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Definition of the Biology of the Families of Diptera (Arthropoda: Insecta).

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Diptera families. Source: https://www.intechopen.com/chapters/78012.

Diptera is characterized by having only one pair of wings for flight, while the second pair, common to other orders of insects, which have two pairs of wings, is reduced, and modified into dumbbells that help control the balance of flight [1-2].

Some dipterans are of fundamental medical and veterinary importance since they can produce myiasis and act in the transmission of pathogens to humans and other animals. Diptera is valuable for Forensic Entomology, larval therapy, pollination, decomposition of organic, necrophagous, matter, predators, parasitoids, ectoparasitic mammals, and vectors of pathogens. The occurrence, distribution, and predominance of these flies in metropolitan areas are factors of great importance in public health. In rural areas, they can lead to a decrease in egg production and animal diseases, in addition to causing discomfort to the population neighboring the creations [2-6].

Family Acartophthalmidae

Adults are known to live in woodland, where they are associated with several decaying substances such as wood, fungi, carrion, and droppings. The larvae are saprophagous, and the immature stages have been described and have been found mostly in forests and have been reared from dead wood and decaying organic material [7].

Family Acroceridae

As far as is known, all Acroceridae are parasitoids of spiders. They are most collected when a spider from the field is brought into captivity [8].

Family Agromyzidae

The larvae are phytophagous and attack different parts of the plant. Most species are miners. Species of considerable economic importance [9].

Family Anthomyiidae

They are pollinators feeding on nectar and pollen. Other species are attracted to honeydew or fermented sap caused by

lesions on the bark of trees and fruits, or they may feed on excreta and decaying animal or vegetable organic matter. The larvae have varied eating habits, the vast majority of which are phytophagous or saprophagous and are found in stems, roots, and aerial parts of living or decaying plants [10].

Family Anthomyzidae

Flies probably breed in feces falling to the rolled leaves' bottom. Larvae have been reported in decomposing dicotyledonous plants, in fungi they are phytophagous or saprophagous [11].

Family Apioceridae

Adults usually visit flowers to feed, while larvae usually live on a substrate and are predatory. They are important pollinators of flowers and are often found near water sources. The distinctive long legs of Apioceridae help them reach deep into flowers to feed on nectar and pollen [12].

Family Apystomyiidae

Unfortunately, the immature stages of Apystomyiidae are still unknown [13].

Família Apsilocephalidae

Apsilocephalidae são visitantes florais, com maior ocorrência em regiões áridas e arenosas [14].

Family Asilidae

They are active predators of insects in general and arachnids. Larvae live in soil or decaying wood and prey on eggs, larvae, and pupae of other insects [15].

Family Asteiidae

The larvae can scavenge in the excrement of other insects [16].

Family Atelestidae

The biology is poorly known [17].

Family Athericidae

The diet of adults is generally glycyphagic, with a food base probably represented by the rincoti honeydew. They are instead hematophagous mammals and stingers, including humans [18].

Family Aulacigastridae

The larvae develop in plant exudates, even very viscous, emitted from the wounds of various arboreal plants, or in phytotelmae collected from the leaves [19].

Family Australimyzidae

They have saprophagous larvae [20].

Family Austroleptidae

The biology is poorly known [21].

Family Axymyiidae

The larvae live in dead wood, free of bark and moss, mainly in forest swamps and on the banks of small forest streams. It feeds on the ingested wood mass and probably on the microorganisms it contains [22].

Family Bibionidae

The larvae live in the soil, generally in moist substrates rich in organic matter. They are often found in manure or other organic substrates used as fertilizers. In the early larval stages, they are saprophagous, feeding primarily on fungi and organic matter ingested with the soil, while later eroding organic materials, including plant roots [23].

Family Blephariceridae

Blephariceridae se alimentam do biofilme formado por algas diatomáceas e outros materiais orgânicos na superfície das rochas. existem algumas espécies predadoras e insetívoras and organic matter [24].

Family Bolitophilidae

The biology of the Bolitophilidae is poorly known [25].

