



Driftless Prairies: Native Ecosystems

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Diptera – Flies

Diptera (Flies)

Unlike the other insects, I had to learn about the Diptera taxonomy to understand what I was reading. Flies are divided into two suborders, 1) Nematocera, which are the lower order flies, and 2) Brachycera, which are the higher order flies and also the short-horned flies. The Nematocera are then divided into the aquatic families and the terrestrial families.

Diptera evolved from aquatic life histories and as some became terrestrial, their eggs remained aquatic for some portion of the egg development. Aquatic life has its benefits. Water circulates freely bringing food more easily to the aquatic larvae than those living in soil. The result is that soil dwellers take longer to develop.

Less than half of the flies in the world are known, described, and named; their larvae even less so, with an estimated 5% of them recognized.

Diptera larvae are extremely variable in their appearance. The variation is so great that there is no one characteristic or combination of characteristics that allows a person to differentiate them from other larvae experiencing the same type of metamorphosis. The one common character fly larvae have is the absence of jointed thoracic legs. Often if one finds a slender larvae moving in one direction, it could be in a Diptera.

Habitat is another highly variable element of Diptera larvae. There are aquatic ones living where water is present, regardless of whether it is fresh water or polluted. Terrestrial larvae can be found in living plants, galls, or

decaying plant and animal matter. Some larvae are parasitic; some are predaceous.

Flies taste with their feet and smell with their antennae. When they land on plants, they are looking for the honeydew left by other insects. Their darting and dashing about is in search of this sweet liquid.

Adult flies do not have chewing mouthparts and therefore are thought of as plant partners since they rarely damage the foliage, seeds, stems, or flowers. This cannot be stated for many fly larvae. Leaf-mining is damage to the leaf that looks like abstract channels grooved in the leaf. Leaf mines are usually the work of a fly larvae, a beetle larvae, or a moth caterpillar. It's also an easy way to identify the flies as leaf-miners are plant specific with a unique mining pattern.

If you haven't spent much time studying flies and bees, some can look very similar. There are fly mimics among bees and bee mimics among flies. A couple of easy ID traits to keep in mind are:

- 1) flies wings are out to their side when at rest; bees are folded over their body
- 2) flies have one set of wings; bees have two
- 3) Antennae on flies are short and stubby; bees are long

Male and female flies can be distinguished by their eyes. Males have large eyes that meet in the middle while female eyes are separate.

The evolution of flies has been rather slow until the 1850s. Since then, humans have been the strongest forces exerting change on our insects. We are altering the face of earth by destroying forests, cultivating prairies, spraying insecticides, and killing game animals faster than our ancestors could. This is a rather sobering statement!

Diptera are difficult to ID so I'm feeling pretty lucky to have some of the genera known even though they are unable to ID'd down to the species level. Many of them do not have a common name. Where I have found one, I have included it, otherwise they are listed by their genus and alphabetized as such.



Pyrgota undata

List – Updated Feb 2024

Agromyzidae (Leaf-miner flies)

[Phytomyza minuscula group](#)

Anisopodidae (Wood Gnats)

[Sylvicola](#)

[Sylvicola sub Anisopus](#)

Anthomyiidae (Maggot flies)

[Delia](#)

[Eutrichota](#)

[Eutrichota affinis group](#)

[Hylemya](#)

[Pegomya Group](#)

Asilidae (Robber flies)

[Atomosia puella](#)

[Efferia aestuans](#)

Holcocephala

Laphria astur

Laphria sericea-aktis complex

[Laphria thoracica](#)

[Machimus snowii](#)

[Tipulogaster glabrata](#)

Bibionidae (March flies)

[Biblio articulatus](#)

Bombyliidae (Bee flies)

Aldrichia ehrmanii

[Geron calvus](#)

Hemipenthes sinuosa

Lepidophora lutea

Sparnopolius confusus

Systoechus

[Systoechus vulgaris](#)

Villa

Calliphoridae (Blow flies)

[Cochliomyia macellaria](#)

Formia regina

[Lucilia](#)

Phormia regina

Cecidomyiidae (Gall & Wood Midges)

[Asphondylia monacha species group](#)

[Asphondylia ratibidae](#)

[Asteromyia carbonifera](#)

Ceratopogonidae (Biting Midges)

Culicoides

Forcipomyia subgenus Forcipomyia

Chaoboridae (Phantom Midges)

[Chaoborus punctipennis](#)

[Cricotopus subgenus Isocladius](#)

Chironomidae (Non-biting Midges)

Chironomus decorus-like

[Chironomus group Lobo-chironomus or Chaetolabis](#)

[Chironomus subgenus Chironomus](#)

[Cricotopus subgenus Isocladius](#)

[Paratendipes albimanus](#)

[Rheopelopia](#)

[Stenochironomus](#)

Chloropidae (Frit flies)

[Thaumatomyia](#)

Conopidae (Thick-headed flies)

[Myopa vesiculosa](#)

[Physocephala tibialis](#)

Culicidae (Mosquitoes & Midges)

Aedes vexans

[Culex](#)

Condostylus

Dolichopodidae (Longlegged flies)

[Argyra](#)

Condyllostylus

[Condyllostylus siphon group](#)

[Gymnopternus](#)

Drosophilidae (Vinegar flies)

Drosophila

[Drosophilinae](#)

Empididae (Dance flies)

[Empis clausa](#)

[Rhamphomyia](#)

