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The Ulaanbaatar 2014 papers

Panel: Starting Over Again: the Early Palaeolithic Research in Japan Today (Fumiko IKAWA-SMITH and SATŌ Hiroyuki)

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

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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).

An international symposium, entitled "East Asian Palaeolithic Cultures and the Sōzudai site", was held at Beppu 別府 University on February 13, 2011. The symposium coordinator, SHIMIZU Muneaki 清水宗昭, emphasized the importance of the Sōzudai site as a representative cultural property of Ōita Prefecture 大分[県]. AKOSHIMA Kaoru 阿子島香 (Tōhoku 東北 University), WADA Yoshifumi 和田好史 (Hitoyoshi City), and KIM Gilyeo 金基龍 (Hanyang 한양 University) discussed the characteristics of the lithic industries of the Sōzudai and the Ōno sites (Kumamoto Prefecture 熊本[県], in relation to the Middle Palaeolithic sites in Korea. At the symposium, I pointed out that the lithic assemblages of the Sōzudai and the Ōno sites share certain common features (WADA 2010a). In this paper, I report on the lithic assemblage from the lowest layer of Ōno site.

Fig. 1: Location of the Ōno site group (1).

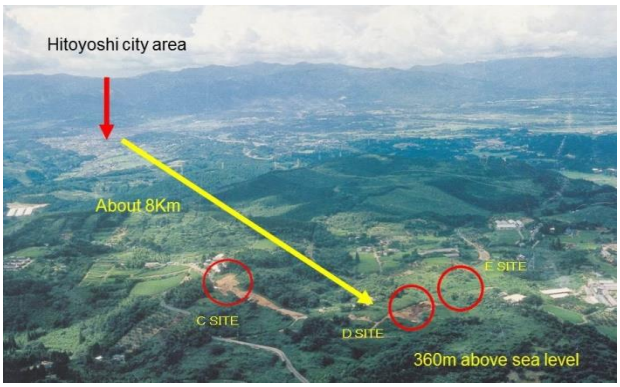


Fig. 2: Location of the Ōno site group (2).

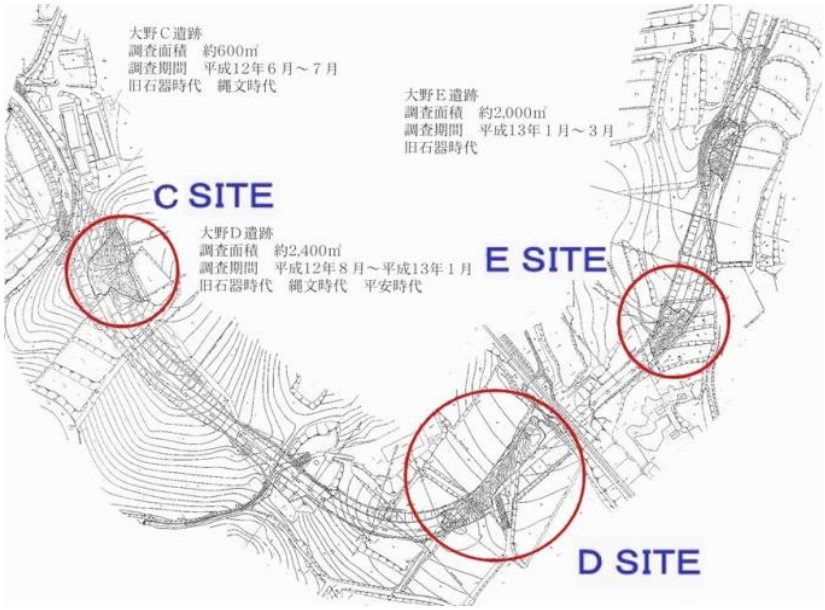


Fig. 3: Road construction in Ōno town.

