**TORTRICIDAE - Cydia**

**Taxonomy**

**Tortricoidea: Tortricidae: Olethreutinae: Grapholitini: Cydia**

Synonyms: *Carpocapsa*, *Laspeyresia*, *Melissopus*, many others

**Larval diagnosis (Summary)**

- D1 and SD1 on the same pinaculum on A9
- L group on T1 does not extend beneath the spiracle
- Anal comb absent
- Borrers in fruit, nuts, cones, and pods

**Host/origin information**

Because *Cydia* is a cosmopolitan genus, larvae can originate from most any country or continent. The following are the most frequent origin/host combinations:

<table>
<thead>
<tr>
<th>Origin</th>
<th>Host(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td><em>Castanea</em></td>
</tr>
<tr>
<td>Europe</td>
<td><em>Castanea</em></td>
</tr>
<tr>
<td>Armenia</td>
<td><em>Malus, Prunus</em></td>
</tr>
<tr>
<td>Brazil</td>
<td><em>Araucaria</em></td>
</tr>
<tr>
<td>Mexico</td>
<td><em>Cydonia, Malus, Prunus, Pyrus, Quercus</em></td>
</tr>
</tbody>
</table>

**Recorded distribution**

*Cydia* is a worldwide genus that is found on every continent except Antarctica.

**Identification authority (Summary)**

Identifications of *Cydia* should be restricted to internal-feeding tortricid larvae that possess all three of the following characters: D1 and SD1 on the same pinaculum on A9; L group on T1 not extending beneath the spiracle; and anal comb absent. Larvae in other genera may have similar morphology; see the Detailed Information tab for further discussion.

**Pest characterization**

*(Based on Cavey 2001, Gilligan and Epstein 2012)*

- Taxonomy: **High**. Identification to genus is usually possible.
- Distribution: **High/Low**. Some *Cydia* are present in the U.S.; however, some important pest species are not.
- Potential Impact: **High**. Many *Cydia* are important pests.

This ranking characterizes *Cydia* as quarantine significant for the U.S. in some instances and not quarantine significant in other instances. The actual ranking for an intercept will depend on the species involved.

**Larval diagnosis (Detailed)**

*Cydia* is a worldwide genus that is found on every continent except Antarctica (Gilligan and Epstein 2012). *Cydia* contains approximately 200 described species (Gilligan et al. 2012) and includes many pest species, such as the codling moth, which is the most widely distributed and important pest of apple, pear, and walnuts in the world. *Cydia* larvae are the most frequently intercepted tortricids at U.S. ports of entry and most interceptions are on Fabaceae, Fagaceae, Pinaceae, or Rosaceae from Asia, Europe, or Mexico. Larvae are whitish to reddish and resemble those of other internal-feeding olethreutines.
Brown (2011) divided intercepted tortricid larvae into four "types." "Cydia type" larvae are characterized by: D1 and SD1 on the same pinaculum on A9; L group on T1 not extending beneath the spiracle; and anal comb absent. It is difficult to provide a more specific larval diagnosis for the genus without additional information on the larvae of a particular species. MacKay (1959) treated the genus in at least eight different groups (Carposcapa Groups 1-2, Laspyresia Group 1-5, and Melissopus), with most species grouped by host preference, and she included species in other genera (Grapholita). Other authors (e.g., Brown 1987) have also grouped Cydia by the specific commodity on which they feed. We follow suit here and provide a discussion of various intercepted species grouped by host and a short section on other morphologically similar species.

**Castanea-feeders**

Castanea-feeding Cydia are the most frequently intercepted tortricid species. This group includes four Cydia (two from Europe and two from Asia): *C. splendana, C. figiglandana, C. glandicolana*, and *C. kuroki*. Two other commonly intercepted tortricids on Castanea include *Pammene fasciana* and *Fibuloides (= Eucenogenes) aestuosa*. See the *Cydia splendana* Fact Sheet for a detailed discussion of larval morphology within this group.

**Confier-feeders**

Several confier-feeding Cydia are intercepted at ports of entry. This list includes: *C. araucariae, C. strobilella*, and likely members of the *C. toreuta* complex.

Larvae of *Cydia araucariae* are found in the seeds of Brazilian pine (*Araucariaeae: Araucaria angustifolia*) imported from Brazil, Argentina, and possibly Chile. Although host/origin is likely sufficient to identify this species, other larvae that can be confused with *C. araucariae* include: body setae and pinacula large, pale brown pinacula; prothoracic shield light brown, anal shield dark brown; L pinaculum of T1 rather large, sometimes notched distally; L setae of A9 sometimes all on the same pinaculum; SV group 3:3:2(3):1(2):1; number of crochets on abdominal prolegs 34-37. Passtrana (1961) described the larva and pupa.

**Euphorbiaceae-feeders**

*C. deshaisiana*, the Mexican jumping bean moth, is a native of Mexico and is found in the northern U.S. and Canada. Larvae are usually intercepted on spruce. (Pinaeae: *Picea*) cones imported from Europe. No species-level larval characters are listed by Brown (2011), and the host/origin association is enough to provide an identification.

