

Current events

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An early date for the Middle Stone Age of central Zambia

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The hill top site of Twin Rivers (15°31'S:28°11'E), located 24 km southwest of Lusaka (Figure 1), was investigated by Clark (1971) who identified a Middle Stone Age (MSA) assemblage. It also contains fragmentary faunal remains which are cemented into a breccia and interstratified with, and overlain by, speleothems. The assemblage is of interest both for its technology and chronology. A mix of light- and heavy-duty tools is represented in the sample of 929 (largely quartz) artefacts. The assemblage includes a light component of flake tools, unifacial and bifacial points and small bifaces produced on blanks from radial and multiple platform cores. The less numerous heavy element comprises core axes, picks, bifacial lanceolates, choppers, core-scrapers, spheroids and grindstones. The combination of small points similar to those associated with the earlier MSA in Zimbabwe (Volman, 1984) with heavier tools and lanceolates resembling the Lupemban of Central Africa (Clark, 1970; Phillipson, 1976) suggests an early Late Pleistocene date for the Twin Rivers assemblage. This conflicts with the apparently late age of the deposit based on radiocarbon determinations on travertine ($22,800 \pm 1000$ and $>33,200$ B.P.; Clark, 1971: p. 1212).

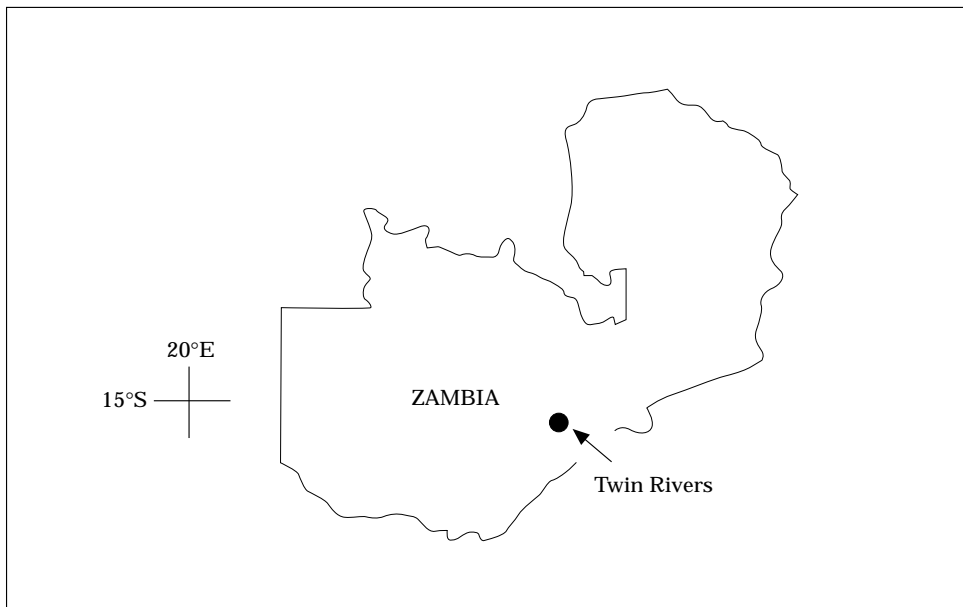


Figure 1. Location map of Twin Rivers site, central Zambia.

