

Light Brown Apple Moth

Epiphyas postvittana



Photo: Donald Hobern, 2008 wikimedia commons



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Light Brown Apple Moth

- Native to Australia
- First U.S. detection was in CA in 2006
- Pest of ornamental plants, crops, and plantation trees.



Damage on apples

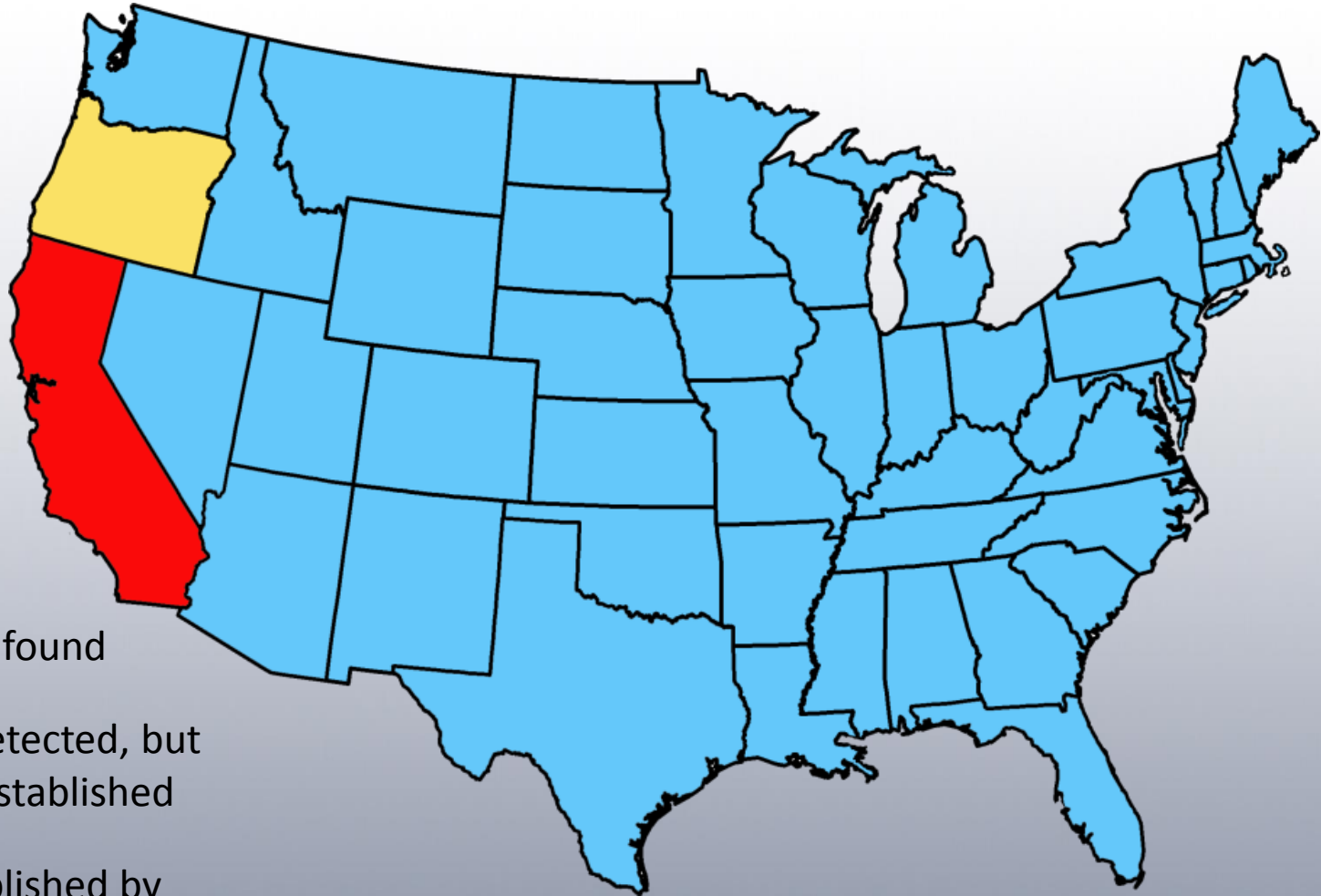
Photos: (Top) - Todd Gilligan, CSU, Bugwood.org #5482456; (Bottom) - Department of Primary Industries and Water, Tasmania Archive, Bugwood.org #5385954



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Distribution



-  Sampled but not found
-  Intercepted or detected, but not considered established
-  Considered established by USDA APHIS in **parts** of the state

Map courtesy of Pest Tracker, National Agricultural Pest Information System (NAPIS)



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Host Plants

Generalist

- Serious pest of stone and pome fruits
- Adds 1.3% to management costs
- Untreated, can result in 70% crop loss

Florida hosts can include:

- Ornamental: cassia, cypress, geranium, passionflower, pine, rose
- Agricultural: avocado, blueberry, cabbage, carrot, citrus, broccoli, cucumber, loquat, mango, strawberry
- Endangered native species



Larva on young apples

Photos: Department of Primary Industries and Water,
Tasmania Archive, Bugwood.org #5385957



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Identification: Eggs

- 20 - 50 laid on upper surface of leaf or fruit
- 0.84 - 0.95 mm long
- Pale white to green
 - Black or brown when parasitized

Egg mass on a leaf



Parasitized egg mass

Photos: Top – Todd Gilligan, CSU Bugwood.org #5495358; Department of Primary Industries and Water, Tasmania Archive, Bugwood.org #5385952



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Identification: Larvae & Pupae

- Positive ID with molecular methods only

Pupa



Pupa



larva

Photos:

(Top Left) Department of Primary Industries and Water, Tasmania Archive, Bugwood.org #5385959; (Bottom Left) - Wikimedia Commons; (Right) - Todd Gilligan, CSU, Bugwood.org #5495362



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Identification: Adults

- About 1cm in length
- Broad, brown, overlapping wings
- Thin antennae
- If microscope available
 - Forward-facing palps
 - Proboscis free of scales



Female

Photos: Top - Julieta Brambila, USDA 2011; Bottom - Natasha Wright, FDACS 2008



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Identification: Adults

- ID requires expert species level confirmation by dissection of genitalia or molecular methods
- Highly variable forewing coloration & pattern
 - NOT a reliable diagnostic tool.



Photos: Todd Gilligan, CSU, Bugwood.org #5482458



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Life cycle



Females lay eggs in 6-10 d



Eggs hatch in 8-9 d



Larval stage $\approx$ 25 d



Pupation lasts 10 d

Photos:

Department of Primary Industries and Water, Tasmania Archive, Bugwood.org #5385950 (*adult*); #5385952 (*eggs*); Todd Gilligan, CSU, Bugwood.org #5495359 (*larvae*); #5495362 (*pupae*)



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Damage

- Leaf-roller moth (construct tent)
- Feed on underside of leaves
- Scar exterior surface of fruit
- Older larvae burrow into fruit



Photos: Department of Primary Industries and Water, Tasmania Archive, Bugwood.org #5385955; #5385954



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Monitoring

Scouting

- Look for leafrollers

The USDA eradication program

- Traps baited with LBAM lure
- Sterile males
- Quarantines
- Ground based & Aerial treatments
- Biocontrols

Pheromone trap



Photos: Julieta Brambila, USDA 2011



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