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# Pre-European Hunting Dogs in the South Island, New Zealand

Atholl Anderson

Anthropology Department,  
University of Otago

## ABSTRACT

This paper reviews traditional, historical and archaeological evidence about the use of dogs for hunting in the South Island, mainly the southern region. It is concluded that hunting dogs may have played a significant role in moa extinction.

*Keywords:* HUNTING DOG, KURI, SOUTH ISLAND, MOA EXTINCTION.

## INTRODUCTION

The dog (*Canis familiaris*) or *kuri*, the only domesticated animal of the Maori, has attracted surprisingly little archaeological attention, and the only comprehensive study, that of Allo (1970), was confined to cranial material. Otherwise discussion of the importance of dogs in Maori society has been largely concerned with acknowledging their usual Polynesian role as a source of food, skins and industrial bone. This paper reviews evidence of indigenous hunting dogs in the early European and pre-European South Island and suggests their possible role in moa extinction.

## TRADITIONAL AND HISTORICAL EVIDENCE

The only mythological reference to hunting dogs in the South Island tells of an ogre, Kopuwai, who lived in a cave in the Remarkables (Stevenson 1947:60), the Old Man Range (Beattie 1945:34), or along the banks of the Clutha (Beattie 1957), and who was given to killing and eating Maoris' hunting wekas in the back-country. He kept a pack of ten two-headed hunting dogs, which were evidently free-ranging animals for they were out hunting when Kopuwai was eventually tracked to his lair and killed. The dogs are said to have been turned to stone, and some of them can be seen at the bottom of a pool in the Waitaki River near Duntroon (Stevenson 1947:59).

More prosaic traditions speak of the use of hunting dogs in the capture of the weka (Beattie 1920:61, 1957:33), pukeko (Beattie 1939:134), kakapo (Beattie 1920:61) and other ground-living birds. These were, of course, trained domestic dogs but there evidently existed feral dogs hunting independently in the wild as well. In the Nelson district they are said to have been occasionally caught, tamed and castrated (Beattie n.d.) and also in Southland (Beattie 1920:55).

Historical evidence of "wild" or feral hunting dogs is at once considerably more comprehensive but frustratingly less specific in its relevance to the *kuri*. On the face of it the extremes could hardly be wider than Colenso's (1878:150) emphatic statement that "... the true New Zealand dog never became wild in the woods" and Beattie's (1920:55) assertion that "... there is no doubt whatever that ... (the 'wild dogs' in Southland and Otago) ... were genuine Maori dogs". But it may be the case that these reflect regional differences in the fate of the *kuri*. Certainly, the reports of the North Island "wild dogs" (e.g. Nicholas in Colenso 1878:137, Fletcher 1912, Wilson 1913, Skinner 1914), which sometimes suggest that these were derived from the *kuri*, carry nothing like the positive detail and conviction of those from the South Island. (Captain Good's report from Taranaki (White 1892:551) is an exception.)

When the interior of Southland and Otago was first settled by sheep-farmers in the mid-nineteenth century, "wild dogs" proved to be a common and worrisome menace. In the report of 1858 by the southern district sheep inspector are the following typical remarks. "The great present evil is wild dogs. The losses from this cause are

enormous, and the number of sheep scattered by them is very great" (Beattie 1979:445). Amongst the speculations by the runholders and shepherds about the origin of these dogs two broad sources were distinguished – European breeds, some with kuri admixture, and what were considered to be the genuine kuri. Two examples of the latter will suffice. Charles Goodall (White 1892:547) described white dogs (one with yellow spots) about the size of a collie with curved bushy tails, prick ears and no bark which he saw in the Waikaia district of inland Southland in 1861. These, which he thought to be the genuine kuri, were "... quite distinct from any other breed I ever saw ...", and he went on to remark, "I have seen the Australian dingo, and this Maori dog is very much like him, only not nearly so large" (White 1892:548–9). Goodall explicitly pointed out that this breed was not to be confused with either the "wild dogs" of the Southland coast or the "cur dogs" of many breeds which he had seen in the Wairarapa during the 1850s, both types which had been strongly influenced by European breeds. A similar account comes from one of the Murison brothers, early settlers on the Maniototo plains of central Otago. He commented that "... the bulk of those ... (wild dogs) ... ultimately destroyed by us were black and white showing a marked mixture of the collie. The yellow dogs looked like a distinct breed. They were low set with short prick-ears, broad forehead, sharp snout, and bushy tail. Indeed those acquainted with the dingo professed to see little difference between that animal and the New Zealand wild dog" (Murison 1877:323).

