MIRID WORKSHOP

Isabella Nardone

Nicknames:

Plant bugs, Tomato bugs, Green bugs

This project is generously funded through the Canadian Agri-Science Cluster for Horticulture 4, in cooperation with Agriculture and Agri-Food Canada's AgriScience Program, a Sustainable Canadian Agricultural Partnership initiative, the Fruit and Vegetable Growers of Canada, and industry contributors.

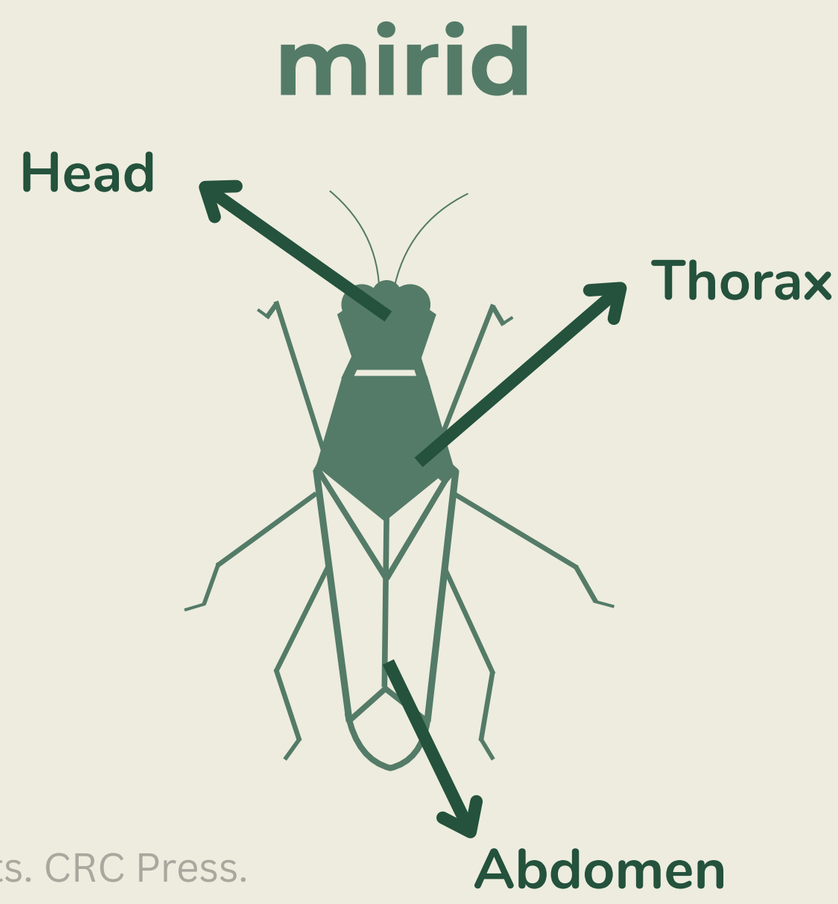
What is a mirid?

Mirids are hemipteran insects of the family Miridae. Mirids hold a large diversity of species, with differences in feeding behaviour ranging from plant feeding and predatory feeding (omnivores).

Mirid features

Mirids are typically 2-15 mm in length. Their bodies ranges from being oval in shape to thin elongated. Their colouration also varies typically from greens and browns. (Wheeler, 2000)

Wheeler, A. G. (2000). Plant Bugs (Miridae) as Plant Pests. CRC Press.

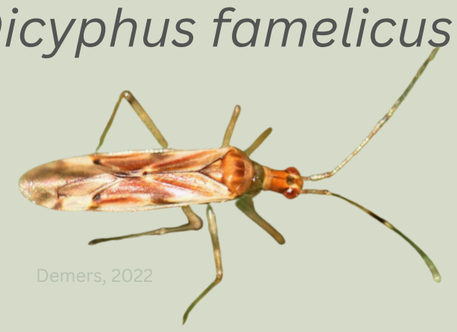


typical colours:

Mirid species

Examples of common beneficials and pest-like mirids:

Dicyphus famelicus



Demers, 2022

Currently under study as a potential biocontrol agent.

Dicyphus hesperus

Commercial biocontrol agent native to North America.

Engytatus modestus

Ron Hemberger

Native mirid to the Southern US and Mexico

Nesidiocoris tenuis

Johanna Bajonero

Biocontrol agent in EU and recent pest in Ont. (Named Nesi)

Macrolophus pygmaeus

©Petro PynnÄ¤nen/via wikipedia

Biocontrol agent in Europe.