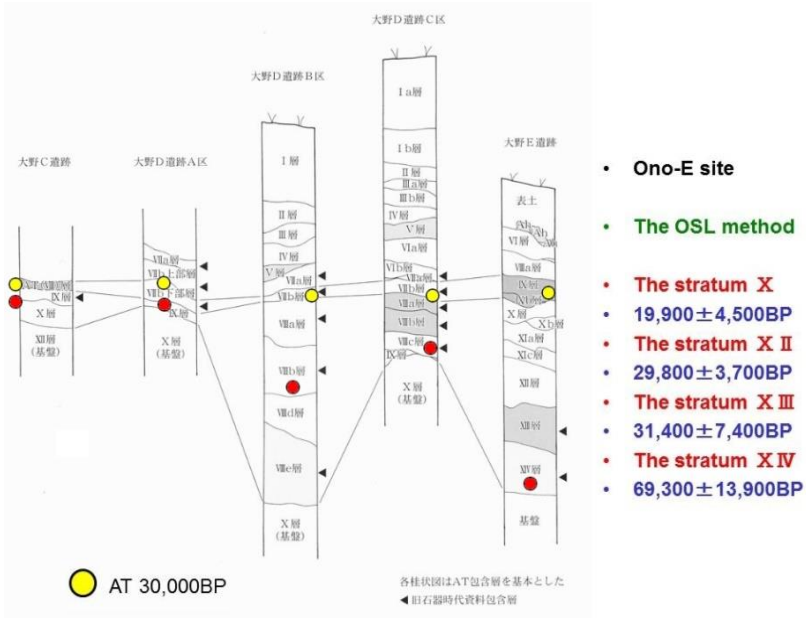


Fig. 4: Stratigraphy of the Ōno-C, D, and E sites.

Excavation of the Ōno sites in 2001

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 m^2, 2,400 m^2, and 2,000 m^2, 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.

RESULT OF THE INVESTIGATION AT THE ŌNO C SITE IN 2001

About 600 m^2 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.

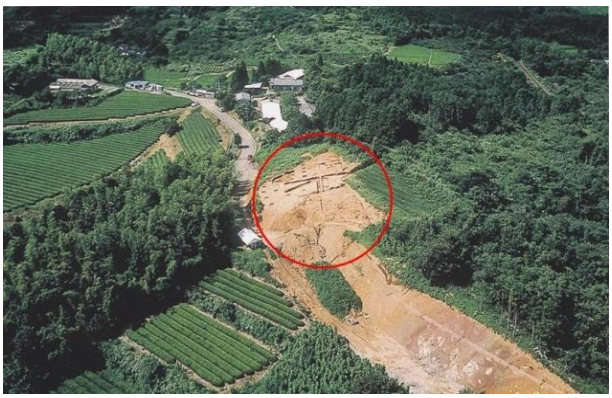


Fig. 5: The Ōno-C site.

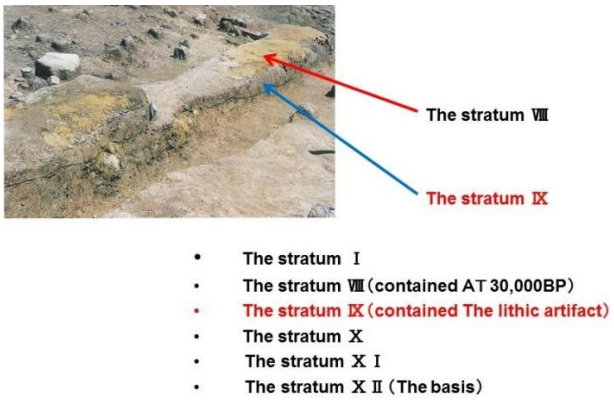


Fig. 6: Strata of the Ōno-C site.

Fig. 7: Block of lithic artefacts in the Ōno-C site.

