

Chapter XV —Family Tipulidae



(Crane flies)

- (Williams & Feltmate, 1992)
 - Superphylum Arthropoda
 - (jointed-legged metazoan animals [Gr, *arthron* = joint; *pous* = foot])
 - Phylum Entoma
 - Subphylum Uniramia
 - (L, *unus* = one; *ramus* = branch, referring to the unbranched nature of the appendages)
 - Superclass Hexapoda
 - (Gr, *hex* = six, *pous* = foot)
 - Class Insecta
 - (L, *insectum* meaning cut into sections)
 - Subclass Ptilota
 - Infraclass Neopterygota
 - Order Diptera

This is the largest of the dipteran families, with approximately 14, 000 species described to date. commonly known as crane flies or daddy-long-legs, tipulids are world-wide in distribution, although their greatest diversity is in the humid tropics.

Life History, Habitat and Feeding

Adults tend to be short-lived and are typically found in shaded, humid areas of woodland where they feed on honeydew and nectar. The larvae are much longer-lived, up to a year or more, and are primarily aquatic or semi-aquatic, although some species live in decaying wood, soil and fungi.

The larvae of some soil-dwelling species of *Tipula*, known as “leather jackets”, may cause severe damage to moist pastureland by eating the roots of grass.

Tipulids are important, both as larvae and adults, in providing food for other species as, besides being eaten by other invertebrates, fishes and amphibians, at least 91 species of bird are known to eat them in New York State, alone.

In many freshwater habitats, especially ponds, streams and floodplains, tipulid larvae play an important role in “shredding” riparian leaf litter, thus making it available to other species that can feed only by “gathering” smaller organic particles.

Larvae of the Limoniinae and Tipulinae pass through 4 instars before pupating, whereas those of the Cylindrotominae reportedly have more. Tipulids have pharate pupae (i.e., a “prepupal” stage formed upon cessation of feeding by the last larval instar). A pharate adult phase also occurs. This stage is frequently quite active, particularly just prior to the final moult to the adult proper (sometimes referred to as the non-pharate adult). The non-pharate adult is a wholly terrestrial animal.

Temperate tipulid species are typically univoltine, although many are bivoltine. At higher latitudes, the life cycle is often spread over two years (semivoltine), and near the northern-most limit of

crane fly distribution, in Alaska, species like *T. carinifrons* may take as long as five years (merovoltine).

References

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