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CULTURAL DISTRIBUTION OF THE WAIHI OBSIDIAN

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Introduction

Since archaeological research on New Zealand obsidians was initiated by Roger Green in 1958 considerable progress has been made on identifying and characterising the main sources of this material and developing suitable methods of sourcing obsidian artefacts. Many sourcing studies have been undertaken, with the ultimate aim of providing information on lithic resource exploitation and trade-exchange networks, and changes in these over time. However, with the exception of Mayor Island obsidian, we still have little idea of the cultural distribution of material from the main obsidian sources, the extent to which they were exploited or their period of use.

This paper is concerned with the cultural distribution of obsidian from the Waihi source (Moore and Coster 1989). The Waihi obsidian was chosen because of its distinctive physical characteristics, which make it relatively easily to identify among flake assemblages (Moore 1988). The paper is largely based on a review of available excavation reports, examination of collections at Auckland Museum, the Anthropology Department, University of Auckland and Tauranga Museum, and information from other sources.

The Waihi obsidian

The Waihi source is situated about 8 km south of Waihi township, in the upper Waimata Stream valley (Figure 1). Pebbles and cobbles of obsidian are common in the two main branches of the stream (Moore and Coster 1989), and a few pebbles have also been found in the Ohinemuri River below its junction with Waimata Stream (pers obs).

Most of the obsidian is olive grey, olive black, or greyish olive green in colour, but some is black or grey. Irregular or wispy bands of differing colour are a characteristic feature, and a few pieces contain dark grey bands with a waxy lustre. In transmitted light most Waihi material is pale greyish olive to

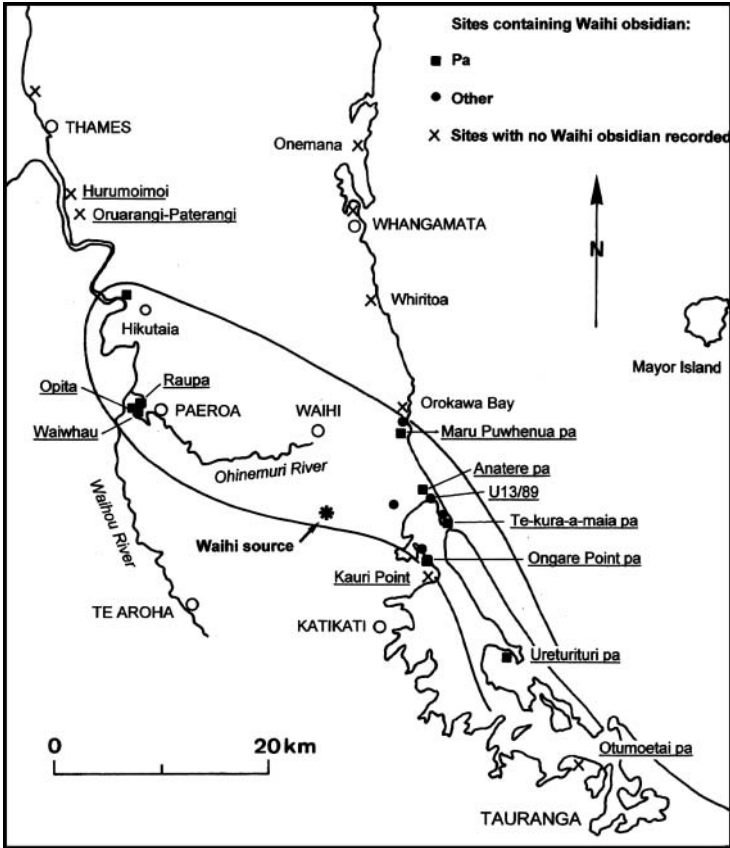


Figure 1. Map of the southern Coromandel Peninsula-western Bay of Plenty region showing the location of archaeological sites referred to in the text and known cultural distribution of the Waihi obsidian (solid line).

olive grey—certainly more greyish than typical Mayor Island obsidian—although some dark grey and black varieties are virtually opaque. Spherulites are scarce.

Archaeological sites and obsidian assemblages

Eastern Hauraki Plains

Waihi obsidian has so far been recorded from four pa sites along the eastern margin of the Hauraki Plains: Raupa, Waiwhau, Opita and an unnamed pa near Hikutaia (Figure 1). The first three of these sites are situated in close

proximity to one another, near the junction of the Waihou and Ohinemuri rivers, just west of Paeroa.