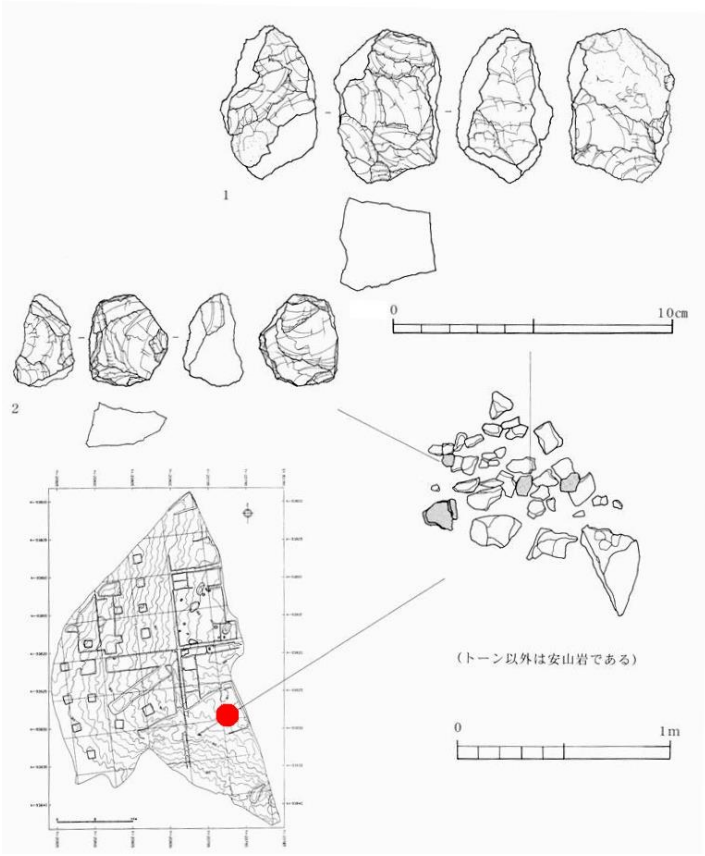


Fig. 8: Cluster of cobbles in the Ōno-C site.

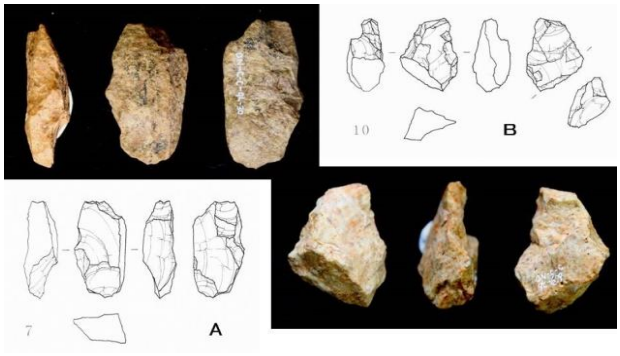


Fig. 9-1:

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.

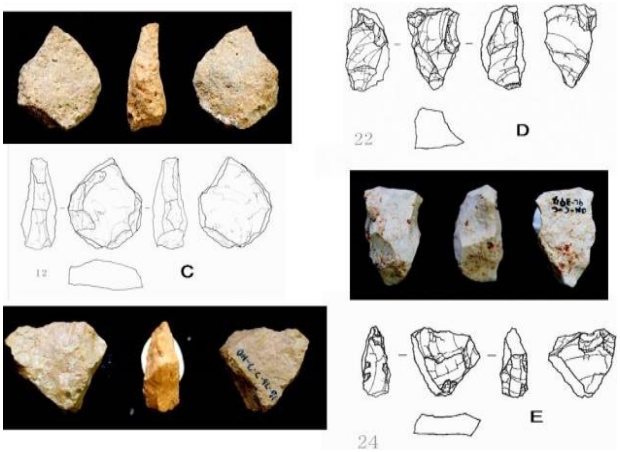


Fig. 9-2:

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.

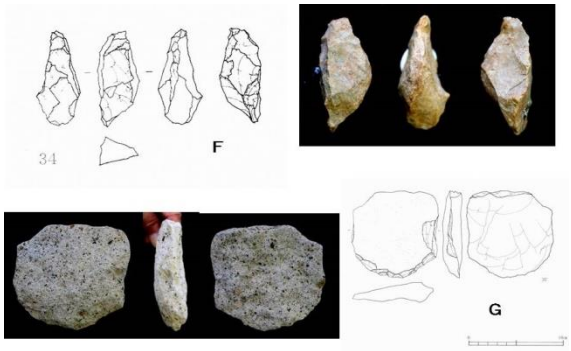


Fig. 9-3:

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,

Fig. 9: Lithic artefacts from the stratum IX in the Ōno-C site.

RESULT OF THE INVESTIGATION AT THE ŌNO D SITE IN 2001

At the Ōno-D site, an area of about 2,400 m^2 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 northeast, 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.

