



Corn Creatures: The Start of a Natural History of Corn Fields.

Hawthorne Valley Farmscape Ecology
Program

conrad@hawthornevalleyfarm.org

Thanks to the Farm Hub, Roxbury Farm and The Farm
at Miller's Crossing for tolerating our corn snooping.
Unless otherwise noted, photos by C. Vispo.

A White-marked Tussock Moth. Feeds
mainly on trees, but there are scattered
reports of it feeding on corn. Female
moths are flightless.



This **Yellow-haired Dagger Moth** caterpillar probably made a wrong turn at some point – they are said to feed on woody plants, not corn.



Corn Ear Worm are most often seen at the tip of the cob, where they devour the first several rings of kernels. As we observed while scouting (right), mature Corn Ear Worms will attack and kill other caterpillars. This may reduce competitors on the corn cob, although they will consume caterpillars they have killed.



Fall Webworm,
probably more a
visitor than pest.



Photo by
Kendrick Fowler



A **European Corn Borer** coring a corn tassel. It appears that a fly may have taken advantage of the hole to pupate. Stalk holes exuding frass (far right) are often this species' most conspicuous sign, although the tiled eggs are also evident (right). This species was first noted in North American around 1918.

Cabbage Whites were occasionally seen, probably because they are drawn by the mustards that are common weeds in and around corn fields.



Moving on to beetles, this is a **Corn Flea Beetle**. We only saw a few of these in our corn explorations.



This picture of bird poop on a corn leaf may contain the remains of some of Corn Flea Beetles, but I need to look at it more closely. In any case, it's clear that the birds in the corn aren't just attacking the cobs.





The Asian Multicolored Lady Beetle comes with and without various numbers of spots. The most consistent character is the pattern of white and black on the body section behind the head.





The introduced **14-spotted Lady Beetle** arrived to the Canadian Maritimes in the 1990s and has since spread south. It is sometimes intentionally introduced for pest biocontrol. Here, it shares the stage with *Tiphia vernalis* or a similar species... more on them later.

The native **Pink Spotted Lady Beetle** was common on the corn we visited. They feed on various 'pests', including the eggs of European Corn Borer. Adults will also occasionally feed on plant pollen or sap, but are not considered pests.





Pink Spotted Lady Beetle
larvae were also common
on the corn, where they
may feed on aphids and
other soft-bodied prey.



This **Disonychia** species of Flea Beetle may just be an occasional, errant visitor; there are not many reports of them causing damage to corn.



Japanese Rose Beetles do not, needless to say, limit themselves to roses. We sometimes found large groups of them feeding on exposed corn kernels.



Sap Beetles are actually a family of beetles rather than a single species. Some have obvious dots on their backs, some don't. In general, it seems that they enter cobs that are already damaged by Corn Ear Worm, birds or some other creature. They then burrow into kernels and consume them. Their grub apparently do similar work.

Corn Rootworms come in various 'models', the one on left is a **Northern Corn Rootworm**. The beetle on the right resembles a Western Corn Rootworm, but, so far as I can tell, is actually a wayfaring **Striped Cucumber Beetle**.



What I have always known as the **Spotted Cucumber Beetle** is also called **Southern Corn Rootworm**. While adults will reportedly feed on silk, and we saw them munching kernels, the root feeding of their grubs is apparently the main damage they do to corn.



This appears to be a **Rove Beetle** get together of some sort; these beetles may mainly be scavengers of damaged corn.



The **Flat Wireworm** is, as a grub, a consumer of corn roots. As those spines on the section behind the head suggest, it is in the click beetle family.



Shifting now to 'True Bugs', the tiny **Minute Pirate Bug** (adult below, nymph (?) left) is described as an inconspicuous but active predator of the eggs and small larvae of European Corn Borer, Corn Ear Worm and other insects.



The Brown Stink Bug
(*Eustichus servus*?) was probably the most common stink bug that we saw in the corn. By sucking on stem and kernels, they can cause reduced growth and deformities.





Brown Marmorated Stink Bug is a recent introduction to the Northeast. We observed them with their syringe-like mouths sucking juices from ears of the grain corn.



The Green Stink Bug (*Chinavia hilaris*) is another true bug which sucks on corn plants; it may be most damaging to younger plants, although kernel damage may also sometimes occur.



I believe these may be the eggs and nymphs of *Podisus maculiventris*...



... aka, the
**Spined Soldier
Bug**; a predatory
stink bug which
sucks on other
insects, rather
than plant juices.



This **planthopper** (genus *Anotia*) was seen occasionally on the corn. Unlike the related leafhoppers, these do not seem to be a regular pest.

