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BULLER RIVER ARTIFACTS IN THE AUSTRALIAN MUSEUM, SYDNEY

D. Wayne Orchiston,
Department of Anthropology,
University of Sydney.

INTRODUCTION

In the course of cataloguing and analysing Maori artifacts in the Australian Museum during December 1968-January 1969* the author examined a collection of 33 specimens donated by a Captain Ostenfeld in 1955. Amongst these were 16 listed as coming from Buller River. Most of these artifacts are characteristically Moa Hunter in type, and in view of the paucity of published information on West Coast South Island Moa Hunter sites warrant examination.

BULLER RIVER ARTIFACTS

All but one of the Buller River artifacts listed in the Museum's Register were available for study, and are described below and illustrated in Figures 1 and 2. Adze and fish-hook terminologies are after Davidson (1961) and Crosby (1966), respectively. Measurements of the 1A, 2A and 4A adzes, a small chisel, and a 6A gouge are given in Table 1.

Study Number	Register Number	Description
1	E. 58081	Adze blank of grey argillite in the form of a rectangular parellelopiped. The surface is extensively flaked although some areas of cortex remain. No hammer-dressing or polishing is in evidence. Length: 250 mm; maximum width: 89 mm; maximum thickness: 60 mm.

*At that time the author was employed as Vacation Assistant in the Museum's Anthropology Department.

Study Number	Register Number	Description
2	E. 58085	Large flake of a brown-orange fine-grained siliceous material with triangular cross-section. Many secondary flakes have been removed from the right hand and distal margins of both bulbar and dorsal surfaces. Confined to the regions of the striking platform and distal end (dorsal surface) are two localised pale grey areas. See Figure 1A.
3	E. 58086	One half of what was once an oval-shaped pebble of fine-grained sandstone. Part of one of the two flat surfaces has been flaked away; the portion remaining contains two shallow plough grooves. Maximum length: 90 mm; maximum width: 82 mm; thickness: 26 mm.
4	E. 58087	Black slate knife. Figure 2A.
5	E. 58090	Large black argillite adze flakeout of Duff Type 1A. No evidence of hammer-dressing or polishing. A bevel and distinct grip have been fashioned.
6	E. 58091	Large black argillite adze of Duff Type 1A with merging bevel and distinct grip. Both front and back have been polished towards the cutting edge but elsewhere flake-scars remain although preliminary polishing is everywhere in evidence.
7	E. 58093	Grey argillite chisel of Duff Type 4A with polishing towards the cutting edge and flake-scarring elsewhere. Only slight indication of a grip. Figure 1B.
8	E. 58094	Black argillite chisel of Duff Type 4A. Polished about the cutting edge and intermittently elsewhere, although flake-scars are still visible. Figure 1C.

Study Number	Register Number	Description
9	E. 58106	Small grey argillite parallel-sided chisel of rectangular plan and cross-section. All-over polish. Bifacially-bevelled cutting edge. No indication of a grip.
10	E. 58107	Small black argillite adze of Duff Type 2A. Flake-scarring all-over, but some preliminary polishing has occurred. Several use-wear flake-scars are visible along the cutting edge.
11	E. 58108a	Small grey argillite gouge of Duff Type 6A. All-over polishing except for around the poll where eight flakes have been systematically removed.
12	E. 58108b	Grey argillite bilaterally-drilled minnow shank with distinct hook seat and lashing notch. Finely-finished specimen. Figure 2B.
13	E. 58108c	Grey argillite bilaterally-drilled minnow shank with basal end missing although a section of the hook seat remains. Figure 2C.
14	E. 58109a	Portion of a polished moa-bone tab with three drilled holes. Figure 2D.
15	E. 58109b	Serrated bone fish-hook point that has been split longitudinally. Originally of oval cross-section. Figure 2E.