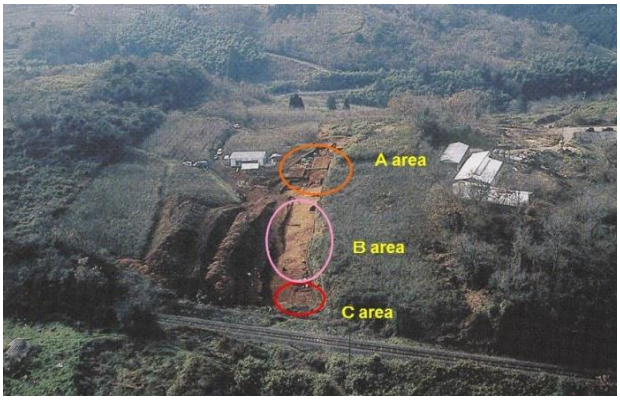
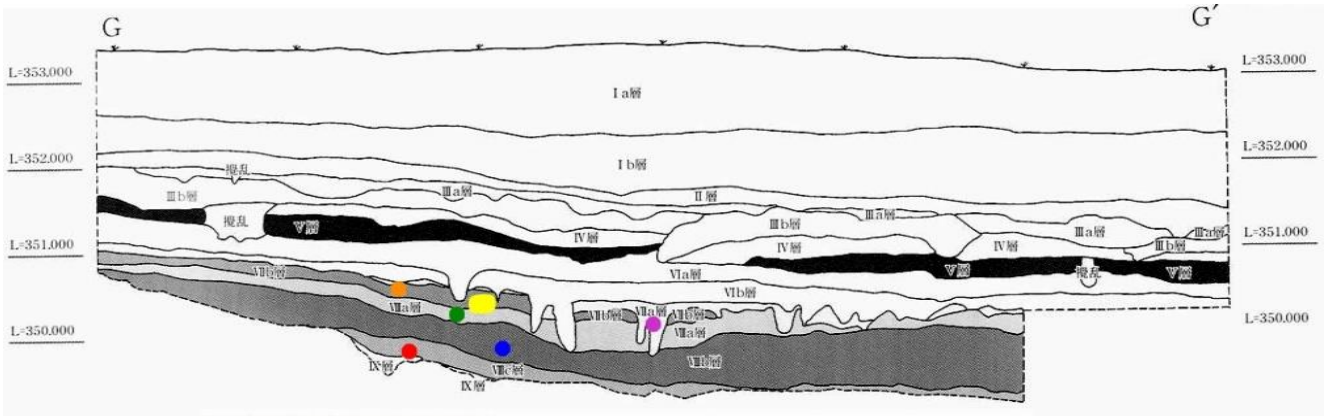


Fig. 10: Ōno-D site.



The stratum VIIa (contained a trapeze)
The stratum VIIb (contained a trapeze and AT)
The stratum VIIIa (contained The lithic artifact)
The stratum VIIIb (contained The lithic artifact)
The stratum VIIIc (contained The lithic artifact)
The stratum VIIId
The stratum VIIIe (Area B only)
- The stratum IX
- The stratum X (The basis)

Fig. 11: Stratigraphic profile of the Ōno-D site.

The lithic artefacts recovered from the stratum VIIIb, Area C, included the following:

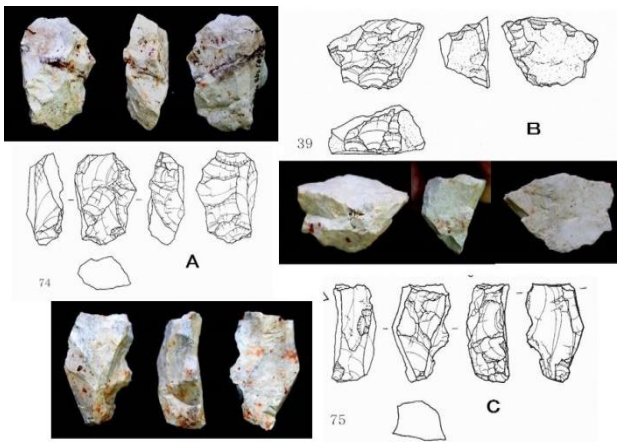


Fig. 12-1:

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.