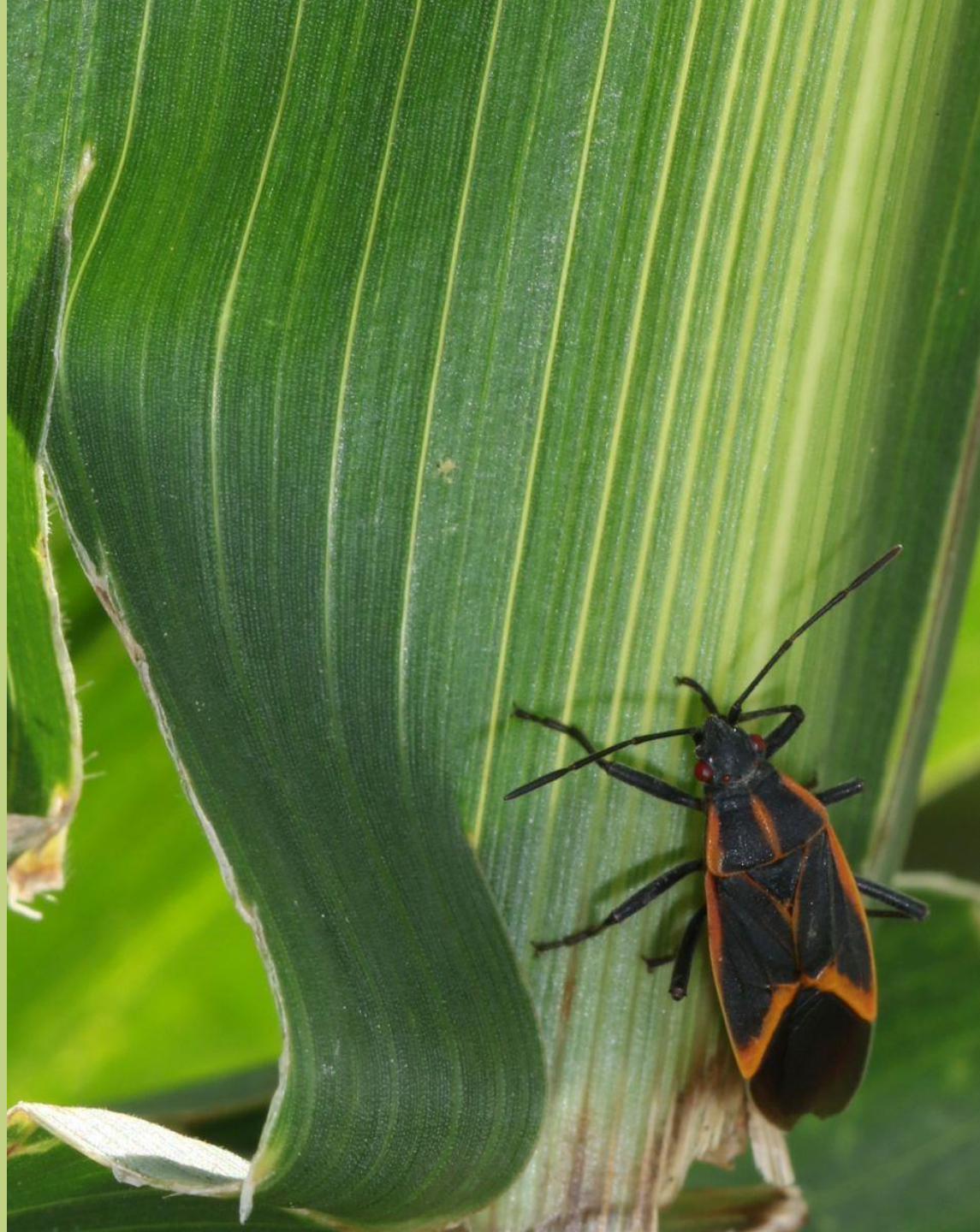


Photo by
Kendrick Fowler



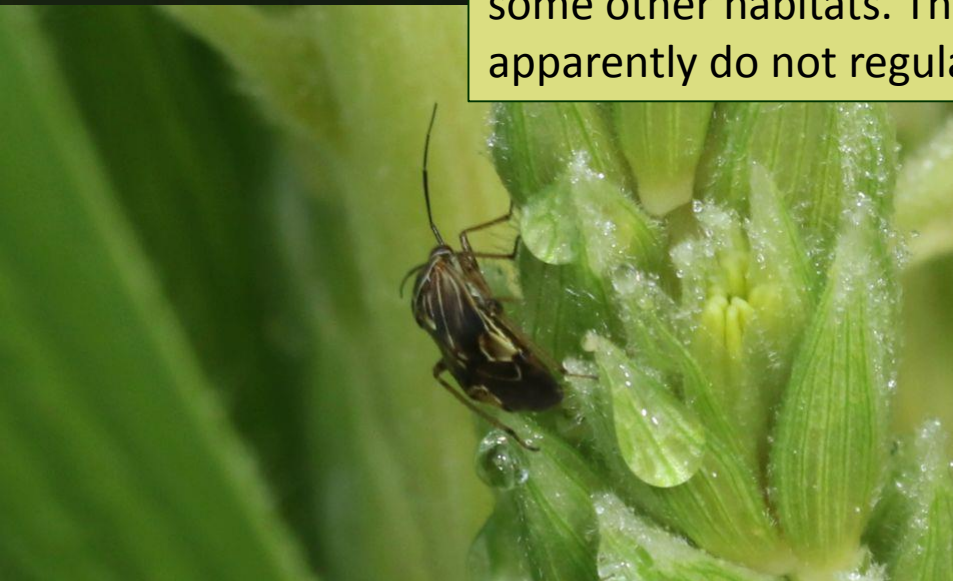
This **Leaf-footed Bug** was traipsing around a corn ear followed by orange attendants. Certain species in this group do show parental care, and these are probably young of the same species. These seem to be only minor economic pests in most cases.

Unless this **Boxelder Bug** mistook corn for maple, it was probably on its way somewhere else.





Tarnished Plant Bugs were around, but apparently not as common as in some other habitats. They can be major pests in certain crops, but apparently do not regularly cause major damage in corn.



This photo serves triple duty: first, as indicated by the plant bug atop the eggs, there are other true bugs in the corn, but we haven't ID'd them yet; second, there are other bug eggs out there (those below may belong to the Brown Stink Bug); finally, note the wasp...





The previous photo was a segue to looking at wasps on corn. No guesses at this point regarding exactly which types of wasps are visiting these true bug eggs, but parasitism is probably the goal.





This appears to be a **European Paper Wasp**. It might be visiting the corn for a couple of reasons. Adults feed on flower nectar and other sweet liquids, and so corn sap leaking from a leaf wound might attract them. Also, they gather a variety of insects and spiders to feed their young, and so this individual could be hunting. European Paper Wasps were first noted in Boston around 1970 and have spread rapidly since then.



These are **Tiphid wasps** of some sort, possibly even the genus *Tiphia* itself. They were quite common around the corn plants. Adults may have been feeding on sweet corn sap. This or a closely related species has been introduced as a biocontrol of Japanese Rose Beetles, and so these individuals may be parasitizing that species or another of the 'white grub' scarabid beetles.



