

Rice is a major cereal of India. Along with wheat it constitute the most important diet of Indians. In certain areas such as West Bengal it comprises as much as 90% of the diet of the people. Seeing the increasing population with increase in demand of rice, government is keen to improve the production of rice to meet the growing requirement. Government has adopted two fold strategy for this purpose, firstly by increasing the production of rice through introducing new techniques, application of manure, fertilizers and by using high yielding improved paddy seeds and secondly, which is not the least, is to check the destruction of this important cereal both in the field and in the houses by the insect pest. The paddy crop is subjected to attack of different insect pest during its various phases of growth which lower the production rate even to the extent of 15-40%. The important insect pests of paddy are the following :

### 1. THE RICE BUG (*Leptocorisa varicornis* F.)

#### Systematic position

Phylum	-	Arthropoda
Class	-	Insecta
Order	-	Hemiptera
Family	-	Coreidae
Genus	-	<i>Leptocorisa</i>
Species	-	<i>varicornis</i>

**Distribution.** It is generally distributed throughout India but is more prevalent in Bengal, Bihar, Uttar Pradesh and southern states. Commonly it is called as "Gundhi Kira".

**Marks of Identification.** It is an active greenish-yellow insect with long legs and characteristic buggy odour. The adult measures about an inch in length.

**Nature of Damage.** They infest paddy crops in large number when it comes to flower. With their sucking mouth parts they suck out the milk from the newly formed grains which soon shrivel. The stalk remains quite sound but without grains. The loss caused to paddy by this pest varies from 5 to 25%.

**Life History.** After copulation female lay eggs symmetrically, into two or three rows. Eggs are dark coloured, oval in outline and flattened at the top. Eggs hatch in about a week. The young nymph have slender green body and longer legs. These nymphs generally take about twenty days to attain full maturity. All the stages of developing bug clusters round the riping ears and suckout the juice. This pest is more common during July to November. During winter their breeding rate is lowered much and the adults manage to tide over the cold on several species of grasses. On paddy it has five broods during the season.

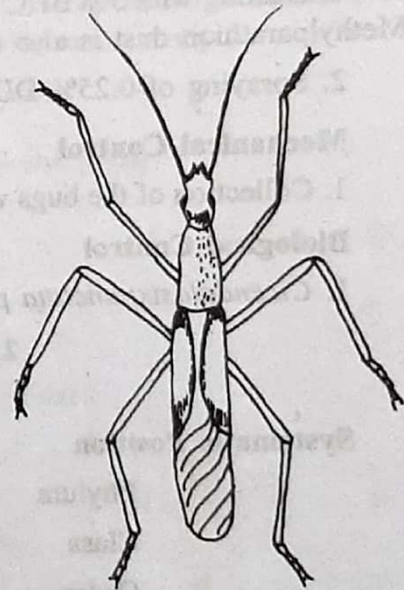


Fig. 44. *Leptocorisa varicornis* (Adult)



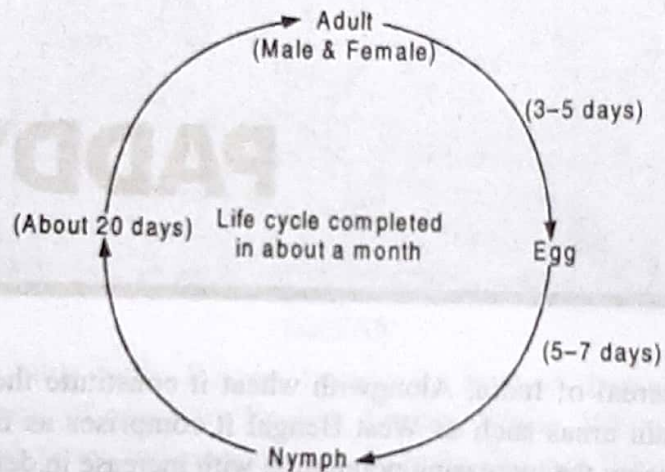


Fig. 44 (a) Life cycle of *Leptocoris varicornis*.

## Control

### Cultural Method

1. As the bugs feed and breed on various types of grasses, especially during the off season, removal of grasses from field and field bundhs help in reducing the pest population.
2. Draining out the water from infested field for three to four days is also helpful.
3. Crop rotation is advisable.