Family Bombyliidae

The adults have some protection from predators. The postembryonic development is of the type hypermetamorphic, with parasitoid or hyperparasitoid larvae [26].

Family Borboropsida

Little is known about the biology of these families. Bolitophilid larvae are often found in sporophores of fleshy

Fungi [27].

Family Brachystomatidae

The biology of the Brachystomatidae is poorly known [28].

Family Braulidae

These insects can be found in places where bees congregate, such as flowers or water and mineral sources (salt pans),

waiting to grab hosts (parasitism) from uninfected hives [29].

Family Calliphoridae

The larvae rely on organic matter in decomposition or can cause death in humans and other animals. Adults can mechanically transmit pathogens from material in decomposition to the human environment. Family of importance in Forensic Entomology, larval therapy, medical and veterinary [30].

Family Camillidae

The lifestyle is largely little known. The larvae probably feed on decaying plant matter and animal feces. Adults are found feeding on flowers [31].

Family Campichoetidae

Biology is not known [32].

Family Canacidae

They feed on infusoria and other tiny organisms [33].

Family Carnidae

The larvae are saprophagous or coprophagous and live in the remains of bird nests [34].

Family Cecidomyiidae

Most cecidomiids have their mouthparts to feed on liquids. Longer-lived adults do this, using water and nectar. Most gall-causing species probably do not feed in adulthood [35].

Family Celyphidae

The biology of the family is poorly known. Adults are found along streams and rivers, and in wet grassy areas. Larvae are saprophagous [36].

Family Ceratopogonidae

Ceratopogonidae sucks blood from vertebrates, are ectoparasites in larger insects, and are also predators [37].

Family Chamaemyiidae

The larvae of all Chamaemyiidae whose food is known are predators of coccids and aphids. Adults feed on the sugary secretions of larval prey. The larvae of the most primitive groups feed on coccids that live on stems and roots of cereals, and those of slightly more advanced genera feed on coccids on the leaves and branches of various plants [38].

Family Chaoboridae

Adults feed on nectar. They feed mainly on small insects, such as mosquito larvae, and crustaceans [39].

Family Chironomidae

Many species feed on plant secretions. Most larvae are aquatic, others occur in moist soil, under tree bark, or in decomposing organic matter [40].

[39] Marchiori CH. Chironomidae Family (Diptera: Chironomidae) in biogeochemical processes in lake sediments. Open Access Research Journal of Life Sciences. 2022, 03(01): 088–126 [41].

Family Chloropidae

They are saprophagous or phytophagous, feeding on a wide variety of plants or decomposing organic vegetable matter. There are predatory or parasitic species that can become pests. and can transmit pathogens that cause ophthalmia through the diet of eye secretions [42].

Family Chyromyidae

Females lay their eggs in small batches on fresh algae beds. The larvae feed in a bacteria-laden mass and are decomposers of organic matter on beaches, being better represented in temperate zones [43].

Family Clausiidae

Most species are phytophagous and some feed on nectar, sap, or feces, and the decay of wood [44].

Family Coelopidae

The larvae are decomposers of organic matter on beaches, being better represented in temperate zones. Females lay their eggs in small batches on fresh algae beds. The larvae feed in a bacteria-laden mass [45].

Family Conopidae

They are often found on flowers sipping nectar. Conopid larvae are internal parasitoids (endoparasitoids), and most are Hymenoptera, particularly those of the Aculeata group, wasps bees, and orthopterans [46].

Family Corethrellidae

The Corethrellidae receive the popular name of frog-biting mosquitoes due to the habit of their females feeding on the blood of anuran amphibians. It was found that they are blood parasites, euglenozoans of the genus *Trypanosoma* [47].

Family Cryptochetidae

The larvae are of biological and economic interest, being endoparasitoids of coccids [48].

Family Ctenostylidae

The biology of the species is little known. The morphology of the mouthparts indicates that adults do not feed [49].

Family Culicidae

It feeds on liquids such as nectar, sap, or blood. Both sexes feed on nectar, but the female is also capable of hematophagy. Females do not need blood to survive, but they do need supplemental substances such as protein and iron. In others, they are made up of predatory larvae [50].

