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**EULOPHID SEED BORER, *Anselmella kerrichi*: A NOVEL
 INSECT PEST OF JAMUN**

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Jamun, *Syzygium cumini* L. (Myrtaceae) commonly known as jambul, black plum, Indian blackberry etc. is an evergreen perennial fruit tree of tropical and subtropical regions. It is found throughout Southeast Asia and the Pacific regions being native to the Indian Subcontinent and adjoining regions of Southeast Asia. The tree bears dark-purple fruit annually, timber, and is of ornamental value. The fruits are of high demand for their economic importance with several medicinal properties.

According to the existing literature, Jamun is attacked by number of insect pests (~78 species) in India. However, seed borer, *Anselmella kerrichi* (Hymenoptera: Chalcidoidea: Eulophidae) was nowhere reported as an insect pest of jamun. The database of insect pests maintained by the National Bureau of Agricultural Insect Resources (ICAR-NBAIR), Bengaluru, mentions the larval stages of *A. kerrichi* feeding mainly on the seeds of jamun as phytophagous (Narayanan *et al.*, 1958). One interesting thing is that *A. kerrichi* is phytophagous in nature unlike other eulophids which are mainly parasitoids of other insects. The other species of the jamun viz. *Syzygium austral* (brush cherry), *Syzygium smithii* (lilly pilly), *Syzygium pachyphyllum* (thick leafed jambu) and *Syzygium samarangense* (java apple) reported many species of seed borer *Anselmella*, viz. *Anselmella miltoni*, *Anselmella malacia* and *Anselmella occult* from Queensland, Malaysia and Papua New Guinea, respectively, as serious pests of *Syzygium*. In India, first report of *A. kerrichi* was from Pune, Maharashtra, in 1957. Except this, there are no reports that state the economic importance and nature of damage of this eulophid seed borer in jamun (Jun *et al.*, 2005). This may be due to its limited distribution and pestilence.



FIG. 1: a. Pricks on immature Jamun fruits, b. adult *A. kerrichi*; c & d. galleries (source: Mala *et al.*, 2019).

However, recently, several incidences of *A. kerrichi* infesting *S. cumini* fruits causing huge economic losses in jamun cultivation have been noticed in fields of rural Bengaluru. The adult female wasp starts the damage process by laying eggs inside the tender fruits. Fully-grown adults after completing the life cycle emerge out from the seed by making a circular hole, in turn causing both quantitative and qualitative losses. The infested fruits exhibit black, pin size oviposition punctures along with circular exit holes on the rind. Heavy infestation of *A. kerrichi* on jamun fruits renders the fruits unmarketable.

Conclusion

Jamun seed borer thus can become a great problem to the growers considering the huge damage it can cause and the ability to build up in vast numbers (~85 per fruit), given that both fruit, as well as seed, are economically important in jamun. In addition, larval feeding can lower seed viability and rate of germination. To minimize the economic losses

caused by *A. kerrichi*, the application of colour traps, safe botanical pesticides may help reduce seed borer infestation considering the need for eco-friendly integrated pest management tactics.

References

Jayanthi, P. D., Subramoniam, A., Rekha, A., & Mala, B. R. (2019). Eulophid seed borer, *Anselmella kerrichi* (Narayanan et al.; Hymenoptera), an emerging pest of jamun. *Current Science*, **117**(6), 922-924.

Jun Abe, Kamimura, Y., Kondo, N. & Shimada, M. (2005). *Behavioural Ecology*, **14**, 34–39.

Mala, B. R. J., Jayanthi, P. D. K., Anjana, S., & Rekha, A. (2019). Management of eulophid seed borer, *Anselmella kerrichi* (Narayanan et al.) (Hymenoptera: Chalcidoidea: Eulophidae) on jamun. *Journal of Horticultural Sciences*, **14**(2), 166-168.

Narayanan, E.S., Subba Rao, B.R. & Patel, G.A.A. (1957). A new pteromalid genus from India. *Indian Journal of Entomology*, **19**: 202-203