Coleoptera (beetles)

1. Ptilodactyilidae **(7)**
2. Psephenidae **(7)**
3. Lutrochidae **(7)**
4. Dryopidae **(5)**
5. Elmidae **(5)**
6. Limnichidae **(5)**
7. Staphylinidae **(4)**
8. Dytiscidae **(4)**
9. Gyrinidae **(4)**
10. Scirtidae **(4)**
11. Hydrophilidae **(3)**

Diptera (flies)

12. Athericidae **(9)**
13. Dixidae **(4)**
14. Simuliidae **(4)**
15. Tipulidae **(4)**
16. Dolichopodidae **(4)**
17. Empididae **(4)**
18. Muscidae **(4)**
19. Ceratopogonidae **(4)**
20. Psychodidae **(3)**
21. Chironomidae **(2)**

Ephemeroptera (mayflies)

22. Heptagennidae **(9)**
23. Leptophlebiidae **(8)**
24. Leptohyphidae **(5)**
25. Oligoneuriidae **(5)**
26. Polymitarcyidae **(5)**
27. Baetidae **(5)**
28. Caenidae **(4)**

Odonata (dragonflies)

29. Aeshnidae **(8)**
30. Gomphidae **(7)**
31. Lestidae **(7)**
32. Megapodagrionidae **(7)**
33. Platystictidae **(7)**
34. Calopterygidae **(4)**
35. Coenagrionidae **(4)**

Trichoptera (caddis flies)

36. Odontoceridae (casing) **(9)**
37. Hydrobiosidae **(9)**
38. Ecnomidae **(9)**
39. Calamoceratidae **(8)**
40. Leptoceridae **(8)**
41. Philopotamidae **(7)**
42. Hydroptilidae **(6)**
43. Polycentropodidae **(6)**
44. Xiphocentronidae **(6)**
45. Hydropsychidae **(5)**
46. Helicopsychidae **(5)**

Lepidoptera (butterflies & moths)

47. Pyralidae **(5)**

Freshwater Monitoring in the Maya Golden Landscape

The Maya Golden Landscape (MGL) in the Toledo District is a mélange of protected areas, private lands, and indigenous community lands. This landscape is a crucial biological corridor, connecting the Maya Mountain Massif to the Mesoamerican Reef. It forms part of the Selva Maya Forest and is recognized as a site of significant global biodiversity importance.

Within the MGL, there are four (4) watersheds where Ya'axché works. From the misty peaks of the Maya Mountains to the vibrant Caribbean coast, the Monkey River Watershed is a lifeline that breathes life into Belize's diverse ecosystems and rich cultural heritage. Carving through the heart of Belize, the Deep River Watershed flows from the rugged Maya Mountains to the coastal plains, nurturing forests and abundant wildlife along its path. Linking the Maya Mountains to the southern coastal plains, the Golden Stream Watershed is a vital broadleaf corridor that supports rich biodiversity and cultural heritage. Originating in the highlands of the Maya Mountains, the Rio Grande Watershed winds through dense forests and fertile valleys, sustaining many farms and communities before reaching the Caribbean Sea.

Macroinvertebrates are tiny animals that lack a backbone and are visible without the use of a microscope. Macroinvertebrates may be small, but they are crucial indicators of stream health. By sampling macroinvertebrates found in rivers, citizen scientists can gauge the quality of the water, much like how a doctor checks a patient's vital signs. The BMWP-CR (Biological Monitoring Working Party – Costa Rica) score is the tool used to assess streams' well-being. Each macroinvertebrate family is assigned a score from 1 – 9, with 9 representing the families most sensitive to pollution and 1 indicating those that are more tolerant. A high presence of sensitive species (scoring 9) suggests pristine water conditions, while a dominance of tolerant species (scoring 1) signals potential pollution issues. Ya'axché conducts macroinvertebrate sampling within the four watersheds of the MGL. This ongoing monitoring helps ensure that these vital waterways remain healthy, supporting both the rich biodiversity and communities that depend on them.

There are at least 64 families of macroinvertebrates found in the MGL. These images represent a sample of the most common ones. Families identified in the MGL for which no images are readily available include Blephariceridae, Perilestidae, Euthyplocidae, Isonychidae, and Libellulidae.

Macroinvertebrates in the Maya Golden Landscape

Gastropoda (snails and relatives)
1. Hydrobiidae **(3)**
2. Physidae **(3)**
3. Planorbidae **(3)**
4. Pachychilidae **(3)**
5. Thiaridae **(3)**

Bivalvia (mussels and relatives)
6. Sphaeriidae **(3)**

Hirudinea (leeches)
7. Glossiphonidae **(3)**

8. **Oligachaeta** (worms) **(1)**

9. **Crustacea** (shrimps & crabs)(5)

Heteroptera (true bugs)
10. Naucoridae **(4)**

Megaloptera (dobsonflies)
11. Corydalidae **(6)**

Plecoptera (stoneflies)
12. Perlidae **(9)**

YA'AXCHÉ CONSERVATION TRUST

Design and images by Ya'axché (2024). Taxonomic identification confirmed using the Guide to Belizean freshwater macroinvertebrates for biotic assessment, compiled by Dr. Rachael Carrie for Ya'axché Conservation Trust (2014).