Family Curtonotidae

The immature stages are recorded as scavengers inside pods of the desert locust, using human feces. Others were found in wild boar and ant burrows [51].

Familia Cylindrotomidae

The larvae are all phytophagous and are found living on terrestrial, semi-aquatic, and aquatic mosses [52].

Family Deuterophlebiidae

The larvae are mainly herbivorous and with their highly specialized mouthparts, they feed on the thin layer of algae attached to submerged rocks and on bacteria and organic matter. Adults are predators of other insects and probably feed on flower nectar [53].

Family Diadocidiidae

The biology of the Diadocidiidae is poorly known [54].

Family Diastatidae

Nothing is known about the habits of the immature stages [55].

Family Ditomyiidae

The biology is poorly known [56].

Family Dixidae

Larvae are filter feeders, using bristles in the buccal regions to obtain food, mainly microalgae [57].

Family Dolichopodidae

Other groups are found on trunks of trees damaged by bark beetles. Adults often are seen in a characteristic predatory posture standing high on their legs on the ground or vegetation, tree trunks, or rocks, and some species walk about on the surface of still water [58].

Family Drosophilidae

The larvae of most species feed on microorganisms in spoiled fruits, slime fluxes, fungi, rotting cacti, or other decaying organic matter and damage [59].

Family Dryomyzidae

The larvae of members of this family feed on decaying organic matter, carrion, dung, and fungi [60].

Family Empididae

The immature stages are little known. The larvae are predators [61].

Family Ephydridae

That was visited by Ephydridae, which have in common the fact of having composite or numerous inflorescences of small, clustered flowers. The species that feed on nectar are considered the main pollinators [62].

Family Eurychoromyiidae

The biology of the Helosciomyzidae is poorly known [63].

Family Fanniidae

The larvae have a saprophagous habit and develop in a wide range of substrates, such as decomposing organic matter, fungi, and feces, or associated with waste from bee nests or bird nests and can cause economic impacts, while others have forensic and public health importance [64].

Family Fergusoninidae

All species of *Fergusonina* for which biology is known are gall-feeders in the living tissue of Myrtaceae and are involved in an obligate mutualistic association with nematodes in the genus *Fergusobia* Currie 1937 [65].

Family Glossinidae

Glossinidae includes only flies that transmit the trypanosome that causes sleeping sickness. The problems caused by the fact that this insect is the transmitter of sleeping sickness have led health authorities to consider extermination its main [66].

Family Gobryidae

The immature stages are unknown [67].

Family Heterocheilidae

Larvae typically feed on seaweed [68].

Family Helcomyzidae

Are attracted to carcasses and feces. Larvae feed on decaying plant and animal matter, mushrooms, and various fungi [69].

Family Heleomyzidae

Adults are attracted to carcasses andfeces. Larvae feed on decaying plant and animal matter, mushrooms, and various fungi. The larvae are saprophagous of organic plant and animal matter and others are mycophagous [70].

Family Helosciomyzidae

The biology is poorly known [71].

Family Hesperinidae

The biology is poorly known [72].

Family Hilarimorphidae

The biology is poorly known [73].

Family Hippoboscidae

The Hippoboscidae family includes species with very different morphological characteristics, reflecting the adaptation to different hosts since all species are obligate hematophagous ectoparasites of mammals and birds [74].

Family Hybotidae

Adults are predators and are found perched on vegetation or flying in search of prey [75].

Family Inbiomyiidae

Nothing is known of the habits of the immature stages [76].

Family Keroplatidae

They have varied eating habits and can be mycophagous or predators. These larvae occasionally feed on pupae of these species or dead insects. There are also records of parasitic larvae, such as ants [77].

Family Lauxiniidae

The larvae of this family are mainly saprophagous, commonly found in fallen leaves, rotting wood or straw, decaying vegetation, and bird nests [78].

Family Limoniidae

Larvae feed on algae and decaying material, and rare species are predators, such as many Limnophilinae [79].