### Chemical Method

1. Dusting with 5% BHC @ 15 kg/ha soon after the pest is noted in the field. Malathion and Methylparathion dust is also effective.
2. Spraying of 0.25% DDT or BHC or 0.04% Endrin atleast two weeks before harvesting.

### Mechanical Control

1. Collection of the bugs with a hand net and their destruction is a useful mechanical method.

### Biological Control

1. *Cicendalasixpunctata pentatumid* prey upon the nymph and adults of *Leptocoris*.

*Neanastatus grallarius* (Mast.), *Protoplacis* sp.  
effective in controlling this pest.

## LIST OF SELECTED PADDY PESTS

### CLASS-INSECTA

#### Order-Orthoptera

##### Family-Acridiidae

1. *Acrotylus humberiana* S.
2. *Acrida turrita* K.
3. *Aeolopus affinis* B.
4. *Colemania sphenarioides* (Bol.)  
(The Deccan Wingless Grasshopper)
5. *Gastrimargus marmoratus* (Thunb.)
6. *Heiroglyphus banian* Fb.  
(The Rice Grasshopper)
7. *H.furcifer* Sw.
8. *H.nigrorepletus* (Bolivar.)  
(The Phadka Grasshopper)
9. *H.oryzivorous* Uv.
10. *Locusta danica* L.
11. *Oedaleus infernalis* (De Sauss.)
12. *O.nitidula* (Willemse)  
(The Small Grasshopper)
13. *Patanga succincta* L.  
(The Bombay Locust)
14. *Schistocerca gregaria* (Forsk.)  
(The Desert locust)
15. *Oxya chinensis* (Thunberg)

##### Family-Gryllotalpidae

1. *Gryllotalpa africana* (P. de Beauv.)  
(Mole Cricket)
2. *Brachytrupes achatinus* (Stol.)

##### Family-Gryllidae

1. *Brachytrupes portentosus* (Licht.)  
(The Field Cricket)
2. *Gryllus conspersus* (Schaum.)

##### Family-Tettigoniidae

1. *Conocephalus cinereus* (Thunb.)  
(The Surinam Long Horned Grasshopper)

#### Order-Hemiptera

##### Family-Aphididae



1. *Geoica lucifuga* (Zhut.)
2. *Hysteroneura setaria* (Thos.)
3. *Rhopalosiphum rufiabdominalis* (Sasaki.)  
(The Rice Root Aphid)
4. *Tetraneura nigriabdominalis* (Sasaki.)  
(The Ragi Root Aphid)
5. *Tradicolica* (Strand.)

**Family-Cercopidae**

1. *Abidama producta* (Walk.)
2. *A.rufula* (Dist.)
3. *Callitettix versicolor* (Fb.)
4. *Cosmoscarata bispecularis* (Walk.)

**Family-Cicadellidae**

1. *Cacadella spectra* (Dist.)  
(White Leafhopper)
2. *Cofona (Tettigella) spectra* (Dist.)  
(The White Jassid.)
3. *Nephotettix virescens* (Dist.)  
(The Spotted Jassid)
4. *N.nigropictus* (Stal.)  
(The Green Leafhopper)
5. *Recilia (Daltocephalus) dorsalis* (Motsch.)
6. *Zygina maculifrons* (Motsch.)  
(The Blue Leafhopper)

**Family-Coreidae**

1. *Cletus bipunctatus* (Westw.)
2. *Leptocorpisa acuta* (Thumb.)  
(The Rice Bug)
3. *L.oratoria* L (*varicornis* F.)
4. *Riptortus fuscus* F.

**Family-Delphacidae**

1. *Nilaparvata lugens* (Stal.)  
(The Brown Plant Hopper)
2. *Sardia rostrata* (Melichar.)
3. *Sogata pusana* (Dist.)
4. *Sogatella furcifera* (Horv.)  
(The White-backed Plant Hopper)
5. *Unkanodes sapporonus* (Mats.)

**Family-Meenoplidae**

1. *Nisia atrovenosa* (Leth.)

