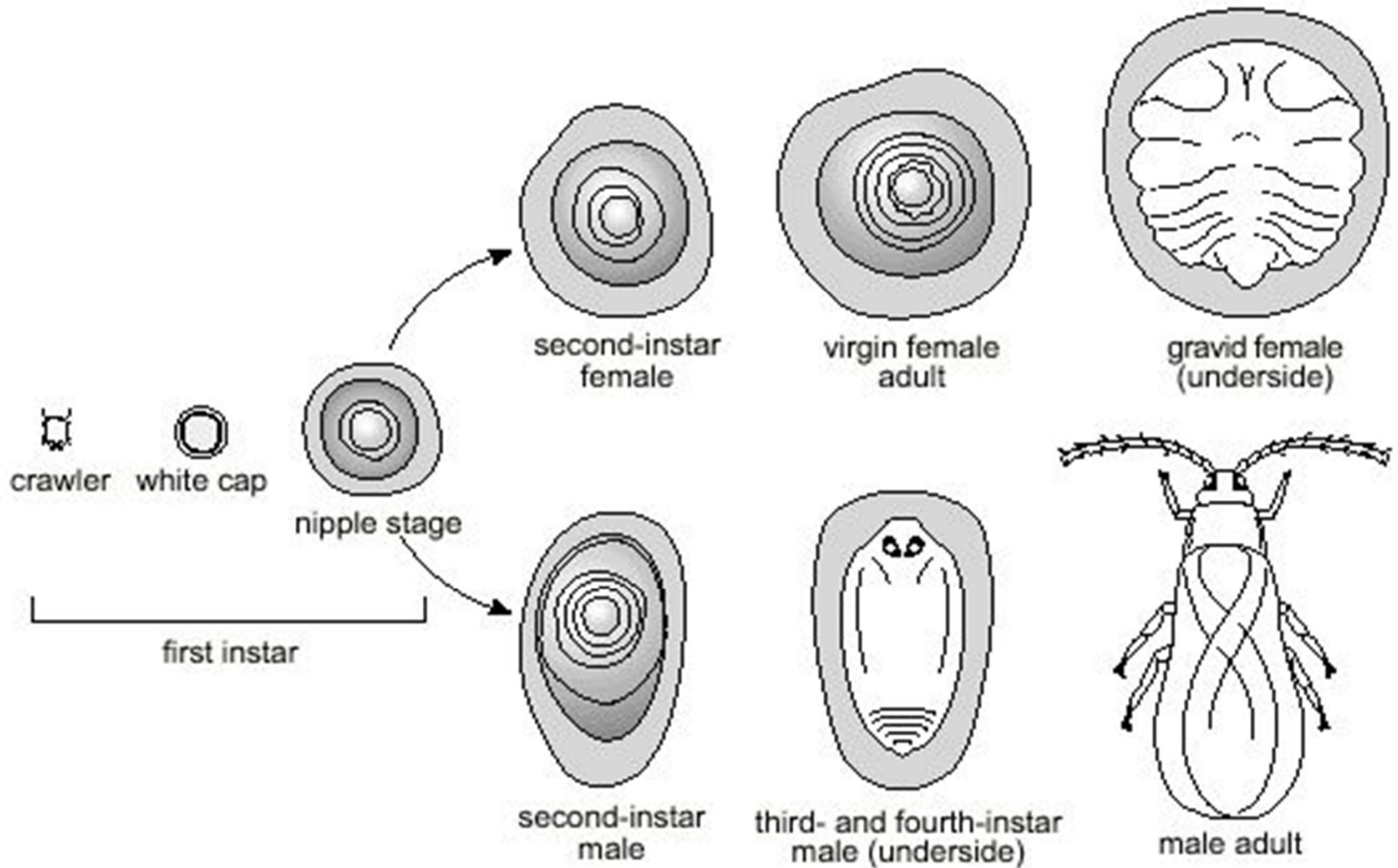


Scale insects

- Armored scales – no honeydew, cover can be removed
- Soft scales – secrete honeydew, cover can't be removed




California red scale



Scale insects

- Pest of many plants
- High populations and honeydew problematic
- Suck plant fluids, infest fruits
- Crawlers are the mobile instar – armored scales do not move, soft scales rarely move
- Males rarely seen, do not feed

A microscopic image showing several San Jose scale insects. The most prominent is a large, round, mature female scale, which is a dark, circular, shell-like structure with a central opening. To its right is a smaller, pear-shaped immature male scale. The background is dark and filled with numerous other scales of various sizes and stages, some appearing as small, round, brownish-orange spots.

San Jose scale adults and immatures. The large round one is the mature female and pear shaped one is the immature male

San Jose scale adult females with the cover removed



San Jose scale adult male



High population of San Jose scale on limb of fruit tree



San Jose scale damage on nectarine



Cottony cushion scale



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Scale management

- Natural enemies very important
- Check for dead scales
- Pruning
- Ant control
- Oil sprays
- Insecticidal soaps
- Systemic insecticides – imidacloprid (soft scales only)
- ID important



Greenhouse whitefly adult with late stage nymphs and pupae



Hemiptera

True bugs

hemi = half; ptera = wings

Hemiptera

True bugs

- Half wings
- 2 pair of wings
 - 1st pair ½ leathery & ½ membranous
 - 2nd pair membranous
- ‘X’ pattern on back
- Piercing sucking mouthparts
- Incomplete metamorphosis
- Pests or predators

Southern green stinkbug adult







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Consperse stink bug







Lygus bug

Pest of vegetables
and fruits



Catfacing on strawberry due to lygus bug feeding





Squash bugs
adults mating



Injury due to squash bug feeding



Damsel bug adult and nymph



Minute Pirate Bug



Assassin Bug

