

## Threat to Wonder Herb: Neem (*Azadirachta indica*)

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It has been observed that the Tea Mosquito Bug attack induces gradual drying of neem tree twigs and branches. Similar observations have also been reported from Nalgonda, Mahaboob Nagar and Ranga Reddy districts of Telangana, while in Maharashtra such symptoms have been observed in Ahmednagar and adjoining districts. The leaves of the affected trees turned brown and the whole tree appeared as burnt and lifeless.

### Introduction

Neem (*Azadirachta indica*) is considered as solution to many problems. It has much importance in medicinal and pest management. For such a wonder plant now threat has been surrounded by a crop pest: Tea Mosquito Bug (*H. theivora*) which also infests many other horticultural crops.

The Tea mosquito bugs, which have a life cycle of 25-32 days, are also found in plants like cashew, cocoa, jamun, grapevine, tamarind, henna, black pepper, cotton, red gram, cinnamon and some other species. The recent infestation of tea mosquito bug on neem is causing a great concern among the farmers. The adults and nymphs of the infectious species suck sap from the tender shoots of neem and kill the plant tissues leaving scope for secondary infection by *phytophthora* and other soil inhabiting pathogens causing die-back disease in neem.

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### Identification

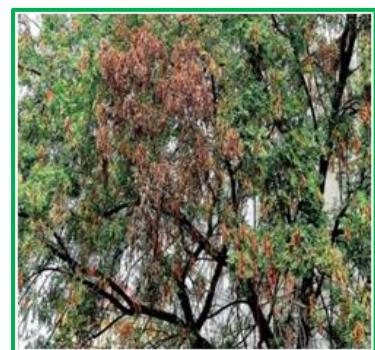
The adult *H. theivora* is a tiny bug measuring 6–8 mm in length. The body is slender and elongated with a yellowish-brown or olive-green head, dark red thorax, and yellow and greenish-black abdomen. Appendages are long, dark, and delicate. The thorax bears a characteristic dorsal knobbed process.



a) Healthy neem



b) Tea Mosquito bug



c) Infested neem tree

### Nature of Damage

The nymph and adult insert their proboscis into the young leaves, inflorescence, buds, and tender shoots to suck the plant sap. The toxin injected through the saliva of the pest causes the tissues around the punctured spot to dry and die. The leaves having many such black spots shrivel and eventually fall off. In flowering stage it causes inflorescence blight. Feeding on the stalks of the tender shoots causes elongated green lesions, sometimes accompanied by exudation of gum. Severely damaged shoots die back due to the effect of bug saliva in combination with fungi, which enter the plant tissue through the feeding lesions; the subsequent development of numerous auxiliary buds causes a bunched terminal growth known as 'Witches broom'. In case of serious infestations the trees may appear as if scorched by fire. Bug feeding on developing apples and nuts causes brown sunken spots. The growth of trees is seriously retarded and fruit formation of attacking flowering shoots is reduced. The affected portion becomes brown and later on becomes black. The infected shoot also show such spots which extends to almost whole plant.

### Management

The danger of infection to neem plants should be reduced by taking preventative measures for the host crops like cashew, cotton, tea, sweet potato, guava, mango etc.,. Placing pheromone traps specifically made to capture Tea mosquito bugs and suggests spraying Profenophos (2 ml per litre water) and Acetamide (0.6 gm per litre of water) in the area infected by the bugs and nymphs - in February and March. High concentration of potash recorded less TMB population compared to areas having low potassium in soil. The concentration of potassium salt in soil act as a repellent for TMB.

### Conclusion

Due to the global importance of neem, there is a pressing need to protect the plants in all ways. The 'Tea mosquito bug', when tender shoots start emerging from branches, the bugs and nymphs feed by sucking the sap from the tree. As they feed, they release poisonous oral secretions which kill the tissues. In some cases, it makes the tree's foliage appear lifeless. To mitigate the infection, use of management practices helps in controlling the bug infestation and promoting plant regeneration.

### References

1. Handa, A. K., Sirohi, C., Arunachalam, A., Ramanan, S. S., Rajarajan, K., Krishna, A., & Kolse, R. H. (2022). Surge in neem tea mosquito bug incidence in India. *CURRENT SCIENCE*, 122(6): 651-651.
2. Tea Mosquito Bug (*HelopeltisTheivora*): Distribution, Life Cycle and Control (yourarticlelibrary.com)
3. Telangana: Tea mosquito bug causing neem trees to shrivel up- The New Indian Express
4. <https://www.fao.org/forestry/en/>