



NEW ZEALAND
ARCHAEOLOGICAL
ASSOCIATION

ARCHAEOLOGY IN NEW ZEALAND



This document is made available by The New Zealand Archaeological Association under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

To view a copy of this license, visit
<http://creativecommons.org/licenses/by-nc-sa/4.0/>.

ANIMAL BURIALS FROM POLYNESIA

Geoffrey Clark

Division of Archaeology and Natural History
Research School of Pacific and Asian Studies
Australian National University, Canberra
Australia

INTRODUCTION

The purposeful internment of animal remains first dates to the caching of cave bear skulls (*Ursus spelaeus*) by Neandertals during the Middle Palaeolithic (Kurten 1976). Prehistoric burial of domesticated animals occurs in many contexts, indicating their use as sacrificial offerings or as food and company for the dead (Clutton-Brock 1981, Davis 1987, Morey and Wiant 1992). Although animal burials are found in Polynesia their distribution and antiquity has attracted little comment. In this paper the context of pig (*Sus scrofa*) and dog (*Canis familiaris*) internments is identified and implications for the analysis of Pacific faunal assemblages considered.

CULTURAL CONTEXT

In Polynesia the recovery of faunal material is generally examined to obtain information about a society's prehistoric subsistence (Emory *et al* 1969, Kirch 1973, Rolett 1992). Faunal remains are treated homogenously as representative of the diet available to all members of a prehistoric society. This is an approach which contrasts with ethnographic accounts of Pacific peoples using flora and fauna in culturally determined ways. These accounts show that access to prestige foods, especially the meat from pig, dog and turtle (*Chelonia*, *Eretmochelys* and *Dermochelys* sp.) was restricted by chiefs, who organised feasts and ceremonies where consumption and offerings to deities took place (Luomala 1960: 222-227, Cook 1970: 185, Martin 1981: 94). Joseph Banks, who traversed the Pacific with Cook in the 18th century noted that Polynesians:

"...esteem flesh very highly yet in all the islands I have seen the quantity they have of it is very unequal to the number of their people, it is therefore seldom used among them. Even their most principle people have it not every day or even week." (Beaglehole 1962: 343)

Similarly, Cook (1970: 176) recorded that access to pig flesh by 'commoners' was limited:

"...though there is plenty of pork at these ifles [Raiatea], but little falls to their share. Some of our gentlemen being present when these pigs were killed and dressed, observed the chief to divide the entrails, lard, &c. into ten or twelve equal parts, and ferve it out to certain people."

ANIMAL BURIALS FROM POLYNESIA

In addition, children and women were banned from eating a variety of foods. In Hawaii this included pork, turtle, shark and whale, as well as some fish and vegetables (Barratt 1987, Ellis 1979: 281). Restriction on ceremonial food items was also present in the Marquesas and Society Islands (Corney 1918, Handy 1930, Ferdon 1993). Dog flesh was usually reserved for chiefs in New Zealand (Colenso 1878) and it was tapu for women to eat this animal (Johansen 1954, Luomala 1960: 216). Although many types of food could be appropriated for use in various ceremonies, most marine meat resources were either seasonal, in the case of the turtle (Balazs 1983), or infrequently encountered (e.g., sea mammals, pelagic fish).

Introduced terrestrial mammals were the pig, dog and rat (*Rattus exulans*). Of these, the rat appears to have been eaten in few islands (exceptions are New Zealand and Easter Island; it is worth noting that in Tonga rat hunting was restricted (Martin 1981: 163) to the chiefly class). Husbandry of pigs and dogs allowed a dependable-status meat resource to accumulate, a resource which, at European contact, was used in political and religious events (Jarves 1843, Martin 1981).

Thus, domestic animals were an important part of an island's economy. However, access to these foods was limited by the age, sex and status of an individual within a society. Differential use of animals by sections of a society during prehistory is difficult to establish given the methodological (Nagaoka 1988) and taphonomic factors affecting the recovery of archaeological samples in the Pacific (Green and Davidson 1969, Spennemann 1987). The presence of animal burials and their archaeological context offers a method of examining aspects of the non-subsistence or cultural ways in which prehistoric Polynesians used and viewed their domesticated animals.

