

GENERAL AGRICULTURAL INSECT-PESTS

DESERT LOCUST



Taxonomy

DESERT LOCUST

- *T.N:* *Schistocerca gregaria*
 Locusta migratoria
- *Family:* Acrididae
- *Order:* Orthoptera



Introduction

- Desert locust is polymorphic species show morphological color and behavior variation in different phases e.g.
- Color of body
- Length of wings
- Shape of pronotum
- Existence is either a solitary or gregarious

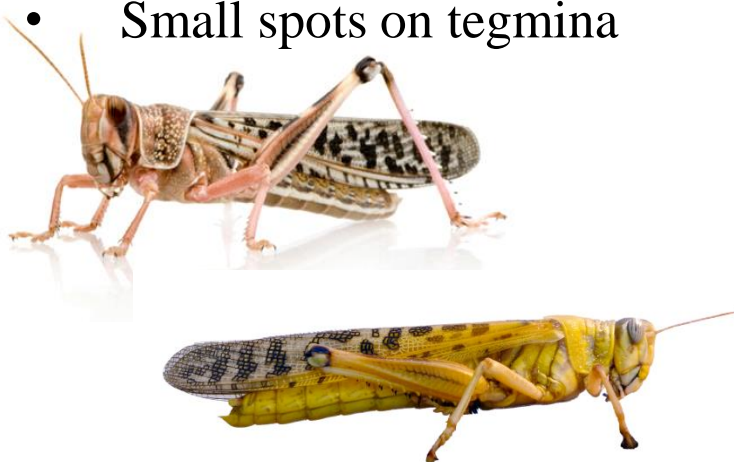


Differences between destructive gregarious and harmless solitary phases are:

Gregarious *Schistocerca gregaria*

Solitary *Locusta migratoria*

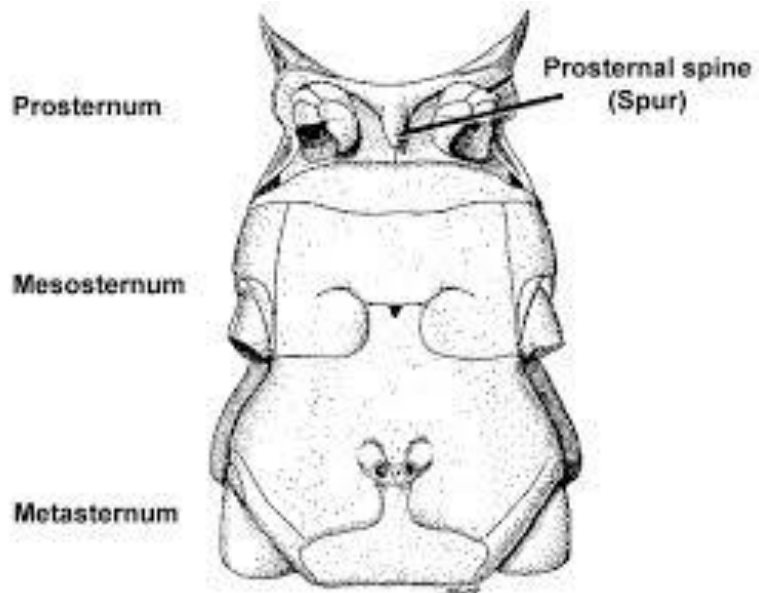
- Occur in swarm and move from place to place
- On emergence body colour is pink, then grey and ultimately to yellow.
- Small spots on tegmina



- Occur singly and don't move from place to place
- Greenish white to yellow grey.
- No spots on the body



- Pronotum concave shortly and surface almost smooth
- Prosternal spine smaller
- Hind femur shorter, tegmina longer.
- Body size smaller
- Move in bands



- Stripes on pronotum and a pale stripe along its middle
- Prosternal spine prominent
- Hind femur longer, tegmina shorter
- Body size robust
- Solitary life



Distribution

- Africa, Portugal, Spain, North Siberia, Sudan, Arabia, Syria, Iran, Afghanistan, West Pakistan and India.
- It is connected with dry desert and semi-desert regions



Host Plants

- Feeds on about all kind of vegetation
- Also show cannibalism (feed on their fellows)

