

Name This Pest!

Worked out what this is from the last issue? Find out on the next page!



Stephen L. Doggett

Hint: this is around 10mm in length, occurs in wet areas, causes a lot of worry (but has no medical significance), and is one of the most common species submitted to Medical Entomology laboratories.

Moth Flies

Also known as 'Drain Flies' and 'Sewer Gnats'

Text by Marilyn J. Geary, Images by Stephen L. Doggett



ADULT FLIES

Moth flies are from the family Psychodidae. At first glance, a moth fly has a very shaggy appearance. However, their entire squat body and pair of broad pointed wings are densely coated with scale-like hairs, and is superficially similar to a small moth, hence the common term "moth fly". Moth flies stand on six short legs and measure 2-4mm in length and their overall colour is dark grey. They walk in an irregular fashion and are considered weak flyers. When disturbed, they do not disperse very far but tend to stay in the vicinity of their favoured habitat of pipes and drains.

IMMATURE STAGES

A female moth fly can deposit an egg mass that may contain between 10-200 eggs. The larvae hatch within two days and grow through four stages of development over a 1-2 week period. Newly hatched legless larvae are aquatic and swim with a sinuous body motion. Each larva has a defined head capsule that does not retract and a cylindrical body that is evenly marked with dark distinctive bands. Larvae are equipped at the tip of the abdomen with a tapered pigmented tube (the siphon) through which they breathe. The siphon is also fringed at the tip with fine pale hairs. The final stage larvae is up to around 1cm. Air exchange for the pupal stage, which lasts from 1-2 days, is through two small trumpets on the apex of the head.

DISTRIBUTION

Moth flies are common worldwide and an ever present urban insect pest.

HABITAT

Adult moth flies can be observed resting on the walls of rooms that offer cool, humid environments such as bathrooms, toilets, and laundries. These rooms

provide numerous attractive habitats within the associated pipework for egg laying and feeding. The organically rich stagnant water bodies that lie in drains, toilet bowls, shower recesses, and sewerage infrastructure, are highly attractive to female moth flies. The interior of the pipework is coated with gelatinous slime that supports a vast complex of microorganisms on which the developing moth fly larvae feed.

BIOLOGY

Maturing larvae possess strong mouthparts enabling them to feed continuously on this hidden biofilm. Although, when suitable food is unavailable, moth fly larvae have been known to be cannibalistic, and can withstand extreme changes to their immediate habitat including lower temperatures and reduced oxygen content. Food for adult moth flies is from a variety of sources and may include sap, nectar, or liquid carbohydrates. Moth flies are most active after night fall and are attracted to lights. The life cycle of 2-4 weeks will always be dependent on prevailing conditions of their habitat.

MEDICAL IMPORTANCE

Adult moth flies do not bite, however their presence can impact on human health in several ways. The inhalation of particulate matter from the fine scales or fragmented body parts of moth flies are a known source of bronchial asthma for some individuals, whilst more commonly, allergic reactions may result. Presence of the larval stage in a toilet bowl can mistakenly convince some individuals, of actual proof of a "worm infestation" leading to much mental anguish. There is literature that has recorded cases of myiasis from this fly, however as it commonly occurs under the rims of toilet, there are doubts on some of these reports. The role of the moth fly is still being investigated as a mechanical vector for the transmission of bacterial pathogens to humans.

TREATMENT & CONTROL

Domestic household control of this pest is directly related to “good housekeeping practices” to reduce built up layers of organic waste in pipes, drains, and toilet bowls. In commercial premises effective control of this pest can be achieved through surveillance and monitoring, prior to employment of the control strategies which may include application of chemicals. ■

Merilyn J. Geary runs the pathology service at the Department of Medical Entomology at Westmead Hospital, Sydney, Australia (and the much loved partner of Stephen Doggett!)

Moth fly, Front View



An adult moth fly, Top View, ~3mm in length.

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Find out what this is in the next edition

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Hint: while it is obviously a flea, can you name the species? This was once very common and extremely widespread, but in some countries has not been seen for decades.