

DIFFERENT TYPES MATING HABIT OF VARIOUS FLIES

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Flies are insects of the order Diptera, the name being derived from the Greek δι- di- "two", and πτερόν pteron "wing". Insects of this order use only a single pair of wings to fly. Diptera is a large order containing an estimated 1,000,000 species including house-flies, flesh-flies, crane flies, hoverflies and others, although only about 125,000 species have been described.



In this photo- essay, I documented some beautiful mating habit of identified Diptera species. Many Diptera exhibit sexual selection and several patterns of sexual shape dimorphism, such as male body elongation, eye stalks, or extensions of the exoskeleton. Normally Mating starts when a male fly approaches the female, after which he jumps towards her and mounts her. The female pushes her tubular ovipositor into the male genital opening to obtain sperm. The mating process lasts anywhere from half an hour to 2 hours. Males initiate courtship by bumping into a female, which is a ritual called striking. If a female fly wants to mate, she puts her ovipositor inside the male fly's genital opening, located at the bottom of his abdomen. The ovipositor is a long thin tube that extends from the end of the female's abdomen. When she isn't mating or laying eggs, the ovipositor stays hidden. Once the ovipositor is in place, the male releases sperm, which travel through the female's reproductive tract to fertilize her eggs. The entire mating process lasts from 25 minutes to two hours.



Rhagoletis sp. genus :*Rhagoletis* family: *Tephritidae* “ Mating dance “

House fly [Length: 0.5 – 0.7 cm] male initiates copulation by knocking himself into the female mid-flight or jumping on her when sitting, a behavior called striking. If she allows it, the houseflies take around 30-120 minutes to mate. A day later the female housefly lays her eggs in feces or garbage. The eggs take at most a day to hatch.



Single pair of houseflies mating on a stable surface.

Flesh fly /*Sarcophaga* sp, commonly known as the red-tailed flesh fly, is a member of the family Sarcophagidae, the flesh flies. Flesh flies are calypteres possessing well-developed lower calypteres which are associated with the wings. Within two to nine days after adults emerge from the puparia, copulation occurs. There is no known courtship ritual for this species; males have no specialized ability to identify females of the species. In fact, it has been noted that males will copulate with other males and dead flies. Additionally, the same male has been observed mating with the same female multiple times suggesting that this species does not have a pheromone or other cues to detect previous insemination as has been observed for other Dipteran species.



*Flesh fly (*Sarcophaga* sp) pair mating on leaf.*

The complex courtship process of the **common green bottle fly** (*Lucilia sericata*) consists of several stages of display on the part of the male. First, the male identifies a potential mate and pushes her with his head; he then taps her with his fore leg multiple times. The male then mounts the female and attempts copulation, continuing to tap his fore leg on her body. If the female is receptive, copulation proceeds, genital contact is achieved, and when the process is over, both individuals move away. If she is not receptive, the female kicks at the male with her hind legs, but this is not usually successful at dismounting the male, and the mating proceeds, nevertheless. Some males are left-biased and some males are right-biased in their fore leg tapping, but this bias does not appear to have an effect on their mating success.



*Mating Green Bottle Flies (*Lucilia sericata*)*

Big-headed fly/ Pipunculidae (body length: 2.0–11.5 mm) is usually uniform-ly dark brown to black in colour. These flies are commonly termed as big-headed flies, a reference to the large (holoptic) eyes, which cover nearly the entire head.



*Mating big headed flies (*Pipunculidae*)*

Crane fly belongs to the group of flies, sharing its other name with the mosquito hawks, skeeter-eater, or "daddy longlegs". Crane flies look like giant mosquitoes with their long skinny legs and long wings but are quite harmless and do not bite, sting, or suck blood. The larvae can live for up to a year but adults only a few days or weeks.



Crane Fly Mating Pair - Nephrotoma wulpiana

Asilidae (Joern and Rudd 1982, Shurovnekov 1962) are the robber fly family, also called assassin flies. Robber flies display beautiful courtship behavior. Instead, the male pounces on the female much like an act of prey acquisition. Courtship rituals are done in the process of tail-to-tail way with the male and female genitalia interlocked. Flight is not completely reserved during mating.



Mating pair of robber flies



Mating pair of robber flies -(Efferia albibarbis)

Fruit fly / lesser fruit fly/ vinegar fly [*Drosophila sp.*] An adult *Drosophila sp* commonly known as fruit fly is only about 3 mm in length and 2 mm wide. Usually their lifespan is about 50 days from egg to death. Both male and female fruit flies act polygamous but only the females can be responsible for selective mate choice.



Mating pair of Yellow Fly on green leaf - Neogriphoneura sordida

Signal flies (Platystomatidae) are a distinctive family of flies (Diptera) in the superfamily Tephritoidea. Signal flies are very variable in external appearance, ranging from small (2.5 mm). There is contact or intermittent contact between the male and female for up to 30 minutes before mounting. The sexes approach each other and the male displays its black fore tarsi to female. There is no wing flicking or evident displaying of wings. At times they both hold out the fore tarsi so that they make mutual contact.



