with test-pit 1, the dates from test-pit 2 and the surface suggests relatively recent use of the shelter (Table 1).

Discussion

The age estimations from *Yirra* (CME-A-31) suggest relatively intense occupation over the LGM, and during subsequent periods. It is not clear at present whether the data from this site demonstrate relatively continuous use from the end of the LGM to the later Holocene, or reflect sample size phenomena (cf. Jerardino and Yates 1997; Lyman 1987; O’Neil 1993). It is hoped that further excavation, dating and analysis at this site will clarify these matters.

In addition there is an abundance of material from other sites covering the period from approximately 2000 BP to the last few hundred years. Further detail and analysis on these excavations will be provided in a more comprehensive article to follow.

References


Veitch, B. and Di Lello, A. 2000 The report of the test excavation of five Aboriginal archaeological sites in the proposed pit 4 and 6 extension areas situated within the Brockman Mine, Pilbara, Western Australia. Hamersley Iron Pty Ltd and Archae-Aus.


**INDIGENOUS ARCHAEOLOGICAL SITES AND THE BLACK SWAMP FOSSIL BED: ROCKY RIVER PRECINCT, FLINDERS CHASE NATIONAL PARK, KANGAROO ISLAND, SOUTH AUSTRALIA**

Keryn Walshe

School of Humanities, Flinders University, Adelaide, SA 5001, Australia. Email: kerynw@internode.on.net

Introduction

Fossil evidence for extinct megafauna at Black Swamp, Rocky River in the Flinders Chase National Park, Kangaroo Island was first noted in 1908 by C.J. May, then caretaker of the Rocky River Reserve (Tindale et al. 1935). Formal palaeontological investigation of the fossil area was initiated during a visit to the former Flinders Chase Flora and Fauna Reserve by Norman Tindale in late 1934 (Tindale et al. 1935; Tindale 1937a, 1937b). Further interest was not rekindled until the late 1970’s (Hope et al. 1977). Since 1995 however, palaeontological investigations have been intensely focused on the Black Swamp fossil site (Wells et al.1997; Thammakhantry 1998; Dalgaarins 1999).

Archaeological evidence from Kangaroo Island, South Australia generally suggests occupation by Indigenous people between about 16,000 and 4000 years ago (Lampert 1981, 1983). Archaeological sites and objects have been recovered at Black Swamp, Rocky River and the intriguing question of coalescence between megafauna and Indigenous people was initially posited by Tindale in the 1930’s (Tindale 1937a, 1937b). This same question has ‘shadowed’ later palaeontological investigations at Black Swamp, Rocky River but irrefutable physical evidence remains as elusive here as it does for the vast majority of megafaunal sites on the mainland.

Archaeological finds on Kangaroo Island have been reported since 1903 (Howchin 1903) but investigations were concentrated principally on the eastern part of the island. It was not until the 1980’s that archaeological investigations were undertaken, albeit brief in time at Black...
Swamp (Draper 1991, 1992). Recently, as part of an ongoing and joint palaeontological and archaeological research program in Flinders Chase National Park, formal surveys have taken place around Black Swamp.

**Previous investigations into Indigenous archaeology at Black Swamp**

Kangaroo Island was deemed unoccupied by Indigenous people following Matthew Flinders’ 1802 report on the seeming absence of human habitation. It was thus of some surprise to the scientific community when early and significant archaeological investigations on the Island identified evidence for extensive occupation (Howchin 1903; Tindale and Maegraith 1931; Cooper 1943, 1960). The majority of early archaeological investigations were concentrated at the eastern portion of the island. It was the investigation of megafaunal fossil bones at Black Swamp that prompted preliminary archaeological investigation of the western area in 1934. The fossil excavation by Tindale, Fenner and Hall (1935) failed however, to yield archaeological material (Tindale 1937). A single hammerstone from Rocky River was reported by Tindale (1937:43) as having been collected somewhere south of the fossil bed by a former caretaker. Tindale (1937) notes that ploughing on the neighboring flats had revealed bones, but not implements.

In 1988 road works at the entrance to the Rocky River precinct revealed five stone tool surface scatters on a deflation surface opposite ‘May’s Cottage’ and approximately 500 m east of the known Black Swamp fossil bed (Fig. 1). Five one meter square trenches of variable depths (0.9 m to 1.15 m) were excavated into this deflation surface by archaeologist Neale Draper. Draper reported that the excavations yielded 289 (mostly quartz) tools and some charcoal samples (1991). Two of the charcoal samples were submitted for radiocarbon dating and returned dates of 2340 ± 130 BP (SUA2835, Draper 1991:684) and 400 ± 50 BP (Beta 30176, Draper 1991:684).

