

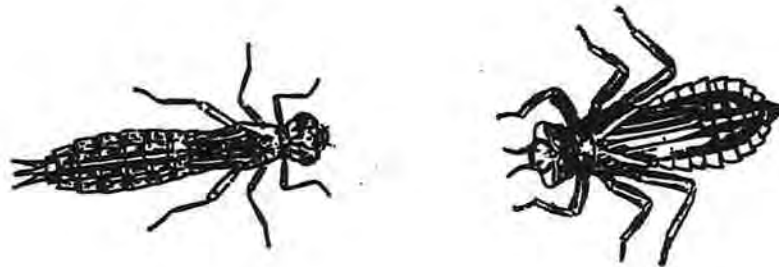
Macroinvertebrates Pre-Trip Informational Sheet

Macroinvertebrates refer to animals without backbones that can be seen with the naked eye. Scientists specifically study benthic macroinvertebrates in aquatic systems. Benthic refers to organisms living in bottom substrate. Each life stage of an aquatic insect is present near water. The ones that go through complete metamorphosis usually stay in the larval stage most their life. The ones that go through incomplete metamorphosis stay in the nymph stage. Macroinvertebrates serve an important role in the health of the stream. They can be used as bioindicators to determine if the water quality is excellent, good, or poor. If a macroinvertebrate is Class I, it is sensitive to pollution and lives in excellent conditions. Class II is somewhat sensitive to pollution and lives in excellent to good conditions. Class III is tolerant to pollution and lives in excellent to poor conditions. Here are some macroinvertebrates that you may see at Agapé with some cool facts about them and pictures.

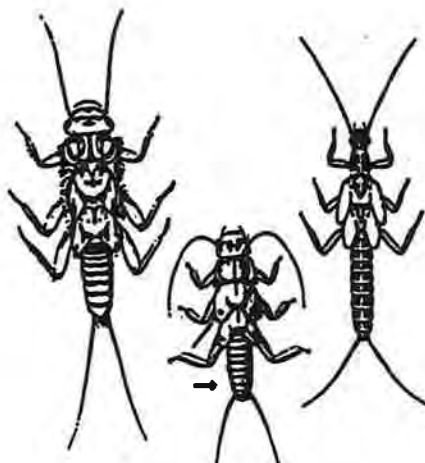
Caddisfly Larvae- Class I species that can build a case around their bodies with stones tied together with silk used for protection from the current and to trap food.



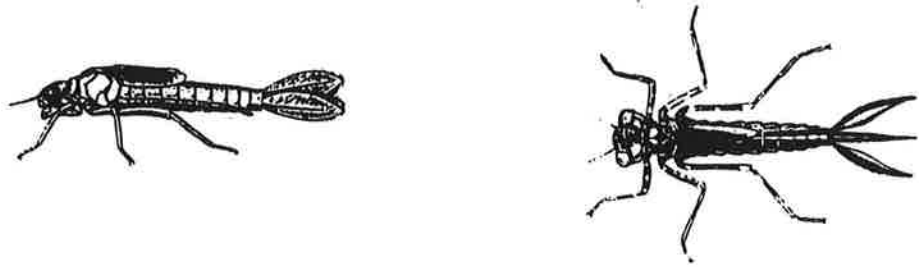
Dragonfly Nymph- Class II species that uses jet propulsion to move through the water.



Stonefly Nymph- Class I species that are easily identified by their two tails and are commonly used as live fish bait.



Damselfly Nymph- Class II species that can be mistaken for a Mayfly Nymph since they both have three tails, but its tails are actually gills. (Mayflies have gills on their abdomen.)



Midge Larvae- Class III species that can live in every condition but the most polluted conditions.



Mayfly Nymph- Class I species that can stay as a nymph for several years, but only lives a day or two as an adult.

