

CRB Identification Cards



CRB Eggs



CRB Pupa



CRB Larvae

When in doubt, please follow these instructions to get an ID:

1

Take a photo of suspect grubs, beetles, and/or palm/host damage.



2

Contain grubs and/or beetles.



3

Contact BIISC immediately!



biisc@hawaii.edu (808) 731-9232

CRB Pupae

- Before emerging as adult beetles, CRB larvae encase themselves as mud and pupate
- CRB pupae are brown and about 2 inches long

CRB Eggs

- Eggs are white, oval-shaped, and about 1/8 of an inch.
- Each female can lay 90 eggs on average in her lifetime
- Eggs are laid in clutches so it is likely to come across several eggs at one time

CRB Larvae

- Hatches from egg and goes through 3 larval instars (stages).
- White with a large reddish-brown head capsule
- Larvae grow from 1/4 in. to 3 in. long
- Larvae are sluggish and crawl on their sides in a 'C' shape



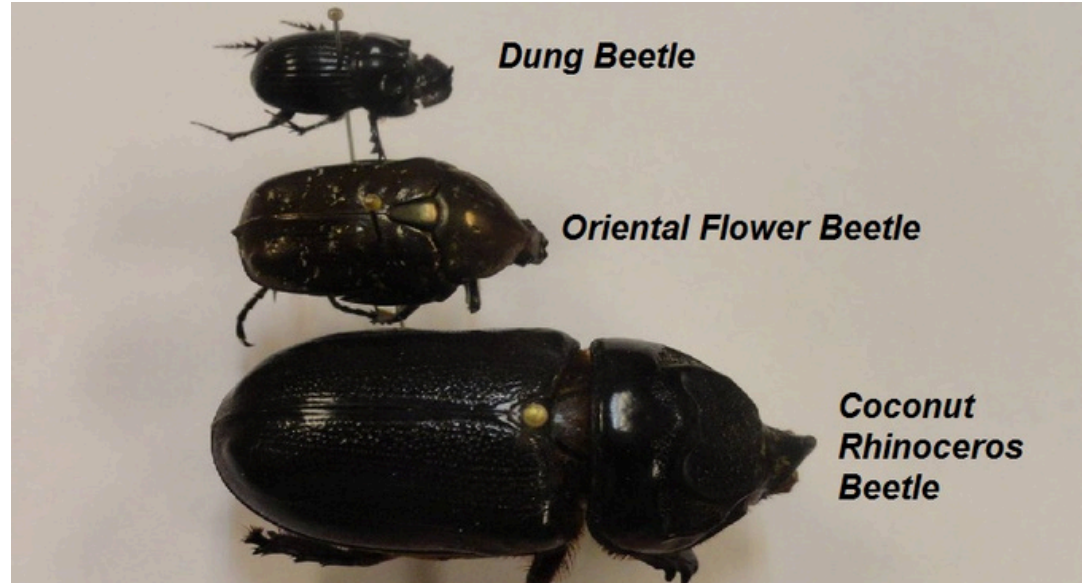
CRB Frass



CRB Chew



CRB Adult



CRB Lookalikes

CRB Frass

- This frass is CRB larva poop
- Larvae leave behind these pellets which can be found in breeding material (mulch, green waste, etc.)

CRB Chew

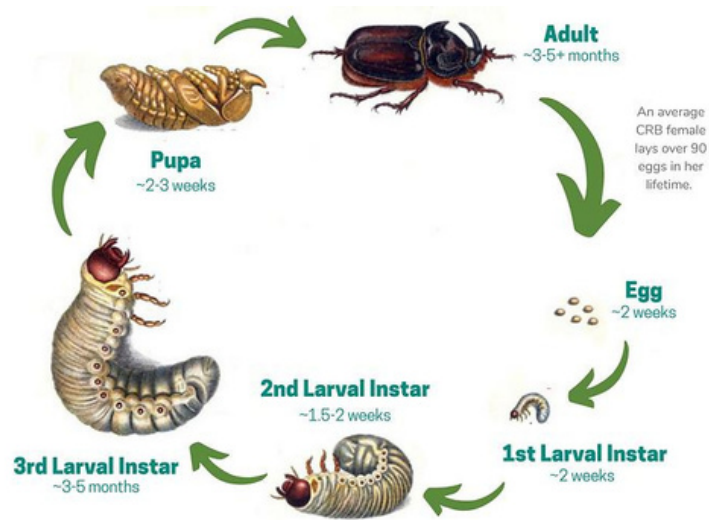
- As CRB bore into host palms, they leave behind "chew"
- "Chew" is the shredded plant material left behind from a feeding event

CRB Adults

- CRB adults are black beetles about 2 inches long
- Beetles have a horn
- Beetles are active during the night

CRB Lookalikes

- The dung beetle and oriental flower beetle are frequently mistaken for CRB
- These beetles are much smaller
- Remember that CRB are 2 inches long on average