MIRID WORKSHOP:
DICYPHUS VS NESI

Identifying common mirids in greenhouses: Friend or Foe?

Currently, commercial tomato facilities hold both mirid species, *D. hesperus* being a beneficial and *N. tenuis* a pest. Bellow are simple morphological traits for species identification.

Dicyphus hesperus

Red eyes

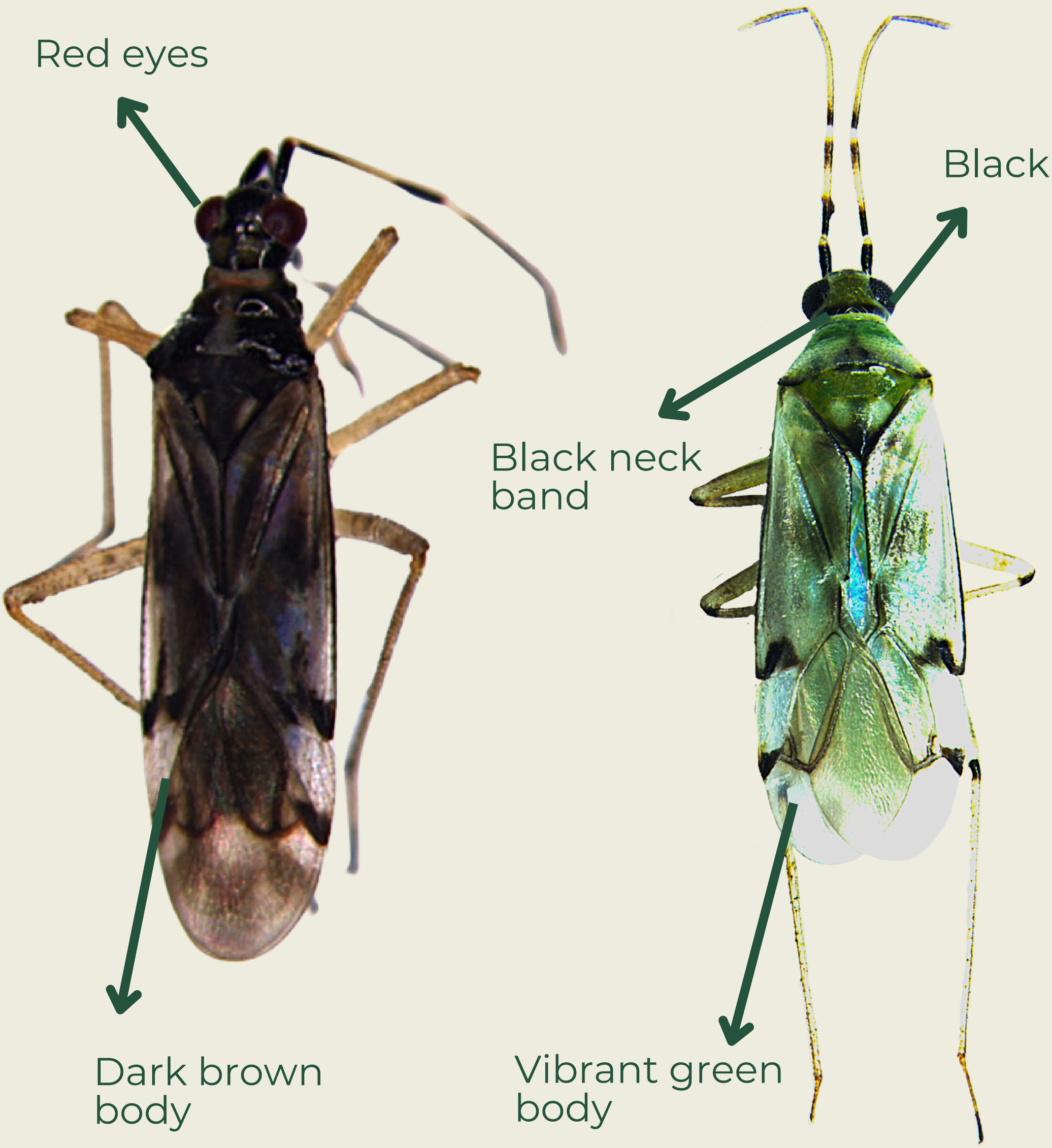
Dark brown body

Nesidiocoris tenuis (Nesi)