Family Lonchaeidae

The larvae are mainly phytophagous, feed on damaged plant tissues, and can also be coprophagous, mycophagous, saprophagous, or predatory [80].

Family Lonchopteridae

Lonchopteridae are common in moist, shady, grassy areas, where the larvae are found within decaying vegetation. The larvae are found within decaying vegetation [81].

Family Lygistorrhinidae

Lygistorrhininae is commonly called long-beaked fungus gnats [82].

Family Manotinae

The biology is poorly known [83].

Family Marginidae

Very little is known of their distribution or biology [84].

Family Megamerinidae

The larvae live under the bark of dying or dead deciduous trees, where they prey on or scavenge the larvae of other insects [85].

Family Mesembrinellidae

Some genera are found along the seashore, in the middle of the pebble, where they feed on small insects or other invertebrates. Adults are associated with population control of other arthropods, including dipterans themselves. Certain species are nectarivorous and promote plant pollination [86].

Family Micropezidae

The larvae commonly develop in decomposing plant organic matter and can also be reared in manure [87].

Family Milichiidae

Diptera are attracted to the bodily fluids of prey or predators. All groups are associated with the decomposition of plant and animal matter and are of potential importance in their forensic role; Many predators are myrmecophiles or pollinators [88].

Family Mormotomyiidae

Larvae of Mormotomyiidae were collected from bat guano. It is believed that adult flies feed on the body secretions of bats

[89].

Family Muscidae

Adults can be predators, hematophagous, and detritivores or feed on numerous types of exudates from plants or animals. Larvae appear in a variety of habitats, including decaying vegetation or animals, dry or moist soil, insect, or bird nests, fresh or stagnant water, and droppings. Have great medical and veterinary importance, since can carry various pathogens that cause parasitic and infectious diseases to the man and domestic animals [90].

Family Mycetophilidae

They are found close to plant matter in decomposition. The larvae appear to feed on mycelium, sporophytes, or fungal hyphae. Some species attack decaying fruits, with at least one known case of a galling species [91].

Family Mydidae

Larvae of several species feed on immature Coleoptera and can be found in ant nests [92].

Family Mythicomyiidae

The immature ones are parasitoids of young stages of other insects or egg predators and the adults feed on nectar and pollen, acting in pollination [93].

Family Nannodastiidae

They are found along coasts and in bat caves rich in guano [94].

Family Nemestrinidae

All known larvae of Nemestrinidae are internal parasitoids of nymphs and adults of grasshoppers and beetle larvae. Nemestrinid adults are often found hovering around flowers, where they feed on nectar [95].

Family Neriidae

They feed on decomposing organic plant tissue. Some species may be associated with human crops, such as pumpkin, cotton, banana, gourd, and papaya [96].

Family Nothybidae

The biology is poorly known, and the larval habitat is unknown [97].

Family Nycteribiidae

They are wingless flies, similar in shape to spiders, hematophagous, ectoparasites exclusive to bats [98].

Family Nymphomyiidae

Their larvae feed on herbaceous plants, feeding on periphytic film in riffle substrates, and the adults appear to be short-lived homopterous insects [99].

Family Ocoidae

Biology is poorly known, and the immature stages are unknown [100].

Family Odoniidae

The adults of some species feed on polypore fungi on trees. Palearctic species were created associated with xylophagous beetles or trees attacked by these coleoptera, and moths. The diverse possibilities of saprophytic to predatory life history [101].

Family Oestridae

Family Oestridae includes the largest proportion of species whose larvae cause myiasis and are obligate parasites within the mammalian body. Their larvae attack and pierce living or dead trees, forming galleries that probably feed on accumulated organic matter or its fermentation. this insect the environment and agriculture, it is known that it can be a pest that attacks various cultures [102].

Family Opetiidae

Adults were found in decaying wood [103].

Family Opomyzidae

The larvae are endophytic phytophages and develop inside the stems of herbaceous plants. They cause damage that leads to the destruction of the vegetative point [104].

Family Oreoleptidae

They feed on mayfly larvae as predators [105].