Salvage excavations at Raupa (T13/13) between 1984 and 1988 (Phillips 1986, Prickett 1990, 1992) produced nearly 20 kg (3588 pieces) of obsidian, and Waihi material constituted about 2% (3.3 wt %) of that amount, with the remainder being mainly from Mayor Island. Most of the Waihi obsidian was present in the upper occupation layers, but a few pieces were also found at the lowest level. The excavations revealed 3 main phases of occupation, the earliest dated to about AD 1700 (Phillips 2000). The pa is known to have been occupied in 1820 and was probably abandoned shortly afterward.

The nearby site of Waiwhau (T13/756) was primarily an undefended settlement and appears to have been occupied for only a short period in the late 18th–early 19th centuries (ca 1790–1815, Phillips 2000). Excavations were undertaken between 1984 and 1988 and about 590 obsidian flakes were recovered of which between 12 and 19 (approx. 3%) were from the Waihi source. In one part there was an obsidian working area associated with the last phase of occupation dating to ca 1810 (Phillips 2000).

The Opita site, situated just west of Raupa and Waiwhau, consisted of two undefended settlements (T13/788, 789) and a pa (T13/324). All three were excavated in 1991, and four phases of occupation were identified, with Phase III relating to the pa. The area as a whole was occupied from about 1690 until the 1880s (Phillips 2000). Altogether 168 obsidian flakes were recovered from the area, with Waihi material constituting about 60% of the obsidian from T13/788 and 25% of that from the pa. At T13/789 Waihi obsidian was found in occupation layers I to III and formed about 30% of the total assemblage (Phillips 2000, pers comm 2004).

In 1993, 76 obsidian artefacts from the Opita site, which had earlier been sourced using physical characteristics, were analysed by PIXE (Neve et al. 1994). Of 27 pieces originally sourced to Waihi (by Holroyd), 26 were assigned to that source, along with 2 other ‘grey’ flakes. This study confirmed that Waihi obsidian was used at sites T13/788 and 789, and present in occupation phases I and II at the latter site.

A single large flake of Waihi obsidian has also been identified in the Avery Collection, Auckland Museum. Although said to be from Te Kari Island, west of Hikutaia, this collection was probably obtained from a nearby pa, T12/502 (Phillips 2000). This site may have been occupied between 1670 and 1800.

No Waihi obsidian has so far been recorded from other sites along the lower Waihou River, such as Oruarangi, Paterangi and Hurumoimoi (Figure 1). Although obsidian was apparently very common at Oruarangi (T12/192) only 140 flakes are now held at Auckland and Otago museums (Furey 1996) and of

79 examined at Auckland Museum none are from the Waihi source. Only 21 flakes from nearby Paterangi pa (T12/17) were examined, and these were all from Mayor Island. However, the obsidian artefacts from Oruarangi and Paterangi probably represent very biased collections of mostly larger flakes, and it is possible that some Waihi obsidian was used at these sites. The 57 flakes collected from Hurumoimoi (T12/347) were unavailable for study but were apparently mainly from Mayor Island (Phillips 2000). Oruarangi is considered to have been occupied between ca 1450 and 1821, Paterangi from ca 1670 to 1821, and Hurumoimoi from about 1670 to 1800 (Phillips 2000).

Western Bay of Plenty

Waihi obsidian has been recorded from several sites in the Waihi Beach–Athenree area. At Anateri pa (U13/46), Athenree, over 240 obsidian flakes were recovered during excavations in 1996 (Phillips and Allen 1996), and of these at least 74 (>30%) are from the Waihi source (pers obs). Most of the obsidian was associated with the defended phase of occupation which began about 320 BP (Phillips and Allen 1996).

Around 1980 over 460 flakes, pieces and cores of obsidian (approx. 2.5 kg) were collected by a local resident from the Athenree foreshore adjacent to site U13/89, and of this assemblage at least 61 flakes and pieces and 1 core (ca 12 wt %) originated from the Waihi source (Moore 2003). Several flakes of Waihi obsidian were also found on parts of this site during trenching for a new sewer main in 2001–2, including some in sandy sediments directly beneath a large midden, dated to ca AD 1500–1680 (Moore and Phillips 2002).