PIG AND DOG BURIALS

Information for prehistoric pig burials is given in Table 1 and for dogs in Table 2. In contrast to human burials, animal internments attract only passing comment (Sinoto 1970: 110). For this reason the tables undoubtedly underestimate both burial number and geographic distribution. The context of the burials is classified into broad categories, such as habitation, cemetery or occupation, based on interpretation of the sites given in the relevant literature. Few radiocarbon dates are available and estimates of burial antiquity depend on their stratigraphic context and location. For example, the dog burial found under the court pavement of a marae (Site M 5-3) in the Society Islands probably dates to around 300 yrs BP, the period when most of these structures appear to have been built (Green *et al* 1967). Usually, neither age nor sex information is recorded. Where possible I have assessed the age of the remains using eruption of the permanent dentition and complete fusion of the limb bone epiphyses as indications of the state of skeletal development (Silver 1969).

GEOFFREY CLARK

Table 1. Pig burials from Polynesia.

Location	Context	Antiquity yrs BP	Age category	Reference
*Vanuatu				
Retoka, Roy Mata	cemetery	685±140 (GX-1144)	subadult- adult	Garanger 1972 Fig.153
Hawaii				
Oahu, Kualoa point	habitation	c.300	subadult	Kirch 1985:114
Oahu, Bellows Beach	habitation	c.500	adult & juvenile	Rolett & Chiu 1994 Rolett pers.comm.
Marquesas				
Ua Huka, Hane	habitation-cemetery	<1300 (Level IV)	adult & juvenile	Sinoto 1966:293 Clark unpub.data
Nuku Hiva, Ha'atuatua	cemetery	c.1000	?	Suggs 1961: 62

* Not located in Polynesia.

Although they are relatively few in number, pig burials appear to be closely associated with human cemetery areas and are found in some of the earliest levels of East Polynesian sites (Table 1). Both adult and juvenile age groups are represented. The complete pig from Retoka was found in the main chamber of the Roy Mata burials and has a similar orientation to the human burials, being extended and lying with its head pointing to the north-east (Garanger 1972). The East Polynesian examples from the Marquesas were buried in oval pits separate from the human internments. The Hawaiian pig burial was found on the boundary between the districts of Ko'olauloa and Ko'olaupoko on Oahu and is interpreted as an offering.

Dog burials have a wider distribution in Polynesia, although they, too, occur in both early and late prehistoric sites (Table 2). Interestingly, the practice seems to have continued well into the historic period, with dog skeletons found in recent cemetery and ceremonial locations in the Marquesas, Hawaiian and Southern Cook Islands (Emory and Sinoto 1961, Rolett 1989, Allen 1992). The burial context is also more variable than for the pig. In Hawaii, dog burials occur in association with human remains and ceremonial sites, while in New Zealand

ANIMAL BURIALS FROM POLYNESIA

Table 2. Dog burials from Polynesia.

Location	Context	Antiquity yrs BP	Age category	Reference
Samoa				
Upolu, Lotofaga	occupation?	c.450	adult	Green & Davidson 1969: 239
Hawaii				
Oahu, Bellows Beach	habitation-cemetery	c.500	adult	Rolett pers.comm.
Lanai, Mamaki	heiauc	c.400-200	adult?	Titcomb 1969:19-20
Kauai, Nuolo Flat	burial cave	c.300	adult & subadult	Wood-Jones 1931:40
New Zealand				
Palliser Bay (S29/48)	habitation-cemetery	770 ± 12 (NZ-1505, 1511)	subadult-adult	Leach 1979:85
False Island (B44/41)	occupation	>470 NZ-141,144)	adult	Lockerbie 1959: 90
Shag Mouth (J43/2)	habitation	c.700 (Anderson 1991)	adult	Otago Museum D29.4435
Society Islands				
Moorea, Afareaitu	marae	c.300	adult	Titcomb 1969:26
Northern Cooks				
Pukapuka	habitation?	240 ± 150 (NUTA-2085)	adult	Shigehara <i>et al</i> 1993
Marquesas				
Ua Huka, Hane	habitation-cemetery	c.1300 (Level V)	adult(2)& juvenile(1)	Sinoto 1966; Clark unpub. data

no clear burial context is apparent. Selective removal of the pelvis and hind limbs before burial is found in New Zealand (Palliser Bay and Wairau Bar), Society Islands and Samoa. This might indicate differential body-part selection for dietary, ceremonial or artefact-manufacture purpose (Luomala 1960: 240, Leach 1979: 86). An otherwise complete skeleton of an adult male dog from Shag Mouth (D29.4435) was buried after the removal of its head. It is unlikely that Maori use for food or as a source of industrial bone adequately explains the absence of cranial elements.