CRB Lifecycle



CRB Larva Before Pupating



CRB Damage in Lauhala



CRB Bore Holes in Hala

CRB Lifecycle

- Egg= ~2 weeks
- 1st larval instar= ~2 weeks
- 2nd larval instar= ~1.5 to 2 weeks
- 3rd larval instar= ~3 to 5 months
- Pupa= ~2 to 3 weeks
- Adult= ~3 to 5 months or more

Lauhala Damage

- Lauhala (hala leaves) look frayed after a feeding event
- You can also see visible bore holes in the leaves
- Text images of suspect damage to (808)731-9232

Before Pupating

- CRB larva tend to shrink slightly before pupating
- This image shows the case of dirt/soil the CRB larvae cover themselves in to begin hardening into a pupa

Damage in Hala

- CRB feed on the inner crown where it is soft and tender
- As the tree continues to grow, you will find visible 2-inch bore holes in the trunk of the tree
- Text images of suspect damage to (808)731-9232



CRB Bore Hole in Mai'a (Banana)



CRB Bore Hole in Loulu



CRB Bore Holes in Niu



CRB Damage in Triangle Palm

Damage in Mai'a (Banana)

- CRB bore into banana trunks
- They leave 2 inch bore holes
- Bore holes can occur at any height throughout the trunk
- Text images of suspect damage to (808)731-9232

Damage in Niu

- Bore holes are 2 inches in diameter
- Damage can be hard to see until the new fronds grow out
- When bore holes are visible on older fronds, it has been months since that CRB feeding event occurred
- Text images of suspect damage to (808)731-9232

Damage in Loulu

- CRB leave 2-inch bore holes in loulu and other fan palms
- Loulu and other fan palms tend to have a lower survival rate after a feeding event
- Text images of suspect damage to (808)731-9232

Triangle Palm Damage

- CRB can leave v-cut damage in triangle palms
- Nutrient deficiencies can look very similar to CRB damage
- Text images of suspect damage to (808)731-9232



CRB Snowflake Damage in Fan Palm



CRB Damage: Scalloped Edges



CRB Damage: Broken Frond



CRB Damage: 45° V-cuts

Snowflake Damage

- After feeding on loulu or other fan palms, CRB leave behind damage resembling a paper snowflake cutting
- Holes found in the fronds have scalloped edges and are 2 inches in size

Broken Young Frond

- When CRB damage the meristem of palms, they often damage the youngest fronds
- Look for trees with healthy outer fronds and a collapsed younger frond in the center of the canopy

Scalloped Edges

- Many pests, deficiencies, and diseases can cause damage in palm fronds
- Scalloped edges are unique to CRB damage

45° V-cuts

- In niu and other palm species, fronds that have been damaged in a feeding event will show this damage when they grow out
- You can see v-cuts in a 45-degree angle on fronds
- Be sure to look for scalloped edges



**Not
CRB**

Oriental Flower Beetle (OFB) Larva



**Not
CRB**

Coconut Leaf Roller Damage



**Not
CRB**

Potassium Deficiency



**Not
CRB**

Trunk Rot Damage

OFB Larva

- This pest is common in Hawai'i and is commonly mistaken as CRB larvae
- OFB larvae do not get as big as CRB
- OFB crawl on their backs with their legs in the air and also have a raster line on their underside

Potassium Deficiency

- Translucent yellow-orange splotchy dieback in palms
- Necrosis at frond tips and margins in leaves
- Trunk narrows
- Text images of suspect damage to (808)731-9232

Leaf Roller Damage

- Adult coconut leaf roller moths will lay eggs on the frond leaflets, which their caterpillars will feed on
- This creates patches in palm leaflets
- Text images of suspect damage to (808)731-9232

Trunk Rot

(Thielaviopsis paradoxa)

- Fronds may wilt and become necrotic
- Darkened and soft regions on the trunk might be visible
- Stem bleeding sometimes occurs
- Suddenly, the trunk will collapse at the infection site



Boron Deficiency



Trimming Damage



Rat Damage

Reporting



Scan this QR code to submit a report using our online form

Boron Deficiency

- Leaves usually remain green, but produce distorted or limited fronds
- Leaflets can remain attached together after emerging
- Hook leaf is a symptom of boron deficiency
- Text images of suspect damage to (808)731-9232

Rat Damage

- Rats can feed on young palm fronds
- Typically rat damage looks much more tattered and less uniform than CRB damage
- Text images of suspect damage to (808)731-9232

Trimming Damage

- Trimming trees can result in damaged fronds
- This is commonly seen by powerlines
- Leaflets typically are cut straight across and do not have scalloped edges
- Text images of suspect damage to (808)731-9232

Reporting

Alternatively, you can send in a report through email or text.

1

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2

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Oriental Flower Beetle

Dung Beetle

Oriental Flower Beetle

(Protaetia orientalis)

- Commonly mistaken as CRB
- Shiny brownish black with flecks of white.
- Widespread in Hawai'i, considered a nuisance pest.
- Adults are active in the daytime.

Dung Beetle

- Commonly mistaken as CRB
- Has a horn but this beetle is much smaller than CRB.
- Adult CRB emerge measuring ~2 inches and will remain that size for their lifetime. They don't start off as small beetles.