A second recent canine burial from the Arnhem Land Plateau

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Abstract
A canine burial was recently located on the Arnhem Land Plateau. This is the second such feature recorded for the region. Radiocarbon dating of a vertebrae from the canine provided an age of 88±25 BP (Wk-31813). Both canine burials known from the area occur in similar archaeological contexts and are of similar age, suggesting there may be a cultural link between them.

Introduction
In 2008 a dingo burial was located within site DB-01, located at site complex ARN-0107 within the Jawoyn Country of Arnhem Land (Gunn et al. 2010). In common with human burials in this region, the dingo's body was wrapped in paperbark, secreted on a rock ledge and sealed with stone slabs. Vertebrae of the dingo were dated to 77±35 BP (AD 1680-1930; Wk-25381) but the practice was considered unusual by contemporary Jawoyn people. Ongoing rock art surveys across the plateau (Gunn and Whear 2007) have led to the discovery of a second canine burial (RWC-04), reported herein, in a similar archaeological context and of similar age, suggesting a cultural link between the two.

The Site Context
The canine burial (site RWC-04) was located within a cleft of an isolated rock stack on top of the Arnhem Land Plateau, some 120 km northeast of Katherine (Figure 1) and 40 km south of the previously reported DB-01 burial (Gunn et al. 2010). The rock stack housing the burial contains four alcoves, with evidence of use on three of its four sides, and is one of 13 archaeological sites that comprise the ARN-0057 site complex. As well as the burial, the rock stack contains two other walled ledges and an alcove decorated with an array of 32 rock paintings. Both of the walled ledges are larger and constructed with more substantial rocks than those associated with the RWC-04 burial and are assumed to be related to human burials, although now neither contains any skeletal material. The north-facing alcove containing the canine burial, designated RWC-04a, has two poorly preserved (old?) red paintings and a more recent wooden dillybag-hook wedged into a cleft above the burial.

The RWC-04 Canine Burial
The RWC-04 canine burial was wrapped in paperbark and placed against the back wall of a high ledge. The outer side was enclosed with stacked rocks and an alcove decorated with an array of 32 rock paintings. Both of the walled ledges are larger and constructed with more substantial rocks than those associated with the RWC-04 burial and are assumed to be related to human burials, although now neither contains any skeletal material. The north-facing alcove containing the canine burial, designated RWC-04a, has two poorly preserved (old?) red paintings and a more recent wooden dillybag-hook wedged into a cleft above the burial.

Unlike the situation of the DB-01 burial, no paintings or other artefacts were located within the ARN-0057 site complex to suggest its use during the contact period. Most of the artwork consists of early style 'mimih' paintings (>1000 years; cf. Chippindale and Tacon 1998), though one striking and very well-preserved bichrome female figure suggests a relatively recent production (<500 years).

In common with DB-01, the canine burial here was placed within a prominent rock stack at some distance from other sites within the complex. Both sites were decorated with a small number of early period paintings. Unlike DB-01, the RWC-04 site also appears to have been used for human burials.

The RWC-04 Canine Burial
The RWC-04 canine burial was wrapped in paperbark and placed against the back wall of a high ledge. The outer side was enclosed with stacked rocks and two rocks placed on top of the others (Figures 2 and 3). For the purpose of recording, the rocks were systematically removed, with each step of the process being photographed. The upper layer of paperbark was lifted carefully and laid to one side. Unlike the DB-01 remains, the bones here were scattered on the lower paperbark sheet in only a partial pattern of articulation (Figure 4), suggesting that it was either a secondary burial context or had been disturbed post-burial (possibly by rodents or goannas). The upper parts of the upper paperbark sheets and the edges of some of the lower sheets were burnt, and the nose of the skull was heavily scorched, most likely from a post-burial bushfire. None of the bones were ochred and the skull was positioned centrally to the other remains. The skull was removed for detailed photography and measurement and, with the permission of Jawoyn custodians,
two vertebrae were selected and removed for radiocarbon dating. The other bones were left in situ and no further examination was undertaken. The skull was then replaced and the burial reconstructed as closely as possible to its original form.

Measurements of the skull were taken in the field using a standard tape measure. The skull has a maximum length of 165 mm, a width of 87 mm and a height of 58 mm; this is considerably smaller than the DB-01 skull, which was 180 mm in length. The skull length is also well below the mean length and SD for dingoes given by Newsome et al. (1980, Appendix 2; n=50 dingos), being at the lower range for their sample of domestic dogs (n=43). The teeth of both animals were well-worn, but those of RWC-04 had sharp cusps, while those of DB-01 were rounded. The upper canine teeth of the RWC-04 animal were slightly more splayed than those of the DB-01 animal, although both were of similar length (the exposed length being 19 mm vs 21 mm, respectively). The skulls of the two animals also differed in the shape of the cranial vault, being more rounded in the RWC-04 skull compared with the more elongated structure of the DB-01 skull.