Separation of the head for use in ceremonial activity appears likely in view of the widespread Polynesian custom of curatorship and display of human and animal skulls (Suggs 1961, Beaglehole 1962: 302, 304, 324, Sinoto 1970: 128).

DISCUSSION

Examination of Polynesian faunal assemblages has generally involved identification and quantification of the species present (see Smith 1981, Kirch and Yen 1982, Poulsen 1987). With the Polynesian dog, anatomical and osteometric observations have been collected (Wood-Jones 1931, Allo 1970, Clark in press). These approaches provide valuable information about prehistoric subsistence, husbandry techniques and population variation. However, by focusing on the interpretation of quantitative data derived from skeletal examination, they neglect the archaeologically less tangible features of prehistoric human behaviour which affect the formation of the archaeological record. For example, restricted access to prestige food items, based on an individual's status, age or gender, would result in the differential distribution of the animal remains within a prehistoric site. In contrast, current models of Polynesian subsistence behaviour stress variation in species abundance through time (Kirch 1973, Rolett 1992).

The burial of pigs and dogs suggests that these animals had a special use and place in ancient Polynesian societies. Animal burials appear to represent prehistoric activities such as sacrificial offerings and as companionship for the dead. These uses have significant time depth in Polynesia, suggesting that differential access to and appropriation of pig and dog resources might also be of some antiquity (Rolett and Chiu 1994: 381). It is therefore worth speculating that widespread Polynesian customs, like the ban on consumption of pork by women and low-status individuals (Dye and Steadman 1990: 214), might have applied during prehistory. Certainly, Rolett (1986) has argued that in Polynesia the ceremonial use of turtles by high-status men is an ancient tradition.

Deliberate animal burials are the most obvious sign of a close prehistoric human-animal relationship. It is apparent, though, that disarticulated skeletal remains were also used in ritual activities. For example, concentrations of pig bones occur in the Roy Mata cemetery (Garanger 1972), while Suggs (1961:

ANIMAL BURIALS FROM POLYNESIA

168) found that the occipital section of pig crania or other pig bones were commonly placed in Marquesan burials. In New Zealand, a burnt dog mandible was placed in a recess carved into the main rear-wall support of the Cross Site house (Leach 1979: 124). Similarly, White (1894: 598) records the find of a dog skull buried alongside a whare support (see also, Trotter and McCulloch 1989: 76).

CONCLUSION

The pan-Polynesian distribution of pig and dog burials, coupled with their antiquity, suggests that these animals were valued, not only for their dietary contribution, but as prestige items of use in ceremonial feasting, social exchanges, mortuary rituals and as offerings to the gods. Clearly, determining prehistoric subsistence strategies is an important part of faunal analysis. However, the use of domestic animals in prehistoric societies occurs within a well-defined social context (Keswani 1994). The judicious use of archaeological and ethnographic data (Cordy 1976) will help to clarify the role of the Polynesian domesticates within prehistoric island societies.

ACKNOWLEDGEMENTS

For help in collecting data on New Zealand and Hawaiian dog and pig burials I thank Chris Jacomb (Canterbury Museum) and Barry Rolett (University of Hawaii at Manoa).

REFERENCES

- Allen, M.S. 1992. Dynamic landscapes and human subsistence: archaeological investigations on Aitutaki Island, Southern Cook Islands. Unpublished Ph.D Thesis, University of Washington.
- Allo, J. 1970. The Maori Dog: a study of the Polynesian Dog of New Zealand. Unpublished M.A. Thesis, University of Auckland.
- Anderson, A.J. 1991. The chronology of colonization in New Zealand. *Antiquity* 65: 767-795.
- Balazs, G.H. 1983. Sea turtles and their traditional usage in Tokelau. *Atoll Research Bulletin* 279: 1-30.
- Barratt, G. 1987. *The Russian discovery of Hawaii*. Editions: Hawaii.
- Beaglehole, J.C. 1962. *The Endeavour Journal of Joseph Banks, 1768-1771*, Vol. 1. Angus and Robertson: Sydney.
- Clark, G.R. In press. Osteology of the *kuri* Maori: the prehistoric dog of New Zealand. *Journal of Archaeological Science*.
- Clutton-Brock, J. 1981. *Domesticated animals from early times*. University of Texas Press: Austin.
- Colenso, W. 1878. Notes, chiefly historical, on the ancient Dog of New