Family Pachyneuridae

Often found together with larvae of the fungus gnat [106].

Family Pallopteridae

Adults have been found on flowers and low hanging branches in shady habits. Known larvae are phytophagous or carnivorous some species preying on beetles - Cerambycidae and Scolytidae. One species is recorded as preying on larvae of Cecidomyiidae. Some have been found in flower buds and stems [107].

Family Pantophthalmidae

The larvae are xylophagous and live in trunks of more than 15 families of plants [108].

Family Paraleucopidae

The biology is poorly known [109].

Family Pediciidae

Larvae develop in fungi and are mycetophagous, while larvae of other genera are predators [110].

Family Pelecorhynchidae

Adults are nectarivores of mountain flowers. Little is known about the biology of the adults, although some have been found feeding on flowers. Larvae are predators that eat earthworms and other invertebrates [111].

Family Pelidnoptera

Adults drink dew and nectar. Larvae attack or become parasitic on gastropods (slugs and snails) and millipede parasitoids [112].

Family Periscelididae

Larvae and adults have been associated with sap spilled from deciduous trees such as oak, white poplar, elm, and cotton [113].

Family Perissommatidae

The larvae live in decaying leaves in moist sclerophyll or cold tropical forests. Some species are suspected of being associated with fungi [114].

Family Phaeomyiidae

The adults drink dew and nectar. The larvae prey on or become parasites of gastropods (slugs and snails) [115].

Family Phoridae

The most versatile saprophages ever known, feed on a huge variety of decaying organic matter and even unusual substrates such as blue paint. They are parasitoids of termites, ants, bees, ticks, and triatomines. Can be predators, parasites, parasitoids, herbivores, decomposers, pollinators, fungivores, and omnivores [116].

Family Piophilidae

They pollinate adults. Larvae are decomposers, feeding on decomposing matter rich in proteins, both of plant and animal origin species to attack human cadavers the larvae develop mainly in the protected parts of the carcass depending on the degree of decomposition [117].

Family Pipunculidae

The larvae are endoparasitoids of auchenorhynch hemipterans, mainly nymphs, and adults of Delphacidae, Cicadellidae, and Cercopidae [118].

Family Platypezidae

The larvae appear to feed in moist fungal forests. The adults feed on honeydew leaves and other deposits on the leaves [119].

Family Platystomatidae

Adults are found on tree trunks and foliage and are attracted to flowers, decaying substances, feces, sap, fruit, decaying snails, and even human sweat and dead snails [120].

Family Pseudopomyzidae

The biology and immature stages are unknown for Neotropical members, but larvae likely develop in decaying organic plant matter such as trunks and branches [121].

Family Psilidae

Larvae are almost exclusively phytophagous. They live in stems or roots. Some can cause galls. Several species are known as pests. Some associations are well documented, from horticultural and agricultural data, pests of crops, especially carrots. The larvae feed on plants, often in roots, tubers, and stems [122].

Family Psychodidae

Phlebotominae is the best-known subfamily within Psychodidae, precisely because it contains several vector species of pathogenic protozoa [123].

Family Ptychopteridae

The larvae feed on small organic particles [124].

Family Pyrgotidae

The larvae of the family Pyrgotidae are abdominal endoparasites of Coleoptera belonging to the Scarabaeidae family [125].

Family Rangomaramidae

The family, members of which are known as long-winged fungus gnats, was erected. This insect mainly damages ornamental plants and causes great damage to seedlings of different crops, such as citrus, tobacco, strawberry, and others. These mosquitoes can carry harmful pathogens, that is, they can carry and spread diseases to your plants [126].

Eating habits are little known, some species feed on pollen and nectar. Larvae known from other regions are aquatic,

predatory, saprophagous, or coprophagous [127].

Family Rhiniidae

The females of some species are attracted to soils rich in organic matter and exhibit predatory behavior [128].

Family Rhinophoridae

These flies are classified by their feeding habits as saprophagous, obligate, or facultative parasites. The larvae are internal parasitoids of terrestrial Isopoda [129].