Mating pair of Signal Fly – Platystomatidae



Social and sexual behavior of Signal Fly

Stiletto fly, (Therevidae) are hairy body & length of 2.4mm to 10 mm. Adult Stiletto fly are conspicuous with their golden hairs and banded abdomen and female abdomen is quite pointed. They perform courtship rituals same like Robber flies (tail-to-tail way).



Mating pair of Stiletto fly

Medetera is a large genus of flies in the family Dolichopodidae (long-legged flies, are a large, cosmopolitan family of true flies) other name: **Woodpecker Flies**.



Mating dance of Medetera sp

Hover flies, also called flower flies or syrphid flies, make up the insect family Syrphidae. Some people mistake hover flies for wasps or bees because of their black and yellow-striped abdomens and also because they can occur in huge numbers. However, they are actually members of a fly family that have evolved as wasp and bee mimics. Males approach females from the back and stop on the female's back to mate. During the mating process, females either fly away to escape mating or stop to accept mating.



Mating of Hover flies

Cecidomyiidae is a family of flies known as gall midges or gall gnats. As the name implies, the larvae of most gall midges feed within plant tissue, creating abnormal plant growths called galls. Cecidomyiidae are very fragile small insects usually only 2–3 mm (0.079–0.118 in) in length; many are less than 1 mm (0.039 in) long.



Gall Midges hanging on spider's web - Social and sexual behavior.

Neriidae are a family of true flies (Diptera) closely related to the Micropezidae. Some species are known as cactus flies, while others have been called banana stalk flies. Male neriidae fly fought over females, probably using their armed front legs. Smaller males employed an alternative, harassing tactic that delayed copulation by other males. There was little pre-copulatory courtship, and females usually mated readily. But relatively elaborate leg waving, and complex genitalic tapping, stroking and tugging occurred during copulation. The movements of both legs and genitalia differed between species. Functional interpretations of several genitalic structures that may stimulate the female and/or anchor the male's genitalia inside her are presented.



Mating pair of Banana Stalk Fly (Neriidae)

Physiphora alceaeis a species of picture-winged fly in the genus *Physiphora* of the family Ulidiidae. Males of *Physiphora* sp were reported to court with an elaborate dance. The courting male may move his fore legs up and down in front of the female. He may also shake his fore legs, turn sidewise to his partner and lift one of his wings, tap on the head or thorax of the partner and probe her with his proboscis. Size. -4mm-5mm.



Mating pair of Physiphora alceaeis

Fungus Gnats, Mycetophilidae are a family of small flies, forming the bulk of those species known as fungus gnats. They are generally found in the damp habitats favored by their host fungi and sometimes form dense swarms. (Body length: 2mm)



Mating pair of Fungus Gnats (Family Cecidomyiidae)

Tachinid flies / *Prosenia siberita* is a species of fly in the family Tachinidae. This species has a very stylish proboscis. These flies have a grey dusted, fuscous or testaceous body. In males the abdomen is largely testaceous, while in females it is fuscous, densely grey dusted. (Body length: 6-8 mm)



Mating pair of Tachinid flies

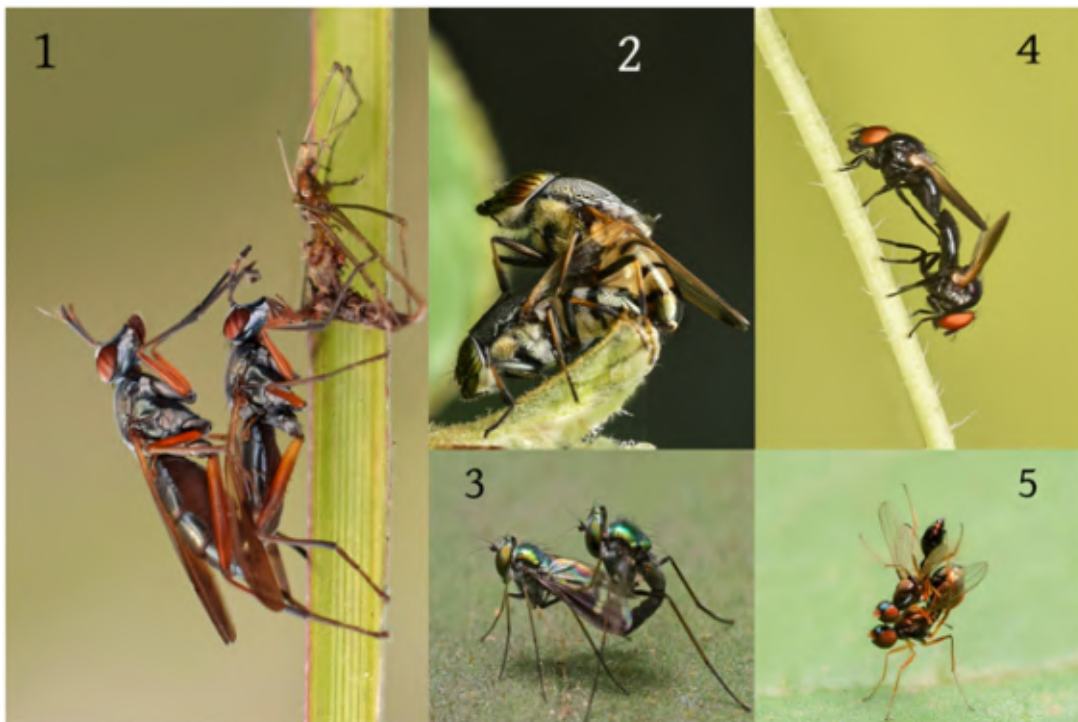
Stilt-legged flies are after their characteristically long legs. The fore legs are markedly smaller than the other pairs. (Body length: 3mm-10 mm) Stilt-legged flies use their long orange and black legs. Usually Stilt-legged flies walk and move like WASPs. Analyzing the courtship behavior of long-legged flies it is found that there is more of the female preening or posturing with forelegs while the male mates with her.



