ODONATA

Etymology : Odon - tooth

Common names : Dragonflies and damselflies

Characters

- ✓ Medium to large sized insects
- ✓ They are attractively coloured
- ✓ Head is globular and constricted behind into a petiolate neck.
- ✓ Compound eyes are large.
- ✓ Three ocelli are present
- ✓ Mouthparts are adapted for biting. Mandibles are strongly toothed Lacinia and galea are fused to form mala which is also toothed.
- ✓ Wings are either equal or sub equal, membraneous; venation is net work like with many cross veins. Wings have a dark pterostigma towards the costal apex. Sub costa ends in nodus. Wing flexing mechanism is absent.
- ✓ Legs are anteroventrally placed. They are suited for grasping, holding and conveying the prey to the mouth. Spinose femora and tibiae are useful for holding the prey. Forward shift of leg attachments allow easy transfer of prey items to mouth in flight. Legs are held in such a way that a basket is formed into which the food is scooped.
- ✓ Abdomen is long and slender. In male gonopore is present on ninth abdominal segment. But the functional copulatory organ is present on the second abdominal sternite. Before mating sperms are transferred to the functional penis. Cercus is one segmented.
- ✓ Metamorphosis is incomplete with three life stages. The naiad is aquatic. Labium is greatly elongated, jointed and bears two hooks at apex. It is called mask. It is useful to capture the prey.

Importance

Adults are aerial predators. They are able to catchhold and devour the prey in flight. Naiads are aquatic predators. Dragonflies and damselflies can be collected with an aerial net near streams and ponds especially on a sunny day. Naiads can be collected from shallow fresh water ponds and rice fields.

Classification

There are two sub-orders. Dragonflies are classified under **Anisoptera** and damselflies are grouped under **Zygoptera.**

	ANISOPTERA (Dragonflies)	**ZYGOPTERA (Damselflies)**
	ADULTS	
1.	Strong fliers	Weak Fliers
2.	Wings are unequal, Hindwings are basally broader than forewings	Equal
3.	Wings are broadly attached to the abdomen	Wings are petiolated and narrowly attached
4.	**Venation is not similar in both forewings and hindwings.**	**Venation is identical in both the wings**.
5.	Wings are spread laterally at rest	Wings are held at an angle above the abdomen
6.	Compound eyes are large and meet mid dorsally (**holoptic**)	Compound eyes are button like, wide apart (**dichoptic**)
7.	Male has three abdominal appendages. Two superior and appendages (cerci) and one inferior	Four terminal abdominal appendages are present. A pair of superior anal appendages (cerci) and a pair of inferior anal appendages

	anal appendage (epi- proct) are present.	(paraprocts) are present.
8.	Oviposition is exophytic	Oviposition is endophytic
		
	NAIAD	
1.	Stout and robust	Slender and fragile
2.	Gills are internal and found associated with rectum	Three caudal gills are present which are visible axternally.
3.	Able to propel themselves by forcibily ejecting water through anus from rectum	Lack jet propulsion mechanism