

Trouble in the Japanese Lower and Middle Palaeolithic

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Abstract

The debate about the occupation of the Japanese archipelago before 30,000 years ago was apparently resolved with the discovery and investigation of a series of sites in north eastern Japan such as Babadan A and latterly Kamitakamori, which seemed to provide securely dated contexts for hominid activity dating to before 500,000 years ago. These discoveries were thrown into doubt when one of the major protagonists in the debate was discovered planting artefacts. The subsequent scandal, which has rocked Japanese archaeology to its core, was widely reported in the media and a full-scale investigation is still underway. This paper summarises information from some of the sites claimed to be Lower and Middle Palaeolithic, and sets them in a broader East Asian context.

1 Introduction

On 5 November 2000 the news broke that one of the principal investigators of sites claimed to date from the Early and Middle Palaeolithic in Japan, Fujimura Shinichi, had been caught by investigative reporters from the Mainichi Shimbun newspaper armed with a video camera, planting stone tools at Kamitakamori, a site which had become famous for its "Early Palaeolithic" remains. The purpose of this paper is to clarify the context for the investigation of the Early and Middle Palaeolithic in Japan, and to provide summaries of some of the sites and issues involved. In many ways this paper is premature, given that investigations into the affair are still going on. For this reason, I do not attempt to assess the impact of the fraud nor express opinions about how and why it happened nor speculate as to the extent of the fraud. These issues will be properly addressed by the ongoing investigations. It does

seem helpful, however, at this stage, to have some details about the individual sites involved in order to inform those with an interest in Palaeolithic archaeology elsewhere. I expect that others, more informed than I, will in due course provide more detailed accounts elsewhere.

The exposure of the fraud, which has become known in Japan as the *netzuzo jiken*, made front page news in a country where major archaeological discoveries are paid great attention by a media ever hungry for the oldest, the biggest, and the most sensational. It has created a furore in the Japanese archaeological world. The story also received international coverage. Reactions attempting to set the story in the broader context of Japanese archaeological practice have been published on the web (Bleed 2000, Keally 2000), and the Japanese Archaeological Association has published English summaries of a series of meetings on the topic on its own website (http://www.avenue.co.jp/~kouko/o_3_2_e.html).

The response of the Japanese Archaeological Association, the professional body for Japanese archaeology, was to establish a Special Committee for Investigating the Early/Middle Palaeolithic Problem in May 2001 which has already met on a number of occasions. The purpose of the Committee is to “clarify the facts concerning the so-called ‘fabricated Palaeolithic excavation incident’, ... and to erase public doubt and mistrust concerning this problem while resolving, from a broad academic perspective, to push forward and deepen research on the Early/Middle Palaeolithic, which implicates the origins of human culture in the Japanese archipelago” (JAA 2001). The Committee is due to conclude its investigations in April 2004. Mr Fujimura himself has been expelled from the Association.

In associated developments, as raised on the *Science* website (<http://www.sciencemag.org:80/cgi/content/full/294/5547/1634a> accessible to subscribers only) a senior figure in Japanese Palaeolithic archaeology, Professor Kagawa Mitsuo committed suicide amid claims that discoveries in the 1960s at the Hijiridaki Cave in Oita Prefecture, on the south western island of Kyushu, were also based on questionable findings. The situation surrounding Hijiridake is also being investigated as part of the remit of the Special Committee.

The chair of the Special Committee, Tozawa Mitsunori, Professor of Archaeology at Meiji University in Tokyo, met with Fujimura some five times in the course of 2001, along with Kamata, the Director of the Tohoku Palaeolithic Research Institute. The contents of these discussions were presented at the Japanese Archaeological Association meeting in Morioka, in northern Japan, in October 2001. Fujimura admitted to involvement with 42 sites, dating back to the 1970s and 1980s.

The Special Committee for Investigating the Early/Middle Palaeolithic Problem of the Japanese Archaeological Association comprises five working parties with the following remits: artefact verification, site verification, developing techniques for verification, typological research and methodological research. The activities of the

committee and the working parties will result in a comprehensive reassessment of materials and sites claimed to be Early and Middle Palaeolithic.

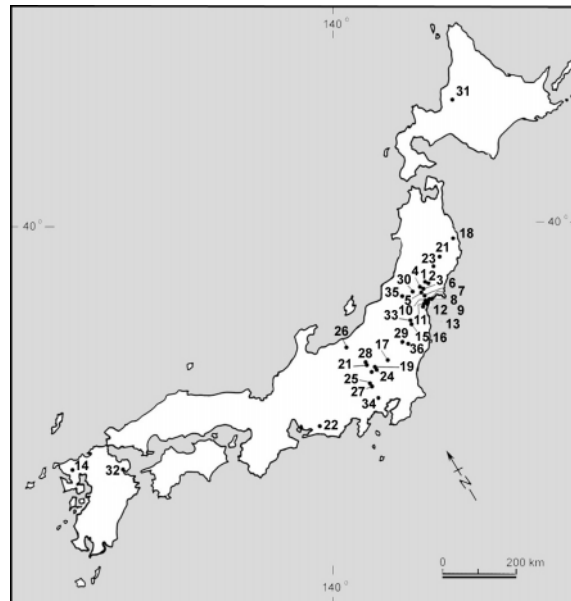


Fig 1: “Early” and “Middle” Palaeolithic sites from Japan (based on Okamura 2001: 57 fig 2)

Main sites claimed to be Lower and Middle Palaeolithic

- | | |
|--------------------|-------------------------|
| 1. Kamitakamori | 19. Junozawa |
| 2. Takamori | 20. Kanetori |
| 3. Babadan A | 21. Kaseinishi |
| 4. Zazaragi | 22. Kaseizawa |
| 5. Nakajimayama | 23. Kashiwayamadate |
| 6. Nakamine C | 24. Kirihara |
| 7. Shibiki | 25. Kojikazaka |
| 8. Kashiwagi | 26. Lake Nojiri |
| 9. Sumiyoshi | 27. Nagaone |
| 10. Aobayama B | 28. Nakayama Pass |
| 11. Kitmae | 29. Odaira |
| 12. Yamada Uenodai | 30. Sodehara |
| 13. Higashiyama | 31. Soshin Fudozuka |
| 14. Fukui cave | 32. Sozudai |
| 15. Harasekasahari | 33. Takenomori |
| 16. Harasemiwa | 34. Tama New Town 471-B |
| 17. Hoshino | 35. Toyama |
| 18. Hyotan Cave | 36. Uenodejima |

(1-13 are all in Miyagi Prefecture. 14-36 are listed in alphabetical order)

“Early Palaeolithic sites”: 1,2,10,25,27,35, “Early - Middle Palaeolithic sites”: 6,30, Others are Middle Palaeolithic. Sites with which Fujimura was involved: 1-11, 13,15,16,18,21,24,25, 27,28,29,30,34,36. Sites at which Fujimura has admitted planting fake stone tools: 1,31

2 The history of “Early Palaeolithic” discoveries in Japan

The history of Japanese Palaeolithic archaeology before the early 1990s is adequately covered in previous publications (Okamura 1992; Reynolds & Barnes 1983). Palaeolithic archaeology in Japan is a relatively young subfield of the discipline in Japan:

“Palaeolithic archaeology made the most remarkable progress among all fields of Japanese archaeology following the Second World War. Up until then, even the existence of Palaeolithic sites had not been firmly established. Today, about 5000 sites from this period are known, hundreds of which have been fully excavated, resulting in the publication of thousands of excavation reports and articles” (Imamura 1996: 19).

