Australian National University

Characterising and tracking Australian desert dust and its sources

Thursday 23 May 2013, 1:30pm

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Slatyer Seminar Room, R.N. Robertson Building (Bldg. 46), Linnaeus Way, ANU

The Lake Eyre Basin (LER) in Australia is the primary source of dust in the southern hemisphere. Little is known about the microbial ecology of this area, and its relationship if any to the bacteria found in dust. Initially, sediment and adjacent aerosol samples were collected from a small lake in Victoria which routinely deflated. Bacteria were cultured, and microbial communities characterised using 16S rRNA high throughput sequencing (HTS). Characterisation of cultured isolates revealed that the same isolate was propagated from the lake bed and aerosols. HTS results also identified the same operational taxonomic unit (OTU) in both source and aerosols. HTS was then used to compare the microbiology of LER sediment, aerosol, and dust storm samples. All samples had great microbial diversity, however, dominant OTUs, representing *Delftia, Stenotrophomonas, Acidovorax*, and other taxa, were found in all samples. In particular, comparison of the relative abundance of OTUs in Canberra dust samples showed clear links to LER samples postulated to be the source as determined by multidisciplinary analyses.

PUBLIC LECTURE

Presented by

Research School of Biology

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