Family Richardiidae

The larvae are saprophagous, but few studies address the biology of some species. Pests are one of the most important limitations of pineapple production among which we find [130].

Family Ropalomeridae

The larvae of some species have been found in decaying plant matter or the resins of some trees. The Ropalomeridae are saprophytic, feeding mainly on rotting fruits [131].

Family Sarcophagidae

They are parasites of insects and other arthropods. Other larvae are found in decaying animal organic matter, including human feces, and often visit flowers [132].

Family Scatopsidae

Are aquatic predators and are predators of other insect larvae in moist environments, such as piles of decaying vegetables, algae, or manure. Adults are predators of other insects. They are often found in flowers where they are usually stalking prey, not looking for pollen or nectar [133].

Family Scenopinidae

Adults feed on nectar. The larvae are predators of dermestids and mites and have been found. in dry places with accumulation of dust in human homes, in bird nests, rodent nests, and in xylophagous termite mounds [134].

Family Sciadoceridae

The biology of is poorly known [135].

Family Sciomyzidae - Phaeomyiidae

They are predators or parasitoids of terrestrial or aquatic molluscs. Research has been conducted to use these insects in the biological control of molluscs, which represent trematodes of medical importance [136].

Family Sepsidae

They are usually found around dung or decaying plant and animal material. Adult flies are found mainly in the excretions of mammals, including humans, and in decomposing organic matter [137].

Family Simuliidae

Most species have a hematophagous habit, needing to feed on blood for egg maturation. Sucking blood mainly in the ankle region of people, and during blood grazing create relatively large wounds, making infection of the region easy [138].

Family Somatiidae

Adults feed on dead caterpillars, and some specimens have been reported as visitors to extra-floral nectaries of various plants [139].

Family Sphaeroceridae

The larval stages of most species develop in decaying organic matter. In the adult stage, they are often found in large numbers in association with the excrement of domestic mammals [140].

Family Stratiomyiidae

Family adults are generally floral visitors and use resources such as nectar to feed themselves, acting as pollinators. Larvae of the Stratiomyidae family can be terrestrial, mainly associated with the decomposition of plant or animal organic matter; or aquatic associated with vegetation [141].

Family Streblidae

Bats maintain parasitic relationships, such as parasites and hematophagous dipterans. Cases of ectoparasite over population in bats are rare, as they would result in significant damage to the host, comprising from minor problems to severe injuries, such as blood loss, malnutrition, and skin and fur damage [142].

Family Synneuridae

The biology is poorly known [143].

Family Syringogastridae

The immature stages are unknown [144].

Family Syrphidae

Many species visit flowers, where they obtain nectar and pollen as food, and the family is considered one of the most important pollinators among Diptera. The larvae are predators of aphids, thrips, and lepidopteran larvae, saprophagous, coprophagous, mycetophagous, or phytophagous other species are harmful to crops, destroying bulbs and tubers of

ornamental plants [145].

Family Tabanidae

The highest concentration of blood-sucking flies is found in places that harbor high population densities of potential guests. The events that lead to the mechanical transmission of pathogens [146].

Family Tachinidae

Most species are parasitoids, although some are known that do not kill the host and are therefore called parasites. Due to this characteristic, tachinids are very important enemies of many arthropods, especially larvae of the Order Lepidoptera**.** decaying organic matter, carrion, dung, and fungi [147].

Familia Tanyderidae

The biology and immature stages of tropical species are unknown [148].

Family Tanypezidae

Little is known of the biology of tanypezid species, which is known from low vegetation in humid deciduous woodlands, often around running water [149].

Family Teratomyzidae

The habits of Neotropical species are unknown, but in other regions, the larvae are associated with feeding on fungal spores [150].

Family Tethinidae

Adults are sometimes abundant in decaying seaweed. and knows about the immature stages of the family, although presumably most are associated with decaying seaweed [151].

Family Thaumaleidae

They feed by grazing on diatoms [152].

Family Tephritidae

These insects are an important group of pests in the fruit industry worldwide, as they have a life cycle in which their larval period develops especially inside the fruits, feeding, in general, on their pulp. Direct damage to production, damage during marketing, and closing of export markets [153].

