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CP **Gut bacterial microbiota diversity of yellow stem borer and its functional significance**

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Scirpophagaincertulas Walker the yellow stem borer (YSB) is a monophagous rice pest and attacks rice crop both at vegetative stage and reproductive stages and also found infesting rice crop in all of the diverse rice ecosystems *viz.*, deep-water rice, irrigated and rainfed (Deka and Barthakur, 2010). Symbiotic relationship with microbiota provides several advantages to insect's and to develop innovative pest management strategies molecular level analysis of gut symbionts and insect commensal microbiota will help a lot (Weibing et al., 2010). To our knowledge till now no extensive work was traceable on the gut bacterial diversity of YSB larva. Larval associated gut bacterial microbiota of YSB from different locations was explored and found to be diverse. Bacteria belonging to phylum Firmicutes (53%) is major followed by Proteobacteria (40%) and then Actinobacteria (7%). *Bacillus* (53%) is the predominant genus being found associated with YSB larva and also noticed to be present in all the locations studied. All the isolated bacteria are morphologically and biochemically characterised. Functional significance of the gut harbouring bacteria from two locations i.e., NRRI where insecticide usage is common and Phulbani where insecticide use is negligible/nil are explored and found to be distinct and exhibited differential growth in minimal media inoculated with chlorpyrifos insecticide where bacteria from NRRI YSB population grown even in 75% more than the recommended dose (RD) of Chlorpyrifos whereas bacteria from Phulbani collected larvae not shown growth in 75% more than RD. The gut bacteria from diapause and non-diapause YSB larvae were also explored and found to be distinct. The bacteria isolated from non-diapause YSB larvae grown even in 75% more than the recommended dose (RD) of Chlorpyrifos whereas bacteria from diapause YSB larvae not shown growth in more than the RD of insecticide. Thus, this enlightens the possible differential role of gut bacteria in YSB life cycle.