

## Wanna know why you swallowed a fly? – by Alison Evans

It is hard for motorists miss seeing the impressive column shaped clouds of lake flies around the lake edge during the spring. It is even more difficult for cyclists to avoid swallowing the little flies as they weave their way around the lake edge. The flies are attracted to light (as well as lycra!) and can be a household nuisance at certain times of the year. Wairewa is not alone though, in some parts of the world such as Lake Victoria in Africa, the flies are so numerous that the locals have even taken to making patties from them. Perhaps they would make a good substitute for whitebait here in New Zealand!

The species of lake fly here is known in scientific circles as *Chironomus zealandicus*, and belong to a family called Chironomidae. Despite being closely related to mosquitos they don't bite. The flies spend their juvenile stage as worms or larvae in the sediment of the lake and because of their red colour are commonly known as blood worms. Blood worms normally comprise a significant portion of the invertebrate fauna in most lakes around New Zealand and are tolerant of degraded water. This is due to the haemoglobin in their blood which enables them to live in oxygen-poor water and sediments. An increase in the number of lake flies seen around our lakes in recent years is probably due to poor water quality. Most other aquatic insects can't live in these conditions and without competition the blood worms can build up to huge numbers. As the adult flies emerge they start to swarm, forming columns or leks. The leks are mainly male flies and somewhere in the middle there will be an attractive female seeking a mate. The flies are able to mate in flight and they deposit their eggs back in the lake sediments where they hatch into new larvae or blood worms.

A study by NIWA suggests that the eels in the lake are now dependent on the blood worms as a food source whereas in the past eels ate a much wider array of food items including snails, damselflies and caddisflies. Unfortunately, the loss of weed beds in the lake has meant that these animals have apparently declined in number to such an extent, that they are now locally rare.

There are a number of different Chironomid species found throughout the world (approximately 6000 species) that occupy a range of freshwater habitats. In New Zealand, there are a number of different species many of which are undescribed. Some species have adapted to living in extreme habitats such as in geothermal areas or in glacial waters. For more information on aquatic insects check out the NIWA web page [www.niwascience.co.nz](http://www.niwascience.co.nz).



Photo by Steve Kerr - <https://www.inaturalist.org/photos/2448498>