Family Therevidae

Some species feed on nectar, pollen, and plant exudates. Some species may even be cannibals and others are phytophagous. Highly sclerotized white larvae are predators [154].

Family Tipulidae

Most larvae feed on decomposition products, being mainly detritivores, but some feed on other larvae and roots. The larvae are predators and feed on mosquito larvae [155].

Family Thyreophoridae

Semi-exaruit cadaver animalis [156].

Family Trichoceridae

They live on decaying plant matter. Larvae are found in plant residues, animal excrement, and fungal mycelia, but are scavengers [157].

Family Trixoscelididae

The immature stages are unknown [158].

Family Ulidiidae

Some adults in this family are pollinators but are generally attracted to decomposing plant organic matter such as logs, leaves, fruits, and feces, among others. Some species present phytophagous larvae and behave like agricultural pests of cultivars such as corn, agave, passion fruit, and beets. In addition to the damage caused by the larvae themselves, their activity facilitates the entry of pathogens into plants [159].

Family Vermileonidae

Vermileonidae larvae are voracious predators of some species of Neuroptera of the Myrmeleontidae family, the so-called ant lions [160].

Family Xenasteiidae

Was found infesting coconut, banana, custard apple, mango, sapota, guava, and several ornamental plants [161].

Family Xylomyidae

Adults of the Xylomyidae are saprophagous or predatory. The larvae live under loose bark and in decaying wood where they are scavengers or predators of small invertebrates [162].

Family Xylophagidae

Adults normally appear in wooded areas or herbaceous vegetation and are known as nectar, sap, or honeydew feeders. The larvae of Xylophagidae species are found under the bark of logs, rotten wood, or decomposing plants (Tables 1-8) [163**}.**

Table 1. Diptera: Forensic Importance/ Pollinators/ Vectors.

Forensic	Pollinators	Vectors
Calliphoridae	Apioceridae	Calliphoridae
Fanniidae	Ephydridae	Culicidae
Mesembrinellidae	Fanniidae	Mesembrinellidae
Milichiidae	Mesembrinellidae	Milichiidae
Muscidae	Mythicomyiidae	Muscidae
Neriidae	Mydidae	Oestridae
Piophilidae	Milichiidae	Psychodidae
Richardiidae	Phoridae	Psilidae
Sarcophagidae	Piophilidae	Psychodidae
Sepsidae	Tachinidae	Sarcophagidae
Thaumaleidae	Ulidiidae	Sciomyzidae
Utilidae	----------	Tabanidae
----------	---- --------	Ulidiidae

Table 2. Diptera medical and veterinary.

Calliphoridae	Mycetophilidae
Culicidae	Psychodidae
Fanniidae	Odoniidae
Glossinidae	Oestridae
Hippoboscidae	Piophilidae
Mesembrinellidae	Psilidae
Muscidae	Tabanidae

Table 3. Diptera parasitoids.

Acroceridae	Nemestrinidae
Asilidae	Phoridae
Bibionidae	Pipunculidae
Bombyliidae	Pyrgotidae
Conopidae	Rhinophoridae
Cryptochetidae	Sarcophagidae
Phaeomyiidae	Sciomyzidae
Keroplatidae	Tabanidae
Lonchaeidae	Tachinidae
Milichiidae	Tachiniscidae
Mythicomyiidae	----------

Table 4. Diptera predators.

Apioceridae	Mesembrinellidae
Asilidae	Mydidae
Bombyliidae	Milichiidae
Blephariceridae	Mycetophilidae
Brachystomatidae	Mythicomyiidae
Chamaemyiidae	Odoniidae
Ceratopogonidae	Oreoleptidae
Chloropidae	Pallopteridae
Chaoboridae	Pediciidae
Deuterophlebiidae	Pelecorhynchidae
Dolichopodidae	Phoridae
Drosophilidae	Rangomaramidae
Empididae	Rhiniidae
Fergusoninidae	Sarcophagidae
Hybotidae	Scenopinidae
Keroplatidae	Sciomyzidae
Limoniidae	Syrphidae
Lonchaeidae	Therevidae
Megamerinidae	Tipulidae
----------	Vermileonidae

Table 5 Diptera: Saprophytes, decaying organic matter, carrion, dung, and fungi.