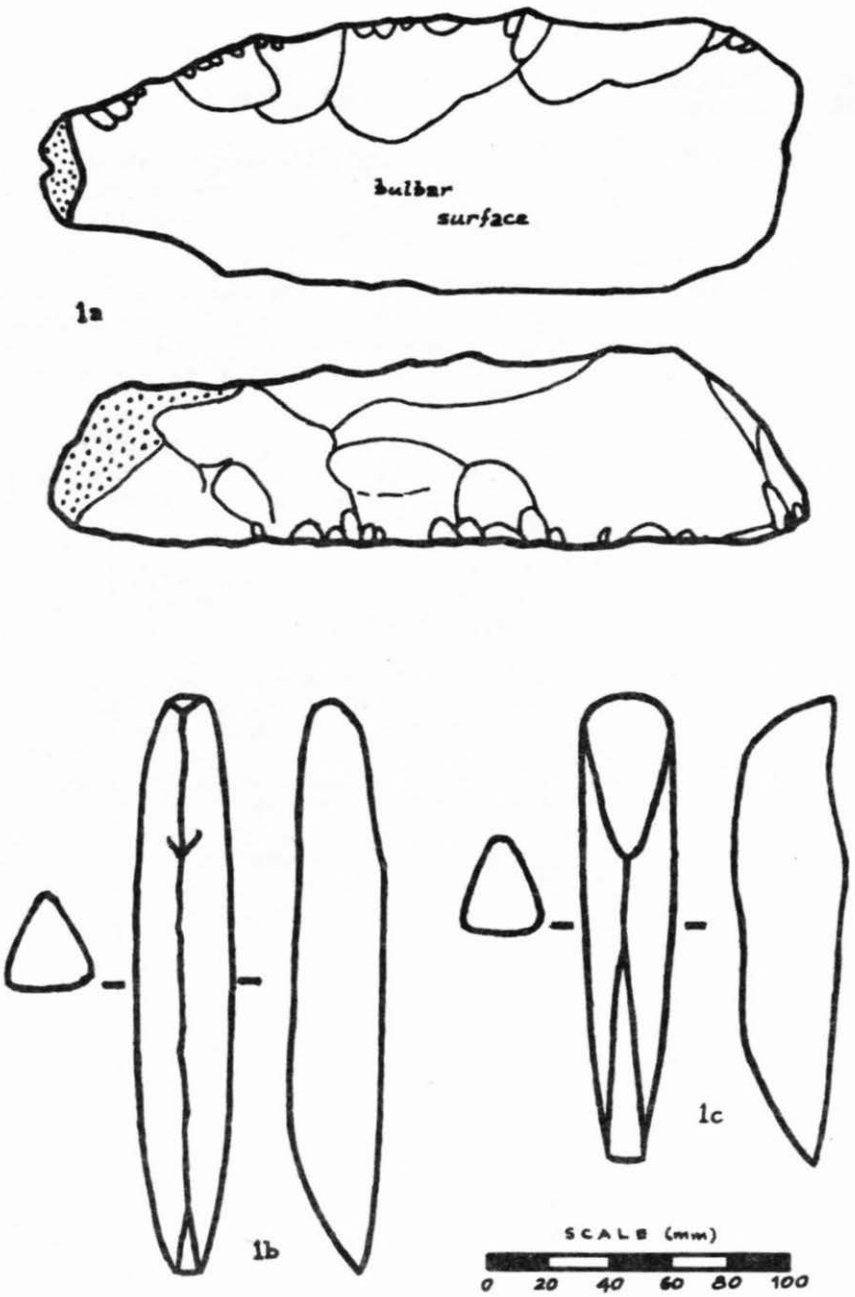

Figure 1: Buller River Artifacts

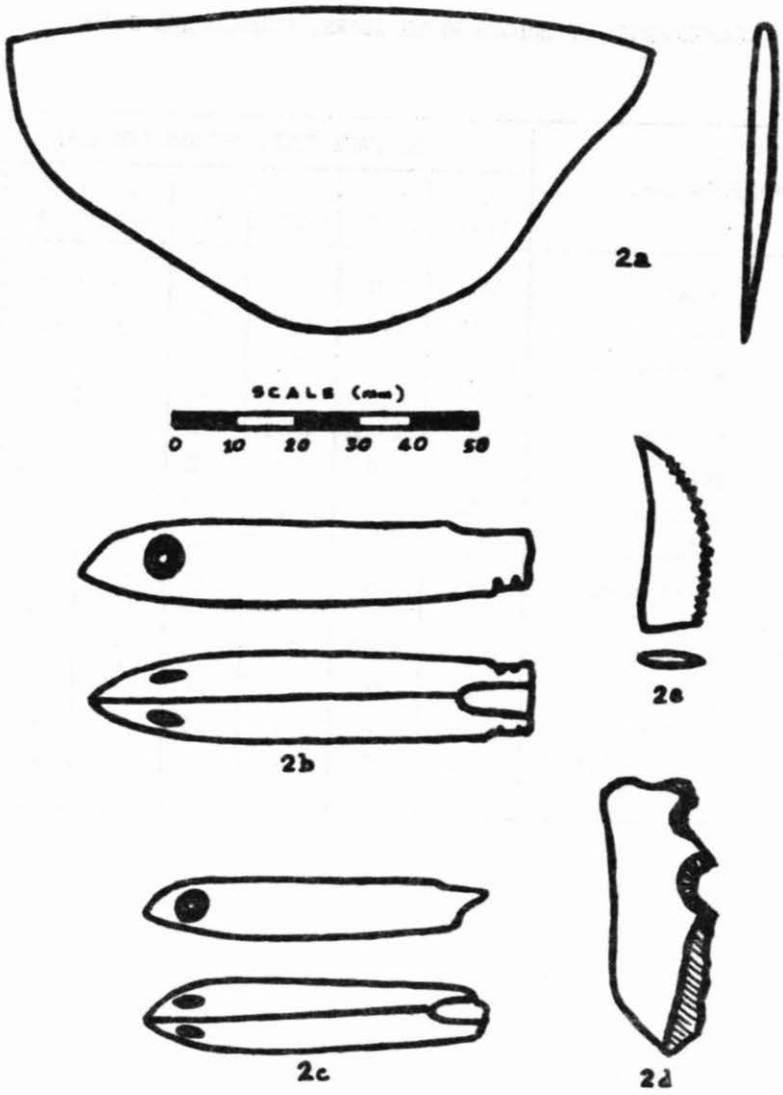

Figure 2: Buller River Artifacts

TABLE 1: MEASUREMENTS OF BULLER RIVER ADZES, CHISELS AND GOUGE

MEASUREMENTS (mm.)		ARTIFACT STUDY NUMBER AND TYPE						
		5 (1A)	6 (1A)	7 (4A)	8 (4A)	9 ---	10 (2A)	11 (6A)
Length:	total	248	198	194	147	49	71	71
	bevel to poll	182	145	169	84	--	65	58
	shoulder to poll	68	62	59	51	--	--	--
Width:	maximum	(65)	(55)	(30)	32	15	(36)	16
	poll	37	39	20	28	14	21	13
	shoulder	50	45	30	30	--	--	--
	bevel chin	57	53	--	--	--	--	--
	cutting edge	65	55	7	11	13	36	11
Thickness or height:	maximum	(44)	(38)	33	(35)	4	6	16
	poll	18	22	--	32	2	4	13
	shoulder	39	38	30	35	--	--	--
	bevel chin	44	38	--	--	2	4	--

DISCUSSION AND CONCLUSIONS

Of the artifacts listed in the previous section numbers 1, 4, 5, 6, 7, 8, 10, 12, 13 and 14 are distinctively Moa Hunter. Probably number 11 should also be included in this category, although these gouges, generally in greenstone, are also found in Classic Maori assemblages. Similarly, the cultural status of both 2 and 9 are ambiguous, although these artifacts are more typical of the earlier phase of Maori Culture.

The range of "Buller River" adzes is typical of early Moa Hunter sites (c.f. Duff 1956: 140 (Table), 141, 142, 178), while all 1A and 4A specimens conform metrically to several artifacts from the Wairau Burials and Middens listed in Duff (1956: Appendices 4 and 5). The Buller River 2A adze is also similar to Wairau examples, although somewhat smaller in size.