Controversy is no stranger to archaeology in Japan, and Palaeolithic research has often had to struggle against a predominantly sceptical attitude. The confirmation of the presence of Palaeolithic occupation at Iwajuku in Gunma Prefecture, first discovered by amateur archaeologist Aizawa Tadahiro and subsequently investigated by a team from Meiji University in Tokyo (Sugihara 1956), was in spite of, rather than because of, the dominant atmosphere: “it is surprising and embarrassing that the assumption that no humans lived on the Japanese islands prior to the Jomon period should have hindered such research and discovery for so long” (Imamura 1996: 19). Even once the existence of the Palaeolithic was confirmed in the 1950s it was considered that the occupation of the archipelago would not have predated 30,000 BP. Despite findings through the 1960s at sites such as Sozudai in Kyushu (fig 1), it was not until the early 1980s, and investigations at sites such as Zazaragi and Babadan under the auspices of Professor Serizawa Chosuke, that the existence of an earlier Palaeolithic received serious consideration. It was against this background that the young Fujimura Shinichi received his introduction to Palaeolithic archaeology.

Table 1: Key dates in the study of the Japanese and East Asian Palaeolithic (after Okamura 1992)

1920s-1930s:	Excavations at Zhoukoudian, China
1940s:	Hallam Movius proposes chopper/chopping tool complex for East Asian Lower Palaeolithic
1949:	Excavations at Iwajuku, Gunma Prefecture, establish existence of Japanese Palaeolithic
1951:	Knife shaped lithics from Moro, Tokyo
1953:	Microliths from Yadegawa, Nagano Prefecture
1954:	Spear points from Takei, Gunma Prefecture and Tarukishi, Hokkaido
1955:	First Palaeolithic site in western Japan at Washuuzan, Okayama Prefecture
1956:	Possible early Palaeolithic stone tools from Gongenyama, Gunma Prefecture
1958:	Partly polished stone axes and large bifacial spear points define Mikoshiha complex (Nagano)
1959:	Tanged points from Tachikawa, Tokyo
1960:	Transition from microliths to pottery at Fukui Cave, Nagasaki Prefecture
1962:	First Palaeolithic site claimed from Korean Peninsula
1960s:	Claims for an Early Palaeolithic at Nyu and Sozudai (Oita Prefecture) and Hoshino (Tochigi Prefecture)
1968:	Refitting of flakes at Sunagawa (Saitama Prefecture)
c 1970:	Tephrochronological studies develop
1980:	“Early Palaeolithic tools from stratified deposits” claimed at Zazaragi, Miyagi Prefecture
1986:	Stratigraphic sequence for “Early Palaeolithic” contexts established at Babadan, Miyagi.

For the past decade, exciting new discoveries have been made in the Japanese Palaeolithic and it has been hard to keep up with the pace of change. The most recent survey of Japanese archaeology in English (Barnes & Okita 1999:359-360) accepted that the Palaeolithic layers at Takamori II dated to around 500,000 BP. A variety of dating techniques seemed to back this up, including ESR (Electron Spin Resonance) and palaeomagnetism. It was noted that the Takamori lithics, “mainly small flakes (c 3 cm) of chalcedony and jasper - worked bifacially into knives and scrapers - and a few larger picks and axes (c 8 cm) made of coarser crystalline tuff and shale” (ibid:360), had attributes similar to the assemblages from Zhoukoudian I in China, dated to between 200,000 and 500,000 BP. The finds at

Kamitakamori also featured in Imamura Keiji's Prehistoric Japan (Imamura 1996:26-28). Imamura is Professor of Archaeology at Tokyo University. Of particular interest at Kamitakamori was a supposed cache of finely worked bifacial tools from beneath the Tephra 1 layer, illustrated in the third edition of Renfrew and Bahn's Archaeology (2000).

Table 2: Dates of recent announcements of Early Palaeolithic sites in the Japanese press (after Kadohari 2001):

June 1999:	Nagaone site, Saitama Prefecture, 350,000 BP
August 1999:	Soshin Fudozuka site, Hokkaido, 300,000 BP
October 1999:	Kamitakamori, Miyagi Prefecture, 800,000 BP
December 1999:	Ittouchi-Matsubayama, Fukushima Prefecture, 600,000 BP
February 2000:	Ogasaka, Saitama Prefecture, 500,000 BP

As a result of the exposure of the forgery, the Japanese Archaeological Association Special Committee has undertaken a series of corrective measures. Palaeolithic tools are being re-examined, starting with Fujimura's personal collection of 1290 objects, and also those from sites investigated earlier, including Zazaragi, Babadan A, Nakamine C: ie, all the sites found before the discoveries at Takamori and Kamitakamori. The intention was not simply to prove the extent of the fakery, but also to reconsider the potential for Early and Middle Palaeolithic remains at other sites.

3 The Early and Middle Palaeolithic elsewhere in East Asia

It has been long accepted that human beings arrived in East Asia sometime after one million years ago (Bae 2001, Barnes 1993, Lee 2001, Keates 2000, 2001, Nelson 1993). The majority of *Homo erectus* sites are in China, and Zhoukoudian, on the outskirts of modern Beijing, provided the largest assemblage of *Homo erectus* fossils found anywhere in the world, comprising approximately 40 individuals and dated to between 460,000 to 230,000 BP by a variety of techniques (Keates 2001).

Dates associated with *Homo erectus* fossils from

Lantian indicate an earlier presence than Zhoukoudian, at around 800,000-650,000 BP. Even earlier palaeomagnetic dates, at about 1.5 million years ago are claimed from Yuanmou and Xihoudou, though these remain controversial (Brown 2001). The fossils at Zhoukoudian are associated with small flake tools (on average <4cm in length, Keates 2001:166), suggesting that the small size of the tools from Takamori and associated sites should not immediately be taken as evidence for fakery.

On the Korean peninsula there are claims for human occupation one million years ago at the site of Kommonmoru in North Korea (Bae 2001). Choppers, chopping tools, flakes and cores of quartzite were found beneath layers at Sokchangni, South Korea dated by radiocarbon to 30,700 BP. Tools from Kulpori, North Korea, where large cobbles are claimed to mark out an enclosed area - perhaps the remains of a tent-like structure, are considered to be typologically similar to the Early or Middle Palaeolithic (ibid). At Chongokni, Bae (2002) suggests that occupation may go back as far as 350,000 BP. Artefacts from Chongokni include handaxes, choppers, polyhedral heavy-duty scrapers, small scrapers, rough denticulates and points. In addition, possible Middle Palaeolithic finds are reported from the site of Yonghodong at Daejeon (Han 2002), and Jangsanni in the Imjin River Basin, where a fragment of a handaxe is among some ten artefacts from a thick river terrace deposit which may predate 500,000 BP (Yi 2002). At Jungnae-ri in Suncheon City, four cultural layers are dated to the Palaeolithic: Layer 1 considered to be Middle Palaeolithic and Layer 4 Upper Palaeolithic (Lee 2001). Layer 1 produced 596 artefacts, and Layer 4 produced 3126. There are marked typological differences between the assemblages and also differences in the materials used, with rhyolite becoming common in Layer 4. One of the most interesting aspects of the site is the large number of refits from each layer. There is also plentiful evidence for manufacture of stone tools, including debitage, conjoining pieces, anvils and hammer stones.

Few artefacts have much in the way of retouch and, if these objects do represent activity in the Lower or Middle Palaeolithic, then they are expedient in form.

The undoubted presence of Lower Palaeolithic sites and *Homo erectus* in China along with early stone tool technologies in Korea provides a potential colonising population for the settlement of Japan. During periods of lowered sea level, Japan would have been connected to the Asian mainland. The initial claims by Fujimura for a Lower Palaeolithic comparable in technological complexity and age to that of China or Korea seemed reasonable in the wider regional context, and in theory there remains no reason why Japan was not settled in the Middle Pleistocene.

4 Summaries of some of the “Early and Middle Palaeolithic” sites in Japan

Fujimura is known to have been involved with some 33 “sites”, centred on Miyagi Prefecture but spread throughout Japan. The commission of enquiry set up by the Japanese Archaeological Association will report in 2004 on its reassessment of these sites and others with which he was not involved. In this section, I will briefly introduce some of the more important sites and outline the materials they have produced.

