

# Light Brown Apple Moth and Common Leafrollers in California



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The light brown apple moth (LBAM) belongs to the leafroller moth family (Tortricidae), which is the sixth largest family of butterflies and moths (Order Lepidoptera). In North America, there are approximately 1,200 species of leafroller moths that consist of many important pest species. In California, these leafroller pests include apple pandemis, codling moth, fruittree leafroller, garden tortrix, obliquebanded leafroller, omnivorous leafroller, orange tortrix, oriental fruit moth, and western avocado leafroller.

Many leafroller moths, including the LBAM are brown, have 1/3 to 1 1/3 inches wingspan, and often hold their wings over the body in a bell shape when at rest. Wing color variation is common in leafroller moths; the LBAM also exhibits considerable wing pattern variation (Figs. 1 and 2). This complicates the identification of the species, while increasing the chance of confusing LBAM with other leafrollers or vice versa.

## Characteristics of LBAM adults

- Simple, threadlike antennae.
- Male moths are often light brown with dark brown oblique markings (Figs. 1A, 1B, 2A, 2B, and 2D). Some male moths have a two-tone wing pattern with the basal half (near the body) of the front wings pale yellow or light brown and the distal half (away from the body) is reddish or dark brown (Figs. 1C and 2C).
- Front wings of females vary from uniform light brown with almost no markings or dark spot in the center to the typical oblique markings as in some males (Fig. 1D).
- Front wing costal folds, found only in the males, are curled from the front edge of the wing over the top surface on the basal half (Fig. 3A).

It is difficult to distinguish the egg, the larva, and the pupa of leafrollers by morphological features. A shinglelike egg mass of omnivorous leafroller, a larva of LBAM, and a pupa of fruittree leafroller is shown on Fig. 4. If you suspect that you found LBAM on plants, please contact the local Agricultural Commissioner, the local University of California Cooperative Extension, or call 1-800-491-1899 for submitting specimens to the LBAM Project.

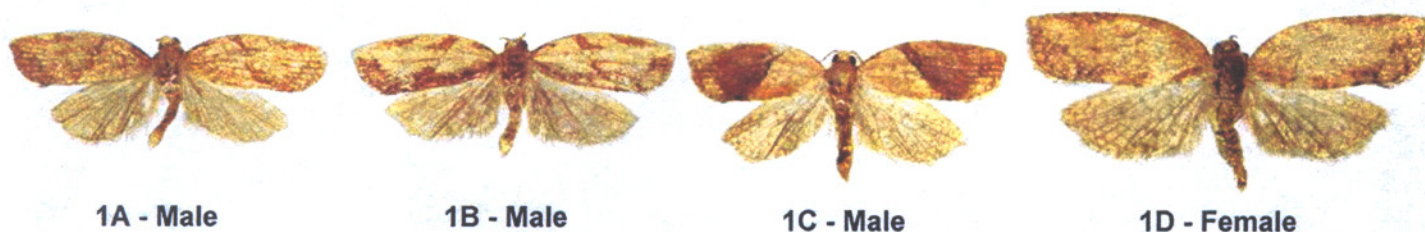
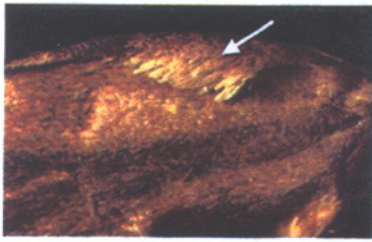


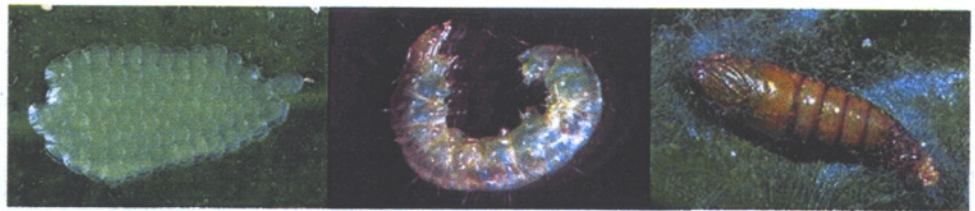
Fig. 1. Dorsal view of pinned light brown apple moths (photos by Megan O'Donnell and Marc Epstein, CDFA).



Fig. 2. Lateral view of pinned male light brown apple moths (photos by Megan O'Donnell and Marc Epstein, CDFA).



**Fig. 3.** Costal fold of light brown apple moth (photos by Marc Epstein and Megan O'Donnell, CDFA).



**4A – Omnivorous leafroller egg mass**

**4B – Light brown apple moth larva**

**4C – Fruittree leafroller pupa**

**Fig. 4.** Egg mass, larva, and pupa of leafrollers (4A and 4C - photos by Jack Kelly Clark; 4B – photo by Marc Epstein and Megan O'Donnell, CDFA).

### Other Moths Captured in the LBAM Pheromone Traps



**5A – Orange tortrix**



**5B – Orange tortrix**



**5C – *Clepsia fucana***



**5D – *Clepsia fucana***



**5E – Garden tortrix**



**5F – *Henricus umbrabasana***



**5G – Fruittree leafroller**



**5H – *Achyra* sp.  
(Not leafroller)**

**Fig. 5.** Dorsal view of other moth species commonly found in California LBAM traps (photos by Megan O'Donnell and Marc Epstein, CDFA).

### Common Leafrollers in California



**6A – Apple pandemis**



**6B – Codling moth**



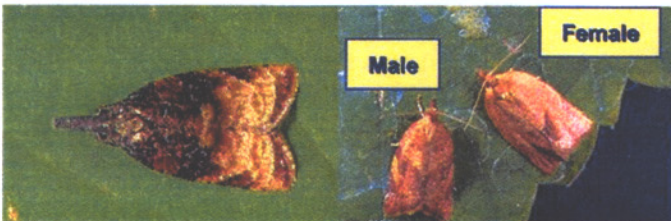
**6C – Fruittree leafroller**



**6D – Garden tortrix**



**6E – Obliquebanded leafroller**



**Male**

**Female**



**Male**

**Female**



**Female**

**Male**

**6F – Omnivorous leafroller 6G – Orange tortrix 6H – Oriental fruit moth 6I – Western avocado leafroller**

**Fig. 6.** Common leafroller moths in California, some could be captured by the LBAM pheromone trap (6A to 6H, photos by Jack Kelly Clark; 6I, photo by Max Badgley).

### Common and scientific names of moths included above

**Leafrollers (Lepidoptera: Tortricidae):** apple pandemis, *Pandemis pyrusana*; codling moth, *Cydia pomonella*; fruittree leafroller, *Archips argyrospila*; garden tortrix, *Clepsia (=Ptycholoma) peritana*; light brown apple moth, *Epiphyas postvittana*; obliquebanded leafroller, *Choristoneura rosaceana*; omnivorous leafroller, *Platynota stultana*; orange tortrix, *Argyrotaenia franciscana*; oriental fruit moth, *Grapholita molesta*; and western avocado leafroller, *Amorbia cuneana*.

**Snout and Grass Moths (Lepidoptera: Pyralidae):** *Achyra* sp.