

NANOARCHAEOTE PHYLOTYPES DOMINATE IN CHINESE HYDROTHERMAL BIOTOPES

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The Nanoarchaeota were proposed as the fourth Archaeal sub-division in 2002, and the only fully characterised Nanoarchaeon was found to exist in a symbiotic association with the Crenarchaeote, *Ignioccus*. This Nanoarchaeote, named *N. Equitans*, could not be detected with Universal archaeal 16S PCR primers and could only be amplified using specifically designed primers. In order to identify and access a wide diversity of archaeal phylotypes we designed a new set of universal archaeal primers, that amplify the 16S genes of all four archaeal sub-divisions. Using these primers we have amplified community DNA from a Chinese hydrothermal system and discovered that the dominant phylotypes are Nanoarchaeal. Our sequences cluster into 5 closely related clades which may represent separate species. All clades are separated to species or genus level from the cultured *N. Equitans* and recently published nanoarchaeal phylotypic sequences.

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