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## **High-resolution Holocene records from 3 crater lakes in southeastern Australia based on trace elements and stable isotopes of ostracods**

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Two hypersaline crater lakes (Gnotuk and Keilambete) in western Victoria and the freshwater Blue Lake in South Australia were analysed in great detail for their ostracod faunal composition and chemistry. Combination of oxygen and carbon isotopes and trace elements (Mg, Na and Sr – presented as ratios to Ca) on ostracods were used to reconstruct changes in salinity, that in turn relate to lake level fluctuations and climate for the 2 hypersaline lakes. The same chemical analyses on ostracods from Blue Lake identify changes in groundwater flow into the lake recognized from ostracod Na/Ca.

The Na/Ca analyses provide, for the first time for a lacustrine system, information on salinity that is compared against the other, previously-used proxy for salinity, viz. Mg/Ca, as well as faunal changes.

The effect of alkalinity on the uptake of Mg and Sr in ostracods will also be discussed.