In 1982 over 600 obsidian flakes were collected by Bruce McFadgen and others from various sites in the Athenree district during a detailed survey of the area by the Historic Places Trust, and these were subsequently analysed by Graham McCallum of the Institute of Nuclear Sciences, DSIR, using non-destructive energy dispersive X-ray fluorescence. The results, which have not been published, indicate that Waihi obsidian was present in at least 12 sites (including 3 pa) and in some cases formed a very high percentage of the total obsidian collected. Unfortunately the physical characteristics of the obsidian were not recorded at the time, and as this large assemblage, now held at Te Papa, is not able to be re-examined, the reliability of the XRF analyses remains uncertain. However, Waihi obsidian has recently been found at two other inland sites (T13/707, 728, pers obs), which suggests that it was widely used in the Athenree area.

Over 20 flakes and pieces of Waihi obsidian have been surface collected from Te Kura-a-maia pa (U13/31) on the Bowentown headland in recent years. This pa may have been constructed in the 16th century (McFadgen and Williams

1991). Flakes of Waihi material have also been found at Shelly Bay (Paraparaumu) to the west, eroding out of an extensive midden. North of Waihi Beach two flakes of Waihi obsidian were collected from Maru Puwhenua pa (T13/26) in 1999, and one core has been found at Orokawa Bay.

To the south isolated flakes of Waihi obsidian have been found on the beach at Tuapiro and on the foreshore at Ongare Point (pers obs). At least 18 flakes have also been identified in collections from Ongare Point pa (U13/8) held by the Anthropology Department, Auckland University. However, the site has not been dated and the stratigraphic context of the obsidian flakes is unknown. No Waihi obsidian has been identified in over 1000 flakes examined from the nearby Kauri Point Swamp site (Martin Jones pers comm.) which probably dates from the 16th century.

Collections from Ureturituri pa (U14/187) on Matakana Island, which was excavated by the Anthropology Department in 1993, include at least two flakes of Waihi obsidian as well as another four from the beach below it (pers obs). The presence of Waihi obsidian at this site has been confirmed by PIXE analysis undertaken by S. Neve (Physics Department, Auckland University) in 1993 (Petchey 1993). Unfortunately no dates are available.

In 1999 a single flake of Waihi obsidian was identified in a collection of 168 flakes held by Tauranga Museum, thought to have been obtained from somewhere in the Tauranga district. None were present in an assemblage of 17 flakes and pieces from Otumoetai pa. All of the obsidian (>142 flakes) recovered during excavations at Ruahihi pa, about 10km SW of Tauranga, was apparently from Mayor Island (McFadgen and Sheppard 1984). This site was occupied in the 17th–18th centuries.

Southeast Coromandel Peninsula

No Waihi obsidian has so far been identified in collections from early sites along the southeast coast of Coromandel Peninsula, held by Auckland Museum. This includes assemblages from Whiritoa (>300 flakes), T12/2, 3 at Whangamata, and T12/16 at Onemana (92 flakes). Collections previously examined from inland sites in the Whangamata area also contained no Waihi obsidian (Moore 1999).

Discussion

Available data indicate that the Waihi obsidian has a very restricted cultural distribution, extending from the lower Waihou River in the west to Tauranga Harbour in the east. This represents a distance from source of <30 km. There is certainly no evidence at present that it was used at any sites north of a line between Hikutaia and Orokawa Bay or further up the Waihou River beyond

Paeroa. The south-eastern limit of its distribution remains uncertain, although very small quantities do appear to have reached the Tauranga area.

From the limited information available from securely dated sites it seems that Waihi obsidian was being used in the Athenree district by about AD 1650, and perhaps as early as the 16th century. To the west there is good evidence that this obsidian was being used at settlements around the mouth of the Ohinemuri River by about AD 1700 (Raupa) and continued to be utilised until the mid 1800s (Opita). Thus the Waihi obsidian appears to have been exploited over a period of at least 200 years.

This raises some important questions concerning the relationship between tribes occupying the eastern Hauraki Plains (lower Waihou River) and those of the northern Tauranga Harbour area, such as who had control over the Waihi source. One possibility is that the obsidian was initially exploited by the Ngamarama people of the Athenree district and then later mainly by the Marutuahu, who largely displaced the Ngamarama (Stokes 1980), perhaps prior to AD 1700. However, there is a need to obtain more information from well-controlled excavations in the Athenree–Tauranga Harbour area in particular to establish when the Waihi obsidian was being used at different sites before we can really begin to explain the observed cultural distribution of this material.

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