Hornworms and Hummingbird Moths

Lepidoptera: Sphingidae
Hornworms are large caterpillars. Most have a “horn” on the end of the body.

Two species can be damaging pests of tomatoes – the tomato hornworm and the tobacco hornworm.
Bill playing with a hornworm
Bill – Still doing just fine, years later
Life Stages of the Tobacco Hornworm

*Manduca sexta*
Life Stages of the Tomato Hornworm

*Manduca quinquemaculata*

**Adult (Sphinx Moth)**

**Egg and newly hatched larva**

**Pupa**

**Larva (Hornworm)**
Top: Tobacco hornworm. Middle: Tomato hornworm (normal coloration). Bottom: Tomato hornworm (dark phase larva)

Photograph courtesy of Jim Kalisch, University of Nebraska
Hornworms turn into Sphinx moths.
Most sphinx moths fly at night.
Day-flying sphinx moths are sometimes called "Hummingbird Moths"
Conflict?

You like this....

...but not this.
About two dozen kinds of hornworms occur in the region.

Most hornworms are not “pest” insects.

Ash sphinx

Elm sphinx

Great poplar sphinx

Whitelined sphinx
Moths of the tomato hornworm and tobacco hornworm do not fly during the day.

The whitelined sphinx is a day flying sphinx moth, aka, a “hummingbird moth.”
“Hummingbird Moth”

A type of sphinx/hawk moth that flies during the day
Whitelined Sphinx
"hummingbird moth" of the West
Larvae feed on purslane, evening primrose, grape and many other plants but almost never produce noticeable damage to crops of garden plants.
Whitelined sphinx caterpillars feeding on evening primrose flowers
Hummingbird clearwing sphinx
*Hemaris thysbe*

“Bumble Bee” Clearwing Sphinx Moths

Snowberry clearwing
*Hemeris diffinis*
Some plants most often visited by hummingbird moths include:

- Four o’clocks
- Evening primrose
- Larkspur
- Gentian
- Nasturtium
- Catmint
- Datura
- Winecup
- Honeysuckle
If necessary, hornworms and cabbageworms can be easily controlled by many insecticides – including *Bacillus thuringiensis*
MECHANICAL & PHYSICAL CONTROL
HAND DESTRUCTION
Hornworm "frass"
An interesting natural enemy of hornworms

*Cotesia congregatus* – a braconid (parasitic) wasp