4.1 Sites in Miyagi Prefecture

The heartland of Early and Middle Palaeolithic studies in Japan is Miyagi Prefecture. This is where the Palaeolithic Research Institute is based, and is home to the main protagonists in the pursuit of the Japanese Palaeolithic - figures such as Serizawa Chosuke, Kajiwara Hiroshi and Kamata Toshiaki. Discoveries in the 1980s at sites such as Babadan A and Zazaragi appeared to demonstrate the potential of the area for early sites, and saw the refinement of the understanding of the north eastern Japanese tephra sequences which form a chronological framework for the Early and Middle Palaeolithic. Some 54 tephrae were identified in the northern part of Miyagi Prefecture

and a series of marker layers was present in all locally recognisable sequences (ie, AT pumice, Aso 4 and Toya).

4.1.1 Kamitakamori, Tsukidate Town. Miyagi Prefecture (Kamata 2001B)

Kamitakamori became famous because of the claims for a pit containing a hoard of stone tools and stone tools dating to before 600,000 BP. The site is located in Tsukidate town in Miyagi Prefecture. Kamitakamori Location A is located on the gently sloping summit of a hill, and Location B is some 100 m south west of Location A. The site was discovered in 1992 by Fujimura Shinichi and Kamada Toshiaki of the Tohoku Palaeolithic Institute. A section through the tephra sequence was revealed during the extraction of materials for road building. In August 1992 and during subsequent visits, Fujimura and Kamada discovered bifacial stone artefacts considered to be cleavers and handaxes. These materials were thought to be different from the assemblages at that time thought to represent the oldest lithic assemblages in Japan, from Babadan A, Nagamine C and Takamori. Excavations at the site began in November 1993 under the direction of the Tohoku Palaeolithic Institute and Tohoku Fukushi University (fig 2).

Table 3: Summary of dating evidence at Kamitakamori

170,000 - 290,000 BP: Shimoyamazato (Sm) (TL)
 406,000-484,000 BP: Takamori 1 (Tm1) (TL)

The Takamori tephra sequence is divided into 18 different episodes (Tm-1-Tm-18) and dated using a range of techniques including TL, OSL, palaeomagnetism and fission track dating. Underlying the Takamori series is the Kuranosawa (Ks) series, comprising four layers. Beneath this was discovered a cluster of stone tools, including a burnt biface which was dated to between 560,000 - 770,000 BP by its stratigraphic position between the Ks-1 tephra and basal fluvial/lacustrine deposits.

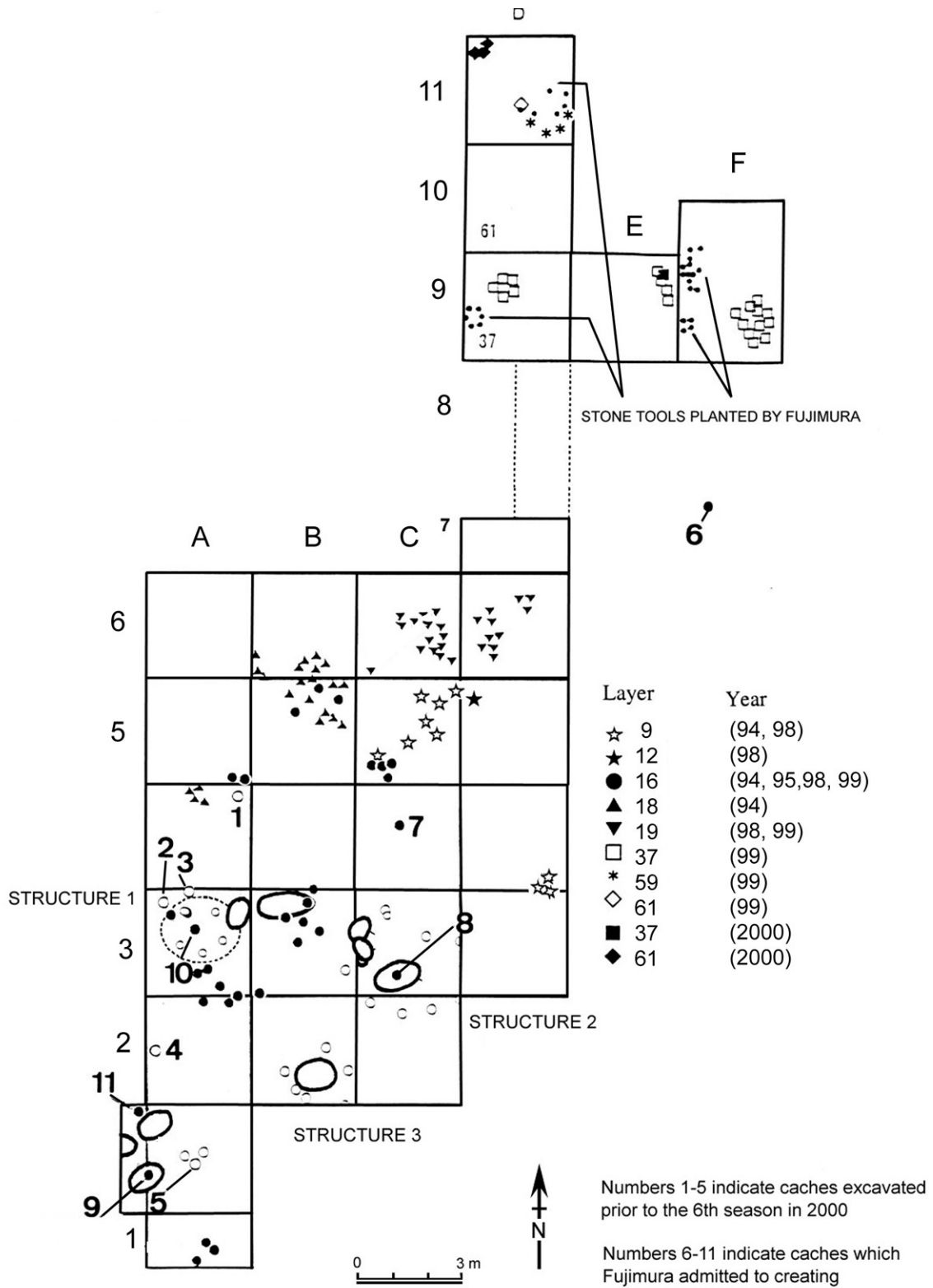


Figure 2 Plan of Kamitakamori Location B (after Kamata 2001B:22)

