First record of fruit sucking moth on Tomato (*Lycopersicon esculentum* Miller) in middle Gujarat

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Tomato, *Lycopersicon esculentum* Miller, is one of the most popular and widely grown vegetables in the world and ranks second in importance next to potato. It is consumed in many ways and this has played a major role in its rapid and widespread adoption as an important food commodity in India. Tomato production has intensified over the years; however, yields continue to be low due to several production constraints such as insect pests, diseases and other physicochemical factors. The important insect pests of tomato are fruit borer, *Helicoverpa armigera* (Hardwick) Hubner; whitefly, *Bemisia tabaci* Gennadius; leaf hopper, *Amrasca devastans* Dist.; leaf miner, *Liriomyza trifolii* Burgess; potato aphid, *Myzus persicae* Thomas and hadda beetle, *Epilachana dedecastigma* Widemann (Meena and Raju, 2014).

Fruit sucking moth (Lepidoptera: Noctuidae) has been observed for the first time on tomato at farmer's fields of middle Gujarat especially in tomato growing areas of Panchmahal district during 2013-14. To attract and trap the moths, battery operated torches and insect collecting nets were used, respectively. The trapped moths were sent to the Insect Identification Service, Division of Entomology, IARI, New Delhi for identification and were identified as *Eudocima materna* Linnaeus and *Eudocima homaena* Hubner. In India, four species of *Othreis viz*., *Othreis fullonia* (Clerck), *Othreis materna* (L.), *Othreis homaena* Hubner and *Othreis cajeta* (Cramer) have been recorded as prominent fruit piercers and they are considered as very serious pest on citrus, guava, pomegranate, grapes, fig, sapota, mango, papaya and tomato (Sundara Babu and David, 1973). Adult moths pierce into tomato fruits with their proboscis, macerate the pulp and suck the fluid (Sands and Schotz, 1991).

The adult of *E. materna* was fairly large and entire body was covered with orange coloured scales and hind wings were surrounded with black border and there was a black spot just below the centre of hind wing in both the sexes. There were three black triangles on the forewings of female moth, whereas only two faint triangles were found on the forewings of male moth (Patel and Patel, 2006). The adult of *E. homaena* possesses fulvous brown head and thorax; the collar, metathoracic tufts and tibiae with an orange tinge; head and collar with

a purple bloom; abdomen orange. Fore wings are olive-green suffused with purplish red-brown and striated with rufous; dark subbasal and antemedial lines and slightly curved postmedial line; traces of some waved medial lines; an indistinct reniform stigma and dentate submarginal line. Hind wings are orange with large black lunule beyond lower angle of cell; a submarginal band with waved edges from costa to vein; underside of fore wings are orange with the post-medial band.

The damaging symptoms of these fruit sucking moths can be identified by a circular pinhole like spot which appears at the feeding site. Later, the area around the damaged portion turns yellowish-brown. The punctured fruits are easily infected with secondary bacteria and fungi. As a result, the fruit rots and falls prematurely. Damaged fruits are unmarketable and if packed, pose a threat to sound fruits through pathogenic contamination and cause direct loss to harvestable produce.

This is claimed to be the first record of fruit sucking moth (*Eudocima materna* and *Eudocima homaena*) on tomato from middle Gujarat.

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References:

Meena, L. K. and Raju, S. V. S. (2014). Bio-efficacy of newer insecticides against tomato fruit borer, *Helicoverpa armigera* (Hubner) on tomato, *Lycopersicon esculentum* Miller under field conditions. *The Bioscan,* **9 (1)**: 347-350.

Patel, M. M. and Patel, R. K. (2006). Biology of fruit fucking moth, *Othreis materna* L. on sweet orange. *Internat. J. Agric. Sci*.,**2 (1):** 118-121.

Sands, D. P. A. and Schotz, M. (1991). Ecology of fruit-piercing moths in subtropical Australia. *Proceedings of the 11th International Congress Plant Protection*, vol. II, pp. 229-232.

Sundara Babu, P. and David, B. V. (1973). A note on unprecedental occurrence of fruit piercing moths on grapevine. *South Indian Horti.*, **21**: 134-136.

***Eudocima materna* Linnaeus**

***Eudocima homaena* Hubner**

Fruit sucking moth pierces proboscis in tomato fruit

Damage caused by fruit sucking moths on tomato fruits