Clockwise from above, bees of various kinds, including the **Common Eastern Bumble Bee** (a best guess ID), **Honey Bee** and the **Two-spotted Longhorn Bee**, visit corn flowers not for nectar but for pollen.



Ants are presumably
out scavenging



Photos by Kendrick
Fowler



While these seem to be after-the-fact flies, some other flies more actively influence the growing corn.

These metallic **Long-legged Flies** are reportedly predatory as both adults and larvae and so may help control some pests.





The **Corn Silk Fly** may be less welcome by the grower. Maggots feed on the developing silk and hamper successful pollination (and hence development) of kernels. We saw them frequently.

The **Corn Blotch Leafminer** is a fly, *Agromyza parvicornis*, whose maggot feeds just below the leaf's epidermis.



We also saw a few **Spotted-wing Drosophila** in the corn. I have not yet found reports of them being corn pest.





Hover flies, like these *Toxomerus politus*, are often seen around corn flowers, probably feeding on the pollen.

Tritoxa incurva, a species of picture-wing fly, nicknamed the Gas Mask Fly. It is not clear what it was up to in the corn, especially as it is uncertain what the adults feed on.





This **Horse Fly** was probably using the corn as a perch, awaiting passing creatures such as photographers.





A variety of spiders prowl the corn, including the tiny **Opulent Cobweb Spider** (left) and what appears to be a **Swift Crab Spider** (above).

Of course,
nothing
stops one
beneficial
from preying
on another!



Green Lacewings and their 'eggs on a stalk' were occasional in the corn. The big-jawed lacewing larvae prey on aphids and other small insects. Adults are said to feed mainly on the likes of pollen and nectar.



