

***SESAMIA BOTANEPHAGA* TAMS & BOWDEN, 1953 AUCT.
IN IRAN, READ *SESAMIA NONAGRIOIDES* (LEFÈBVRE, 1827)
(LEPIDOPTERA: NOCTUIDAE)**

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[Esfandiari, M., Mossadegh, M. S. & Shishehbor, P. 2011. *Sesamia botanephaga* Tams & Bowden, 1953 auct. in Iran, read *Sesamia nonagrioides* (Lefèbvre, 1827) (Lepidoptera: Noctuidae). *Munis Entomology & Zoology*, 6 (1): 400-403]

ABSTRACT: *Sesamia botanephaga* Tams & Bowden, 1953 was reported in Iran, for the first time, from sugarcane fields of Khuzestan province, SW Iran. The accuracy of this report was dubitable, because *S. botanephaga* is a native species to Africa. In this investigation, samples were taken from agricultural fields of Khuzestan and Fars provinces in 2007. Taxonomic study revealed that all samples were *Sesamia nonagrioides* (Lefèbvre, 1827); thus African *S. botanephaga* (or *S. nonagrioides botanephaga*) does not occur in Iran.

KEY WORDS: *Sesamia botanephaga*, *Sesamia nonagrioides botanephaga*, *Sesamia nonagrioides*, sugarcane stem borer, Iran.

Apart from *Sesamia cretica* Lederer, another *Sesamia* species occurs in SW Iran, as a stem borer pest. For the first time, Ali Pazuki from Iranian Research Institute of Plant Protection identified this stem borer as *Sesamia botanephaga* Tams & Bowden, 1953 which was collected from sugarcane fields of Haft Tappeh in Khuzestan province, SW Iran (Daniali, 1985). Other authors have followed this identification according to Pazuki (see e.g. Daniali, 1986; Jemsi & Kamali, 1992; Fazeli, 1992; Ranjbar Aghdam, 1999; Mossadegh & Kocheili, 2003). However, as stated by Allsopp & Sallam (2001), the accuracy of reports on *S. botanephaga* from Iran was dubitable. It should be noted that Nye (1960) sank this species described by Tams & Bowden to the rank of subspecies: *Sesamia nonagrioides botanephaga*.

The above mentioned stem borer is an important pest of sugarcane, maize and rice in Khuzestan province and has 4-5 annual generations. It attacks several cultivated and non-cultivated graminaceous species (Daniali, 1985; Jemsi & Kamali, 1992; Mossadegh & Kocheili, 2003). It also damages maize and rice in some parts of Fars province, where it has 3-4 annual generations (Fazeli, 1992). A geometric morphometrics study on *S. nonagrioides* populations in SW Iran by Esfandiari et al. (2010) revealed that the centroid size of both internal and external genitalia in population from rice farms was significantly smaller than the populations from maize and sugarcane farms. This was probably due to smaller stem diameter of rice, as an environmental factor, compared to maize and sugarcane stems.

MATERIAL AND METHODS

Population samples were collected in South and Southwest Iran in 2007:

In Khuzestan province: on sugarcane in the following agro-industries: Amirkabir (31°03'N 48°14'E), Farabi (30°06'N 48°36'E), Imam Khomeini (31°46'N 48°44'E) and Karoon (32°10'N 48°36'E). On maize in the cities of Shushtar (32°07'N 48°44'E) and Behbahan (30°38'N 50°12'E).

In Fars province: on rice in Firoozabad city (29°00'N 52°30'E) and on maize in Noorabad city (30°05'N 51°30'E).

The infested plants were collected and the larvae were reared to adulthood at the laboratory. Adult specimens were checked according to their genitalia structures.

The specimens were deposited in Insect and Mite Collection of Ahvaz (IMCA), Plant Protection Department, Shahid Chamran University of Ahvaz, Iran.

RESULTS

Taxonomic study of genitalia structures of the collected specimens revealed that the discussed stem borer is the same as the Mediterranean corn borer, *Sesamia nonagrioides* (Lefèbvre, 1827), which occurs in Mediterranean countries.

Diagnosis.

Male antenna long bipectinate with feather-like lamellae, female antenna ciliate. Head, thorax and ground colour of forewing from pale ochreous and beige to light brown. Straw-coloured forewing has a dark terminal area and sometimes with a few black dots; stigmata absent; Fringe white. Hind wing whitish with a light brown terminal line.

