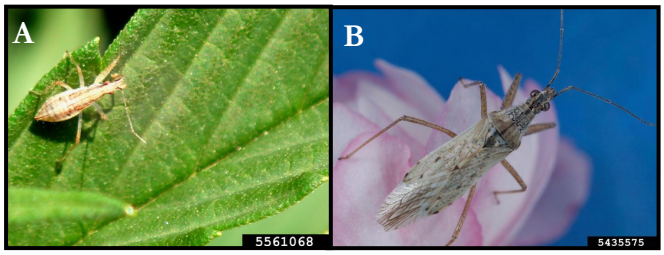

Figure 5: Damsel bug. A. Nymph. Photo credit: Whitney Cranshaw, Colorado State University, Bugwood.org (5561068). B. Adult. Photo credit: Joseph Berger, Bugwood.org (5435575).

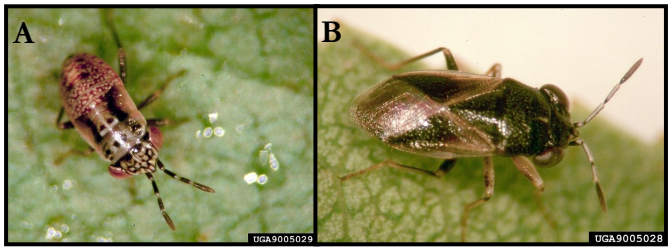

Figure 6: Big-eyed bug. A. Nymph. Photo credit: Bradley Higbee, Paramount Farming, Bugwood.org (UGA9005029). B. Adult. Photo credit: Bradley Higbee, Paramount Farming, Bugwood.org (UGA9005028).

Figure 7: Spiders. A. Garden orb weaver. Photo credit: Whitney Cranshaw, Colorado State University, Bugwood.org (5569002). B. Crab spider. Photo credit: Ansel Oommen, Bugwood.org (5566167).

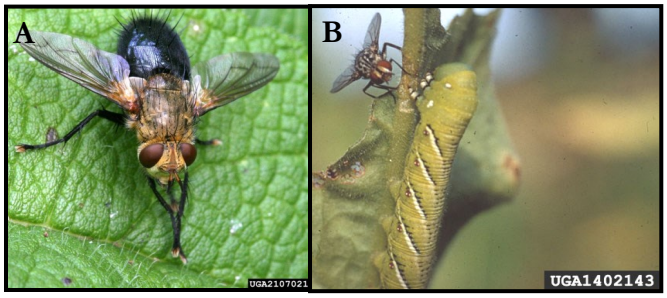

Figure 8: Tachinid fly (parasitoid) A. Adult. Photo credit: David Cappaert, Bugwood.org (UGA2107021). B. Adult female laying eggs on a hornworm. Photo credit: R.J. Reynolds Tobacco Company Slide Set, R.J. Reynolds Tobacco Company, Bugwood.org (UGA1402143).

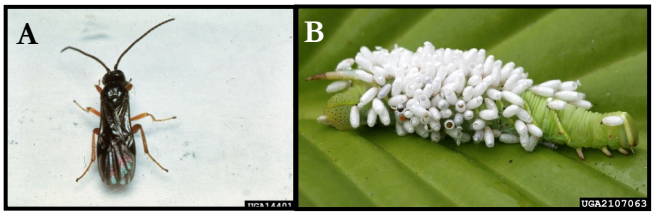

Figure 9: Braconid Parasitoid. A. Adult. Photo credit: R.J. Reynolds Tobacco Company Slide Set, R.J. Reynolds Tobacco Company, Bugwood.org (UGA1440135). B. Parasitoid larvae enclosed individual cocoon on hornworm. Photo credit: David Cappaert, Bugwood.org (UGA2107063).

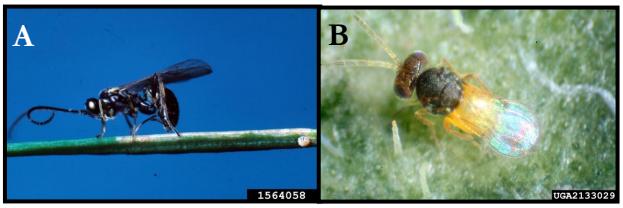

Figure 10: A. Ichneumonid Parasitoid. Photo credit: Roger Ryan, USFS PNW Station, Bugwood.org (1564058). B. Micro parasitoid. Photo credit: David Cappaert, Bugwood.org (UGA2133039).

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