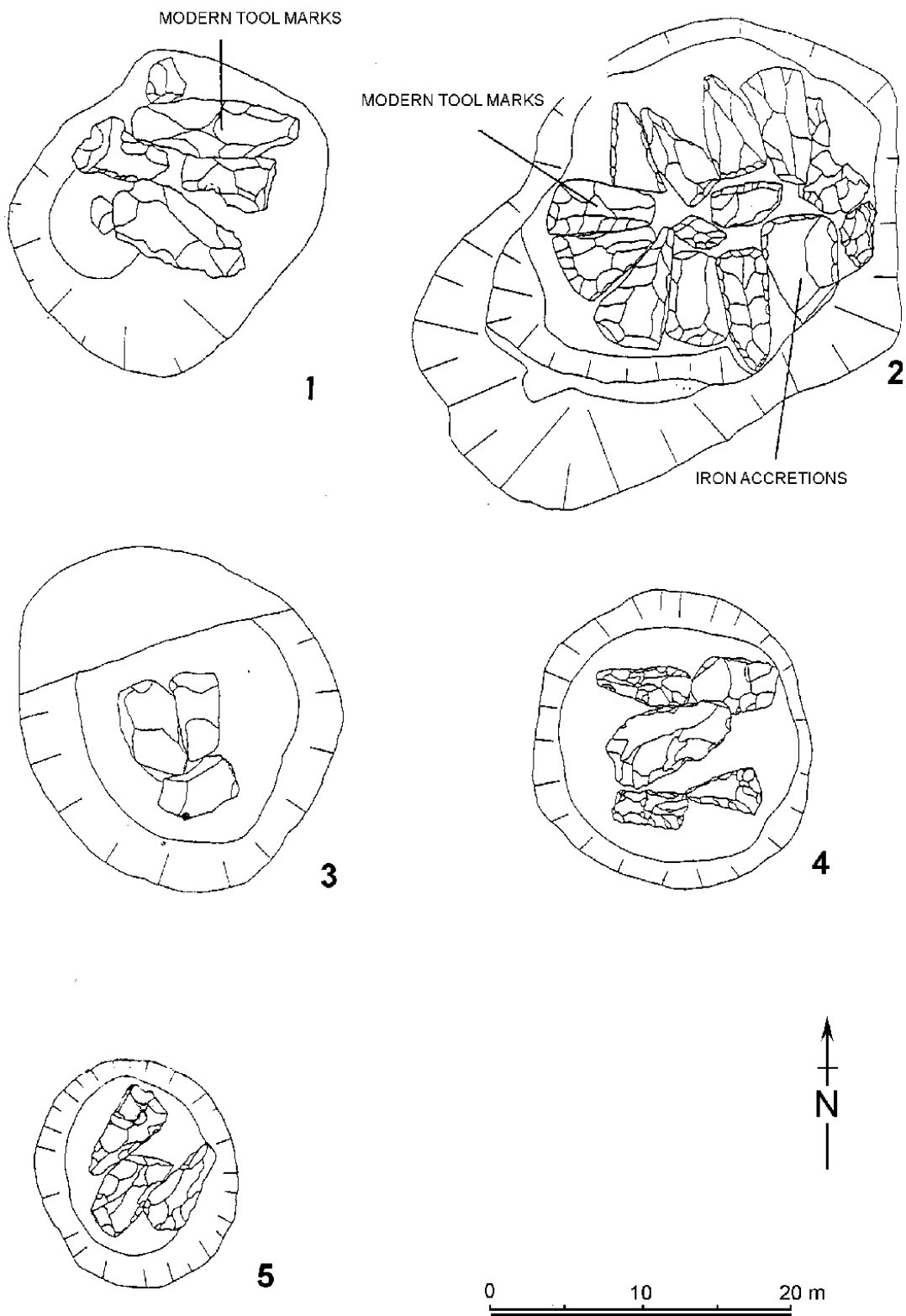


Figure 3: "Caches" of Kamitakamori Location B (after Kamata 2001B: 23)

Table 4: Palaeomagnetism: four reversals in Kuranosawa and Kamitakamori sequences

490,000-469,000 BP:	Tm-1 correlated with the Emperor excursion
560,000 BP:	Ks-1 correlated with the Big Lost excursion
630,000 BP:	Delta excursion
780,000 BP:	Matuyama-Brunhes excursion

In layers correlated with Tm-14 were discovered 37 lithic artefacts, including bifaces, found in three concentrations. Beneath Tm-14 were found 11 lithics including four bifaces found in one concentration. From beneath Ks-1 came 63 artefacts, including 34 bifaces, found in two archaeological horizons. In addition, immediately beneath Ks-1 tephra, three small pit-like features (interpreted as storage pits) had been excavated into loamy deposits.

Pit 1 contained two handaxes, two cleavers and two scrapers. Pit 2 contained 10 bifaces, one point, one core and three scrapers. These artefacts were thought to have been carefully and deliberately arranged symmetrically to the long axis of the pit. Artefacts in Pit 1 were also thought to have been arranged symmetrically. Pit 3 contained three bifaces.

A further 12 bifaces were found in two concentrations of six, four and two lithics respectively. It was thought that the concentrations were contemporaneous with the pits as they were found on the same surface as the pits were dug into. This surface was sealed by the Ks-1 tephra. Stone materials used included siliceous shale and rhyolite. Edgewear analysis of the bifaces undertaken by Kajiwara Hiroshi of Tohoku Fukushi University suggested they were used for the scraping of dry hides.

During the fourth season, (October-November 1998), 14 lithics emerged from the upper surface of Layer 19. Six of the chalcedony cores and flakes refitted. This was taken as evidence for tool manufacture - the first on any of the Early and Middle Palaeolithic sites in Miyagi Prefecture.

During the fifth season (October - November 1999), at Location B (Areas D, E & F-9), from Layer 37 (some 1.5 m below Layer 19 Upper), three concentrations of stone artefacts were found, each

c 1-1.5 m in diameter (fig 3). The 22 objects included bifacial points, wedge-shaped tools, scrapers and cores. Area E-10, from Layer 59, produced a quartzite chopper, one jasper denticulate, one jasper core, and one chalcedony flake. Also found in D-11 was a triangular-section pick from Layer 61.

In addition, in 2000, a further two chalcedony points were found at Area C-6 in Location B. In Area D-6 a further 11 artefacts were found, including small shale bifacial points, and a jasper wedge. From the upper surface of Layer 16 a further pit was found (15 cm in diameter, 5 cm deep), similar to the four already discovered. The pit contained three stone tools in two rows, bringing the number of features at this site to five.

During the sixth season, two structures and six pits were discovered (fig 2). Structure 1 comprised five holes within an area 120 cm east-west x 110 cm north-south, which seemed to open on to Pit 2 from 1995. There was also a possible feature of piled earth measuring 180 cm east-west x 170 cm north-south.

Structure 2 apparently extended beyond the area of excavation, but comprised at least seven holes, 15-30 cm in diameter and 15-30 cm deep, indicating a structure over 240 cm east-west and 240 cm north-south, at the centre of which was found Pit 4.

The site was partly re-investigated by the Miyagi Prefecture Archaeological Association, the Japanese Archaeological Association and the Northeastern Japan Palaeolithic Culture Discussion Group (not to be confused with the Palaeolithic Research Institute) in October and November 2001. The leader of the team was Sagawa Masatoshi of Tohoku Gakuin University, and drew on the resources of the special fund set up to re-investigate key Palaeolithic sites.

In the vicinity of Location B, where Fujimura had been caught planting objects, three new stone tools were found. These were judged to have been planted in the disturbance around the previous excavation area. The nature of the fills and soils on the site suggested to the team that the whole site is likely to have been contaminated through the activities of Fujimura.

4.1.2 Nakajimayama, Shikama Town, Miyagi Prefecture (Kamata 2001C)

From 1994 this site was investigated by Fujimura. It was claimed that stone artefacts had been discovered from the upper surface of the Shikahara pumice layer, some 2 m below layers dated to 100,000 BP. In 1997 a shale core from this site was found to refit with a flake from the site of Sodehara 3 in Yamagata Prefecture, some 30 km distant.

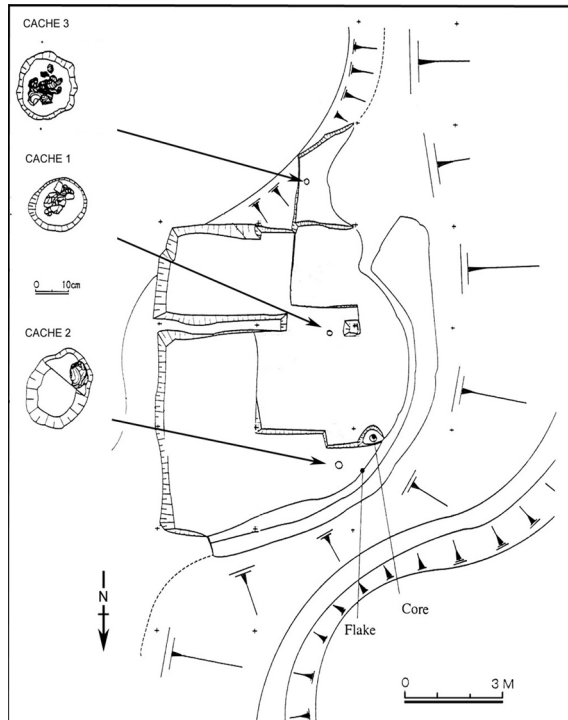


Figure 4: Plan of Nakajimayama (after Kamata 2001C:26)

The site is located in the northwestern part of Miyagi Prefecture at Shikama Town, in the middle reaches of the Naruse River, on the southern slopes of Mount Minamiyama at a height of 170 m above sea level. A series of late and final Palaeolithic sites are known from the surrounding area. The section from which artefacts were recovered runs some 300 metres north-south, and 20 distinct layers were discerned in the section. Artefacts were recovered from the upper surface of Layer 10 which correlates with the OSL-5 tephra, and which lies below a tephra layer dated to 70-80,000 BP. The Naso tephra, 20 cm thick at Nakajimayama and 10-15 cm thick at Sodehara 3, is the main marker tephra for Middle Palaeolithic sites in this area. In addition, the SK

tephra (80,000-100,000 BP) and the Toya tephra (90,000-120,000 BP) are found in the vicinity.

