

Hidden ecosystems explored with the help of UK schools

January 15 2015, by Sam Rae

Schools across the UK can now collaborate with the Museum on cutting-edge genetic research into the diversity of microscopic species living on buildings.

A new [citizen science project](#), The Microverse, asks school students and community groups to conduct real scientific fieldwork - collecting microorganisms from buildings and sending them to the Museum. Scientists will then use the latest DNA sequencing technologies to reveal their genetic code.

The research would otherwise take Museum scientists months of work and thousands of miles of travelling.

The aim of the research is to find out which species live on buildings and what role they play in their local environments. It will also look at how different factors – such as the age of the building and the material it is made from – affect the number and mix of species present.

Many questions to answer

Dr Anne Jungblut, the [museum](#) researcher who launched the project, said: 'Microbial life is essential for life on Earth, for example in producing oxygen and decomposing organic material, but comparatively little is known about the millions, possibly billions, of different kinds.'

Dr Jungblut launched the project by collecting the first samples at the iconic Waterhouse building and the glass-walled Darwin Centre of the Natural History Museum. DNA sequencing revealed an incredible diversity of life on these buildings alone - over 300 species of microorganism were collected including bacteria, algae, fungi and cyanobacteria.

'One thing we don't know is what effect urbanisation is having on [microbial life](#),' said Dr Jungblut. 'Which microorganisms live on concrete pavements and glass skyscrapers? Will we be able to discover [species](#) new to science? And how can they survive on these mostly barren surfaces exposed to rain, snow, UV light and potentially high levels of pollutants?'

The results of the study might also be applied to research on 'bio-erosion' of historic buildings, where microorganisms can affect the structure, colour and moisture of building surfaces.

Schools and community groups wanted

The Microverse aims to involve around 250 schools across the country. Students will gain practical experience of scientific fieldwork and contribute to a genuine research project.

Dr Jungblut said: 'This new knowledge, gathered together by students, community groups and researchers, will help us to better understand the richness of microbial diversity and importance of urban environments for biodiversity.'

Participating groups will receive a pack with all the equipment they need to collect [microorganisms](#), preserve their samples and post them back to the Museum for DNA analysis. To register, groups should go to the [Microverse web page](#).

Provided by Natural History Museum

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