LITHIC ASSEMBLAGE FROM THE LOWEST LAYER OF THE ŌNO SITE, HITOYOSHI, SOUTHERN KYÛSHÛ

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INTRODUCTION

It has been 13 years since the Ōno 大野 sites were first investigated. Research by the archaeologists of the Hitoyoshi City 人吉市 Board of Education, conducted during a road construction in 2001, at the Ōno-C, Ōno-D, and Ōno-E sites in the Ōno site group, revealed that lowest stratum of all the three sites, consisting of reddish-brown clay, contained a large number of lithic artefacts. The stratum has been dated by the OSL method to 69,300±13,900 BP. The C site assemblage includes wedge-shaped artefacts, burins, choppers, small scrapers, anvil, in addition to a cluster of cobbles, while denticulates, drills, notched pieces, and hand axes are present at the D site, and small notched scrapers and axe-like tools at the E site. The assemblages are composed predominantly of small tools, with some large tools with marginal retouch. They share general characteristics with the Layer 5 assemblage of the Sōzudai 早水台 site, which appear to date to about the same age.

As the 2001 excavation took place shortly after the “Fujimura 藤村 scandal” was exposed in the fall of 2000, the results of the excavation were presented only as “relevant information” at the time (WADA and NAGAI 2002). Subsequently, MIYATA Eiji 宮田栄二 and I examined the entire lithic remains recovered from the Ōno sites, and identified those which could be considered artefacts (WADA 2010b).
The Ōno site group is located in the south of Hitoyoshi City in Kumamoto Prefecture, southern Kyūshū (Fig. 1). It is composed of five sites and is located 8 km from the city area, at an average elevation of 360 m above sea level (Fig. 2). The investigation by WADA Yoshifumi and NAGAI Takahiro 永井孝広, the archaeologists of the Hitoyoshi City Board of Education, was conducted during road construction in 2001, at the Ōno-C, D, and E sites in the Ōno site group (Fig. 3). The investigation area in the Ōno-C, D, and E sites are about 600 m², 2,400 m², and 2,000 m², respectively. The Ōno-C site was investigated from June to July in 2000; the Ōno-D site from August, 2000 to January, 2001, and the Ōno-E site from January to March, 2001.

We applied the OSL age determination method at Ōno-E site. The stratum X was dated to 19,900±4,500 BP, the stratum XII to 29,800±3,700 BP, the stratum XIII to 31,400±7,400 BP, and the stratum XIV to 69,300±13,900 BP. The stratum XIV is the lowest stratum consisting of reddish-brown clay that contained a large number of lithic artefacts. As can be seen in Fig. 4, the lowest stratum, dated by the OSL method to 69,300±13,900 BP, exists in all the three sites.
About 600 m² area of the Ōno-C site was investigated in June and July of 2000. The C site is located on the gentle slope, facing southwest at an average elevation of 360 m above sea level (Fig. 5). The investigation confirmed the presence of 6 layers (Fig. 6). Stratum IX contained 250 lithic artefacts in addition to a cluster of cobbles and two blocks of lithic artefacts (Fig. 7, Fig. 8). The C site assemblage includes wedge-shaped artefacts, burins, choppers, small scrapers, and anvil stone.
Fig. 9-1:
Wedge-shaped artefact (Fig. 9-1, A), in rhyolite, shaped by bipolar percussion; L: 3.1 cm, W: 2.0 cm, H: 0.9 cm, Wt: 5.2 g.
Burin (Fig. 9-1, B) in rhyolite, showing evidence of bipolar flaking, with the burin facet at the sharp end; L: 2.5 cm, W: 2.0 cm, H: 1.3 cm, Wt: 4.5 g.

Fig. 9-2:
Proto-burin (Fig. 9-2, C) made of a broad flake of rhyolite that has been marginally retouched, with a burin facet at the sharp end; L: 4.5 cm, W: 3.7 cm, H: 1.7 cm, Wt: 24.3 g.
Small scraper (Fig. 9-2, D) in rhyolite, featheredged at the sharp end by the strong flaking, with secondary flaking on the lateral face; L: 2.2 cm, W: 1.4 cm, H: 1.2 cm, Wt: 3.6 g.
Small scraper or a knife (Fig. 9-2, E), made by cutting a rhyolite flake to form one of the lateral faces, which joins the other lateral face to create a three-sided polygon at the base; L: 1.7 cm, W: 1.7 cm, H: 0.7 cm, Wt: 1.9 g.