The results of the first season in November 1998 included the recording of three concentrations of lithics, each 1-1.5 m in diameter, and a "cache pit" found near the central concentration (fig 4). Cache pit 1 was 17 cm long (east-west) and 15 cm wide. Seventeen artefacts were recovered from a homogeneous fill. A total of 48 artefacts was recovered from the upper surface of Layer 10, including:

- Spatula-shaped objects: 1
- Oblique points: 3
- Small points: 2
- Sidescrapers: 2
- Round scrapers: 2
- Bifaces: 2
- Wedges: 1
- Denticulates: 1
- Endscrapers: 1
- Retouched flakes: 8
- Flakes: 5
- Chips: 3
- From the cache pit: 7 retouched flakes and 10 flakes

The second season, in June 1999, produced a further four concentrations of stone tools and cache pits 2 & 3 on and cut into the upper surface of Layer 10. Cache pit 2 was shallow oval pit, 23 cm east-west x 17 cm north-south. The pit had a homogeneous fill and contained one artefact in the eastern part. Cache pit 3 was 19.5 cm east-west x 18.5 cm north-south x 4.5cm deep. It too had a homogeneous fill with 22 artefacts, mainly flakes, some of which were broken through pressure from layers above, including:

- Small willow-leaf shaped bifacial point: 1
- Notch: 1
- Points: 2
- Awl: 1
- Wedges: 1
- Side scrapers: 3
- Burin: 1
- Flakes: 12

Cache pit 2 contained one round scraper, and cache pit 3 contained five retouched flakes and 17 flakes. A total of 45 objects was recovered during the second season.

4.2 Sites from elsewhere in north eastern Honshu

4.2.1 Ittouchi-Matsubayama, Adachi Town, Fukushima Prefecture (Harunari 2001A)

The site was discovered in October 1999 by Fujimura Shinichi, and the Tohoku Palaeolithic Culture Research Institute undertook investigations during which artefacts were claimed to have been excavated from layers dating to 700,000 BP. Fourteen stone tools were recovered from sections, while a further 22 were “excavated” *in situ*. The tools bore the marks of the excavation tools, had no traces of the matrix from which they were excavated, and none of the tools could be refitted nor were there any signs of the cores or a shared nodule. These were dubious features in common with the majority of the Miyagi “Palaeolithic tools”. In April 2001, investigations were undertaken in advance of housing development in Adachi Town, in seven locations near the original find spots. One of these clipped the corner of a 2 m x 2 m sondage from which 12 “tools” had previously been discovered. The new excavation opened up an L shaped area around the original find spot, but no further artefacts were found.

4.2.2 Sodehara 3, Obanazawa City, Yamagata Prefecture (Harunari 2001B:12; Yokoyama 2001)

The site is located 5.5 km south east of the centre of Obanazawa City on a volcanic terrace at a height of 220 m above sea level. Surrounding sites include Sodehara 1, 2, 4 & 5 and Urayama. Sodehara 3 was discovered by Fujimura in 1992 and investigated over five seasons from 1993-1995 under the direction of Professor Serizawa Chousuke from Tohoku Fukushi University. Two hundred and ten stone tools were discovered, and the oldest layers were claimed to date to before 350,000 BP. The municipal authorities reinvestigated the site in June-July 2001 with the

assistance of the Japanese Archaeological Association. The geological conditions at the site were problematic - and not one artefact was encountered during the re-excavation. Some of the stone tools were considered to refit with artefacts from Nakajimayama site over 30 kilometres away in Miyagi Prefecture, on the other side of the Dewa mountain range. This has turned out to be one of the most problematic of the Early Palaeolithic sites.

The discoveries can be summarised as follows:

Culture Layer 1 (layers 10-11): bifaces, scrapers, points, awls, denticulates, notches, flakes. **Mainly shale, but also some agate, diorite and tuff.** One large scraper appears to have been made from a flake which refitted with a core from Nakajimayama.

Culture Layer 2 (layer 16 upper surface): bifaces, small bifacial points. **Materials included shale and red jasper.**

Culture Layer 3 (layer 18 upper surface): bifaces, side scrapers. **Materials included jasper, chalcedony, agate and shale.**

Culture Layer 4 (layer 21 upper surface): bifacial spatula-shaped objects, scrapers, points, small points, wedges, notches, denticulates. **Materials included shale and jasper.**

Culture Layer 5 (layer 22 upper surface): bifaces, retouched flakes. **Materials were shale and rhyolite.**

Culture Layer 6 (layer 23 upper surface): bifacial spatula-shaped objects, small bifacial points, scrapers and flakes. **Materials included shale, rhyolite, agate and chalcedony.**

Culture Layer 7 (layer 32 upper surface): denticulates, wedges, scrapers, bifaces and flakes. **Materials included shale and rhyolite.**

Culture Layer 8 (layer 34 upper surface): Jasper wedges and flakes.

Four tools and flakes were discovered at the nearby site of Sodehara 6 from layers apparently dating to before 600,000 BP. It appears, however, that they were found in the remains of a pyroclastic flow and moreover, three of the pieces refitted with the breaks looking very fresh.

4.2.3 Hyotan Cave, Iwaizumi Town, Iwate Prefecture (Kamata 2001A)

The site was chosen for excavation because it had the potential for providing a stratified sequence that would complement the emerging record of Palaeolithic occupation in Japan. A research group was formed by the Tohoku Palaeolithic Institute and Tohoku Fukushi University, and the site investigated over six seasons from 1995-2000. Fujimura was involved in the project. The site is in the town of Iwaizumi and is in one of the largest volcanic zones in the country. There are some 100 caves and rock shelters of various sizes in the area, some 20 of which have traces of human activity. Hyotan Cave lies 178 m above sea level, some 50 m above the original riverbed.

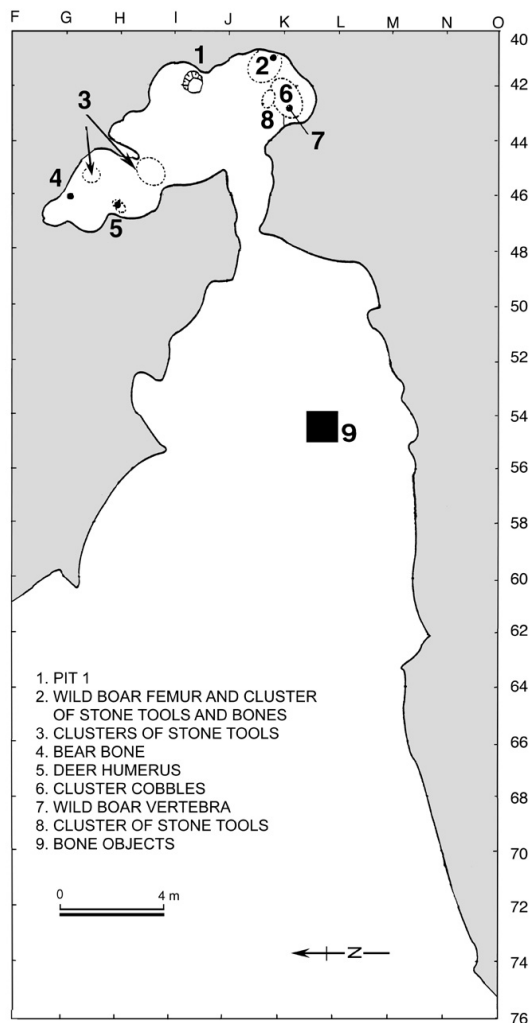


Fig 5: Plan of Hyotan Cave (after Kamata 2001A:13)

From the entrance to the back wall the cave measures about 20 m and it is about 10 m high (fig 5). The current entrance is thought to have opened over 300,000 years ago. A series of tephras has been identified on the slopes around the cave, including Aso 4. The results of the investigations can be summarised as follows:

1995 (1st season): deer bones and teeth from Grid A Layer 10. From Layer 18, 1 rhyolite scraper; from Grid C Layer 6, 2 shale oblique points, 3 shale scrapers and a bear tooth.

