

***Populus euphratica* and *Tamarix ramosissima* $\delta^{13}\text{C}$ tree-ring chronologies from the Taklamakan Desert, Xinjiang, China**

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ABSTRACT.

Several *Tamarix ramosissima* and *Populus euphratica* samples were collected in deep within the Taklamakan Desert over the Tarim Basin in far western China in the summer 2011. Both species show well-defined, clearly distinguishable tree rings, making the finding of these samples a remarkable discovery. The *Populus euphratica* subfossil material, dated with ^{14}C , has been used to develop a chronology of widespread waterlain sedimentary deposits located throughout the Taklamakan desert, permitting a geomorphological basis for reconstructing past hydroclimate in the Tarim Basin. The *Tamarix ramosissima* samples, taken from living trees, are exceptionally valuable proxies for reconstructing the climate of the last several centuries in this region of Central Asia where no other paleorecords are available. Here, we propose to measure stable carbon isotope ($\delta^{13}\text{C}$) ratios of cellulose in precisely dated annual tree rings from both species for the 20th century. The generation of drought-sensitive paleorecords with annual resolution for this region will provide relevant long-term data for the study of the past climatic variability in central Asia.