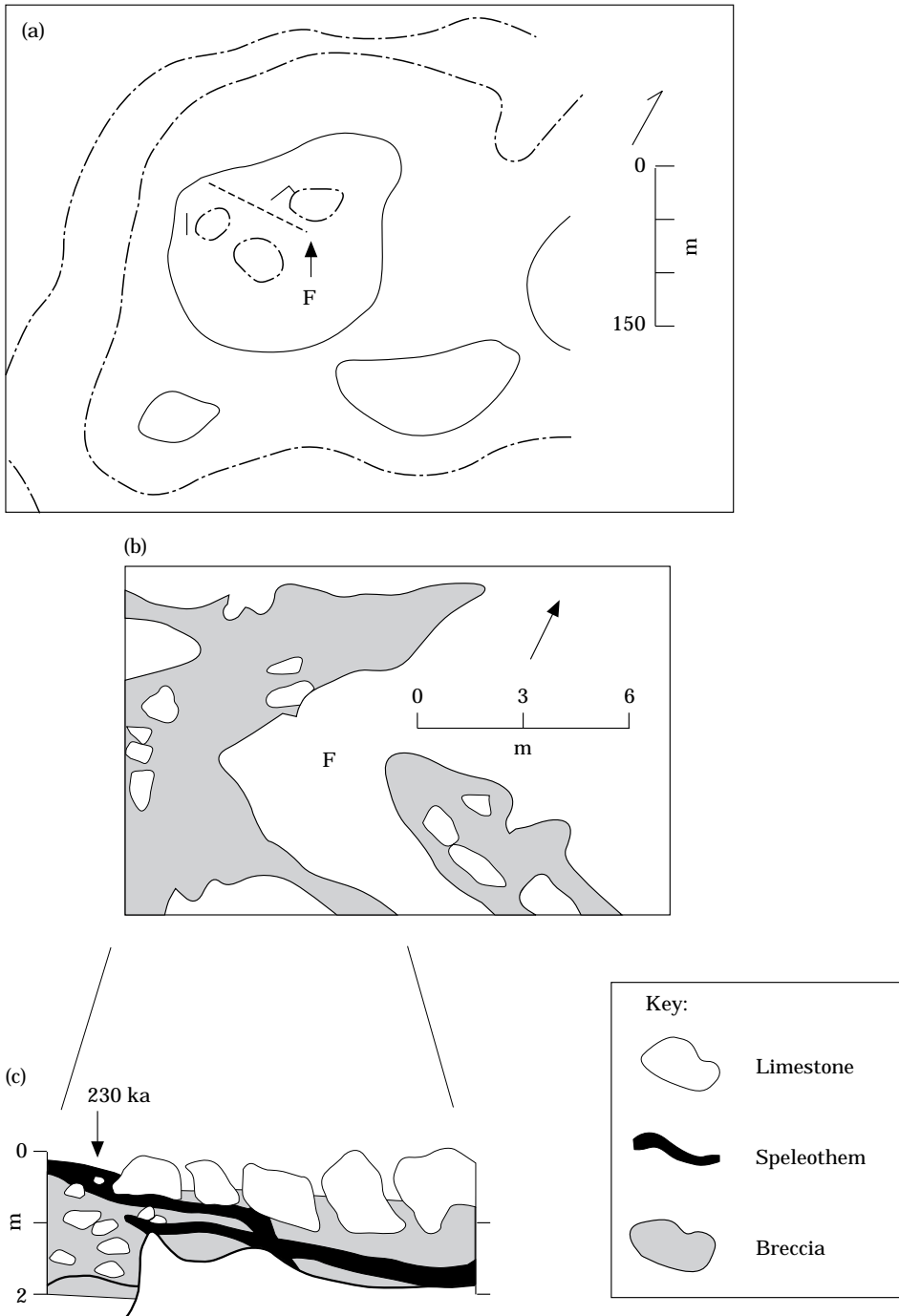


Figure 2. (a) Location of excavation trenches on the Twin Rivers hill top. F Block, the source of the dated sample is marked (after Clark, 1971). (b) Plan view of F Block showing relation of breccia infill to limestone boulders (after Clark, 1971). (c) Stratigraphic section from F Block showing interstratified speleothem deposits and location of the dated sample overlying the artefact bearing breccia (after Clark, 1971).

In the context of current investigations of the MSA in central Zambia (Barham, 1995), Twin Rivers was briefly re-examined in July 1994. Clark's sections were located and a 64 g sample of speleothem was collected from a deposit overlying the MSA breccia in excavation block F [Figure 2(a), (b), (c)]. The sample yielded a $^{230}\text{Th}/^{234}\text{U}$ age of 230^{+35}_{-28} ka ($^{234}\text{U}/^{238}\text{U}$ 1.23 ± 0.02 , $^{230}\text{Th}/^{234}\text{U}$ 0.92 ± 0.03 , $^{230}\text{Th}/^{232}\text{Th}$ 67 ± 36 , errors are 1 S.D.). This early minimum age for the MSA at Twin Rivers supports typologically based assumptions for the antiquity of the assemblage and suggests that the radiocarbon dates are unreliable. The interstratification of speleothem deposits provides a means of tightly constraining the age of the early MSA and its fauna. Further U-series analyses are planned in conjunction with ESR dating of calcite in the travertine.

In the broader African context Twin Rivers joins a small group of sites with late Middle Pleistocene dates for the MSA. These include East African material dated by K-Ar at Lake Ziway, Ethiopia, at $>235 \pm 5$ ka (Wendorf & Schild, 1974) and Malewa Gorge, Kenya, at 240 ka (Evernden & Curtis, 1965). These overlap dates from Acheulian sites in Kenya [Kapthurin, 230 ka, Tallon (1978)], South Africa [Rooidam, $>174 \pm 20$ ka, Szabo & Butzer (1979)], and Tanzania [Isimila, 260^{+70}_{-40} , Howell *et al.*, 1972]. The latter two are U-series dates on material of uncertain reliability (lacustrine sediments and bone respectively).

The new date from Twin Rivers confirms the early age of MSA technology in Africa, and indicates its widespread distribution not just in East Africa but also further south. The dating of the deposit also has implications for understanding the distribution of modern fauna during the mid-pleistocene (e.g. Potts & Deino, 1995). The Twin Rivers assemblage comprises extant species (Clark, 1971: p. 1215) including Zambesian ecozone endemics such as lechwe (*Kobus leche*) and tsessebe (*Damaliscus lunatus*). The presence of large and potentially dangerous mammals, notably Cape buffalo (*Syncerus caffer*) and rhinoceros (*Diceros bicornis*), suggests a well-developed hunting strategy, assuming of course these animals were brought to the site as prey rather than scavenged. The behavioural implications of the Twin Rivers fauna and the chronology of the site will be developed further once full-scale excavations are underway.

Acknowledgements

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