**Euphorbiaceae-feeders**

Unidentified Cydia larvae are frequently intercepted on a variety of hosts from Mexico. Some of these larvae likely belong to the *Cydia toreuta* complex of species. Larvae from this group feed in the cones of various *Pinus* species, and several species (both described and undescribed) are present in Mexico. For additional information on this group see Miller (1959, 1966), Abrahamson and Kraft (1965), and Heinrich (1926). Cibrian-Tovar et al. (1995) illustrated many forest pests of Mexico in color. Other *Cydia* species intercepted from Mexico include *C. latiferreana*, which feeds on *Quercus* and *C. deshaisiana*, the Mexican jumping bean moth (see below). They are occasionally intercepted on sugarcane (*Saccharum officinarum*) from Asia. Host and origin is sufficient to separate larvae of this species from those of *Cydia*. In addition to several *Cydia* species, *Pammene fasciana* and *Fibuloides aestuosa* are intercepted on Castanea from Europe and Asia. See the *Cydia splendana* Fact Sheet for a detailed discussion of larval morphology within this group.

**Euphorbiaceae-feeders**

Euphorbiaceae-feeders include *C. saltitans* (two from Europe and two from Asia): *C. saltitans*, *Pammene fasciana*, and *Fibuloides aestuosa*. See the *Cydia splendana* Fact Sheet for a detailed discussion of larval morphology within this group.

**Fabaceae-feeders**

Several species of Cydia feed on beans (Fabaceae). Some of these include *C. fabivora* (now Ecdytolopha fabivora), *C. torostoma*, and *C. nigricana*. The last two species have never been reported in PestID and are not treated here. Razowski (2011) moved *C. fabivora* into *Ecdytolopha*, although this species is still placed in *Cydia* in most publications and databases. Larvae of *E. fabivora* are occasionally intercepted on *Phaseolus or Glycine max* from Mexico, Central America, South America, and the Caribbean. Larval damage to beans is similar to that caused by *Crocidosema aporema*; however, larvae of *C. aporema* feed primarily on young leaflets while those of *E. fabivora* feed in the stems and pods; see the *Crocidosema aporema* Fact Sheet for more information that species. Larvae of *E. fabivora* are similar to many other species in the Cryptophlebia-Ecdytolopa group, with an enlarged L-pinaculum on the prothorax that extends beneath (and usually beyond) the spiracle; this character state is not present in *Cydia* larvae.

**Rosaceae-feeders**

Many of the best known tortricid species are pests of stone or pome fruit in the family Rosaceae. Internal feeders in this group include many Cydia and Grapholita species. Larvae of these two genera are similar in appearance, but can usually be separated by the anal comb, which is present in many *Grapholita* and absent in most *Cydia*. The most important Cydia pest is *C. pomonella*, which is found on apple, pear, walnut, almond, apricot, fig, macadamia, nectarine, peach, plum, prune, quince, and a variety of other hosts. See the *Cydia pomonella* Fact Sheet for detailed information on that species.

**Non-Cydia species**

Several other species are included in Brown’s (2011) "Cydia-type" group. These species all have D1 and SD1 on the same setae on A9, the L group on T1 does not extend beneath the spiracle, and an anal comb is absent. *Talponia batesi* is frequently intercepted on cherimoya (Annonaceae: *Annona*) from Mexico, Central America, or the Caribbean. Larvae of *T. batesi* are easily separated from those of *Cydia* by the following characters: D1, D2, and SD1 setae on A9 all on same enlarged (ill-defined) pinaculum; integument conspicuously spiny; crochets on abdominal prolegs 16-19. *Tetramoera schistacea* is occasionally intercepted on sugarcane (*Saccharum officinarum*) from Asia. Host and origin is sufficient to separate larvae of this species from those of *Cydia*. In addition to several *Cydia* species, *Pammene fasciana* and *Fibuloides aestuosa* are intercepted on Castanea from Europe and Asia. See the *Cydia splendana* Fact Sheet for a detailed discussion of larval morphology within this group.
Identification authority (Detailed)

Identifications of Cydia should be restricted to internal-feeding tortricid larvae that possess all three of the following characters: D1 and SD1 on the same pinaculum on A9; L group on T1 not extending beneath the spiracle; and anal comb absent. Larvae in other genera may have similar morphology, and the most commonly intercepted species with this set of characters that are NOT Cydia include: T. batesi (on Annona from Mexico, Central America, or the Caribbean), T. schistaceana (on Saccharum from Asia), P. fasciana (on Castanea from Europe), and F. aestivalis (on Castanea from Asia). Other similar species include many Grapholita, but all of the major Grapholita pests have an anal comb.

Key to larval Tortricidae intercepted, or potentially encountered, at U.S. ports of entry

Origin records

Cydia have been intercepted from the following locations:
Afghanistan, Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Azores, Bangladesh, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Cambodia, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, El Salvador, Estonia, France, Georgia, Germany, Greece, Guatemala, Haiti, Hong Kong, Hungary, India, Iran, Iraq, Israel, Jamaica, Japan, Jordan, Kazakhstan, Kuwait (?), Kyrgyzstan, Lebanon, Lithuania, Macedonia, Malaysia, Mali, Mexico, Moldova, Montenegro, Morocco, Netherlands, New Zealand, Nigeria, North Korea, Palestinian Territory, Panama, Peru, Philippines, Poland, Portugal, Romania, Russia, Senegal, Serbia, Serbia and Montenegro, Singapore, Slovakia, Slovenia, Somalia, South Africa, South Korea, Spain, Sweden, Switzerland, Syrian Arab Republic, Taiwan, Turkey, Ukraine, United Arab Emirates, United Kingdom of Great Britain and N. Ireland, Uzbekistan, Viet Nam, Yugoslavia

Host records

Cydia have been intercepted on the following hosts:
Lily, corn, Opuntia, and seagrave are especially suspect records in need of confirmation.

Setal map

Cydia pomonella setal map

Click here to download a full-size printable PDF of this larval setal map
Cydia splendana setal map

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