

## Case reports

# A human case of urogenital myiasis caused by *Psychoda* sp. larvae in Tripoli, Libya

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**ABSTRACT.** Urogenital myiasis caused by *Psychoda* spp. involving human are very rare and present with unusual symptoms. Larvae belonging to *Psychoda* sp. (Diptera: Psychodidae) were found in the urogenital tract of a 9-year-old girl, who lives in Tajoura, Libya, and had suffered from genital pruritus and moving larvae in urine. This is the first record of such case in Libya.

**Key words:** urogenital myiasis, *Psychoda* sp.

## Background

Myiasis is defined as the invasion of the tissues of live human and vertebrate animals by dipterous larvae. The larvae feed on the host's tissues and fluids, and they are classified into obligate, facultative, or accidental parasites. The infection occurs worldwide with a significantly higher number of cases reported in hot and humid climates [1]. Myiasis is more common in children and it is usually associated with poor sanitary conditions and low educational level [2].

Species of *Psychoda* have been reported as myiasis causes [3–7]; *Psychoda alternata* [8], *Psychoda albipennis* [9–14].

The reports on human myiasis in Libya is scarce, few reports were published regarding ophthalmomyiasis [15–17] and wound myiasis [18,19]. There have been no cases of urogenital myiasis recorded from Libya.

In this article, we report a case of urogenital myiasis in a 9-year-old girl who complained of pruritus and presence of moving larvae in urine.

## Case presentation

In this report, we present a 9-year-old female patient, who lives in Tajoura, Libya (14 km east of Tripoli), and suffered from genital pruritus and presence of dark worms in urine. The patient was admitted to many hospitals in city of Tripoli, and physicians supposed this worm is a kind of migrating intestinal parasite and moved to the urogenital tract. Urine, stool and complete blood count analysis were normal.

Those worms were collected by child's mother, kept with formalin 10%. Larvae were sent by a private medical laboratory to Research Laboratory for Parasites and Vectors of Diseases at National Centre of Disease Control (NCDC), Parasitology sector, Tripoli, Libya. After macroscopic and microscopic examinations, we found out that those worms were dipterous larvae belonging to the genus of *Psychoda* (Psychodidae: Psychodinae).

Collected larvae were fixed in 70% ethanol after washing several times in saline. Then, they were cleaned by using 10% potassium hydroxide for one hour.

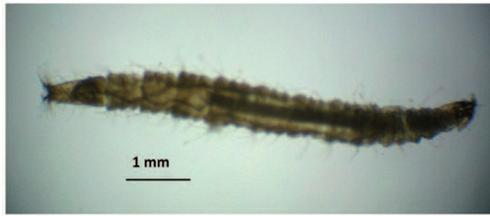


Fig. 1. Larva of *Psychoda* sp.



Fig. 2. Syphon shape of larva

The larvae were identified using taxonomic identification key [7]. The larvae were illustrated by photomicrographs. The most useful morphological features in identification are the shape of larvae (Fig. 1), syphon shape (Fig. 2) and anterior end (Fig. 3).

## Conclusions

*Psychoda* spp. are known as moth flies or drain flies which belong to subfamily of Psychodinae. They are considered as facultative parasites causing myiasis, usually developing in damp habitats, in polluted, shallow water or moist organic solids feeding on decaying organic material. Adult flies can be seen in homes, usually on the walls of the bathrooms, kitchens and other locations where sewer drains and plumbing fixtures are located [10]. The females lay eggs in moist areas, which hatch within 48 hours. Larvae feed on decaying organic matter and microorganisms; they mature in two weeks. Pupation lasts less than days, and takes place in or on the surface of the breeding media [6].

It is difficult to explain the presence of larvae in urogenital tract of humans. The most probable



Fig. 3. Anterior end of larva

hypothesis says that the patient might have a urogenital infection that attracted female to lay eggs in her urogenital tract when the patient was urinating.

Fifty-two species of moth flies, of which thirteen species belong to the genus of *Psychoda* have been recorded in North Africa. No information exists in literature regarding Psychodinae moth-flies in Libya [20].

In this report, a case of urogenital myiasis by larvae of *Psychoda* sp. was documented. This rare parasitological infection may be observed regardless the hygiene status and the socio-economical level. It should be considered in patients with urinary complaints.

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