

**Entry No. IRRC-0007**

Category	: International Rice Research Conference
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Biotic stress tolerance
Keyword 2	: Genotype x Environment Interactions
Keyword 3	: Germplasm Enhancement
Title of Entry	: Molecular characterization of rice brown planthopper BPH), <i>Nilaparvata lugens</i> (Stal) (Homoptera: Delphacidae) populations of India
Presenting author	: V Shilpakala
Presenting author email	: kala7366@gmail.com
Co author 1	: V JHANSI LAKSHMI
Co author 2	: M SESHUMADHAV
Co author 3	: NC VENKATESWARLU
Co author 4	: GURURAJ KATTI
Co author 5	: PM CHIRUTKAR
Co author 6	: G PADMAVATHI
Co author 7	:
Co author 8	:
Co author 9	:
Co author 10	:
Co author 11	:
Co author 12	:
Co author 13	:
Co author 14	:
Affiliation presenting author	: ICAR-INDIAN INSTITUTE OF RICE RESEARCH, RAJENDRANAGAR, HYDERABAD-500030, INDIA.
Affiliation 1	: ICAR-INDIAN INSTITUTE OF RICE RESEARCH, RAJENDRANAGAR, HYDERABAD-500030, INDIA.

Affiliation 2	: ICAR-INDIAN INSTITUTE OF RICE RESEARCH, RAJENDRANAGAR, HYDERABAD-500030, INDIA.
Affiliation 3	: DEPARTMENT OF ENTOMOLOGY, S V AGRICULTURAL COLLEGE, TIRUPATI-517502, ANDHRA PRADESH, INDIA.
Affiliation 4	: ICAR-INDIAN INSTITUTE OF RICE RESEARCH, RAJENDRANAGAR, HYDERABAD-500030, INDIA.
Affiliation 5	: ICAR-INDIAN INSTITUTE OF RICE RESEARCH, RAJENDRANAGAR, HYDERABAD-500030, INDIA.
Affiliation 6	: ICAR-INDIAN INSTITUTE OF RICE RESEARCH, RAJENDRANAGAR, HYDERABAD-500030, INDIA.
Affiliation 7	:
Affiliation 8	:
Affiliation 9	:
Affiliation 10	:
Affiliation 11	:
Affiliation 12	:
Affiliation 13	:
Affiliation 14	:
Select only one type of presentation	: 15 minute oral presentation
Abstract	: Owing to the extensive cultivation of resistant rice cultivars, brown planthopper-BPH, <i>Nilaparvata lugens</i> an important sucking pest of rice has been evolving into new biotypes that are able to overcome the host plant resistance. Presently four biotypes are identified based on host plant differentials and in India biotype-4 is present. No information is available on diversity among BPH populations of hot spot regions in India. Molecular characterization of populations will give clear understanding of BPH diversity in India. BPH populations were collected from different places in India viz., Bargarh-Orissa, Raipur-Chattisgarh, Gangavathi-Karnataka, Kampasagar-Telangana, WestGodavari-AndhraPradesh, Toofran-Telangana, IIRR-Hyderabad and their reaction to host plant differentials was evaluated in Glasshouse by Standard-SeedBox-Screening-Technique. DNA was extracted from eight BPH populations by CTAB method and was analyzed by PCR using 98 BPH specific-SSR-markers and clustering analysis was done. Genotyping data of SSR markers were analyzed using Unweighted pairgroup method with Arithmetic Mean (UPGMA) method using DARwin V6.0. This analysis clustered eight BPH populations into three groups: Group 1 consisting four populations i.e., IIRR, Bargarh, Raipur, Gangavathi. Gangavathi population outgrouped by having only similarity of 0.39 from other three populations. In this cluster IIRR glasshouse population showed similarity of 0.51 with Bargarh population. Raipur population showed similarity of 0.50 with IIRR and Bargarh population. Bargarh and Raipur population showed common reaction in four gene differentials (ARC 10550, RP 2068, MTU 1010 and Sinnasivappu) whereas IIRR and Gangavathi population shared common reaction with only RP 2068. Group- 2 is separated into two sub groups viz., Nalgonda, West Godavari as one with similarity of 0.43 and Nellore into another sub group with similarity of 0.40. Nellore and Nalgonda populations shared common reaction in three gene differentials (ARC 10550, Chinsaba and RP 2068). Toofran BPH population alone grouped into

one (Group 3) with the similarity of 0.35. This population showed its reaction in seven out of thirty gene differentials. Dissimilarity between IIRR and WestGodavari populations is highest with 0.84 value and lowest dissimilarity was observed between Raipur and Bargarh population with 0.47 value. This indicates that Raipur and Bargarh populations are similar whereas IIRR and WestGodavari population are quite different.

[Read Less»](#)

## Uploaded Files »

---

**No files found.**