Copulating pair of Taeniaptera trivittata, a type of stilt-legged fly (Micropezidae).



Stilt-legged Flies (Micropezidae) mating

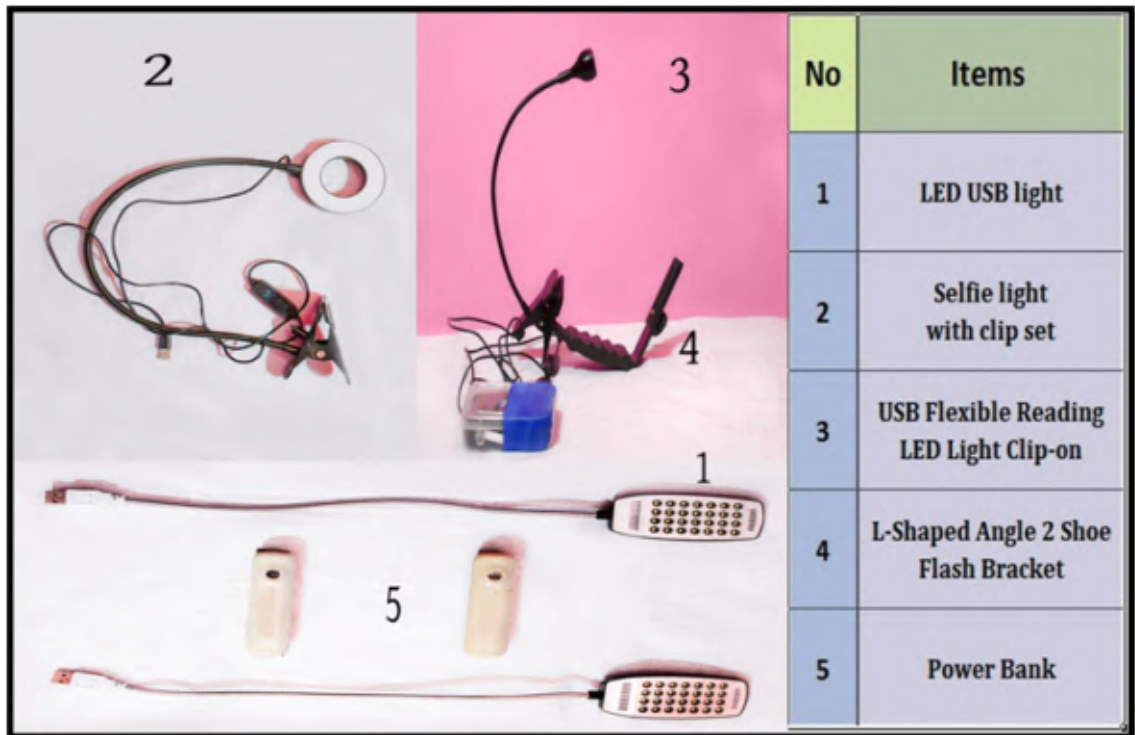


Mating pair of - 1. Marsh fly, (family Sciomyzidae) 2. Blow fly, (Stomorhina lunata) 3. Green-blue Long-legged fly ,(Condylostylus) 4. Lance Flies, (Lonchaea) 5. Sepsidae, (Black Scavenger flies).



Normally capturing different macro moments of insects, I used my Nikon D7500/D5300 camera with 70-300mm/Nikon 105mm Nikon lens.

For capturing mating habit of some flies like Long-legged fly, Marsh fly, Stilt-legged flies, neriidae fly etc use of camera flash or external flash might have hampered their mating procedure and they might have flown away to another places . In order to avoid such circumstances, I have chosen other source of light. I made twin light with the locally purchased two led USB lights & power bank. For very close encounter (under 3mm-5mm object) I set up [in local language it called "JUGAR"] another macro light set up with the support of LED selfie light with clip set and L-Shaped Angle 2 Shoe Flash Bracket.



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