In two particulars these assumed kuri were unlike the domestic dogs described by eighteenth century observers in New Zealand – they seem to have been slightly larger and wholly or partly yellow in colour. These may not be significant reasons to doubt an indigenous origin, however, since size and colour differences were observed amongst Polynesian dogs generally. George Forster, for instance, noted that the Huahine dogs were of different colours, mainly white or brown, and varied in size "... from that of a lap-dog to the largest spaniel" (Titcomb 1969:29), while the New Zealand dogs "... much resembled the common shepherd's cur" (Titcomb 1969:42). This latter is an important observation because the border collie and similar breeds were the preferred dogs of the early sheepmen and might otherwise be thought the most probable source of all the feral dogs found in the South Island interior.

With the possible exceptions of colour and size, however, the descriptions of the "Maori dog" by early settlers in the southern back-country fit perfectly with those of the pure indigenous breed observed in the eighteenth century (Allo Bay-Petersen 1979:166). In this region, therefore, the possibility of feral Polynesian dogs maintaining themselves by hunting birds (Murison 1877:323) and, later, sheep must be reckoned plausible. In turn, this conclusion supports traditional evidence of the existence of hunting dogs, at least in the protohistoric period.

## ARCHAEOLOGICAL EVIDENCE

Allo Bay-Petersen (1979:166) has argued that the relatively late historical reports of yellow or reddish coloured kuri may indicate the admixture of European breeds, but there is some archaeological evidence to the contrary from Central Otago rock shelters. Dogskin strips from Puketoi, in a kit which contained Classic Maori artefacts, were reddish-brown and white (Hamilton 1896:174), and a black-spotted yellow skin was found at Strath Taieri (Skinner 1952:133). Two skins found near Middlemarch in association with apparently prehistoric material, including *tapa* cloth, were dark-brown with yellow or cream bellies (Skinner 1952:132). One of these, at 86 cm from the neck to the base of the tail, was from an unusually large dog (Skinner 1952).

So far as hunting is concerned, Allo's investigations provide some indirect support. She found that New Zealand dogs had a more massive jaw musculature than Polynesian dogs in general, and that amongst the kuri the related conditions of tooth loss, extreme tooth wear and periodontal disease were significantly more common in the South than the North Island (Allo 1971:37–39, Allo Bay-Petersen 1979:170–171). These conditions are promoted by a hard, resistant diet in which chewing bones was frequent; but although there is some historical (Colenso 1878:141) and archaeological

