

# LepIntercept

An identification resource for intercepted Lepidoptera larvae



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## CRAMBIDAE - *Hendecasis duplifascialis* (Hampson)

### Taxonomy

**Pyraloidea: Crambidae: "Cybalomiinae": *Hendecasis duplifascialis* (Hampson)**

Common names: jasmine budworm

Synonyms: *Trichophysetis duplifascialis*.

The placement of this genus in Cybalomiinae needs further study (see the Detailed Information tab).

### Larval diagnosis (Summary)

- Adfrontal sutures reach epicranial notch
- Head and prothoracic shield solid black or brown
- Long and pointed spinneret
- No pigmented pinacula on the thorax
- Prespiracular pinaculum pigmented and extends below the spiracle
- Prothoracic shield with XD2 equidistant from SD1 and XD1, all three setae almost in a vertical line
- SV setae of prothorax in the middle of the pinaculum
- SV group on A1 trisetose
- Feeding on jasmine from Asia

### Host/origin information

*Hendecasis duplifascialis* is reported to feed only on jasmine. Other host records in the literature and in PestID require confirmation. More than 80% of the total number of interception records in PestID for this species originate from Southeast Asia on *Jasminum*.

Origin	Host(s)
Cambodia	<i>Jasminum</i>
India	<i>Jasminum</i>
Thailand	<i>Jasminum</i>

### Recorded distribution

*Hendecasis duplifascialis* is distributed throughout Southeast Asia. It has been specifically reported from China, India, Japan, the Philippines, and Thailand (Robinson et al. 1994, Wang et al. 2003, Shibuya 1931).

### Identification authority (Summary)

Host and origin are important clues for the identification of this species. To the best of our knowledge, *H. duplifascialis* only occurs on jasmine in Southeast Asia. Larvae from countries outside of this region should only be identified to subfamily or family, even if associated with jasmine.

### Pest characterization

(Based on Cavey 2001, Kalshoven 1981)

- Taxonomy: **High**. Species identification is often possible.
- Distribution: **High**. *Hendecasis duplifascialis* is absent from the U.S.
- Potential Impact: **Low**. Although jasmine is an important ornamental in some areas of the United States, overall, most of North America would not be impacted by the introduction of *H. duplifascialis*.

This ranking characterizes *H. duplifascialis* as not quarantine significant to the U.S. Some

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Fig. 1: Late instar, lateral view (India)



Fig. 2: Mid-instar, lateral view (Thailand)



Fig. 3: Late instar, lateral view (India)



Fig. 4: Head and thorax, lateral view (India)



Fig. 5: P-t shield

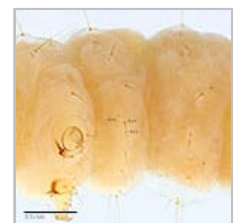


Fig. 6: SV group on A1



Fig. 7: Crochets



Fig. 8: Head

subtropical areas may rank this species higher.

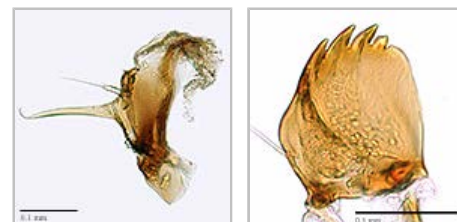


Fig. 9: Hypo. complex

Fig. 10: Mandible

## Larval diagnosis (Detailed)

The larva of *Hendecasis duplifascialis*, the jasmine budworm, was described by Amutha and David (1998), although their illustrations are diagrammatic and their key to related species is hard to understand. They do provide useful information by recording three crambids, *H. duplifascialis*, *Palpita vitrealis* (= *Diaphania* or *Margaronia unionis*), and *Nausinoe geometralis*, from jasmine in India. All these species are widespread throughout the Old World and thus identification of *H. duplifascialis* requires a comparison to caterpillars found on the same host.

The most important morphological characters of *H. duplifascialis* are setae A1, A2 and pucture Aa not in a single line (Amutha and David 1998); XD2 equidistant from SD1 and XD1 on the prothorax with all three setae forming a vertical line; the SV group trisetose on A1; and the crochets of A3-6 in an almost closed biordinal circle (Weisman 1986, Solis 1999, 2011). The very long pointed spinneret and the oblong prespiracular pinaculum located below the spiracle in *H. duplifascialis* are also unusual. We could not understand "setae L1, L2 and L3 of the lateral group up to the eight segment" in *H. duplifascialis* and the same situation up to the sixth segment in other species (Amutha and David 1998); this implies that there are chaetotaxy differences that might help in identification.