1996 (2nd season): Grid A Layer 11a, 1 shale scraper, 1 retouched piece; 1 flake, 2 deer bones; layer 12a produced 1 shale oblique point, 2 shale scrapers, 1 shale retouched piece, and 1 clam shell. Layer 12c produced 1 oblique rhyolite point, and from Grid D layer 3 lower part, 1 partly polished stone axe and unidentified bone fragments.

1997 (3rd season): 1 shale bifacial blade scraper from Area A layer 18, 1 bifacial small point; from Area E layer 6 2 shale side scrapers, 1 small point, 2 retouched pieces, 1 flake.

1998 (4th season): As well as Areas F & A, a rockshelter some 22 m below Hyotan Cave was investigated. From Area A layer 18, 2 shale oblique points, 5 bifacial points, 1 scraper, and 1 tool with edge wear marks. Area F, a pit (80 cm east-west x 60 cm north-south x 45 cm deep) - from the upper parts of the fill, 1 shale oblique point and 1 rhyolite notch. 1 deer bone, and from the lower part 1 shale scraper. From the rockshelter 1 shale spear point, 1 side-scraper, 1 flake with edge wear and 1 deer bone.

1999 (5th season): From Areas A, B and D, some Initial Jomon pottery (c. 9000 BP). Many arrowheads and spatula-shaped lithics, scrapers and animal bones, needles and other objects made from bone, and some rare flat-shell beads. Some concentrations of animal bones. This seems to have been an Initial Jomon occupation - complete with fish bones. Final Jomon and Yayoi pottery were also found.

Area F2, from Layer 5 (100,000 BP), 9 stone tools in a tight cluster. Shale oblique point 1, 3 shale or rhyolite scrapers, 2 shale wedges, 1 shale retouched flake, 2 shale flakes. Nearby were deer, mountain deer and bear bones.

F3 layer 3: 1 jasper scraper, 1 retouched shale flake and 4 deer bones. Thought to be 40-50,000 years old.

2000 (6th season): In 1999, a team from Aichi Education University was unable to recover any more of the bone tools which had been discovered in 1996 in Grid A. However, in Grid B, some final Palaeolithic and Initial Jomon materials were recovered from Layers 4-8, including some Jomon pottery and animal bones.

From F2 Layer 6 upper surface (correlated with A layer 17 and dated to before 100,000 BP), came a bear bone, and from the upper surface of Layer 7 (A layer 18 upper surface), came 1 denticulate and 2 retouched flakes and 1 flake, giving a total of 4 stone artefacts.

From F3 layer 4 (A layer 10 = c 50,000 BP) came a wild boar bone. From the upper surface of layer 6 (= A layer 17) came two concentrations of lithics:

Small bifacial point: 1
End scraper: 1
Side scraper: 1
Denticulate: 1
Awl: 1
Jasper cobbles: 4
Retouched flakes: 1
Flakes with usewear marks: 2
Spatula-shaped objects: 2
Flakes: 3
Wild boar bone 1

From Layer 9 upper surface (correlates with A layer 19), 1 small bifacial point, 1 denticulate, 1 retouched flake, 5 flakes with use marks, 1 flake (total: 9).

Preliminary analysis of the material recovered to date suggests much of it appears to be Middle Palaeolithic, with flakes being struck from a discoidal core. A later component is also represented by the partly polished stone axe from Layer 3 in grid square D, which is probably from the start of the Late Palaeolithic. Palaeomagnetic dating suggests that Layer 10 dates to 40-50,000 BP while Layer 19 dates to 120-130,000 BP.

4.2.4 Kashiwayamadate, Kanegasaki Town, Iwate Prefecture (Kikuchi et al 2001:4-5)

Kashiwayamadate produced Palaeolithic remains from three of the five identified stratigraphic layers (fig 6). It is one of a series of sites in the middle reaches of the Kitakami River, in an area where marker tephros including AT, Aso-4, On-Pm1, and Toya are widely found (fig 7). The site is 75-77 m above sea level, some on a terrace 15 m above the local river, a tributary of the Kitakami. The site is a multiperiod occupation, with remains from the Palaeolithic, Jomon and Early Historic periods. Fujimura does not seem to have been involved in this excavation which makes the sequence of particular interest as a possibly unadulterated example of a Palaeolithic assemblage. The remains claimed to be Palaeolithic comprise the following:

Layer IIa Upper surface: 44 objects including:

Microlithics: 11
Flakes and other debitage: 30
Cores 1
Trapezes 1
Choppers 1

Layer IIa Lower: 600 objects including:

Shale knives 16
Burins 4
Blades 30
Flakes 200
Pendants 1
Red iron oxide lumps 3

Layer IIb: two surfaces within this horizon produced 87 stone objects of chert, chalcedony and rhyolite and some wood charcoal.

Trapezoids: 15
Scrapers: 6
Chopping tools: 1
Hammerstones: 5
Flakes and debitage: 60

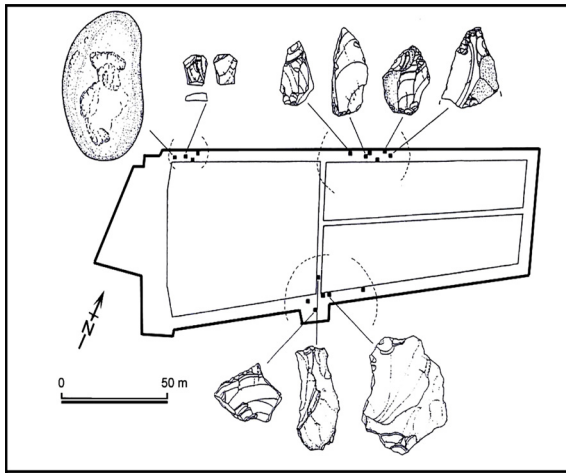
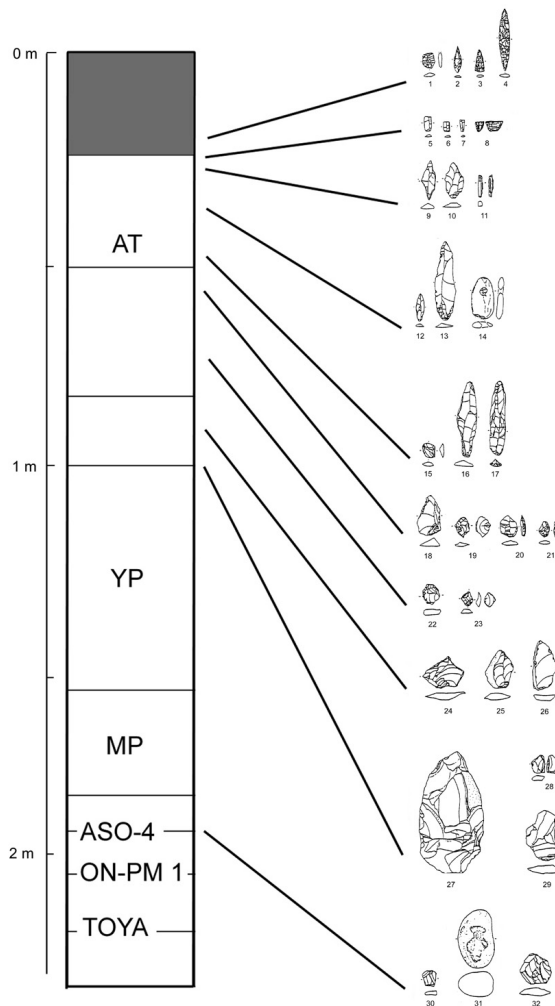


Fig 6: Clusters of lithics from Kashiwayamadate cultural horizons IIc and IVa (after Kikuchi et al 2001:9)



27-29, 32: Kanetori site
 1, 5-7, 9-11, 18, 19, 22-26, 30, 31: Kashiwayamadate site
 Others from other sites in Kitakami River drainage

Fig 7: Tephra stratigraphy and variations in stone tools from the middle drainage of the Kitakami River (after Kikuchi et al 2001)

Layer IIc: the upper part contained 3 knives and the lower part contained 2 oblique points and 3 scrapers. Five of the objects were of rhyolite, the others of hornfeld and shale.