GEOFFREY CLARK

- Zealanders. *Transactions and Proceedings of the New Zealand Institute* 10: 135-155.
- Cook, J. 1970. *A voyage towards the South Pole and round the world*. Vol. 1. Libraries Board of South Australia: Adelaide.
- Cordy, R.H. 1976. Problems in the use of ethnoarchaeological models: a Hawaiian case. *Archaeology and Physical Anthropology in Oceania* 11(1): 18-31.
- Corney, B.G. 1918. *The quest and occupation of Tahiti by emissaries of Spain in 1772-1776*. Vol. 3 (Second series). Hakluyt Society: Great Britain.
- Davis, S.J.M. 1987. *The archaeology of animals*. Batsford: London.
- Dye, T. and D.W. Steadman. 1990. Polynesian ancestors and their animal world. *American Scientist* 79: 207-215.
- Ellis, W. 1979. *Journal of William Ellis*. Tuttle: Japan.
- Emory, K.P. and Y.H. Sinoto. 1961. Hawaiian Archaeology: Oahu Excavations. *Bernice P. Bishop Museum Special Publication* No. 49. Hawaii.
- Emory, K.P., W.J. Bonk and Y.H. Sinoto. 1969. Waiahukini Shelter, Site H8, Kau, Hawaii. *Pacific Anthropological Records* No. 7. Bernice P. Bishop Museum: Hawaii.
- Ferdon, E.N. 1993. *Early observations of Marquesan culture*. University of Arizona Press: Tucson.
- Garanger, J. 1972. Archeologie des Nouvelles Hebrides. *Publication de la Societe des Oceanistes* No. 30. Musee de l'Homme: Paris.
- Green, R.C., K. Green, R.A. Rapport, A. Rapport and J.M. Davidson. 1967. Archaeology on the Island of Moorea, French Polynesia. *Anthropological Papers of the American Museum of Natural History* 51(2): 111-230.
- Green, R.C. and J.M. Davidson. 1969. Archaeology in Western Samoa. Vol. 1. *Bulletin of the Auckland Institute and Museum* No.6.
- Handy, E.S.C. 1930. History and culture in the Society Islands. *Bernice P. Bishop Museum Bulletin* No. 79. Hawaii.
- Jarves, J.J. 1843. *History of the Hawaiian or Sandwich Islands*. Moscon: London.
- Johansen, J.P. 1954. *The Maori and his religion in its non-ritualistic aspects*. Munksgaard: Kobenhaven.
- Keswani, P.S. 1994. The social context of animal husbandry in early agricultural societies: ethnographic insights and an archaeological example from Cyprus. *Journal of Anthropological Archaeology* 13: 255-272.
- Kirch, P.V. 1973. Prehistoric subsistence patterns in the northern Marquesas Islands, French Polynesia. *Archaeology and Physical Anthropology in Oceania* 8: 24-40.
- Kirch, P.V. 1985. *Feathered Gods and Fishhooks*. University of Hawaii Press: Honolulu.
- Kirch, P.V. and D. Yen. 1982. Tikopia: the prehistory and ecology of a Polynesian outlier. *Bernice P. Bishop Museum Bulletin* No. 238. Hawaii.
- Kurten, B. 1976. *The cave bear story*. Columbia University Press: New York.
- Leach, B.F. 1979. Excavations in the Washpool Valley, Palliser Bay. In: (Leach,

