

An Aboriginal Engraving Site in the South-West of Western Australia

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Abstract

This report extends the known range of Australian Aboriginal rock engravings to the extreme south west corner of Western Australia. The site and the local geology are described with reference to the possible age of the engravings. Consideration is given to both content and typology of motifs. Finally, the problems posed in the conservation of this unique site are considered.

Introduction

An Aboriginal rock engraving site has been located on the south coast of Western Australia near Augusta. The site has over 100 motifs engraved on a series of exposed limestone surfaces. While local residents have known about the site for over 30 years, the popular opinion was that the engravings were a series of fossil footprints. This view was reinforced by the discovery of a huge fossil egg in a coastal dune blow-out nearby. This egg, now in the Western Australian Museum, has been discussed by Merrilees (1979). It is probably from the now extinct *Aepyornis* native to Madagascar, clearly intrusive in the locality, and hence unrelated to the engraving site.

Location

The site, Western Australian Museum Department of Aboriginal Sites Registration Number S1786, is on privately owned land east of the town of Augusta. It is 3 km from the Southern Ocean and several hundred metres south of the Scott River (34°18' S, 115°25' E). Details of the land ownership and access are held by the Registrar of Aboriginal Sites who should be consulted prior to visiting the site.

Site Description

The engravings are in a cleared and fenced paddock, with an established pasture used for cattle grazing. There are a few scattered paperbark trees (*Melaleuca* sp.) remaining from the previously cleared native vegetation, and some *Agonis* sp. have regrown. Both these plants and the pasture species indicate that the site area was originally swamp. To the west there is well-vegetated sand dune with Jarrah (*Eucalyptus marginata*)-Marri (*E. calophylla*) woodland. To the south, a mixture of Peppermint (*Agonis flexuosa*) woodland and coastal

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heath occur, while to the north and east are extensive areas of heath land with minor stands of Jarrah-Marri woodland on sandy rises. *Agonis* and paperbark woodlands occur throughout the areas surrounding swamps and winter wet depressions.

A series of flat tabular limestone pavements occur in the north-west section of the cleared area. Engravings are on the more southerly of the pavements. They occupy an area of approximately 75 m north-to-south, 25 m wide, including about 25 limestone blocks. The limestone surface is level with the surrounding sandy soil, and in many cases pasture plants have grown over the limestone surface and obscure the engravings. The limestone slabs which make up the pavement are thin and tabular, ranging in size from less than 0.5 m to a maximum of 2.5 m across, with a thickness of between 50 mm and 100 mm. Some blocks have been broken and up-ended, possibly by land clearing or cultivation activity in the past. The area between blocks contains siliceous sandy soil, and the blocks are underlain by slightly clayey siliceous sands. The remainder of the paddock contains very loose siliceous sandy soils except for a small area of limestone outcrop around a disused well in a shallow depression near the centre of the paddock. This limestone has been heavily abraded by stock activity and no engravings were discovered. While the sandy soils appear to overlie the limestone, no evidence of the limestone could be found in ditches at the southern end of the paddock, or in a dam excavated in the north-east corner. However, there are several areas to the east of the paddock with limestone pavements made up of small discoidal limestone fragments. No stone artefacts were found in the soils surrounding the engravings.

The Engravings

Of the over 100 engravings at the site, animal tracks comprise the main motif. These tracks or footprints are fully engraved, and in many cases closely resemble actual animal tracks. However, they are usually somewhat larger than lifesize. There is no colour contrast between the engraved areas and the natural rock surface. Large bird tracks, presumably representing those of emus, are the most common. Other smaller bird tracks, perhaps representing bustard and unidentified wading types, are the next most numerous. There are a number of macropod tracks, including some with both hind and fore prints engraved. In addition to the tracks, there are a few other engravings including a star motif made by three lines crossing at a central point, single wandering lines (which may represent snake or lizard tracks), and several boomerang-shaped outlines. Several engravings have been truncated at the edge of a limestone block. In one case a track set can be linked to another on a nearby limestone block. Examples of the engravings are shown in Figure 1.

Local Geology

The occurrence of limestone on the Scott River plain is somewhat surprising because of the highly leached nature of the locality, and the extensive areas of white siliceous sand. The limestone which carries the engravings is cream-coloured when fresh, quite friable and soft. It is highly porous with a network of large interconnected pores between 2 mm and 4 mm diameter making up 50 per cent of the rock volume, and a smaller pore network



Figure 1 Rock engravings near Augusta, Western Australia. Water spread on surface to increase contrast. Photograph courtesy of A. Baynes.

in the 0.1 mm range spaced between the finely granular carbonate grains. The surface has developed a dense calcrete layer up to 3 mm thick, with most of the pore space infilled with secondary carbonate. The engraved areas also exhibit this surface calcrete layer or skin, but the thickness is unknown.

The rock composition is typical of so-called algal limestones. These are thought to form as a result of algal mats in shallow waters trapping carbonate material — either physically from dust and sediment input, or biologically from carbonate fixation by the algae as part of its metabolic process. This view is supported by the occurrence of the discoidal limestone pavement to the east of the site. These circular structures, ranging in size from 10 mm to 120 mm in diameter and up to 10 mm thick, are accepted as evidence of algal activity in shallow well-protected lakes. Modern examples exist in several of the interdunal lakes on the west coast south of Perth. These lakes often exhibit wide annual ranges in salinity, from brackish in winter to hyper-saline in summer.

Discussion

This site raises a number of interesting issues. It would appear to extend the known range of what has been called the 'Panaramitee Style' (Maynard 1979) to the extreme south-west corner of Western Australia. The nearest known sites of this style are at Yalgoo, 420 km north of Perth, and Yellerrie, 680 km north-east of Perth. There are only two other known rock engraving sites in the south of the state, one at Bolgart, 70 km north-east of Perth (Clarke 1976), and the other at Cape Arid on the south coast, east of Esperance. Both these sites are stylistically different and contain outline engravings around natural fractures and veins in the rock.

The Augusta site is also of geological interest. The rock was formed in a shallow lake, probably in an interdunal depression, at a time when there was a significant input of calcium carbonate. The thin nature of the carbonate indicates that the lake was short-lived in a geological sense. A Pleistocene date is indicated by surrounding deposits. However, the main question is how did the rock survive in an area which has a high rain fall, and in which surrounding soils are strongly leached? Even more perplexing is how the engravings survived in such an environment, when based on stylistic criteria they should be of considerable age. Burial by dune activity and then re-exposure at some later date would appear to be the most likely possibility. It is inconceivable that an engraving in an exposed limestone as porous and friable as this, could have survived over any extended time without protection. Weathering rates for exposed limestone without substantial soil cover is in the order of several millimetres per 100 years. If only a thin layer of soil and vegetation cover the rock surface, allowing the downward movement of humic acids, the weathering rate increases up to 10 times (Ingle-Smith 1978). A detailed study of the site geomorphology and further geological investigations are needed to establish a more precise site history. In turn, this may shed light on the possible age of the engravings, particularly if they have undergone a period of burial.

Finally, there remains the problem of site preservation in light of the present environmental conditions. Every effort should be made to keep vegetation off the engraved limestone to

prevent accelerated weathering by biological activity. The site should be fenced so that physical damage by cattle or farm machinery is prevented. In the longer term, consideration needs to be given to impregnating the rock to help prevent solution weathering and to assist the shedding of water from the rock surface. The alternative would be to lift the slabs and place them in a covered storage area, or to roof the site, neither of which are practically or aesthetically pleasing. However, without appropriate conservation and preservation action, this important site will be lost.

References

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SHORT COMMUNICATIONS