Fig. 9-3:
Wedge-shaped artefact (Fig. 9-3, F), in rhyolite, with secondary flaking on the lateral face; L: 2.7 cm, W: 1.2 cm, H: 1.2 cm, Wt: 2.9 g.
Chopper (Fig 9-3, G), in andesite, with marginal retouches; L: 12.2 cm, W: 2.8 cm, H: 2.0 cm, Wt: 350 g.

Fig. 9-4:
Chopper (Fig 9-4, H), made from a large sandstone pebble, exhibiting bipolar flaking scars, but also showing scars that may have resulted from later use as an anvil stone; L: 14.4 cm, W: 14.2 cm,
RESULT OF THE INVESTIGATION AT THE ŌNO D SITE IN 2001

At the Ōno-D site, an area of about 2,400 m² was investigated during the period from August, 2000 to January, 2001. The investigation area was divided into three sub-areas, A, B, and C, from south to north (Fig. 10). The D site is located on a gentle slope, facing north-east, at an average elevation of 350 m above sea level. The investigation confirmed the presence of 15 layers. The strata VIIa and VIIb contained a trapeze each, while the strata VIIIa, VIIIb, VIIIc and VIIIE contained 2,612 lithic artefacts (Fig. 11). The D site assemblage includes denticulates, drills, notched pieces, hand-axes, and chopping tools.

Fig. 10: Ōno-D site.

Fig. 11: Stratigraphic profile of the Ōno-D site.
The lithic artefacts recovered from the stratum VIIIb, Area C, included the following:

**Fig. 12-1:**

- **Denticulate (Fig. 12-1, A)** made from a thick flake of rhyolite, with a zigzag edge on the right side, created by two secondary flaking; L: 4.1 cm, W: 2.8 cm, H: 1.6 cm, Wt: 16.7 g.
- **Small scraper (Fig. 12-1, B),** also of rhyolite, made from an amorphous flake, with intensive secondary flaking along parts of the edge; L: 2.3 cm, W: 3.2 cm, H: 1.6 cm, Wt: 10.7 g.
- **Small scraper or drill (Fig. 12-1, C)** made from an amorphous flake of rhyolite, marginally retouched, with a projection portion created by secondary flaking; L: 2.6 cm, W: 2.3 cm, H: 1.0 cm, Wt: 4.5 g.

**Fig. 12-2:**

- **Denticulate (Fig. 12-2, D),** made from a thick flake of rhyolite, with saw-edges created by removing several secondary flakes; L: 3.2 cm, W: 1.9 cm, H: 1.4 cm, Wt: 8.0 g.
- **Hand-axe (Fig. 12-2, E)** made from a chunky pebble of rhyolite, shaped with marginal retouches all around, with additional flaking on one end; L: 7.9 cm, W: 6.0 cm, H: 3.9 cm, Wt: 140 g.

**Fig. 12-3:**

- **Pick (Fig. 12-3, F)** made from a pebble of rhyolite, shaped by marginal retouch all around, with some cortex left on the back. The apical end is created by alternating flaking; L: 10 cm, W: 7.4 cm, H: 5.1 cm, Wt: 340 g.

**Fig. 12-4:**

- **Chopping tool (Fig. 12-4, G),** made from a thick pebble. It is alternately flaked along right side, and has cortex left on the left side, and on both front and back surfaces; L: 7.4 cm, W: 3.6 cm, H: 3.7 cm, Wt: 84.4 g.
The following items were among the lithic artefact recovered from the stratum VIIIc, Area C:

- Hand-axe (Fig. 13-1, A) made from a thick rhyolite pebble with marginal retouch; L: 6.7 cm, W: 5.3 cm, H: 2.4 cm, Wt: 99.8 g.
- Scraper (Fig. 13-1, B) made from a broad-based flake, in rhyolite, with secondary flaking along the left margin; L: 4.7 cm, W: 4.2 cm, H: 2.3 cm, Wt: 38.6 g.

Fig. 13-1:
Hand-axe (Fig. 13-1, A) made from a thick rhyolite pebble with marginal retouch; L: 6.7 cm, W: 5.3 cm, H: 2.4 cm, Wt: 99.8 g.
Scraper (Fig. 13-1, B) made from a broad-based flake, in rhyolite, with secondary flaking along the left margin; L: 4.7 cm, W: 4.2 cm, H: 2.3 cm, Wt: 38.6 g.

Fig. 13-2:
Scraper (Fig. 13-2, C) made from a rhyolite flake cut into a fan-shape, with the working edge retouched with secondary flaking; L: 4.3 cm, W: 4.6 cm, H: 2.3 cm, Wt: 40.4 g.
Small scraper or a notched piece (Fig. 13-2, D) made from an amorphous flake of rhyolite, with intensive secondary flaking along parts of the perimeter; L: 2.6 cm, W: 2.4 cm, H: 1.1 cm, Wt: 6.7 g.
Small scraper or a notched piece (Fig. 13-2, E) made on an oblong piece of rhyolite; L: 2.5 cm, W: 1.7 cm, H: 1.0 cm, Wt: 5.4 g.

