

3rd International FOOD SCIENCE, PROBIOTICS, NUTRITION & MICROBIOME CONFERENCE November 28-29, 2019 | Kuala Lumpur, Malaysia

Gene Expression Studies of *Vitex negundo* Treated *Callosobruchus chinensis* in Different Growth Developmental Stages

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Callosobruchus chinensis is one of the harmful serious pests in stored grain and related products. The attack of stored products of agricultural and animal origin by more than 600 species of beetle pests causing quantitative and qualitative losses, as well as insect contamination in food commodities, is an important quality control problem that is of great concern to food industries. It is reported that insect damage in stored grains and pulses may amount to 10-40% in countries where modern storage technologies have not been introduced. It is therefore necessary to reduce such losses by controlling pests in stored products. The crude pepper seeds are toxic to *Sitophilus oryzae* (L.) and *Rhyzopertha dominica* (F.) It is considered a Primary pest, which can easily infest damaged or broken kernels and apart from grain, it is particularly destructive to Rice and other processed grain products. During the last two decades phytochemicals from plant bioresources have been heralded as desirable alternative to synthetic chemical insecticides for pest management because they pose little threat to the environment or human health. In our earlier studies, we reported the effect of commercial glycoalkaloid, *Vitex negundo* on *Callosobruchus chinensis* larvae. The treatment prevented the normal development of the last instar larvae. Increase in dosage of *Vitex negundo* resulted in interference in ecdysis, inhibition of pupation, formation of mosaics (larval-pupal, pupal-adult intermediates), deformed pupae and deformed adults. However, the molecular mechanism of the phytochemical effect on the larvae is yet to be studied. Lindsey C. Perkin corresponding and Brenda Oppert in recently reported the list of genes that are altered during developmental stages (PMID: 31198628). We planned to isolate the RNA from the different growth stages of the food pest and study their expression pattern after the treatment of *Vitex negundo*.

Keywords: *Vitex negundo*, *Callosobruchus chinensis*, Ecdysis, RNA, Gene Expression

Biography

Dr. M. Madhavi has completed her PhD at the age of 35 years from Osmania University. She has published more than 25 papers in reputed journals and has been awarded as Fellow of Academy of Environmental Biology, India (FAEB). She is an Associate Fellow of Telangana Academy of Sciences (AFTAS) and AP Academy of Sciences (APAS).

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