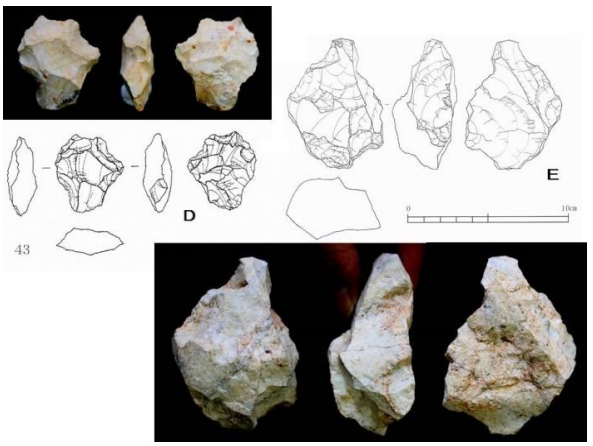


Fig. 12-2:

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.

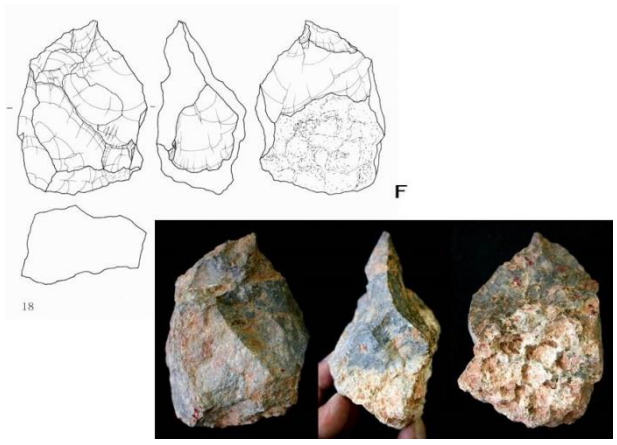


Fig. 12-3:

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.

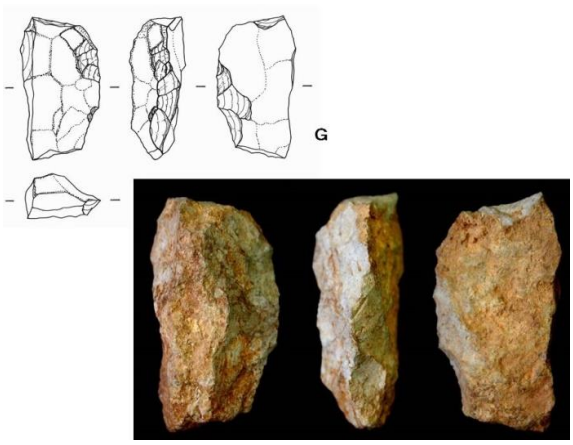


Fig. 12-4:

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.

Fig. 12: Lithic artefacts from the stratum VIIIb, area C.

The following items were among the lithic artefact recovered from the stratum VIIIc, Area C:

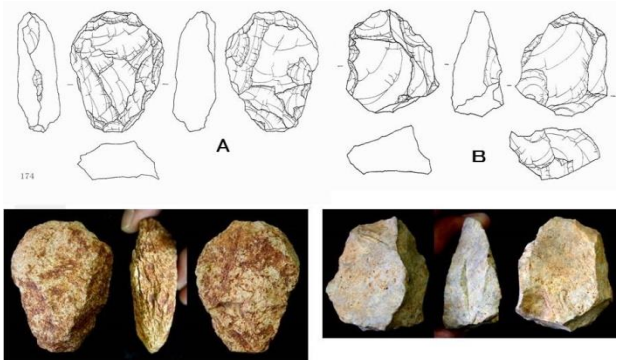


Fig. 13-1:

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: Lithic artefacts from the stratum VIIIc, area C.

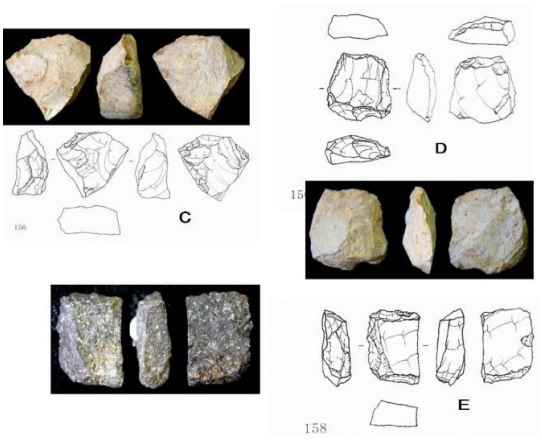


Fig. 13-2:

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.

