

False Codling Moth, *Thaumatotibia leucotreta* (Meyrick)

Introduction

The false codling moth, *Thaumatotibia leucotreta* Meyrick (Lepidoptera: Tortricidae), is native to sub-Saharan Africa. It is a polyphagous pest of economically important crops mainly citrus, stone (*Prunus* sp and others), nuts (macadamia), arable crops (corn, cotton) grapevines, pomegranates, guava, vegetables (mostly *Capsicum* sp & *Solanum* sp), roses, and other tropical and sub-tropical crops. The host range includes more than 50 species.

The damage is caused by larval feeding internally in fruits and in some cases, in buds. The eggs are deposited in the surface of fruits or buds and after emerging, the larvae penetrates the surface. Small holes on fruit (either from penetrating or from exiting) with secondary fungal or bacterial infections and frasses around the holes are typical symptoms. Depending on the hardness of each fruit, larvae would either feed superficially in the interior or would tunnel deeper into the fruits. The fruit is ripening prematurely and falls on the ground. The pupa exits the fruit and the pupation takes place in the soil under debris. Thus, it causes heavy yield losses. The pest does not diapause. It is found all year. Due to the fact that it is polyphagous, it can feed through the year from different marginal hosts.

It is present in African countries and Israel and has been intercepted from a few European countries. The distribution pathway is through trade of crop products such as fruit and cut flowers. The adults are not strong flyers. Phytosanitary measures with zero tolerance of infestation do take place for every country that imports crop products (fruit or cut flowers) from the Sub-Saharan region. Thus, the pest has also financial impact in the trade markets due to the strict phytosanitary measures that are required. For the EU, it is a quarantine pest (EPPO 2019).

History of classical biological control against *Thaumatotibia leucotreta*

There are no Classical Biological programmes that have applied for the false codling moth.

Most promising natural enemies

One effective biological control agent against *T. leucotreta* is the egg parasitoid, *Trichogrammatoidea cryptophlebiae* Nagaraja (Hymenoptera: Trichogrammatidae). It is endemic to southern Africa, and is present in all productive crops in the area of origin.

Agathis bishop Nixon (Hymenoptera: Braconidae) is an effective larval parasitoid of *T. leucotreta*. The females lay their eggs on the larvae (2nd & 3rd instar) just before it penetrates the fruit rind. Studies have been conducted on the tritrophic interaction between the parasitoid, FCM and the plants. It is probably native to South Africa, because it has been reported to occur naturally in citrus orchards.

Other natural enemies

A South African strain of the entomopathogenic virus, *Cryptophlebia leucotreta* Granulovirus (CrLeGV) (Baculoviridae), has been used against *T. leucotreta* in citrus (Moore *et al.*, 2015).



References

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