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Stages of the Cottony Cushion Scale (*Icerya purchasi*) and its Natural Enemy, the Vedalia Beetle (*Rodolia cardinalis*)

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Stages of the Cottony Cushion Scale (*Icerya purchasi*) and its Natural Enemy, the Vedalia Beetle (*Rodolia cardinalis*)

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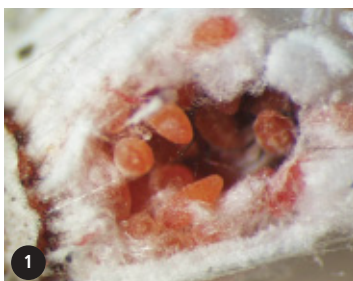
Stages of the Cottony Cushion Scale (*Icerya purchasi*)

Cottony cushion scale life cycle is 3 months.

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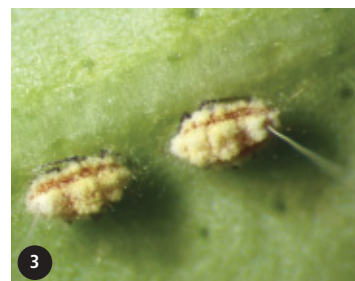
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1
200 to 400 red eggs inside the egg sac of the female scale (7 days to hatch)



2
First instar crawler; note the black legs and antennae (1 week)



3
First instar nymphs settled down and producing a cottony substance (2 to 3 weeks)



4
Second instar nymph emerging from the white molt shell



5
Second instar nymph underside Note the thread-like feeding tube (stylet) attached to the leaf.



6
Second instar nymph The amount of cottony substance increases with age. (2 to 3 weeks)



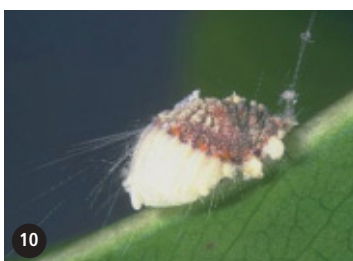
7
Third instar nymph emerging from the white molt shell



8
Third instar nymph Note the long hairs grouped in tufts. (2 to 3 weeks)



9
Young female (4 weeks until egg production)

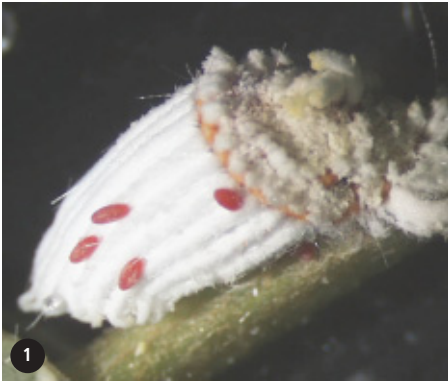


10
Adult female The more cottony material she has, the more eggs inside her egg sac.

Vedalia Beetle (*Rodolia cardinalis*)

Natural enemy of the cottony cushion scale.

Vedalia beetle life cycle is 3 to 4 weeks from egg to adult.



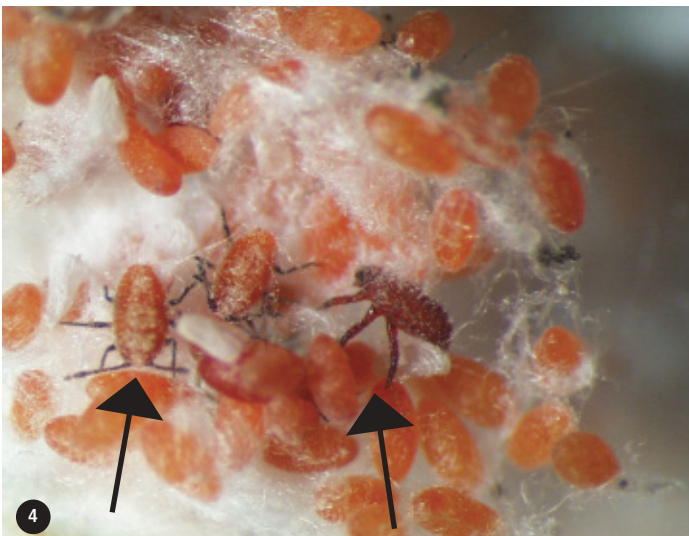
1
Red vedalia eggs on the outside of an adult scale
(4 to 7 days to vedalia hatch)



2
First instar vedalia larva feeding on a scale egg



3
Second instar vedalia larva burrowing into a cottony cushion scale egg sac



4
Scale crawler compared to a vedalia larva
Note the scale has black legs and black antennae, whereas the vedalia larva has red legs and no visible antennae.



5
Late instar vedalia larva
(10 to 20 days for all four larval stages to develop)



6
Fourth instar vedalia larva
Larvae attach themselves to a leaf and stop feeding just before pupation.



7
Vedalia pupa
A healthy pupa should move when touched.
(1 week until adult emergence)



8
Adult vedalia beetle
(Lives 1 to 3 months and lays 100 to 200 eggs)

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Natural Enemies Handbook, publication 3386

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