Acartophthalmidae	Clusiidae	Nannodastiidae	Richardiidae
Anisopodidae	Coelopidae	Neriidae	Ropalomeridae
Anthomyiidae	Curtonotidae	Nothybidae	Sarchophagidae
Anthomyzidae	Drosophilidae	Nymphomyiidae	Scatopsidae
Asilidae	Dryomyzidae	Odoniidae	Sciaridae
Asteiidae	Eurychoromyiidae	Oestridae	Sepsidae
Aulacigastridae	Fanniidae	Opetiidae	Somatiidae
Australimyzidae	Lauxiniidae	Pachyneuridae	Stratiomyiidae
Axymyiidae	Limoniidae	Paraleucopidae	Sciomyzidae
Bibionidae	Lonchaeidae	Periscelididae	Synneuridae
Blephariceridae	Lonchopteridae	Platystomatidae	Tanyderidae
Borboropsida	Lygistorrhinidae	Perissommatidae	Tethinidae
Bolitophilidae	Manotinae	Phoridae	Trichoceridae
Calliphoridae	Micropezidae	Piophilidae	Thyreophoridae
Camillidae	Milichiidae	Platypezidae	Tipulidae
Canthyloscelidae	Mormotomyiidae	Pseudopomyzidae	Ulidiidae
Carnidae	Mycetophilidae	Ptychopteridae	Valeseguyidae
Celyphidae	Pallopteridae	Rangomaramidae	Xylomyidae
Chironomidae	Muscidae	Rhiniidae	Xylophagidae
Chloropidae	----------	Richardiidae	----------
Chyromyidae	----------	----------	----------
	----------	----------	----------

Table 6 Diptera: Ingestion of minions, plankton, bacteria, , roots, tubers, stems, algae, and flowers

Apsilocephalidae	Lonchaeidae	Phoridae
Aulacigastridae	Lygistorrhinidae	Platypezidae
Camillidae	Mesembrinellidae	Platystomatidae
Cecidomyiidae	Mycetophilidae	Psilidae
Chaoboridae	Mythicomyiidae	Rangomaramidae
Chironomidae	Nemestrinidae	Rhinophoridae
Chloropidae	Odoniidae	Scatopsidae
Chyromyidae	Opomyzidae	Scenopinidae
Chyromyidae	Pachyneuridae	Stratiomyiidae
Conopidae	Pallopteridae	Syrphidae
Cylindrotomidae	Pantophthalmidae	Teratomyzidae
Deuterophlebiidae	Pediciidae	Thaumaleidae
Dixidae	Pelecorhynchidae	Therevidae
Phaeomyiidae	Pelidnoptera	Trichoceridae
Heterocheilidae	Periscelididae	Xylophagidae
Keroplatidae	Perissommatidae	Apsilocephalidae
Limoniidae		

Table 7. Harm-causing.

Agromyzidae	Mycetophilidae
Anthomyiidae	Oestridae
Anthomyzidae	Opomyzidae
Axymyiidae	Pediciidae
Cecidomyiidae	Psilidae
Clusiidae	Psychodidae
Cryptochetidae	Rangomaramidae
Drosophilidae	Richardiidae
Fanniidae	Sarcophagidae
Lonchaeidae	Sciomyzidae
----------	Tephritidae
----------	Xenasteiidae

Table 8. Diptera Parasitic.

Anthomyiidae	Nycteribiidae.
Athericidae	Oestridae.
Aulacigastridae	Pelidnoptera
Braulidae	Phoridae
Calliphoridae	Psychodidae
Ceratopogonidae	Pyrgotidae
Chloropidae	Rangomaramidae
Corethrellidae	Rhinophoridae
Hippoboscidae	Sarcophagidae
Keroplatidae	Simuliidae
Muscidae	Streblidae
----------	Tabanidae

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