

Chapter XX —Order Hymenoptera



(Aquatic wasps, etc.)

- Insects of Inland Waters: Orders Having Aquatic Adults
- (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

The Hymenoptera is a large order of insects containing the bees, wasps, ants, sawflies and their similar forms, the vast majority of which are terrestrial. The order is divided into two suborders, the **Symphyta** (sawflies and horntails), and the **Apocrita** (bees, wasps and ants). There appear to be no aquatic symphytans, but several families within the Apocrita contain species that are, in some way, associated with water. The latter are all wasps and they are all parasitic on a variety of aquatic hosts (see Table).

With few exceptions, aquatic wasps are small but, otherwise, they show little in the way of morphological adaptations to water. In *Caraphractus cinctus*, a tiny mymarid wasp whose life cycle is perhaps the best known, the adults spend quite some time under water, swimming with their wings and respiring cutaneously. In the autumn, larvae enter a diapause in the final instar which carries them over to the next spring when they pupate and emerge.

Table XX-1: Major families of aquatic wasp, together with the hosts that they typically parasitize (Williams & Feltmate, 1992)

Family	Hosts
Apocrita	
<i>Section Parasitica</i>	
Braconidae	Diptera (Ephydriidae), Lepidoptera (Noctuidae)
Ichneumonidae	Coleoptera, Lepidoptera, Trichoptera, Diptera
Mymaridae	Hemiptera (esp. Gerridae), Odonata, Coleoptera
Trichogrammatidae	Odonata, Diptera, Hemiptera, Coleoptera, Megaloptera
Eulophidae	Odonata (esp. Lestidae), Coleoptera
Pteromalidae	Diptera (Ephydriidae), Coleoptera, Neuroptera
Diapriidae	Diptera (Ephydriidae, Sciomyzidae), Coleoptera
Scelionidae	Hemiptera (esp. Gerridae), Lepidoptera, Diptera
Agriotypidae	Trichoptera (ectoparasites)
Eucoilidae	Diptera (Ephydriidae)
<i>Section Aculeata</i>	
Pompilidae	Araneae (pisaurid spiders)

References

- Narf, R. 1997. Midges, bugs, whirligigs and others: The distribution of insects in Lake "U-Name-It". Lakeline. N. Am. Lake Manage. Soc. 16-17,57-62.
- Williams, D. Dudley, and Blair W. Feltmate. 1992. Aquatic Insects. CAB International. xiii, 358pp.