ANIMAL BURIALS FROM POLYNESIA

- B.F. and H.M. Leach, Editors) *Prehistoric Man in Palliser Bay*. pp. 67-136. Bulletin of the National Museum of New Zealand No. 21.
- Lockerbie, L. 1959. From Moa-hunter to Classic Maori in southern New Zealand. In: (J.D. Freeman and W.R. Geddes, Editors) *Anthropology in the South Seas*. pp. 75-110. Avery: New Plymouth.
- Luomala, K. 1960. The native dog in the Polynesian system of values. In: (S. Diamond, Editor) *Culture in History: essays in honour of Paul Radin*. pp. 190-240. Octagon Books: New York.
- Martin, J. 1981. *Tonga Islands. William Mariner's account* (fourth edition). Vavau Press: Tonga.
- Morey, D.F. and M.D. Wiant. 1992. Early Holocene domestic dog burials from the North American Midwest. *Current Anthropology* 33(2): 224-229.
- Nagaoko, L. 1988. Lapita Subsistence: the evidence from non-fish archaeofaunal remains. In: (P.V. Kirch and T.L. Hunt, Editors) *Archaeology of the Lapita Cultural Complex: a critical review*. pp. 117-133. Thomas Burke Memorial Washington State Museum Research Report No.5. Burke Museum: Seattle.
- Poulsen, J. 1987. Early Tongan Prehistory: the Lapita period in Tongatapu and its relationships. *Terra Australis* No. 12. Vol. 1. Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Rolett, B.V. 1986. Turtles, priests, and the afterworld: a study in the iconographic interpretation of Polynesian petroglyphs. In: (P.V. Kirch, Editor) *Island Societies: Archaeological Approaches to Evolution and Transformation*. pp. 78-87. Cambridge University Press: Cambridge.
- Rolett, B.V. 1989. Hanamiai: changing subsistence and ecology in the prehistory of Tahuata (Marquesas Islands, French Polynesia). Unpublished Ph.D Thesis, Yale University.
- Rolett, B.V. 1992. Faunal extinctions and depletions linked with prehistory and environmental change in the Marquesas Islands (French Polynesia). *Journal of the Polynesian Society* 101: 86-104.
- Rolett, B.V. and Y-M. Chiu. 1994. Age estimation of prehistoric pigs (*Sus scrofa*) by molar eruption and attrition. *Journal of Archaeological Science* 21: 377-386.
- Silver, I.A. 1969. The ageing of domestic animals. In: (D.R. Brothwell and E.S. Higgs, Editors) *Science in Archaeology*. pp. 283-302. Thames and Hudson: Great Britain.
- Sinoto, Y.H. 1966. A tentative prehistoric cultural sequence in the Northern Marquesas Islands, French Polynesia. *Journal of the Polynesian Society* 75: 287-303.
- Sinoto, Y.H. 1970. An archaeologically based assessment of the Marquesas Islands as a dispersal centre in East Polynesia. In: (R.C. Green and M. Kelly, Editors) *Studies in Oceanic Culture History*. pp. 105-132. *Pacific Anthropological Records* No. 11. Bernice P. Bishop Museum: Hawaii.
- Shigehara, N., S. Matsuura, T. Nakamura and M. Kondo. 1993. First discovery of the Dingo-type dog in Polynesia (Pukapuka, Cook Islands).

GEOFFREY CLARK

- International Journal of Osteoarchaeology* 3: 315-320.
- Smith, I.W.G. 1981. Prehistoric mammalian fauna from the Coromandel Peninsula. *Records of the Auckland Institute and Museum* 18: 107-125.
- Spennemann, D.H.R. 1987. Where have all the bones gone? Pigs and dogs took them away. Taphonomic factors in Tongan faunal assemblages. Unpublished paper delivered at the Taphonomy of Bones Conference, New England.
- Suggs, R.C. 1961. The archaeology of Nuku Hiva, Marquesas Islands, French Polynesia. *Anthropological Papers of the American Museum of Natural History* 49(1): 1-205.
- Titcomb, M. 1969. Dog and Man in the Ancient Pacific with Special Attention to Hawaii. *Bernice P. Bishop Museum Special Publication* No. 59. Hawaii.
- Trotter, M.M. and McCulloch, B. 1989. *Unearthing New Zealand*. Government Printing Office: Wellington.
- White, T. 1894. *Te Kuri Maori* (the Dog of New Zealand). A reply to the Rev. W. Colenso. *Transactions and Proceedings of the New Zealand Institute* 26: 585-600.
- Wood-Jones, F. 1931. The Cranial characters of the Hawaiian dog. *Journal of Mammalogy* 12(1): 39-41.