The body (abdomen) of females is green (the color of rice seedlings).
Eggs hatch after 5 - 10 days depending on the temperature (sooner in warm temperatures).

The female lays eggs singly or in groups of 2 – 3 eggs, inserted into tender young stems or main veins.

Both nymphs (young) and adult bugs have sucking mouthparts like a sharp drinking straw.

They use their mouthparts to pierce the young buds or leaves of the plant and suck the sap.

Their saliva is injected into the plant and is highly toxic – causing the black spots.

Nymphs often cause more damage than adults because they move less often and more quickly than the adults do.

- The adults can live for 8 - 13 days only.
- From the time the egg is laid to when the young female lays eggs to when the adult dies is only about 20 to 30 days (depending on the season).
- There are about 8 generations per year, and each female can produce up to 70 eggs.

Some Ways to Reduce Damage from Helopeltis

Bark damage from repeated attacks
Inspect bushes regularly for presence of helopeltis as well as other harmful insects and disease. Take action BEFORE you have a major problem!

- Maintain adequate spacing between new bushes.
- Check to make sure plants are free of helopeltis or other insects and disease, and
- Select varieties which show some resistance to helopeltis

Young plants can be well-watered with cow dung and cow urine slurry/cow pat pit/amrut pani/panchagavya and left overnight before transplanting.

The urine and dung feed the beneficial organisms in the soil, helps roots grow quickly and improve the plant’s resistance to soil-borne diseases.

Plant vigour can be further stimulated through use of amrit pani/jeevamrut introduced through irrigation water

Protect and encourage helpful insects
Management practices: Prevention
A more frequent plucking schedule helps remove mosquito bug eggs. Plucking every 10-15 days removes insect eggs and young insects before they grow large enough to cause a lot of damage.

Try to pluck out all the damaged buds, even if they are so badly damaged that you cannot harvest them. The reason is, plucking the damaged shoots stimulates the plant to grow new shoots.

If fields are seriously affected, light or moderate pruning can help to limit the population of mosquito bugs.

• During hot or sunny periods, the adult mosquito bugs are more active during the cooler parts of the day (in early morning, late afternoon, or just after rains).
• During the hottest time of the day, the mosquito bugs hide under the tea leaves and are hard to find.
• On cool cloudy days, mosquito bugs are active during the whole day.
• During cold months, mosquito bugs are most active during the warmest part of the day (from about noon until 3 p.m.)

Spraying formulas with conventional equipment does not reach lower leaves and underside of leaves where mosquitoes are hiding.
Equipment can be modified to achieve higher pressure and greater penetration.

Contact person: Harki Sidhu

Formulas can be used to:
• improve soil
• control insect pests
• increase plants resistance to disease
When preparing formulas, choose a variety of different plants. We want plants containing chemical compounds that:

- irritate the mouthpiece of the tea mosquito when it pierces the leaf
- have a strong smell which interrupts the mating process by making it difficult for the male to smell the scent given off by female

How these formulas can be applied

Drench the soil

Spray

“Dhoona” a resin from a tree is used to purify the environment and keep away mosquitoes.

Tea mosquito bug can be repelled by smoking the garden with organic residues during flushing, flowering and fruiting seasons.

Using smoke at sunrise and sunset disturbs their habitat, and mosquitoes may shift to another location.

It will not bother birds or beneficial flying insects that are present in the garden mid-day.
Formulas

- Make fermented plant extracts – chopped green plants (e.g. vitex negundo), gobar and gur – strain, dilute and spray
- Spray with pongamia oil (two per cent) during flushing, flowering and fruiting seasons
- Use fish kunapa – a traditional formula prepared from fermented fish waste and cow urine

Some success has been noted through the use of biological insecticides that contain naturally-occurring bacteria such as beauveria and bacillus thuringiensis.

There are questions about whether this approach would be suitable for large-scale gardens. Cost? Quality of product? Effective application?

Other important practices

- Moderate use of leguminous shade trees
- Intercrop vegetable crops between young tea – also consider interplanting tea with oranges, betel)
- Grow pepper on shade trees
- Leave a variety of multi-purpose bushes and plants along perimeter of garden

Because tea mosquito likes shade, you might wish to prune or reduce the number of shade trees.

But remember: if you have no shade at all, you will have more problems with other insects (especially leafhoppers, thrips, and red spider mites).
BAT BOXES