Layer IVa: a cracked surface was interpreted as an occupation floor and produced 1 small flake, 3 hammerstones and a small amount of charcoal.

4.2.5 Kanetori, Miyamori Village, Iwate Prefecture (Kikuchi et al 2001: 5-6)

Located in Miyamori village, at a height of 245 m above sea level, on a terrace some 20 m above the local river, this site was first identified in 1984 when chipped stone axes were discovered. The site was subsequently excavated by the village Board of Education. The site was considered particularly important as it appeared to extend the range of known Middle Palaeolithic sites beyond the borders of Miyagi Prefecture. Fujimura was not involved with its excavation. Five layers were distinguished, the uppermost (Layer I), containing Jomon materials. Charcoal from Layer II was radiocarbon dated to 23+450 BP (Gak-13, 090) and Layer IIIc-d was dated to c 33,000 BP. The upper surface of layer IIIc was considered to be an occupation floor from which 31 stone artefacts were recovered, including one axe, one discoidal core, one chopper, six scrapers, 13 flakes, five pieces of debitage, three burnt cobbles and charcoal. Layer IV, which was subdivided into three sublayers (a-c) included a pitted surface with charcoal, correlated with the Aso-4 tephra. The seven artefacts from this horizon included a scraper, an axe, three choppers, one chopping tool and one flake.

4.3 Sites along the Abukuma River, Fukushima Prefecture

4.3.1 Takenomori, Fukushima City (Yanagita 2001)

Takenomori is located in the middle reaches of the Abukuma River drainage in Fukushima City on a thick volcanic terrace some 340 m above sea level. In 1990 Fujimura reported the discovery of 10 stone tools from exposed sections, from horizons which

lay between two key tephra layers, the Daisen-Kurayoshi Pumice (DKP) and Aso-4. The site was subsequently excavated twice by the Department of Archaeology of Koriyama Women's University from 1992-3. Two assemblages of "Middle Palaeolithic" artefacts were discovered. Thirty two objects from the upper surface of Layer 24 included bifaces, points, knives, basally retouched tools, drills, scrapers, wedges, flakes and debitage. No cores were discovered, but the form of the flakes suggested the use of discoidal cores. The largest biface was c 10 cm in length, and the flakes were 4.5-5 cm long. Nearly half of the objects were made of shale, other materials included tuff, rhyolite, andesite, chert and chalcedony.

Fujimura is also associated with discoveries made at other sites along the Abukuma River. At Ueno-Dejima, in Higashi village, at a height of 321 m above sea level, six oblique points and three flakes of shale, rhyolite, jasper and agate were discovered by Fujimura in 1989, apparently beneath the Shikanuma Pumice layer (Ag-Kp), dated to 31,000 - 32,000 BP. At Odaira, in Nishikyo village, near the border with Tochigi Prefecture, six artefacts were discovered by Fujimura in 1989 below one of the pumice layers originating from Mount Akagi in Gunma Prefecture (Ag-Nu). In 1990-1991, 200 m² of the site were excavated resulting in the discovery of a further 54 artefacts from between Layer 6 (Ag-Nu) and Layer 8 (Daisen-Kuroyoshi Pumice, DKP). This horizon was accordingly dated to c 45,000 - 50,000 BP. The artefacts, many of which were c 5 cm in length, included spatula-shaped objects, bifaces, oblique points and scrapers. Over 40% of the objects were made of shale, other materials including agate, chert, andesite, rhyolite, chalcedony, tuff and quartzite.

4.3.2 Harasekasahari (Fukushima Prefecture) (Yanagita 2001)

This site is located on a terrace some 280 m above sea level in the city of Nihonmatsu. In 1994 Fujimura reported the discovery of five "Palaeolithic" tools from an exposed section. The site was subsequently investigated under the direction of the Department of Archaeology at Koriyama Women's University over

three seasons, from 1995-7. Five cultural horizons were identified:

Cultural horizon 1 (the upper surface of Layer 16b) produced 10 artefacts, which were added to those recovered from the section by Fujimura. They included bifacial points, scrapers, spatula-shaped objects and flakes. They were mainly 5-7 cm in length and were made of shale, quartzite, andesite, rhyolite and jasper. This layer was sandwiched between two dated tephra layers (Nihonmatsu No 3 pumice and Aso-4), dated to 55,000-60,000 BP and 86,000 and 90,000 BP respectively.

Cultural horizon 2 was about 1.6 m below horizon 1, separated from it by three pumice layers, and was located in Layer 26. Seventeen stone tools were recovered, including spatula-shaped objects, small bifaces, scrapers, small keel-shaped tools, knives, wedges, flakes and cores. These tools were generally smaller than those in horizon 1, approximately 3-4 cm long. Most of them were made of chalcedony and quartzite, the remainder being shale, rhyolite and agate. Layer 24, above this cultural horizon was dated by OSL dating to 113,000-136,000 BP.

Cultural horizon 3 was located between 1-1.5 m below horizon 2, in Layers 39, 40 and 41. The layers between the two horizons (Layers 30-38) comprised mixed pumice and scoria. Lithics included bifaces, small bifaces, knives and scrapers, clustering in size between 3-4 cm and 5-6 cm. About half the objects were of andesite, the rest being chalcedony, quartzite and rhyolite. The upper surface of Layer 41 was considered a possible occupation floor. Layer 35, above this cultural horizon, was dated to 129,000-155,000 BP by OSL dating.

Cultural horizon 4 was 80 cm below the third horizon. Fourteen stone tools were found in Layer 47 including spatula-shaped bifaces, small basally retouched pieces, scrapers and flakes. They were mainly 4-6 cm long. Over two thirds were of shale, the remaining being andesite and rhyolite. Layer 47 was dated to 290,000-348,000 BP by OSL dating, and the cultural horizon was estimated to be around 300,000 BP.

One metre beneath cultural horizon 4, a rhyolite core or chopping tool was recovered from Layer 50b, and was assigned to Cultural Horizon 5.

4.4 Sites in central Honshu

4.4.1 Tama New Town Site 471B, Metropolitan Tokyo (Harunari 2001B: 14)

Tama New Town is a major new residential development in the western part of the Kanto plain. Archaeological investigations have been undertaken there since the 1960s. From May to July 1987, the Tokyo Metropolitan Archaeology Centre undertook excavations at the site where Fujimura indicated he had found Palaeolithic tools in May that year. In May stone tools were recovered from layers above the Tokyo Pumice (dated to 50,000 BP) and in June artefacts were found below that layer. Thirteen stone tools were discovered. Five of these were found in a cluster close to the edge of the section, while a further seven of the remaining eight were found the first working day after Fujimura had visited the site. Although some 300 containers of earth from the site were subsequently sieved, no debitage was discovered. Ten of the “tools” bore metal tool marks, none had any traces of the loam matrix, and the majority of the stone material was typical of sources from Miyagi and Fukushima Prefectures, some 200 km to the northeast. Various aspects of the site were mysterious and even at the time some of the workers on the site thought Fujimura’s involvement rather peculiar.

