

Does size matter? Distribution and body size patterns of mayflies across New Zealand temperature gradients

Date: Monday 23 May 2016

Time: 11am – 12pm

Location: Room 208, Level 2, Te Ao Marama Building

Presenter: Stephen Pohe

Abstract:

Mayflies are an ancient lineage of insects that occur on all the continents of the globe except Antarctica. In New Zealand 52 species are described, all of which are endemic. The immature stages are aquatic, living in cool, unpolluted freshwater habitats for about a year. The adult however, is terrestrial, and lives only a few days. Mayflies are an important source of food for many species, forming an essential link in the food-chain between basal resources like algae, fungi and bacteria, and hungry predators like eels and other fish, as well as many forest and riverine birds.

However, freshwater habitats are increasingly being degraded by anthropogenic sources, which cause the decline and eventual demise of many mayfly populations. In addition, in recent decades there has been a pronounced warming trend in global surface temperature, which is predicted to continue. Freshwater species have been identified as particularly vulnerable to this warming climate situation, and in New Zealand cold-adapted aquatic insects may be at risk. For mayflies, increases in water temperature can affect their reproductive success by influencing changes in metabolism and body size, and therefore the number of offspring produced, and the timing of their reproduction.

Biography:

Stephen Pohe (Ngāpuhi, Ngāti Hine) is a PhD candidate with the School of Biological Sciences, supported by the Ngāi Tahu Research Centre scholarship programme. Stephen was raised in Northland, where he developed a strong respect for the natural environment, and an enthusiasm for conservation and ecology. Previously, he was a tutor in the Conservation and Environmental Management Programme at Northland Polytechnic, and a self-employed freshwater ecologist. He has a Diploma in Conservation and Environmental Management and Bachelors' and Master's Degrees in Applied Science (Ecology). Stephen's PhD research investigates the diversity, distribution and ecology of a group of freshwater insects called mayflies (Ephemeroptera). Ecological aspects of the research focus on the life history trait of body size and the response to latitudinal and altitudinal temperature gradients.