<< Previous fact sheet Next fact sheet >>

TORTRICIDAE - *Thaumatotibia leucotreta* (Meyrick)

Taxonomy

Tortricoidea: Tortricidae: Olethreutinae: Grapholitini: *Thaumatotibia leucotreta* (Meyrick)

Common names: false codling moth

Synonyms: *Thaumatotibia roerigii*

The false codling moth is incorrectly referred to as *Cryptophlebia leucotreta* in many publications (Brown 2006).

Larval diagnosis (Summary)

- L pinaculum on T1 enlarged and extending beneath and beyond (posterad of) the spiracle
- Anal comb present with 2-10 teeth
- D1 and SD1 on the same pinaculum on A9
- Spiracle on A8 displaced posterad of SD pinaculum
- Crochets unevenly triordinal, 36-42
- L group on A9 usually trisetose (all setae usually on same pinaulum)

Host/origin information

Nearly half of all *T. leucotreta* interceptions come from South Africa on Citrus. This species is also one of the most commonly intercepted tortricids on pepper (*Capsicum annuum*) and eggplant (*Solanum melongena*). Other common origin/host combinations are listed below:

Origin	Host(s)
[Africa]	*Capsicum annuum*, *Solanum melongena*, *Citrus*
Cape Verde	*Ziziphus*
Ghana	*Capsicum*
Nigeria	*Capsicum*
South Africa	*Citrus*

Recorded distribution

Thaumatotibia leucotreta is widely distributed across Africa and has been reported from approximately 40 countries on the African continent. It is occasionally reported from Europe and is considered locally present in Israel (EPPO 2013).

Identification authority (Summary)

Positive identifications of *T. leucotreta* should be restricted to larvae intercepted from Africa (or Europe, and especially the Netherlands, if transshipment is suspected) with the L pinaculum on T1 enlarged and extending beneath and beyond (posterad of) the spiracle and an anal comb present. If the larva is found on litchi or macadamia, other characters should be confirmed; see the Detailed Information tab.

Pest characterization

(Based on Cavey 2001, Gilligan et al. 2011)

- Taxonomy: **High.** A species-level identification is often possible.
- Distribution: **High.** *Thaumatotibia leucotreta* is not present in the U.S.
- Potential Impact: **High.** *Thaumatotibia leucotreta* is a serious pest.

This ranking characterizes *T. leucotreta* as quarantine significant for the U.S.

Larval diagnosis (Detailed)

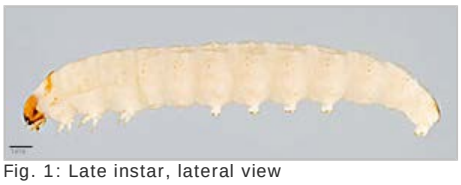


Fig. 1: Late instar, lateral view


Fig. 2: Early instar, lateral view


Fig. 3: L group on T1


Fig. 4: Anal comb


Fig. 5: A9, anal shield

Fig. 6: A8 spiracle


Fig. 7: Crochets


Fig. 8: Head


Fig. 9: Hypo. complex


Fig. 10: Mandible

Brown (2011) divided intercepted tortricid larvae into four "types." Larvae of *T. leucotreta* are grouped under the "*Cryptophlebia* type" with D1 and SD1 on the same pinaculum on A9, the L pinaculum on T1 enlarged and extending beneath and beyond (posterad of) the spiracle, and an anal comb present or absent. He used the following characters to identify *T. leucotreta*: L group on A9 usually trisetose (all setae usually on same pinaulum); pinacula moderate in size; Vs on A9 slightly further apart than those on A8; anal comb present with 2-10 teeth. Other larval characters include: SD2 on A1-8 highly reduced or appearing absent; SV counts 3:3:2:2:1; spiracle on A8 displaced posterad of SD pinaculum; D2 setae on A9 on shared saddle pinaculum. Note that the anal comb may be greatly reduced in some individuals.

Timm et al. (2007) provided a complete detailed description of the larva of *T. leucotreta*. They placed emphasis on the crochets and structure of the anal comb to separate *T. leucotreta* from *T. batrachopa*. In *T. leucotreta*, the crochets are unevenly triordinal, reduced in the medial half of the anal prolegs, with 36-42 on the abdominal prolegs and 24-32 on the anal prolegs. Crochets in *T. batrachopa* are unevenly biordinal. The medial prongs of the anal comb are of even length in *T. leucotreta* versus the prongs "merging into distinct medial structure" in *T. batrachopa*. Timm et al. (2008) used the same characters to separate *T. leucotreta* from *C. pomonella*, *G. molesta*, and *E. acerbella*.

Other intercepted tortricid species with D1 and SD1 on the same pinaculum on A9 and the L pinaculum on T1 enlarged and extending beneath and beyond (posterad of) the spiracle include (from Brown 2011): *Cryptophlebia*, many Cochylini, *Lorita scarificata*, *Gymnandrosoma aurantianum*, and *Ecdytolopha fabivora* (previously *Cydia fabivora*). The last three species occur in Mexico, Central America, South America, and the Caribbean, and are thus unlikely to be confused with false codling moth based on origin. Cochylini are found worldwide, although most are intercepted on *Opuntia*, *Pithecellobium*, or Asteraceae from the New World. Two possible distinguishing features for Cochylini larvae are SV counts of 3:3:2:2:2(1) and a bisetose L group on A9 in many species.