RESULT OF THE INVESTIGATION AT THE ŌNO E SITE IN 2001

The investigation area in the Ōno-E site was about 2,000 m^2. 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 姶良丹沢 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.

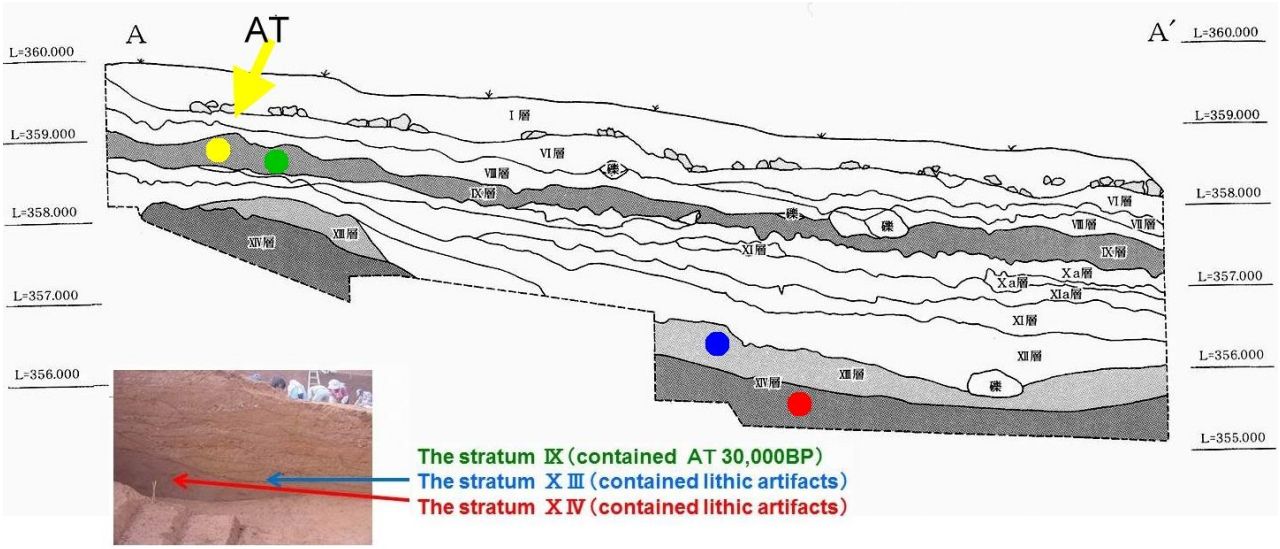


Fig. 15: Stratigraphy of the Ōno-E site.

The E site assemblage includes small notched scrapers and axe-like tools:

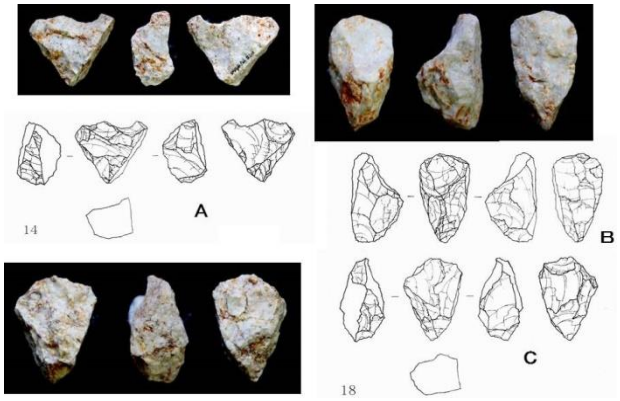


Fig. 16-1:

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;

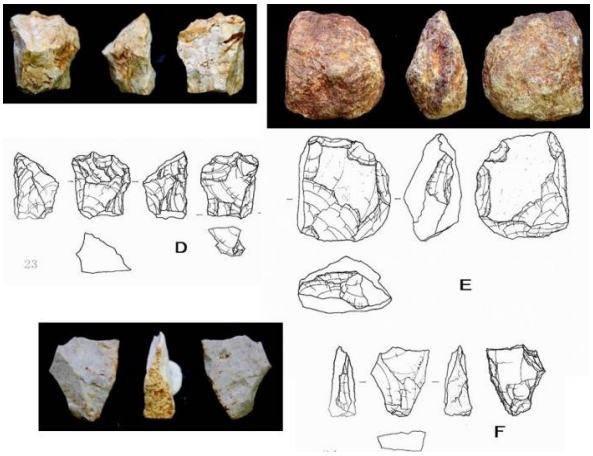


Fig. 16-2:

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.