Other more easily observed features can be suggested. The larva of *Nausinoe geometralis* was described by Huang (1965) and Singh (2012). The head of *N. geometralis* has bands (Huang 1965) unlike *H. duplifascialis* that has a solid dark head (TNAU Agritech Portal 2013). The photo of *N. geometralis* in Singh (2012: plate 12) shows a few pigmented thoracic pinacula. All the thoracic pinacula of *H. duplifascialis* are pale. These color differences will likely show in both living and preserved larvae.

Mathur and Singh (1963) partially illustrated the larva of *Palpita vitrealis* (as *Diaphania unionis*) with detailed drawings. The adfrontal area does not reach the epicranial notch and SD1 is slightly posterior of a line connecting XD1 and XD2. In addition, the prothoracic SV setae lie at the anterior end of an elongate pinacula. These characters can be used to separate *H. duplifascialis* from *P. vitrealis*. The adfrontal area of *H. duplifascialis* reaches the epicranial notch, the XD and SD1 setae form a vertical line and the SV setae on the prothorax are in the middle of the SV pinaculum. The larval color of *P. vitrealis* is green (TNAU Agritech Portal 2013); this implies a green head that would be different from the dark head of *H. duplifascialis*.

There is an *Elasmopalpus* on jasmine (TNAU Agritech Portal 2013). We do not have larval information on this species but we expect it has the normal characters of the Phycitinae that easily separate it from *H. duplifascialis*.

## Identification authority (Detailed)

Host and origin are important clues for identification of *H. duplifascialis*. Larvae apparently feed only on jasmine (Robinson et al. 1994, 2001). Other plant records in Weisman (1986) and Solis (1999, 2011) require confirmation with reared adults.

The distribution of *H. duplifascialis* sometimes includes West Africa (Kalshoven 1981). Copeland et al. (2004) recorded *Hendecasis* sp. near *duplifascialis* from Kenya. African examples from jasmine that key out correctly in Solis (2006, 2011) can be taken to genus. Robinson et al. (1994) mentioned only India, Thailand, and the Philippines (including interceptions from this country at Hawaiian ports). They did say the range was probably wider than these three countries. China (Wang et al. 2003) and Japan (Shibuya 1931) can also be included. Larvae from countries that do not list *H. duplifascialis* as part of the fauna should only be identified to subfamily or family, even if from jasmine.

The damage of *H. duplifascialis* was illustrated by Kalshoven (1981). Larvae bore into the buds of jasmine unlike other related species that are leaf tiers (TNAU Agritech Portal 2013).

*Hendecasis duplifascialis* is currently in the Cybalomiinae, an Old World group of 72 species, whose known larvae also feed almost exclusively on Brassicales (Regier et al. 2012). Jasmine is in the Oleaceae, making *H. duplifascialis* an exception. Larval characters of *H. duplifascialis* fit the Spilomelinae/Pyraustine complex where Solis and Maes (2002) placed the Cybalomiinae.

## Origin records

*Hendecasis duplifascialis* has been intercepted from the following locations:

Cambodia, China, Fiji, Hong Kong, India, Indonesia, Japan, Laos, Malaysia, Myanmar, Philippines, Singapore, Tahiti, Taiwan, Thailand, Tonga, Viet Nam

Countries from outside of Southeast Asia have been omitted from this list.

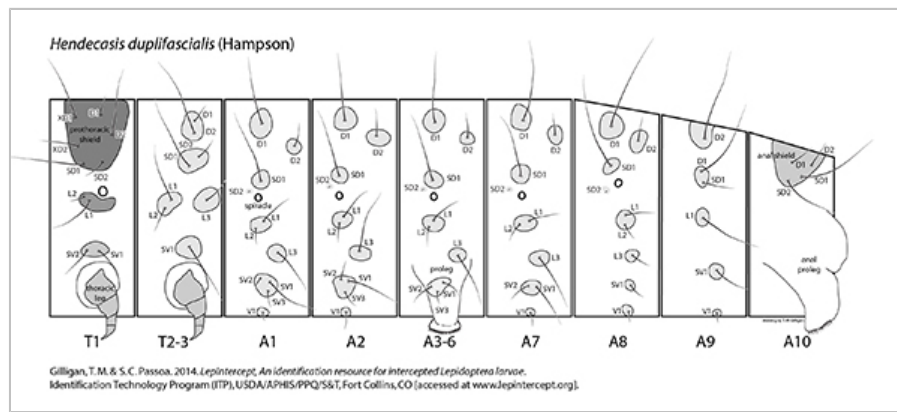
## Host records

*Hendecasis duplifascialis* has been intercepted on the following hosts:

*Jasminum* sp. (*Jasminum grandiflorum*, *Jasminum officinale*, *Jasminum sambac*)

Other hosts besides *Jasminum* listed in PestID are not included here.

## Setal map



*Hendecasis duplifascialis* setal map



[Click here to download a full-size printable PDF of this larval setal map](#)

LepIntercept - An identification resource for intercepted Lepidoptera larvae  
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