The two Buller River minnow shanks also resemble Wairau specimens and those of Duff's Wairau "Complex", extending from Nelson to Clarence Mouth (Duff 1956: 207). With the recording of these two Buller specimens; those at the Heaphy River mouth site (Wilkes and Scarlett 1967: 202), and a shank from Puponga in the Dall Collection, the Australian Museum (see Table 2), this geographical range can be extended into Golden Bay and down the West Coast. These and other South Island sites from which Wairau "Complex" minnow shanks, without gill notches, have been obtained are indicated in Figure 3, where the southern limit has been extended to Shag River mouth. None of these sites, with the exceptions of Wairau Bar and Shag River mouth, has been carbon-dated. At the former the two values of 1015 $\pm$ 110 and 1100 $\pm$ 50 A.D. (Emery and Sinoto 1959: 7), from a single oven, relate to the upper of the two occupation layers (Wilkes, private communication, July 1971), and excavation techniques employed prior to 1957 make stratum allocation of museum artifacts difficult. At the Shag River mouth site many minnow shanks were far in excess of Wairau "Complex" dimensions, and complicated stratigraphy as well as lack of knowledge as to which stratum or strata the few "Wairau" specimens should be allocated to render the ^{14}C dates of 1127 $\pm$ 55 and 1148 $\pm$ 55 A.D. (Trotter 1969) of little value in the context of this study.

Despite the above deficiencies, it would appear that by 1200 A.D. the triangular cross-sectioned bilaterally-drilled minnow shank was present in the South Island, as evidenced at Wairau Bar, Waitaki River mouth, Shag River mouth, Pounawea and Papatowai. However, the Wairau "Complex" variety has not been definitely identified in the basal layer of any of these or other early sites, and may be a later development.

TABLE 2: SOUTH ISLAND MINNOW SHANKS IN THE AUSTRALIAN MUSEUM, SYDNEY

Artifact	Cross-Section	Measurements (mm.)		
		Length	Max. Width	Height
Buller River E. 58108b	Triangular	74	15	14
Buller River E. 58108c	Triangular	55	11.5	10.25
Puponga E. 2082	Oval	73	10	10

At present there is little evidence on the chronological duration of the minnow shank. Around Otago Peninsula bone specimens with oval to rectangular cross-sections and dorso-ventral perforations appear at Warrington, Kaikai Beach, Onepoto, Harwood, Little Papanui, Hoopers Inlet, and Andersons Bay. Some of these sites can be accurately allocated to late Moa Hunter times. Lockerbie finds evidence for the emergence of these bone shanks in his middle layer at Pounawea, dating to 1400 $\pm$ 55 and 1430 $\pm$ 55 A.D. (Lockerbie 1959: 106): "... the lower half of the bottom layer contains stone minnow shanks which gradually decrease in number in the upper half of the same layer where they are found to be paralleled by bone shanks. In the extreme lower section of the middle grey layer, occasional stone minnows are found but are outnumbered by bone minnows. In the mid and upper sections of the middle layer, only bone minnows have been found. One bone minnow was found in the bottom of the shell layer (top)." (Simmons 1967: 44). Crosby (1966: 131), on the other hand, believes both triangular bilateral-drilled and bone dorso-ventral-perforated shanks were introduced simultaneously in Murihiku. Hjarno (1967: 20) suggests that the minnow shank went out of use "... when the change in economy from moa-hunting to fishing took place" and notes their absence at a number of late Moa Hunter sites. However, the presence of minnow