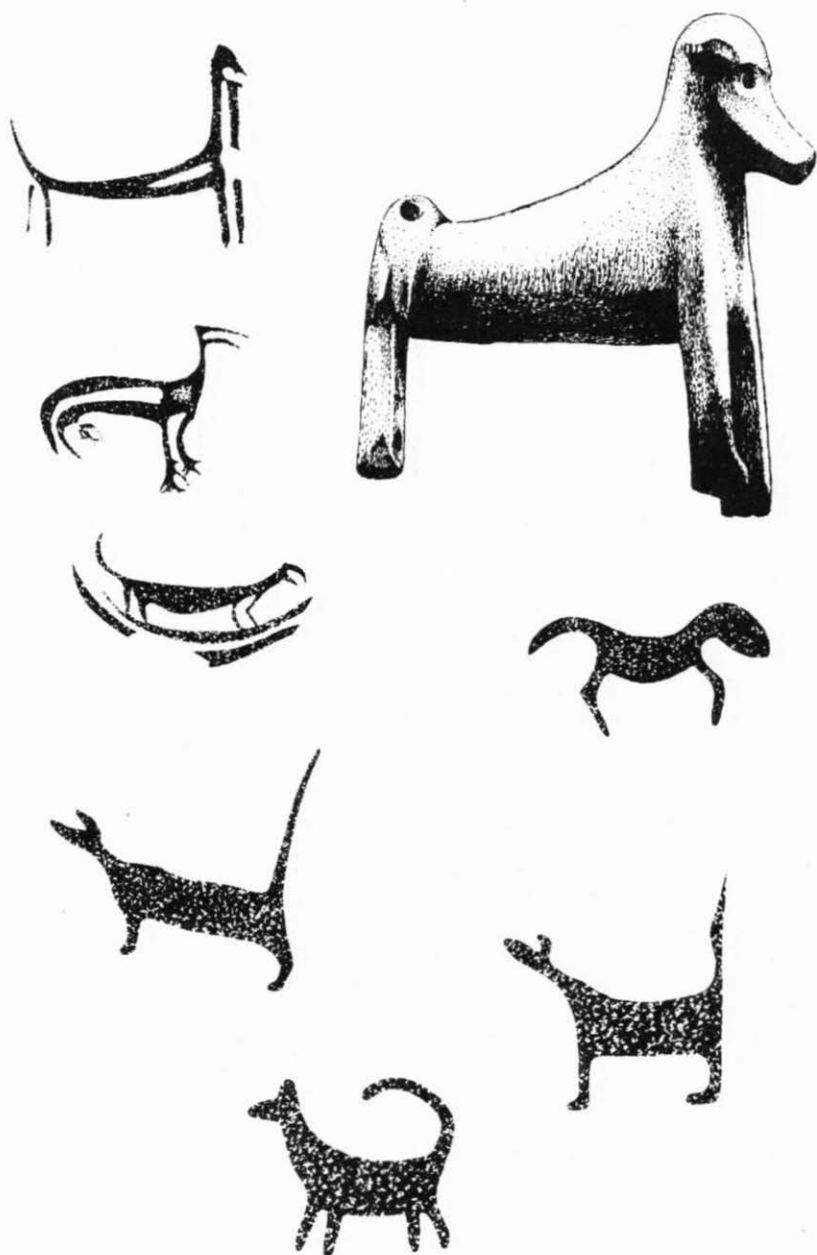


Figure 1: Depictions of the Polynesian Dog: upper right, Monck's Cave figurine; middle right, North Island; upper and middle left, South Island; bottom (three figures) Hawaii. (References: Titcomb 1969, Trotter and McCulloch 1971. Redrawn by Richard Newall.)

(Allo 1970:190) evidence of this, dog-chewed bones have seldom been reported from prehistoric sites. However, the reason may only be that fracture patterns of food refuse bones have never been systematically studied in this light nor compared with the food debris of modern dogs.

A more direct indication that the bone-rich diet of South Island dogs was associated with hunting comes from the recent investigations of Gollan (pers. comm.) who has examined dog crania from the Pacific and southern Asia. In respect of the South Island dogs he writes

"The particular development in the cranium that suggests hunting is not so much the masseteric development (which is in itself substantial and greater than any other Pacific, New Guinea, or southeast Asian dog), but the sagittal and nuchal crest development, i.e. the development of the neck muscle attachments on to the cranium. In this respect it matches, and in a few individuals is greater than, that of the dingo. Dingoes are generally thought to concentrate on small mammals. The South Island dogs appear to have selected rapidly (human intervention is assumed) for massive neck development, one assumes for the purposes of holding larger game (possibly moa?). The relatively more conservative teeth remain small by comparison to dingo which is understandable given the brief time span for morphological movement in the New Zealand population."

In view of Gollan's findings, post-cranial material from South Island dogs ought to be examined for similar indications of robustness but, in the meantime, the only alternative archaeological evidence is that of the rockshelter paintings and a figurine. Pictures of dogs are common in the rock art of Polynesia and a selection is shown in Figure 1. While this cannot be claimed to be a representative sample, the upper two paintings from the South Island are said to illustrate the most common style (Trotter and McCulloch 1971:73), with the lower South Island and North Island pictures being isolated examples. These latter, along with the Hawaiian examples, show dogs in which no particular emphasis is placed upon the forequarters. In contrast, the upper South Island paintings and the figurine from Monck's Cave (Banks Peninsula) depict dogs with heavy forequarters and, in two cases, with apparently "massive neck development". The existence of the figurine suggests that these are not merely stylistic differences, although that cannot be ruled out.

## DISCUSSION AND CONCLUSIONS

How hunting dogs operated and what effect they may have had upon populations of ground-living birds, especially moas, are matters worth considering.

Traditional accounts of hunting dogs indicate that they were used to flush, run down and occasionally drive small ground birds and, since the use of hunting dogs in New Guinea to take cassowaries and other large game involved similar functions (Bulmer 1968), it is probable that moa-hunting dogs operated similarly. In addition, the osteological evidence (above) could be employed to argue that some South Island kuri were used to bail and hold moas, if only the small and medium-sized species such as *Megalapteryx*, at about 25 kg bodyweight, up to *Pachyornis*, at about 100 kg (weight estimates from Smith, I. W. G.: pers. comm.).

As hunting dogs the kuri could thus have significantly increased the pressure upon moa populations in four ways:

- (i) By finding game that might otherwise have escaped detection, an important consideration in the preferred moa habitats of forest and scrubland (Hamel 1979),
- (ii) By driving and holding game that would otherwise have outdistanced the hunter. This inbred adaptation would have compensated for the Maori's lack of any significant projectile weapons which, in other forest hunting societies, are a common technological response to the fleeting encounters typical of these habitats,
- (iii) By foraging for moa eggs and chicks, either under human direction or in self-maintenance as Hayden (1975) has suggested of the dingo,
- (iv) By becoming feral and hunting throughout the year and in every district, unlike dogs under domestic control. Continuous predation by feral hunting kuri is conceivably the single-most important vector of moa extinction, especially in the heavily forested regions of the southern and western South Island where there

is little evidence of forest burning or of moa hunting forays by the Maori. Wild dogs subsisting upon kakapo, weka and other ground birds were certainly observed in these areas in the nineteenth century (e.g. Barrington 1864 in Taylor 1959:405).

Although the role of dogs in moa extinction remains speculative and evidence regarding the functions of South Island dogs in the pre-European period is largely indirect and fragmentary, it can be taken as a whole to suggest that some of the kuri were trained and probably bred specifically for hunting.

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