Fig. 13: Lithic artefacts from the stratum VIIIc, area C.

RESULT OF THE INVESTIGATION AT THE ŌNO E SITE IN 2001

The investigation area in the Ōno-E site was about 2,000 m². The investigation period was from January to March, 2001. The E site is located on a slope, facing north-east, at an average elevation of 350 m above sea level (Fig. 14). The investigation confirmed the presence of 17 layers. The stratum IX contained particles characteristic of the Aira-Tanzawa 姫丹沢 tephra or AT, a well-known horizon-maker tephra dated to about 30,000 cal. BP. Some 284 lithic artefacts were recovered from strata XIII and XIV (Fig. 15).

Fig. 14: Ōno-E site.

Fig. 15: Stratigraphy of the Ōno-E site.
The E site assemblage includes small notched scrapers and axe-like tools:

**Fig. 16-1:**
- **Notched small scraper** (Fig. 16-1, A) in rhyolite, made from a flake shaped by bipolar percussion, with a deep notch created by final flaking to the apical end; L: 2.3 cm, W: 2.7 cm, H: 1.7 cm, Wt: 6.5 g.
- **Small scraper** (Fig. 16-1, B) made from a thick flake of rhyolite, exhibiting traces of several bipolar percussions. The basal portion is pointed, with a gently curved cutting edge; L: 3.0 cm, W: 1.7 cm, H: 1.7 cm, Wt: 7.0 g.
- **Small scraper** (Fig. 16-1, C) also shaped by bipolar percussion, with a pointed base and portion and the sharp cutting edge, in rhyolite;

**Fig. 16-2:**
- **Backed small scraper** (Fig. 16-2, D), in rhyolite, roughly square in shape, with the cutting edge created by a series of secondary flaking, and the side surfaces formed by the blows from two directions; L: 2.7 cm, W: 2.3 cm, H: 1.8 cm, Wt: 9.3 g.
- **Small scraper or axe-like tool** (Fig. 16-2, E) made from a flat pebble of rhyolite, marginally retouched; L: 7.4 cm, W: 7.3 cm, H: 4.6 cm, Wt: 250 g.
- **Small scraper or a small knife** (Fig. 16-2, F) made from a flat flake of rhyolite, with the cutting edge created by a single flaking and the back surface also made of a single flaking. Its over-all shape is trapezoid; L: 2.4 cm, W: 2.0 cm, H: 1.0 cm, Wt: 3.4 g.

**Fig. 16-3:**
- **Pointed tool or the burin** (Fig. 16-3, G) made from an amorphous flake of rhyolite, marginally retouched, with the continuous flaking at the apical end, and a flake taken from the upper end on the left side; L: 5.0 cm, W: 3.7 cm, H: 2.1 cm, Wt: 30.5 g.

**Fig. 16:** Lithic artefacts from the stratum XIV.
CONCLUSION: THE LITHIC ASSEMBLAGE FROM THE
LOWEST LAYER OF ŌNO SITE

The C site assemblage includes wedge-shaped artefacts, burins, choppers, small scrapers, and anvils, in addition to a cluster of cobbles, while denticulates, drills, notched pieces, and hand axes are present at the D site, and small notched scrapers and axe-like tools at the E site. The assemblages are composed predominantly of small tools, with some large tools with marginal retouch, and the bipolar percussion is recognized in large number of specimens. Frequently used lithic material is rhyolite.

The assemblages of the Ōno sites are similar to the Layer 5 assemblage of the Sōzudai site, Ōita Prefecture. The Layer 5 assemblage of the Sōzudai site is composed of wedge-shaped artefacts, choppers, chopping-tools, small scrapers, burins, and it is characterized, as with the Ōno assemblages, by the presence of small tools, small scrapers, the frequent use of bipolar percussion technique, and flakes with twin-bulbs (Fig. 17). It should also be noted that with the OSL date of 60,300±13.900 BP for the lowest layer of Ōno site, they appear to be about the same age.

REFERENCES


YANAGIDA Toshio 2011, Ōita-ken Sōzudai iseki dai 8 ji hakkutsu chōsa no kenkyū hōkoku. Bulletin of the Tohoku University Museum, Vol. 10. Sendai: Tohoku University Museum [柳田俊雄「大分県早水台遺跡第8次発掘調査の研究報告」『Bulletin of the Tohoku University Museum 第10号』仙台: Tohoku University Museum].