Black eyes

Black neck band

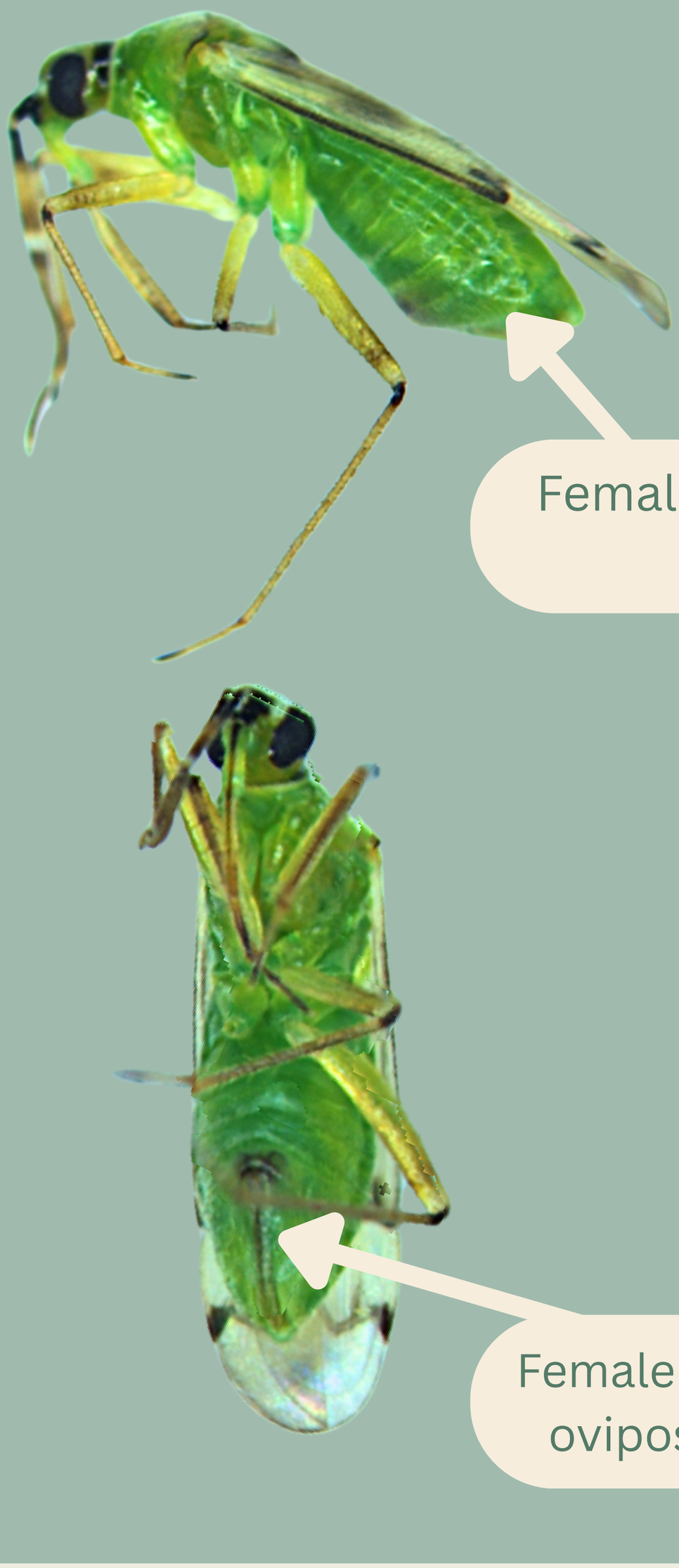
Vibrant green body



MIRID WORKSHOP:
NESI: MALE OR FEMALE?

Being mated, females have the potential to lay a detrimental amount of eggs.
It is crucial to determine the sex of the identified Nesi for future monitoring.

Females



Males

Female’s abdomen is larger

Female has a prominent ovipositor (blackline)

MIRID WORKSHOP: SPECIES IDENTIFICATION AT THE NYMPHAL STAGE

Currently, there are no keys to distinguish species at the nymphal stage as they look practically identical: green, small, red or black eyes.

What we suggest:

- Rear the nymph(s) until adulthood for confident species identification.

How to rear:

- Keep the nymph(s) in a vented container with plant material. Check daily for adult emergence.