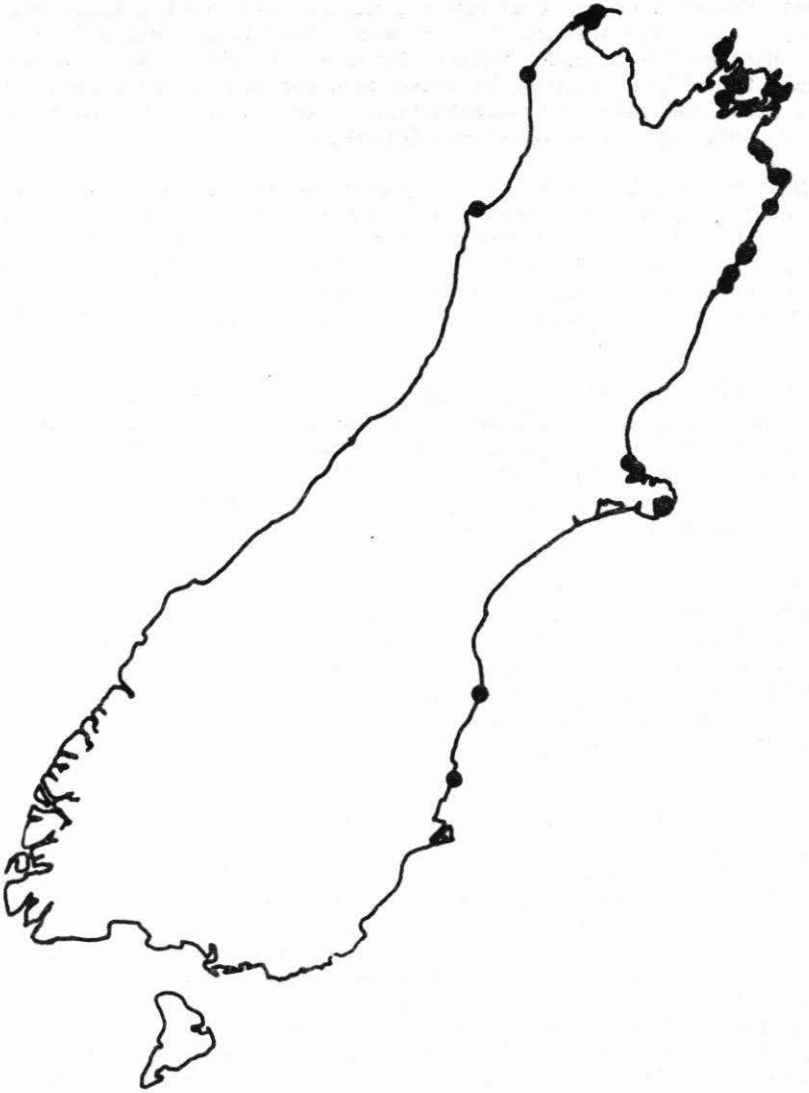

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Figure 3: South Island Distribution of Triangular Cross-sectioned Wairau "Complex" Minnow Shanks

shanks at sites not associated with moa remains (e.g., Triangle Valley, Puponga, Matakota Creek, Collingwood, Hapuka River mouth, Kaikoura, Bromley), and their absence at some "moa-sites" (e.g., Waiau River mouth, Huranui River mouth, Waipara River mouth, Rakaia River mouth, Wakanui, Connolly's Seadown, Waianakarua River mouth, and Pleasant River mouth, etc.) indicate a re-examination of the evidence is required. This is currently being undertaken (Orchiston n.d., a).

Moabone tabs like Buller River number 14 are characteristic of Moa Hunter sites with D1 one-piece fish-hooks (Hjarno 1967: 37, 47). Hjarno (1967: 30-31) found removal of the tab centre by drilling to be an Otago trait, while "pecking" was practised in Southland. Drilling was also employed at Wairau Bar (Duff 1956: 215). Moabone tabs have turned up in sites ranging from early through to late Moa Hunter, in date.

The Buller River fish-hook point (No. 15 - Figure 2H) is unlike any of the hook points featured in Hjarno (1967). In possessing a finely-serrated curved edge it resembles his A2 and C5a categories which are Moa Hunter and Classic Maori respectively. Similarly, serrated one-piece hooks belonging to both Maori phases have been identified (Hjarno 1967: 32-33).

The Australian Museum slate knife from Buller River (No. 4) is the first specimen recorded from the West Coast, and closely resembles many East Coast South Island examples. Slate knives are common in Otago, Southland, and South Canterbury, but are rare north of the Connolly's Seadown site near the Opihi River mouth (Orchiston n.d., b). The specimen from Wairau listed by Simmons (1967: 52) is not a slate knife, and no authentic example has come to light in any site north of the Huranui River mouth.