The radiocarbon dates reported by Draper (1991) are significantly more recent than those obtained by archaeologist Ron Lampert from Seton Rockshelter and numerous open sites on Kangaroo Island. Lampert (1981, 1983) had previously placed Kangaroo Island occupation between about 16,000 and 4000 years ago. Draper also took the opportunity in 1988 to excavate a former borrow pit, thought to be the location of Tindale’s 1934 excavation for megafaunal material. The face of this borrow pit was first cleaned back along a 3.5 m section then excavated back 25 cm but did not recover any animal bones (Draper 1989, 1991). Two quartz blades or flakes and one ‘simple, quartzite cobble chopper’ were however recovered (Draper 1989, 1991:690). Charcoal recovered from just below the cobble chopper, at a depth of about 55 cm, yielded a date of 1280 ± 140 BP (SUA2836). Charcoal associated with the quartz material yielded a date of 1380 ± 80 BP (Beta 30175). As Draper (1991) points out, this particular excavation did not reveal a direct association between megafaunal material and stone tools, but again suggests a more recent occupation date than found elsewhere on the island. Draper also excavated a 1x1 m trench intended to reveal more information about the composition of the calcareous dunes (Draper 1989). The trench reached 60 cm and yielded two quartz artefacts before a layer of hard limestone was encountered (Draper 1989).

In 1996-7, further archaeological survey and excavation was carried out in the same vicinity and on a high dune above Black Creek Swamp under supervision by then post-graduate candidate Heather Bulith, in turn supervised by Neale Draper. No formal field report has been presented from this work but it is understood that no samples for dating were obtained and no collections were made.

The area of surface scatters reported by Draper (1991) was revisited in 1998 by Marin and Hodgson (1998) as part of a broader cultural heritage survey of select areas within the Flinders Chase National Park. Marin and Hodgson (1998) were unable to re-locate the scatters identified by Draper some ten years earlier but they recorded three previously unidentified, low density artefact scatters around the visitor centre infrastructure. Two of the three recently recorded sites consisted entirely of a few pieces of quartz whilst the remaining scatter consisted of one quartz and two chert tools. These sites were all recorded on higher ground around the southern side of Black Swamp, between approximately 120 and 400 m from the known fossil site (Marin and Hodgson 1998).

Inspection of the same area in 2000 and 2001 by this author revealed stone tools scattered over the deflation surface originally reported by Draper (1991) but failed to...
identify the three discrete, low density scatters reported by Marin and Hodgson (1998). The exposed, de-vegetated surfaces around the southern margins of the swamp allow significant water runoff and it is evident that discrete, low density quartz scatters are subject to significant and rapid degradation. The question of loss arises and the resultant impact (if any) on site recording. Sensibly, if the swamp margins were densely covered with site material then presumably small, discrete sites would be regularly identified. This is simply not the case. No artefact scatters or other site material has been reported directly on or along the margins of Black Creek Swamp proper.

A feature “…consisting of a series of fire blackened cobble-like stones of up to 100 mm in length, set in the ground, in an approximate circular shape with charcoal near some of the stone and appearing to extrude from the soil” (Marin 1999:4) was located approximately 6 km south of the Rocky River Precinct. This feature was initially considered to be an Aboriginal hearth and was excavated in 1999. However, Marin (1999) reported that after excavation, the feature was considered highly unlikely to be of Aboriginal origin. Charcoal samples were collected for dating, but no further information has become public.

Discussion

The archaeological finds to date at Black Swamp, Rocky River consist mostly of quartz artefact scatters, with some quartzite and chert tools and a few isolated pebble choppers near to but not in association with the megafaunal fossil bed.