Rhamphomyia longicauda

Ephydriidae (Shore flies)

[Ephydrinae](#)

Fannidae

[Piezura graminicola](#)

Heleomyzidae

[Amoebaleria helvola](#)

[Heleomyza](#)

[Suillia quinquepunctata](#)

Hybotidae (Hybotid Dance flies)

[Platypalpus](#)

Keroplastidae (Predatory Fungus Gnats)

[Keroplastini \(tribe\)](#)

Lauxaniidae

[Minettia obscura species group](#)

[Minietta lupulina](#)

Limoniidae (Limoniid Crane flies)

[Erioptera chlorophylla](#)

[Gnophomyia tristissima](#)

[Limonia annulata](#)

[Limonia cinctipes](#)

[Limonia immatura](#)

Lonchaeidae (Lance flies)

[Unknown](#)

Micropezidae (Stilt-legged flies)

[Rainieria antennaepes](#)

Mesembrina

Muscidae (House Flies & Kin)

[Musca autumnalis](#)

Musca domestica

Stomoxys calcitrans

Mycetophilidae (Fungus Gnats)

[Sciophilinae family](#)

Oestridae (Bot flies)

[Cuterebra abdominalis](#)

[Cuterebra fontinella](#)

Pediciidae (Hairy-eyed Crane flies)

[Pedicia inconstans](#)

Phoridae (Scuttle flies)

[Unknown](#)

Platypezidae (Flat-footed flies)

[Unknown](#)

Platystomadidae (Signal flies)

[Rivellia](#)

[Rivellia colei and quadrifasciata](#)

Pollenidae (Cluster flies)

[Pollenia](#)

Psilidae (Rust flies)

[Loxocera cylindrica](#)

Psychodidae (Moth & Sand flies)

[Psychoda](#)

[Setomima nitida](#)

Pyrgotidae

[Pyrgota undata](#)

[Sphecomyiella valida](#)

Rhagionidae (Snipe flies)

[Rhagio hirtus](#)

Chrysopilus ornatus

[Chrysopilus thoracicus](#)

[Rhagio mystaceus](#)

Sarcophagidae (Satellite flies)

[Metopia](#)

[Sarcophaginae](#)

[Wohlfahrtia vigil](#)

Scathophagidae (Dung flies)

[Scathophaga furcata](#)

[Scathophaga stercoraria](#)

Scenopinidae (Window flies)

[Scenopinus](#)

Sciaridae (Dark-winged Fungus Gnats)

[Unknown](#)

Sciomyzidae (Snail-killing flies)

[Euthycera arcuata](#)

Sepsidae (Black Scavenger flies)

[Sepsis](#)

Simuliidae (Black flies)

[Simulium](#)

Sphaeroceridae (Lesser Dung flies)

[Limosininae \(subfamily\)](#)

Stratiomyidae (Soldier flies)

[Ptecticus trivittatus](#)

[Sargus elegans](#)

[Stratiomyini tribe larva](#)

Syrphidae (Flower flies)

Allograpta obliqua

Chalcosyrphus nemorum

Chrysotoxum

Eristalinus aeneus

Eristalis arbustorum

Eristalis tenax

Eristalis transversa

Eupeodes americanus

Helophilus fasciatus

Microdon

Platycheirus

Rhingia nasica

Sphaerophoria contigua

Spilomyia sayi

Syritta pipiens

Syrphus knabi

Toxomerus geminatus

Toxomerus marginatus

Toxomerus politus

Xanthogramma flavipes

Tabanidae (Horse & Deer flies)

Chrysops

Chrysops niger

Hybomitra aurilimba

Hybomitra lasiophthalma

Tabanus

Tabanus atratus

Tabanus marginalis

Tabanus reinwardtii

Tabanus sackeni

Tabanus similis

Tabanus sublongus

Tabanus trimaculatus

Tachinidae (Parasitic flies)

Actia interrupta

Admontia degeerioides

Archytas

Archytas analis complex

Blondeliini tribe

Calolydella lathami

Cholomyia inaequipes

Copecrypta ruficauda

Cryptomeigenia

Cryptomeigenia illinoiensis

Dexiini (tribe)

Dinera grisescens

Epalpus

Exoristinae

Gymnoclytia

Lydina

Ormia brevicornis

Paradidyma singularis

Periscepsia laevigata

Phyllophilopsis

Ptilodexia

Siphonini (tribe)

Trichopoda

Trichopoda pennipes

Winthemia

Zelia

Zelia vertebrata

Tephritidae (Fruit flies)

Euaresta bella

Euaresta festiva

Eurosta solidaginis

[Rhagoletis cingulata](#)

[Rhagoletis suavis](#)

Tipulidae (Large Crane flies)

[Dolichocheza walleyi](#)

[Eriopterini tribe](#)

[Nephrotoma alterna](#)

[Nephrotoma ferruginea](#)

[Nephrotoma](#)

[Tipula abdominalis](#)

Tipula bicornis

[Tipula fuliginosa](#)

[Tipula hirsuta](#)

[Tipula subgenus Yamatotipula](#)

Ulidiidae (Picture winged flies)

[Callopistromyia strigula](#)

[Chaetopsis](#)

[Pseudotephritis](#)

Xylomidae

[Xylomya pallidifemur](#)

[Xylomya tenthredinoides](#)

Xylophagidae

[Rachicerus obscuripennis](#)

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