Photographs of the RWC-04 skull were sent to Colin Pardoe for identification. He suggested that the cranial vault was slightly larger and more bulbous than expected for a dingo, although he noted that skull shape can be highly variable. Overall, he considered that the skull was not that of a dingo but rather a large European dog whose ancestry could have included a dingo. However, as with all variation within a species, there is overlap of features, size and shape. He also suggested that the observed tooth-wear was consistent with an animal of middle age (Colin Pardoe pers. comm.). These features suggest that the animal entombed at RWC-04 is more likely to be a domestic dog (i.e. *Canis lupus familiaris*; Wang Xiaoming et al. 2004) than a dingo (*C. lupus dingo*). The difference in tooth-wear also suggests that, although an adult, the dog died younger than did the DB-01 dingo. A detailed anatomical and forensic analysis of the skull was beyond the scope of this survey, although on the basis of Pardoe’s observations, further study may now be considered by the Jawoyn custodians.

**Dating**

The vertebrae from the RWC-04 canine produced a conventional radiocarbon determination of 88±25 BP (Wk-31813; Table 1), though it should be noted that, because this falls at the limits of radiocarbon dating, it may not be entirely reliable. The result was calibrated using OxCal version 4.1 (Bronk Ramsey 2009) and the Southern Hemisphere calibration dataset of McCormac et al. (2004). On the basis of the 95.4% probability, it is likely that the RWC-04 canine died (and was buried) between AD 1700 and 1935.

**The Relationship between Aboriginal People, Dogs and Dingos**

The close association of dingoes and Aboriginal people has been well-documented throughout Australia (Berndt and Berndt 1977; Dixon and Huxley 1985; Gould 1969a; Meehan et al. 1999; Meggitt 1965; Mulvaney 1996; Pickering 1992; White 1972). They were at times companions, camp guardians, camp scavengers and, occasionally, a food source. Most notable was their positive social role as companions, especially for elderly women. Dingos
were also credited with having a close relationship with the supernatural that allowed them to sense malevolent spirits or spiritual forces (Kolig 1973).

This close association between dingos and humans, which appears to have been well-established at the time of European contact, continued as feral domestic dogs moved into Aboriginal lands (e.g. Gould 1969b:82 and plates). The date of the arrival of the first domestic dogs onto the Arnhem Land Plateau is unknown, but it is likely that they would have arrived in the Alligators Rivers region soon after, if not before, European exploration (1818) and settlement (1838) (see Edwards 1979:4-34).

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**Conclusion**

Following the unexpected finding of the DB-01 dingo burial in 2008 and subsequent discussions with Jawoyn elders, it was concluded that occurrence was locally anomalous and most likely the homage of ‘an individual who held a particularly close relationship with the animal’ (Gunn et al. 2010:15). If this interpretation is correct, the finding of this second canine burial, in a similar context and of similar age, may indicate the movement of one individual along the plateau performing a similar homage to another of his/her companion animals. Alternatively, it may represent a ‘discontinued practice’, a possibility previously discounted by us based on the recent age of the initial find and the lack of knowledge about the practice by contemporary Jawoyn people (Gunn et al. 2010:15). Further systematic survey in Jawoyn Country may help distinguish between these possibilities, especially if additional dingo/dog burials are located and can be determined to be of a greater antiquity than the two recorded to date.1

**Table 1**

<table>
<thead>
<tr>
<th>Lab. No.</th>
<th>Material</th>
<th>δ13C‰*</th>
<th>% Modern</th>
<th>14C Age (years BP)</th>
<th>Calibrated Age BP (95.4% probability)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk-31813</td>
<td>Bone</td>
<td>not shown</td>
<td>98.9 + 0.3</td>
<td>88 ± 25 BP</td>
<td>250-225 (8.7%) 145-80 (35.2%) 75-15 (51.6%)</td>
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1 Interestingly, a similar ‘dog’ burial within a rockshelter was reported from the McArthur River, 400 km to the southeast (Mathew 1964:149); however, whether the use of the term ‘dog’ was meant in a generic or specific sense (i.e. domestic dog or dingo) is unclear and, in any case, no dates are available for this burial.

**References**