Three species of *Cryptophlebia* are considered serious pests of macadamia, litchi, mango, and other crops. Their larvae are similar to those of *T. leucotreta*, and larvae of the two genera are usually separated by the anal comb, which is present in *T. leucotreta* and absent in most *Cryptophlebia*. This may cause confusion in some instances, because some individuals of *Cryptophlebia*, especially *C. ombrodelta*, have a rudimentary anal comb with 4-6 small teeth. Luckily, *C. ombrodelta* is not found in Africa; however, it is not known if other species of *Cryptophlebia*, such as *C. peltastica*, also possess an anal comb in some individuals.

Cryptophlebia ombrodelta is recorded from Australia, Guam, India, Japan, Java, Philippines, Sri Lanka, Taiwan, and Thailand, and has been introduced into Hawaii. *Cryptophlebia illepida* has only been recorded only from Hawaii. Diagnostic characters for *C. ombrodelta* include: SV counts usually 3:3:3:2:2; L group on A9 trisetose, all setae usually on same pinaculum; abdominal prolegs with 45-48 crochets; and anal comb absent (usually). Diagnostic characters for *C. illepida* include: SV group usually 3:3:3:1:1; L group on A9 usually bisetose; and anal comb absent. Origin should be sufficient to separate larvae of these two species from *T. leucotreta*.

Cryptophlebia peltastica is the primary pest of litchi in South Africa and Mauritius, and it is also a serious pest of macadamia in South Africa. It is broadly distributed on the African continent and has also been recorded from Seychelles, Madagascar, Mauritius, and Guam. It has only been reported as being intercepted at a U.S. port on one occasion; however, we suspect that any interceptions of *C. peltastica* would be confused with *T. leucotreta* or only identified to genus. An anal comb should be absent in *C. peltastica*, although it is not known if some individuals have a small comb similar to what it found in *C. ombrodelta*.

Identification authority (Detailed)

Positive identifications of *T. leucotreta* should be restricted to larvae intercepted from Africa (or Europe, and especially the Netherlands, if transshipment is suspected) with the L pinaculum on T1 enlarged and extending beneath and beyond (posterad of) the spiracle and an anal comb present. Typical hosts are *Capsicum annuum*, *Solanum melongena*, or *Citrus*.

Because some *Cryptophlebia* larvae have a small anal comb, a combination of other characters should be confirmed for *T. leucotreta* suspects found on macadamia or litchi: spiracle on A8 displaced posterad of SD pinaculum; L group on A9 usually trisetose (all setae usually on same pinaulum); crochets unevenly triordinal, 36-42.

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

Origin records

Thaumatotibia leucotreta has been intercepted from the following locations:

Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Democratic Republic of Congo, Cote D'Ivoire, Eritrea, Ethiopia, Ghana, Kenya, Liberia, Malawi, Namibia, Netherlands, Nigeria, Sierra Leone, South Africa, Togo, Uganda, United Kingdom of Great Britain and N. Ireland, Zimbabwe

Interceptions from the Netherlands and United Kingdom likely represent transshipments from Africa.

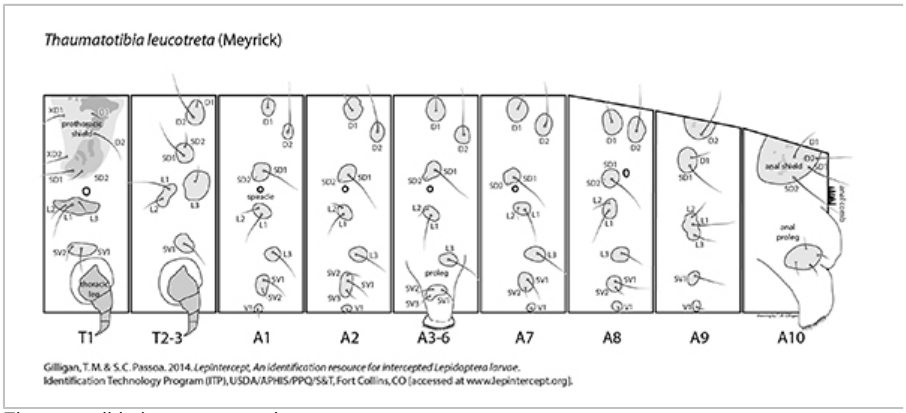
Host records

Thaumatotibia leucotreta has been intercepted on the following hosts:

Abelmoschus esculentus, *Allium* sp., *Annona muricata*, *Annona* sp., Annonaceae, *Artocarpus heterophyllus*, *Brassica* sp., *Cajanus cajan*, *Capsicum annuum*, *Capsicum chinense*, *Capsicum frutescens*, *Capsicum sinense*, *Capsicum* sp., *Citrus reticulata*, *Citrus sinensis*, *Citrus* sp., *Cola*

acuminata, *Cola nitida*, *Cola* sp., *Englerophytum megalismontanum*, Fabaceae, *Gnetum africanum*, *Lablab purpureus*, *Persea americana*, *Phaseolus lunatus*, *Phaseolus* sp., *Phaseolus vulgaris*, *Phoenix* sp., *Phyllanthus emblica*, *Piper* sp., *Pithecellobium dulce*, *Psidium guajava*, *Psidium* sp., Rosaceae, Solanaceae, *Solanum melongena*, *Solanum* sp., *Telfairia occidentalis*, *Theobroma cacao*, *Uvaria* sp., *Vicia faba*, *Vitis* sp., *Zea mays*, *Zea* sp., *Ziziphus jujuba*, *Ziziphus* sp.

Setal map



Thaumatotibia leucotreta setal map

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