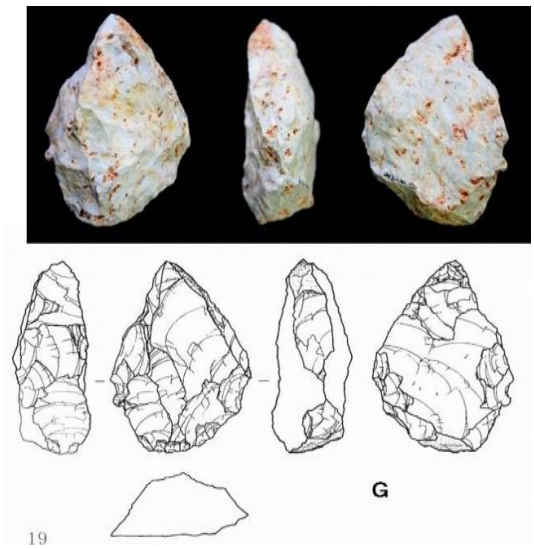


Fig. 16-3:

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.

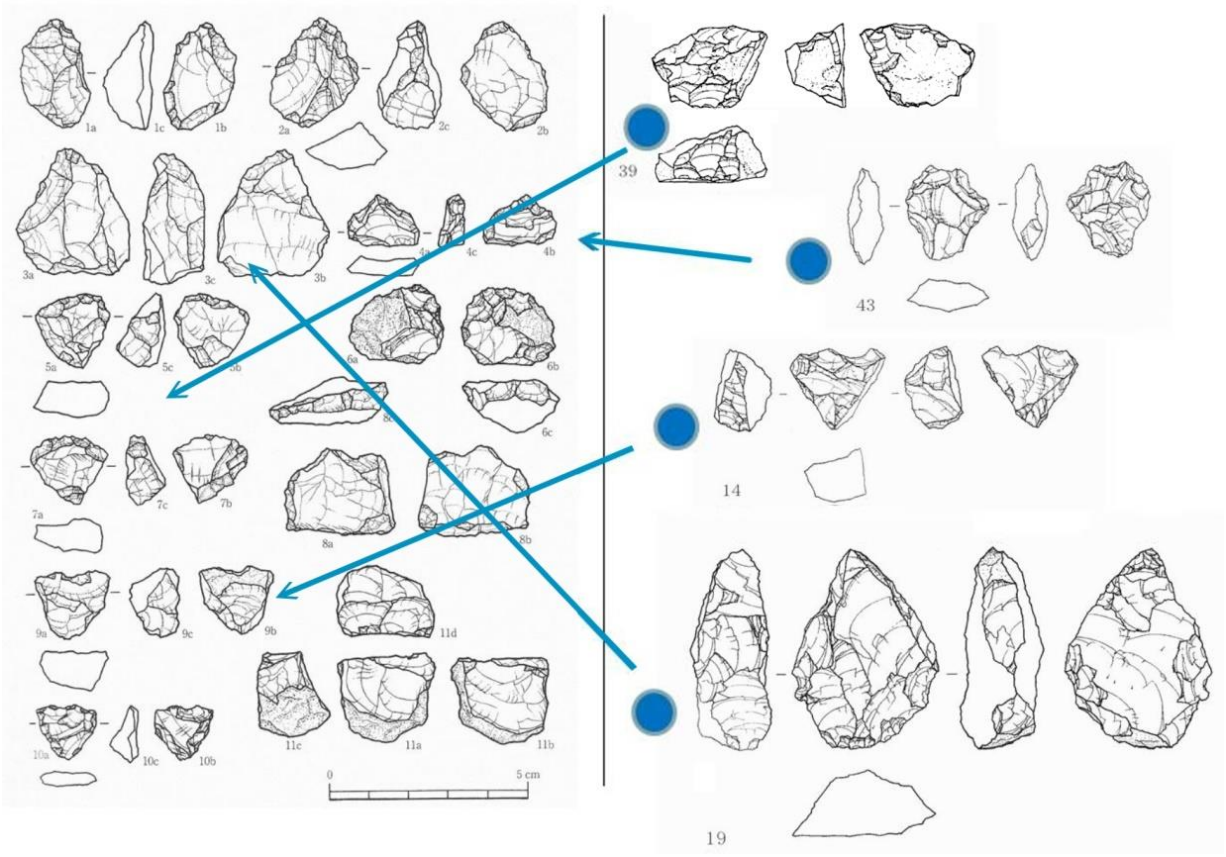


Fig. 17: Artefacts of the Sōzudai and the Ōno sites.