As part of an integrated palaeontological and archaeological investigation at Rocky River, Flinders Chase, a comprehensive surface survey of the swamp and its surroundings was carried out at intervals, between 2001 and 2003. This survey recorded two pebble choppers and numerous outcrops of ‘vein’ quartz. As described by Cooper (1960) vein quartz is highly abundant on the island and offers a serviceable raw material source. However, the challenge for site recording is distinguishing between modified and unmodified quartz fragments. The recently found pebble choppers are similar to those described by Tindale (1937) and highly characteristic of those collected extensively by Cooper (1960). The small grain size of the pebble gives a smooth finish and high density. The closest source of such fine grained, high density pebbles is yet to be identified. Inspection of all accessible river mouths and beaches both east and west of Rocky River have so far failed to locate a source of such fine grained pebbles. ‘Pebble surveys’ were recently extended along almost the entire western and northern coastlines of Kangaroo Island, by following deep cut river channels into the coast and then along adjacent coastal margins but these too, failed to locate that particular fine grained, dark and green hued stone.

The charcoal dated to about 2340 years old was found in association with quartz artefacts and taken from a depth of approximately 90 cm, just above a sterile clay unit. As regards the more recent sample however, Draper (1991:684) states that it “… came from charcoal collected from excavation unit #5, 55-75 cm below the surface (not associated with archaeological material) …which may be too recent to be considered a finite dating determination”. Draper (1991) also notes freshwater mussel shell and mammal bone including kangaroo and possibly ring-tail possum remains in association with the same charcoal sample. Fifteen ring tail possums were introduced onto Kangaroo Island in 1926 (Robinson and Armstrong 1999:188) suggesting either a relict possum population or modern contamination of the archaeological deposit.

The Rocky River Precinct artefact scatters as described by Draper (1991) are significantly disturbed due long term ploughing, borrow pit activity, road works, natural erosion processes and prior collecting. Draper (1991:692) reported that “…The upper half of test pit 2 …is disturbed and contains pieces of metal in the three upper units…”. The dates reported by Draper in 1991 need to carefully evaluated against the disturbed contexts from which they were derived and in light of revelations on problems in earlier radio carbon dating outcomes (Roberts et al. 1994).

Conclusion

Archaeological surveys between 1934 and 2003 at Black Swamp, Rocky River have identified a number of stone (mostly quartz) tool scatters and a few isolated pebble choppers. Excavations between 1934 and 1988 have revealed further stone tools and a pebble chopper to a depth of about half a meter. Charcoal samples have returned relatively recent dates for occupation of this part of the island. Excavation has also revealed highly disturbed contexts and has raised issues of validity for these same dates. So far no physical evidence for coalescence between ancient megafauna and Indigenous people has been found in either archaeological or palaeontological excavation. Absence at this stage should not however be read as improbable. The age of the fossil bed is yet to be definitively stated and dates for Indigenous occupation of Kangaroo Island generally are yet to be verified. The context of the cultural and biological landscape is still poorly understood and interpretative work is preliminary. Of primary concern to the archaeological program at this point is the cultural and environmental context of visitation to and departure from the island by Indigenous people. The question of Indigenous interaction with megafaunal animals is indisputably intriguing, but of lesser interest at this stage than the primary issues of understanding a complex cultural landscape and its connection to a larger, similarly complex land mass. If visitation and/or occupation of the island were restricted to times of low sea level (during the last glacial maximum) then there is also Indigenous response to regional climatic change awaiting interpretation.

References

Cooper, H. M. 1943 Large stone implements from South Australia. Records of the South Australia Museum 7:343-369
Dalgairns, S. N. 1999 A paleoenvironmental and taphonomic review of the late Pleistocene swamp site at Rocky River, Kangaroo Island, South Australia. Unpublished Honours Thesis, School of Biological Sciences, Flinders University, Adelaide, South Australia.
Draper, N. 1991 Cape Du Coudic Rockshelter and the Aboriginal Archaeology of Kangaroo Island, South Australia. PhD thesis, Department of Anthropology, University New Mexico, Albuquerque.


Lampert, R. J. 1975 Preliminary report on some waisted blades found on Kangaroo Island, South Australia. *Australian Archaeology* 2:45-48.


Lampert, R. J. 1983 Kangaroo Island 18 ± 2 KA. In J.M.A. Chappell and A. Grinrod (eds) *CLIMANZ. A Symposium of Results and Discussions Concerned with Late Quaternary Climatic History of Australia, New Zealand and Surrounding Seas*, pp. 63. Canberra: Research School of Pacific Studies, Australian National University.


Thammakhantry, I. 1998 Faunal analysis of the megafauna deposit at Rocky River, Kangaroo Island, South Australia. Unpublished Palaeontology Report, School of Biological Sciences, Flinders University, Adelaide.