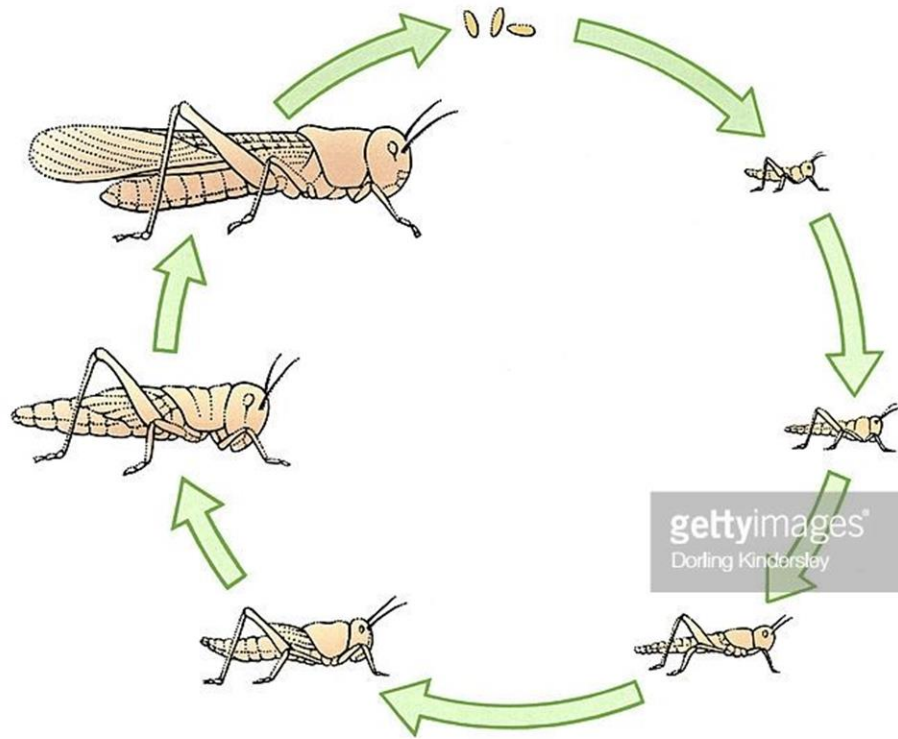


Habits and Behavior

- Feeding habit is extremely wasteful
- Positively geotropic (toward sunlight) in the morning and afternoon
- Feed 24 hours
- Sluggish during cold and cloudy weather



Life History



Life History

- Mating on ground last for few minute to many hours
- Immediately after matting, they lay eggs
- Eggs are laid in clusters in light soil in a hole drilled with ovipositor
- Polygamy and polyandry (a pattern of mating in which an animal has more than one mate) are common
- The area of egg laying can be recognized by holes
- Incubation period is 2-3 weeks
- Nymphs undergo 5 moults and there may 2-4 generation in a year

Damage

- Severe damage is caused in summer
- Both adult and nymphs cause damage
- Wheat at ear forming stage, oil seeds and cotton seedlings are destroyed
- Nymphs may enter house, beds, kitchens etc. and cause a nuisance
- Make roads slippery when crushed under



Control

- It is an international problem
 - Anti locust organization supplies the information to our plant protection department to control this pest in deserts
 - Control is a collective effort and carried out on emergency basis because nymphs cause damage in short time
1. Prevent swarm by beating the drums etc. exploiting crackers, firing guns and waving clothes
 2. During mating and egg laying adults are sluggish and should be killed by
 - Beating them with brooms
 - Running a sohaga (planker) over them
 - Burning



3. Destruction of eggs by

- Ploughing
- Feeding poultry
- Irrigation at time of hatching

4. Burning of resting nymphs and adults in the morning or night with the help of a flame thrower

5. Destruction of nymphs by

- Trenching is efficient and cheapest method
- Isolation of eggs laid area and trapping of hatched nymphs
- Erection of barriers of metal sheets

6. Natural enemies (crow, peacocks, dogs, pigs and foxes) should be encouraged in affected areas

7. Insecticides endosulfan, chlorpyrifos, carbaryl, deltamethrin, imidacloprid, spinosad and azadirachtin should be sprayed