Photo by
Eddie Clevenger



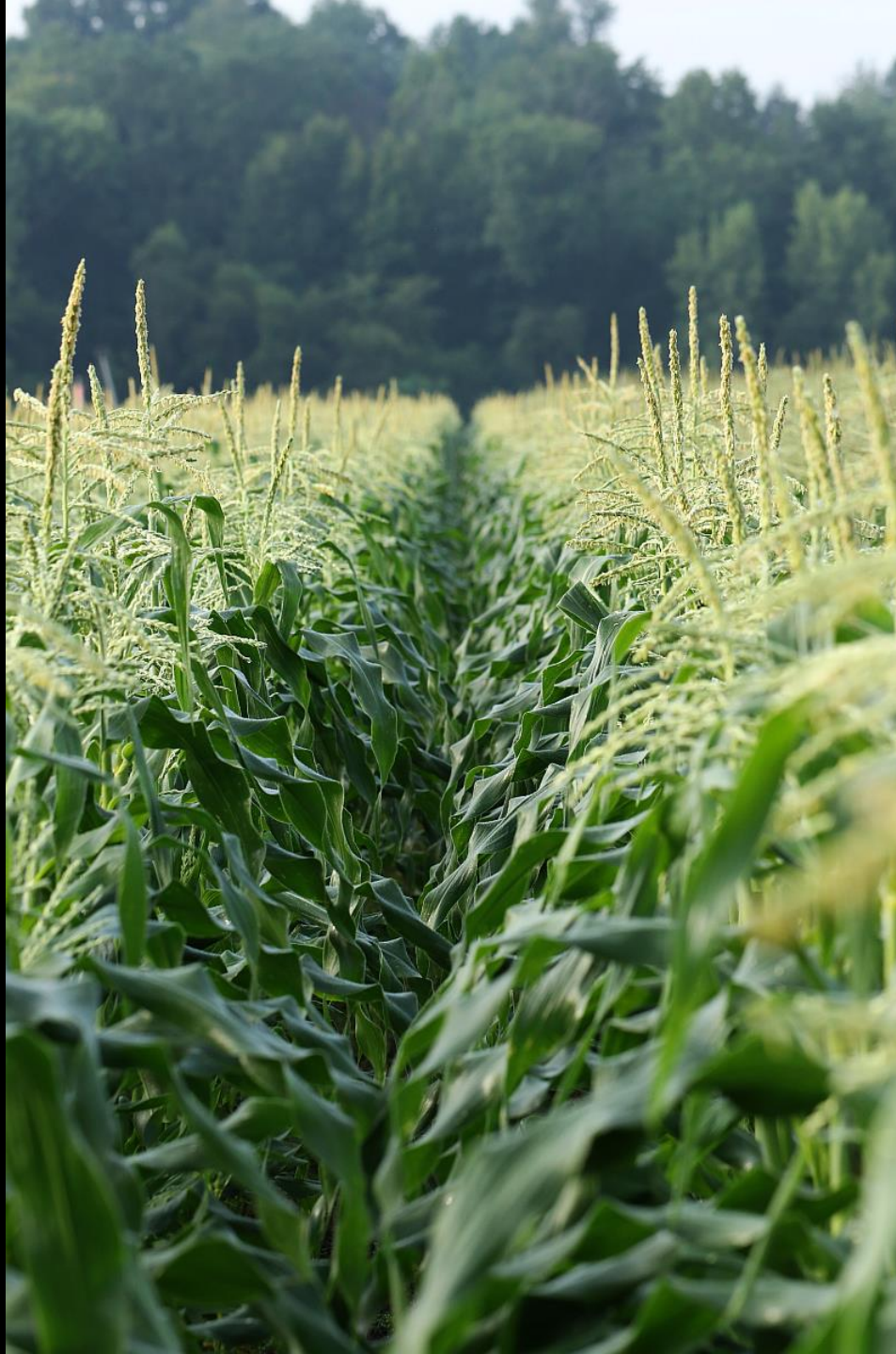
Grasshoppers and their kin began showing up later in the season. The **Differential Grasshopper**, shown in this image, was the most common and is a sometime corn pest, but other relatives were also present including those to the left and...



... the crickets. To the left is a Tree Cricket, possibly a **Pine Tree Cricket**. It may be that this individual flew into the corn by accident; we only saw one. However, the **Handsome Trigs** (below) were common in some places, and their shrill call could easily be heard in certain grain corn. Trigs are reportedly omnivores, feeding on plant matter, small insects, and insect eggs. Go to [this page](#) to hear a recording of their call.



While it is, of course, somewhat misleading to call corn fields 'forest', it is also somewhat misleading to assume they are sterile monocrops.



Although highly modified, they or their relatives have long been part of the North American ecological scene, and their fauna may, in part, reflect that heritage.