Climate change impacts stream life

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Climate change is warming Welsh streams and rivers, affecting the number and variety of some of their smallest animals, a major Cardiff University study has found.

Rivers and streams are key ecosystems for many aquatic species and form important links with surrounding habitats, yet little emphasis has been given so far to the ecological effects of climate change on these running-waters.

Now a twenty-five year study at Llyn Brianne in central Wales, led by Professor Steve Ormerod and Dr Isabelle Durance of the Cardiff School of Biosciences, has examined for the first time the effects of climate change on stream species.

The study looked at the effects of climate change on stream macroinvertebrates - animals that can be seen with the naked eye such as crustaceans, snails and larval insects including stoneflies or mayflies.

Professor Ormerod, said: "Streams and rivers are likely to be highly sensitive to climate and yet long-term evidence of effects is scarce globally. Our study shows a clear climate-change signal over the last 25 years, with temperatures warming faster than could be explained by background variations. An ecological response to warming has also been clear."

The study predicts that at the present rate the springtime abundance of macroinvertebrates in streams could decline by as much as 21 per cent

for every 1 degree Celsius rise in temperature.

Dr Durance added "The numbers of species in the streams we examined might also fall by 12-25 per cent if trends continue as expected over the next 50 years".

Source: Cardiff University