Male genitalia (Fig. 1): Uncus small, narrowing at about halfway, elongated valvae with narrower membranous cucullus and thorn like acute costal extension which has a small tooth before apex, sacculus slightly broadened at apex with rows of short stout spines, basal half of valval costa heavily sclerotised, concave and broad; long and narrow juxta without median process, manica without spine; aedeagus short with long caecum, strongly sclerotised in the tip, carina with small spines, vesica with prominent subbasal diverticulum and cristate sclerotised subbasal plate.

Female genitalia (Fig. 2): Ovipositor lobes conical, elongated and acute, ductus bursa long and narrow with little chitinized plate near ostium, corpus bursa narrow.

S. cretica, which also occurs in Southwestern Iran, is sometimes very similar externally to *S. nonagrioides*, but the males can be separated by the much shorter pectination of the antenna in *S. cretica*. Precise identification of females requires dissection of the genitalia. In *S. cretica* corpus bursa is broad and ductus bursa is short and broad without chitinized zones. *S. cretica* larvae are distinguishable from those of *S. nonagrioides* by the angle between the setae D2, D1 and SD1 on the ninth abdominal segment, which is less than 120 degrees in *S. cretica*, while in *S. nonagrioides* are almost in line.

DISCUSSION

Some sugarcane cuttings were imported from Egypt to Iran about 1937 (Anonymous, 1976). Pazuki believes that the mentioned stem borer is the African *S. botanephaga*, because it was most probably imported from Egypt to Iran by the imported sugarcane cuttings (Personal communication).

We can not be agreeing with Pazuki, because *S. botanephaga* occurs in West, Central and East Africa, but not in Egypt (Meijerman & Ulenberg, 1996;

Holloway, 1998; Allsopp & Sallam, 2001). Typical *S. nonagrioides* occurs in Iran, as stated by Holloway (1998), thus the record of *S. botanephaga* for Iran should be deleted.

It seems that *S. nonagrioides* is native to SW Iran rather than an exotic pest and have adopted sugarcane as a host consequent to its cultivation in this region since about 70 years ago. Most of recorded host plant species of *S. nonagrioides* (Rao & Nagaraja, 1969) occur in SW Iran. Furthermore, Daniali (1985) reported an egg parasitoid of *S. nonagrioides*, from SW Iran, which nowadays is effective in biological control of this pest. It probably indicates the long-lasting relationship between the pest and its parasitoid in SW Iran.

ACKNOWLEDGEMENTS

We thank Dr. Laszlo Ronkay (Hungarian Natural History Museum, Budapest, Hungary), Dr. Pascal Moyal (IRD/CNRS, France) and Eng. Ali Pazuki (Iranian Research Institute of Plant Protection, Tehran, Iran) for useful discussions. This work was supported by the grant from Shahid Chamran University of Ahvaz.

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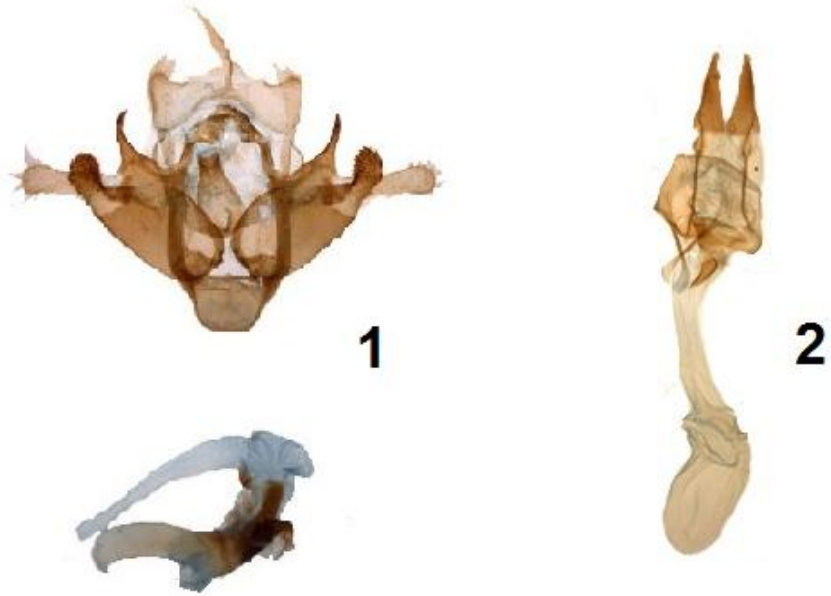
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Figures 1–2. Genitalia of *Sesamia nonagrioides* (Lefèbvre, 1827) collected in SW Iran (1: male genitalia, 2: female genitalia).