

Natter's Notes

Rose stem girdler, a new pest of caneberries & roses

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As insects go, rose stem borers, *Agrilus cuprescens*, (Fig 1) are small metallic beetles in the Family Buprestidae, about a 1/4-inch long when mature. This imported European species attacks two favorite garden plants: Roses and caneberries. Their larvae bore into the stems, eventually girdling them. The growth beyond that point wilts and dies. (Fig 2)

The older name, *Agrilus aurichalceus*, is still used in various resources. Other common names include bronze cane borer, cane fruit borer, and raspberry borer.

Facts about borers

Before we delve into further details, we need to understand that all insects that bore into plants behave similarly. For rose stem borers, it's essentially this:

1. Stressed plants release volatiles (e.g.: ethanol) to attract the pests.
2. The borers find the host by following a scent emitted by the plant.
3. The beetles "taste" the plant and, if it's suitable for attack – adequately stressed – release aggregation pheromones which attract more of their kin.
4. After sufficient beetles have arrived, they release a "de-aggregation" pheromone which essentially says "Back off, dude."
5. The beetles lay eggs on the canes. The larvae hatch and immediately bore into cambium where they feed in a spiral pattern, girdling the stem.
6. The stem develops a gall (a slight enlargement); the growth beyond the girdle dies.
7. The 4th instar larvae overwinter in the stem.
8. Adults emerge about mid-May, mate, and lay eggs singly on canes.
9. Repeat from #5 the next season.

Description

"Flatheaded borers are larvae of a remarkable group of beetles known as buprestids or metallic wood boring beetles, so named for their luminous, metallic exoskeletons. While the adults levy no particular offense other than to nibble a few leaves, their youngsters are real trouble makers and some of the most devastating pests of woody plants." (<http://bugoftheweek.com/blog/2013/1/2/gnarly-roses-rose-stem-girdler-agrilus-aurichalceus>)

Here in the northwest, we're already familiar with another small invasive buprestid, the Bronze Birch Borer (*Agrilus anxius*). They inflict serious damage and, often kill, stressed birch trees by girdling them, thereby disrupting the flow of the phloem and xylem. (Details at "Bronze Birch Borer" -

<https://www.na.fs.fed.us/spfo/pubs/fidls/bbb/bbb.htm>)

Host plants

As you might suspect, hosts of rose stem borers include roses, but also certain other members of the rose family, among them caneberries

commonly grown in home gardens, including both raspberry (red and black) and blackberry. Affected roses may be wild or cultivated kinds.



Fig 1 – Damage to caneberry foliage by adult rose stem girdlers, *Agrilus cuprescens*, is typically minor. (W. Cranshaw, Colorado State University, Bugwood.org)

Damage

Affected canes develop a gall (enlargement) at the feeding site which dries, weakens and may break. (Figs 4, 5) Fruit production may decrease. Caneberry plants with normally lush growth may die.



Fig 2 – Larvae of *Agrilus cuprescens*, weaken the cane which may break spontaneously. (James W. Amrine Jr., West Virginia University, Bugwood.org)

Management

Management of rose stem girdler in Oregon is currently limited to cultural methods. Plant in well-drained soil and provide adequate water and fertilizer to avoid plant stress.

When telltale enlargements are seen on the canes, remove them by pruning below the damage, then destroy the prunings.

MGs as First Responders

Here's an important project for you: Help track the spread of Rose Stem Girdler in caneberries and roses.

If you suspect such a diagnosis while volunteering as an MG, or in your own berry patch or rose bed, get images and/or samples. Jot down a history with at least a few known facts, among them the cultivar name of the plants; when the damage was first detected; also, in which town the plants are growing. The most useful images to verify a diagnosis are the entire plant; a view of the affected cane(s); and a cut-away of the affected section.

Next, email the images and history to me (j.r.natter@aol.com). After I verify your tentative diagnosis, I will notify both you and the entomologist. Oh, yes; keep your eyes peeled for this new pest.

Resources

Be cautious while researching rose stem borers. Several insects have similar common names which can lead you astray. (It may be risky to trust information that uses only a common name for the pest.) What you can tell clients, with confidence, about the rose stem girdler is that management is currently limited to removing and discarding (or burning, where allowed) the galled cane(s).

- *PNW Insect Handbook* contains a brief entry. Chemicals aren't currently listed for use in Oregon.

(<https://pnwhandbooks.org/insect/small-fruit/cane-fruit/cane-fruit-rose-stem-girdler>)

- "Rose Stem Girdler, *Agrilus cuprescens*": A useful one-stop resource concerning the beetle's life cycle and damage to raspberries. The suggested pesticides are for use in Utah, not Oregon.

(<https://utahpests.usu.edu/uppd/files-ou/factsheet/ENT-178-15.pdf>)

- *Garden Insects of North America*; Whitney Cranshaw; 2004; pages 476-477; this book is in each of the metro MG offices.



Fig 6 –The milky white larvae of the rose stem girdler, *Agrilus cuprescens*, are about a half-inch long; this one was damaged when extracted from the cane.

- "Gnarly Roses – Rose Stem Girdler" (<http://bugoftheweek.com/blog/2013/1/2/gnarly-roses-rose-stem-girdler-agrilus-aurichalceus>)



Fig 3 – Robin Rosetta, Entomologist, NWREC, during the Boring Pests of Nursery Stock workshop, 2017-10-13.

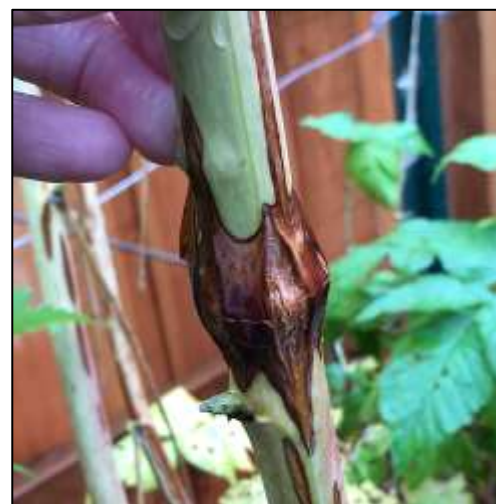


Fig 4 - 'Cascade Delight' cane: A gall (slight swelling), external browning, and longitudinal indicate rose stem girdler, *Agrilus cuprescens*. (M. Bayne; 2017-10)



Fig 5 – Scrape, or split, the cane to detect damage by *Agrilus cuprescens*. (J.R. Natter; 2017-10-13)