**Family-Pentatomidae**

1. *Menida histrio* Fb.  
(The Red Spotted Earhead Bug)
2. *Nezara viridula* (Linn.)  
(The Green Rice Bug)
3. *Scotinophara coarctata* (Fb.)  
(The Black Rice Bug)

4. *S. lurida* (Burm.)
5. *Tetroda histeroides* Fb.  
(The Striped Bug)

**Family Pseudococcidae**

1. *Brevennian rehi* (Ldgr.)  
(*Ripersia oryzae*)  
(The Rice Mealy Bug)
2. *Ripersia sacchari* (Niger.)
3. *Sacchariococcus sacchari* (Ckll.)

**Order-Thysanoptera**

**Family-Phlaeothripidae**

1. *Haplothrips ganglbaueri* (Schmutz.)  
(The Cereal Thrips/Inflorescence thrips)

**Family-Thripidae**

1. *Anaphothrips sudanensis* (Trybom.)  
(The Leaf Sheath Thrips)
2. *Baliothrips biformis* (Bagn.)  
(The Rice Thrips)

**Order-Lepidoptera**

**Family-Arctiidae**

1. *Amsacta lineola* Fb.
2. *Cretonotus gangis* (Linn.)
3. *Estigmene lactinea* (Cram.)

**Family-Eupterotidae**

1. *Nisaga simplex* W.

**Family-Gelechiidae**

1. *Brachmia arotraea* (Meyr.)
2. *Sitotroga cerealella* (Oliv.)  
(The Angoumois Grain Moth)

**Family-Hesperiidae**

1. *Ampittia dioscorides* Fb.
2. *Pelopidas mathias* Fb. (The Rice Skipper)
3. *Telicota augias* (Linn.)
4. *Tohara* (Plotz.)

**Family-Lymantriidae**

1. *Euproctis subnotata* (Walk.)  
(Tussock caterpillar)
2. *E. virguncula* (Walk.)
3. *Laelia fasciata* (Moore.)
4. *Psalis pennatula* Fb.  
(The Yellow Hairy Caterpillar)

**Family-Noctuidae**

1. *Heliothis armigera* (Hb.)  
(Gram Caterpillar)
2. *Mocis (Remigia) frugalis* (Fab.)  
(The Paddy-semilooper)



3. *Mythimna albistigma* (Moore.)  
(The Climbing Cutworm)
4. *M. loreyi* (Dup.)
5. *M. separata* (Walker.)  
(The Rice Ear-Cutting Caterpillar or Paddy Army Worm)
6. *Plusia chalytes* (Esp.)
7. *Rivula basalis* (Hmps.)
8. *Sesamia inferns* (Walk.)  
(The Pink Borer)
9. *S. litura* F.  
(Tobacco cut worm)
10. *S. mauritia* (Boisd.)  
(Paddy Swarming Caterpillar)

**Family-Nymphalidae**

1. *Melanitis leda ismene* (Cramer.)  
(The Horned Caterpillar of Rice)
2. *Mycalesis perseus* (Fab.)
3. *Orsotriaena mandata* (Moore.)
4. *O. medus* (Moore.)

**Family-Pyralidae**

1. *Chilo auricilius* (Dudgeon.)
2. *C. infuscatellus* (Snell.)
3. *C. partellus* (Swinhoe.)
4. *C. polychrysus* (Meyr.)  
(The Malayan Borer)
5. *C. suppressalis* (Walker.)  
(The Striped Borer)
6. *Cnaphalocrocis medinalis* (Guen.)
7. *Scirpophaga (Tryporyza) incertulas* (Walker.)  
(Rice Stem Borer)
8. *S. innotata* (Walker.)  
(The White Borer)
9. *S. gilviberbis* Z.
10. *Nymphula depunctalis* (Guen.)  
(The Rice Caseworm)

**Order-Diptera****Family-Agromyzidae**

1. *Cerodontha oryzivora* (Spencer.)
2. *Pseudonapomyza atra* (Meig.)

**Family-Anthomyiidae**

1. *Atherigona oryzae* (Mall.)  
(The Rice Stem Fly)
2. *A. varia soccata* (Rond.)  
(The Sorhum Shoot Fly)

**Family-Cecidomyiidae**

1. *Orseolia (Pachytiplosis) oryzae* (Wood-Mason.)  
(Rice Gallmidge or Gall fly or Rice Stem Fly)