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 大分[県]. 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

WADA Yoshifumi and NAGAI Takahiro 2002, *Ōno iseki-gun: Ōno C, D, E iseki.* Kumamoto: Hitoyoshi-shi kyōiku iinkai [和田好史・永井孝宏『大野遺跡群 大野C・D・E遺跡』熊本: 人吉市教育委員会].

WADA Yoshifumi 2010a, Hitoyoshi-shi Ōno iseki shutsudo no sekkigun ni tsuite. In: Beppu daigaku (ed.), *Kokusai shinpojiumu Higashi-Ajia no kyūsekki bunka to Sōzudai iseki*. Beppu: Beppu daigaku [和田好史「人吉市大野遺跡出土の石器群について」別府大学編『国際シンポジウム　東アジアの旧石器文化と早水台遺跡』別府: 別府大学].

WADA Yoshifumi 2010b, Kumamoto-ken Ōno iseki-gun. In: *Nihon kyūsekki gakkai dai 8 kai kōen kenkyū happyō yokōshū kyūsekki jidai no shomondai - Rettō saiko no kyūsekki o saguru*. Tōkyō: Nihon kyūsekki kyōkai [和田好史「熊本県大野遺跡群」『日本旧石器学会第８回講演・研究発表予稿集: 旧石器時代の諸問題―列島最古の旧石器を探る―』東京: 日本旧石器学会], p. 72.

WADA Yoshifumi 2011, Hitoyoshi-shi Ōno iseki shutsudo sekki-gun no kisoteki kenkyū (1). C iseki, D iseki, E iseki saikasō shutsudo no sekki-gun o chūshin toshite. In: *Hitoyoshi-shi rekishi kenkyū*, Vol. 14 [和田好史「人吉市大野遺跡出土石器群の基礎的研究(１)C遺跡・D遺跡・E遺跡最下層出土の石器群を中心として」『ひとよし歴史研究』第 14 号], pp. 1-26.

WADA Yoshifumi 2014, Hitoyoshishi Ōno iseki shutsudo sekki-gun no kisoteki kenkyū (2). Saikasō shutsudo no sekki bunka no yōsō ni tsuite. In: *Hitoshiyoshi rekishi kenkyū*, Vol. 17 [和田好史「人吉市大野遺跡出土石器群の基礎的研究（２）最下層出土の石器文化の様相について」『ひとよし歴史研究』第 17 号], pp. 111-124.

YANAGIDA Toshio and ONO Shōtarō 2007, *Ōita-ken Sōzudai iseki dai 6・7 ji hakkutsu chōsa no kenkyū hōkoku. Nihon zenki kyūsekki jidai no hennen to chiikisei no kenkyū.* Bulletin of the Tohoku University Museum, Vol. 7. Sendai: Tohoku University Museum [柳田俊雄・小野章太郎「大分県早水台遺跡第 6・7 次発掘調査の研究報告－日本前期旧石器時代の編年と地域性の研究－」『Bulletin of the Tohoku University Museum 第 7 号』仙台: Tohoku University Museum].

YANAGIDA Toshio 2008, Sōzudai iseki no kogata sekki ni tsuite, dai 6・7 ji no chōsa shiryō kara. In: Serizawa Chōsuke sensei tsuitō ronbunshū kankōkai (ed.), *Serizawa Chōsuke sensei tsuitō kōko minzoku rekishi gaku ronsō.* Tōkyō: Rokuichi shobō [柳田俊雄「早水台遺跡の小型石器について, 弟 6・7 次の調査資料から」芹沢長介先生追悼論文集刊行会 編『芹沢長介先生追悼 考古・民族・歴史学論叢』 東京：六一書房], pp. 131-142.

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].