**Captions to supplemental figures**

Figure S1   The layout of the GXNU-AMS system.

Figure S2   Flat top for 12C/13C beam currents and 14C counts in the injection magnet (a) and analysis magnet (b).

Figure S3   The tracer concentration curve for wells H136-2 (a) and H136-8 (b). The dot represents the AMS measurement data.

Figure S4   Tree age versus tree size (a) and mean growth rate (b) relationship for ancient Chinese tea trees.