Evidence of the chronological status of the slate knife is more plentiful than for the minnow shank. Carbon-dated sites are listed below in Table 3, together with other details. Following the radiocarbon dates, b = bone, c = charcoal, s = shell, and u = unspecified. At the multi-layered sites 1 and 5, the slate knives listed cannot be automatically associated with the dated layers. This is possible, however, at the remaining sites, although the early date for Kaikai Beach conflicts with the predominantly late Moa Hunter fishing gear assemblage there (Hjarno 1967: passim). At Pounawea only one slate knife was found in situ (at the very base of the middle layer), the other being amongst eroded beach material. Both of the Papatowai "slate" knives (one is basalt) also came from the very bottom of the middle layer there. While

bearing in mind Law's (1971) and Trotter's (1968) comments on carbon-dating, Table 3 and the foregoing discussion suggest that the slate knife only came into prominence during the 15th Century and experienced a short history, disappearing during the 1500's. This is further supported by relative dating of other "slate knife" sites (e.g., Longbeach, Little Papanui, bottom; Hoopers Inlet; Kings Rock, bottom). These and other aspects of slate knives are to be examined in more detail elsewhere (Orchiston n.d., b).

In conclusion, then, the Buller River artifactual assemblage, but particularly the slate knife and minnow shanks, suggest the presence of a Moa Hunter site occupied somewhere during the interval 1250-1500, with Wairau affinities as reflected by the adzes and chisels (in types represented, metrical attributes, and material - Nelson/D'Urville Island argillite), and minnow shanks. However, the slate knife suggests South Canterbury, Otago, or Southland contacts. Subsequent investigations have revealed that most, if not all, of the Buller River specimens came from a single site of about six acres located near the mouth of the River. During the 1920's this area was ploughed for the first time and the farmer presented some of his finds to Captain Ostenfeld, who ran a collier between Westport and Wellington. Subsequently, Ostenfeld moved to Sydney and the artifacts reported on here came to the Australian Museum.

Investigations and excavations at the site from which the Buller River artifacts came are currently in progress. This large Moa Hunter camp is a notable addition to the small number of indisputably early sites previously reported from the West Coast: Heaphy River mouth (Duff 1967; Scarlett 1967; Wilkes and Scarlett 1967), Lower Grey River (Duff 1956: 151), and Haast River mouth (Duff 1956: 168, 170, 207).

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TABLE 3: CARBON-DATED SOUTH ISLAND MOA HUNTER SITES WITH SLATE KNIVES

Site		Date(s)	References	Slate Knives*		References
No.	Name	(A.D.)		C	F	
1	Rakaia (Bottom)	1365 ± 64 b 1432 ± 80 b	Trotter 1969	(0)	(3)	C. Collett Collection
2	Woolshed Flat	1457 ± 70 b	Trotter 1970a: 443	1	0	Canterbury Museum
3	Waimataitai (Bottom)	1249 ± 47 s 1324 ± 30 s	Trotter 1967: 138	0	2	Trotter field-book
4	Shag Point	1516 ± 50 s	Trotter 1970b: 479	0	2	Canterbury Museum & Trotter 1965: 353
5	Shag River (Bottom)	1127 ± 55 c 1148 ± 55 c	Trotter 1969 & Simmons 1967: 58	(6)	(15)	Otago Museum & South Canterbury Museum & Skinner 1924: 18
6	Kaikai Beach	1050 ± 60 u	Hjarno 1967: 7	1	0	Otago Museum
7	Pounawea (Bottom) (Middle) (Top)	1140 ± 60 c 1450 ± 60 s 1660 ± 60 s	Lockerbie 1959: 84	0 1(+ 1?) 0	0 0 0	Lockerbie 1953: 21, 29
8	Papatowai (Bottom) (Middle) (Top)	1190 ± 30 c 1490 ± 50 b 1640 ± 60 b	Lockerbie 1959: 81, 84	0 2 0	0 0 0	Lockerbie 1953: 16, 21, 29 & Teviotdale 1937: 138
9	Hawksburn	1550 ± 55 b 1500 ± 60 b	Lockerbie 1959: 86	2 (not stated) ?		Lockerbie 1959: 87

* C = complete specimens
F = fragments of individual knives

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