

RESEARCH ARTICLE :

Phytohystology of papaya mealybug *Paracoccus marginatus* Williams and Granara de willink *vis-a-vis* divergent natural selection

■ R. NISHA AND J.S. KENNEDY

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SUMMARY : Phytohystology of papaya mealybug PMB *Paracoccus marginatus* Williams and Granara de Willink was studied for the first time in this experiment and that is based on divergent natural selection process. Histology of healthy and mealybug infested leaves of different host plants *viz.*, papaya, tapioca, cotton, mulberry, brinjal and hibiscus examined for the biochemical changes and the results were correlated with phytohystological changes. Changes were noticed in the abaxial and adaxial leaf surfaces and mesophyll regions. Spongy parenchyma region and crystal bodies, enlargement of xylem and phloem cells, irregular arrangement of cells were noticed due to PMB attack in the leaves and midrib region of host plants. And, these were also accounted for increase in tannin and phenol content and reduction in total carbohydrate, reducing sugars and protein in leaves. Papaya and cotton leaves showed susceptible to PMB attack and the biochemicals and secondary metabolites were drastically reduced, whereas tapioca showed the resistance against PMB attack and the secondary metabolites were increased.

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Author for correspondence :

R. NISHA

Department of Crop
Protection, Imayam
Institute of Agriculture
and Technology,
Thuraiyur, TRICHY (T.N.)
INDIA
Email : nisharengadoss
@gmail.com

See end of the article for
authors' affiliations