4.5 Chichibu sites: Nagaone Kita, Nagaone Minami, Kojikazaka (Harunari 2001A: 11-12)

These sites were discovered from May 1999 by Fujimura in the Ota Hills in Chichibu City, Saitama Prefecture. From January to August 2000 some 33 locations comprising seven sites were investigated by the Saitama Prefectural Archaeology Unit, and claims were made for structures and features including post-holes and grave pits dating to 350,000 - 500,000 BP (figs 8-11), causing considerable excitement within the media and those interested in archaeology. Subsequent to the exposure of the fraud, Saitama Prefectural Board of Education, which has responsibility for the work undertaken, has indicated

that at least 16 of the 33 features are not real, and that among the stone tools recovered, there are many Jomon arrowheads and awls. A team led by Professor Kobayashi Tatsuo of Kokugakuin University in Tokyo has re-examined 162 “stone tools”, looking for the telltale signs of faking. Geological examination has concluded that none of the “tools” are made of the locally available chert. The form of the tools and the techniques used in their production was shared by the “Early and Middle Palaeolithic tools” from Miyagi Prefecture.

4.6 Hokkaido: Soshin Fudozuka, Shin-Totsugawa Town (Nagasaki 2001)

This site was discovered in 1998 by Fujimura and investigated over three seasons by the Tohoku Palaeolithic Institute and Sapporo International University. It is the northernmost of the claimed Early and Middle Palaeolithic sites and the only one in Hokkaido. Three cultural horizons, or sites, were claimed dating to 40-50,000 BP, 60-90,000 BP and 200,000 BP respectively.

The site is located on a terrace overlooking the Ishikari River, one of the major drainages in southern Hokkaido, at a height of 90 m above sea level. It is one of a series of sites, others including Shimoban Nishi (Shimizu town), Tengu-no-hana (Uruasu Town) and Biboshi (Hokuryu Town). Finds from the first two seasons at Soshin Fudozuka (1998, 1999) included the following:

Layer 6 Upper surface: 4 “Middle Palaeolithic” tools of siliceous shale

Oblique points: 2
Basally retouched tool: 1
Flake with use marks: 1

Layer 7 Upper surface: 5 “Middle Palaeolithic” tools

Sidescraper: 1
Flakes with use marks: 2
Basally retouched tool: 1
Long flake: 1

Layer 10 Four “Early Palaeolithic” lithics.

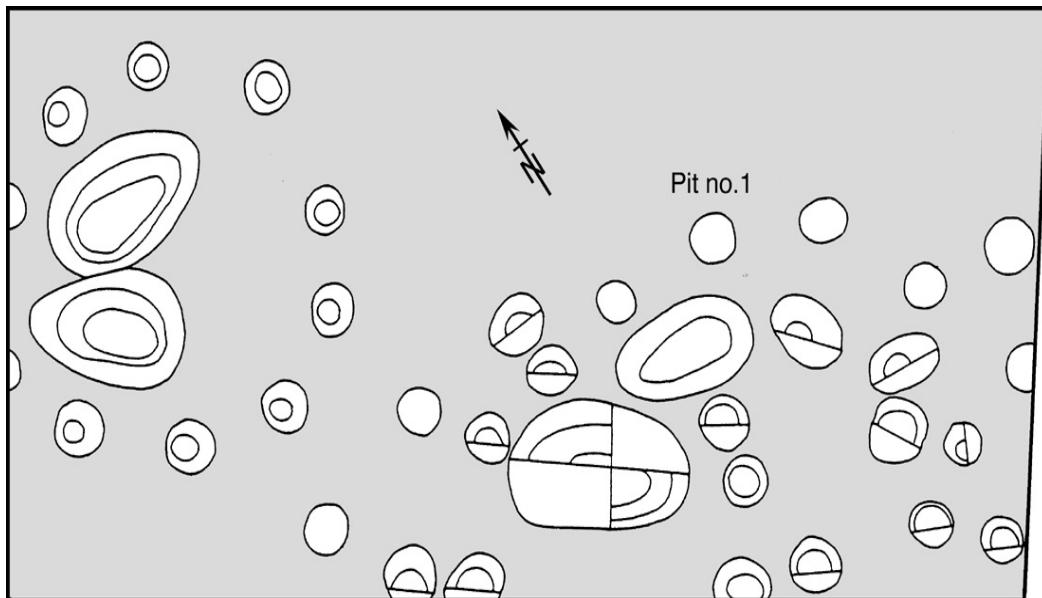


Figure 8: Plan of features from Nagaone (reproduced in Harunari 2001D:44)

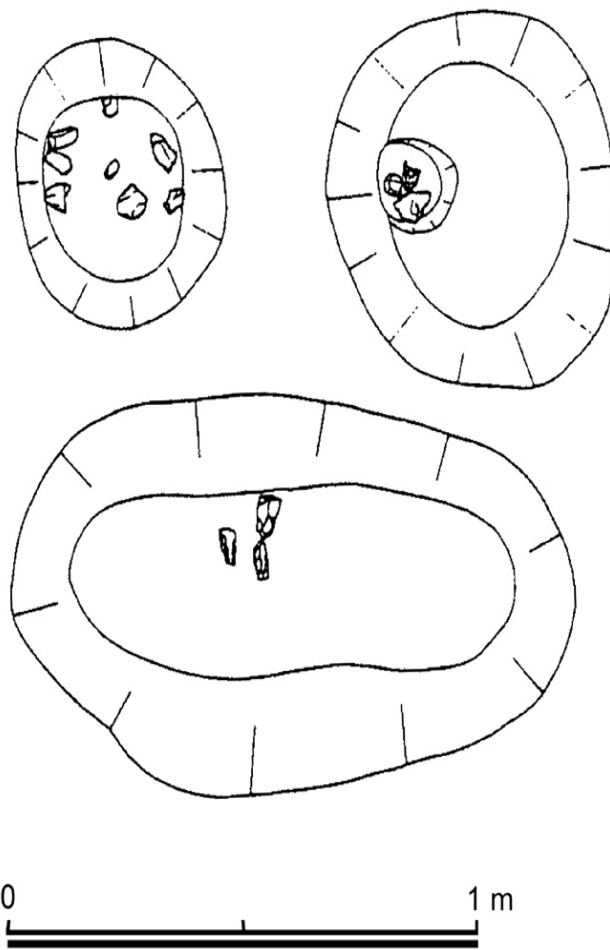


Figure 9: Plan of "caches" from Nagaone (reproduced in Harunari 2001D:44)

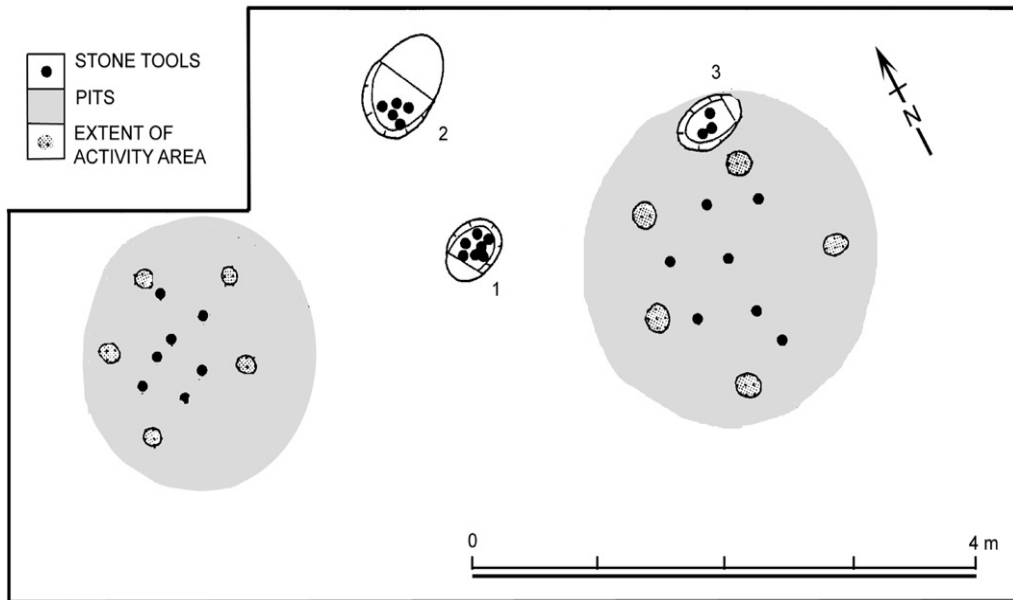
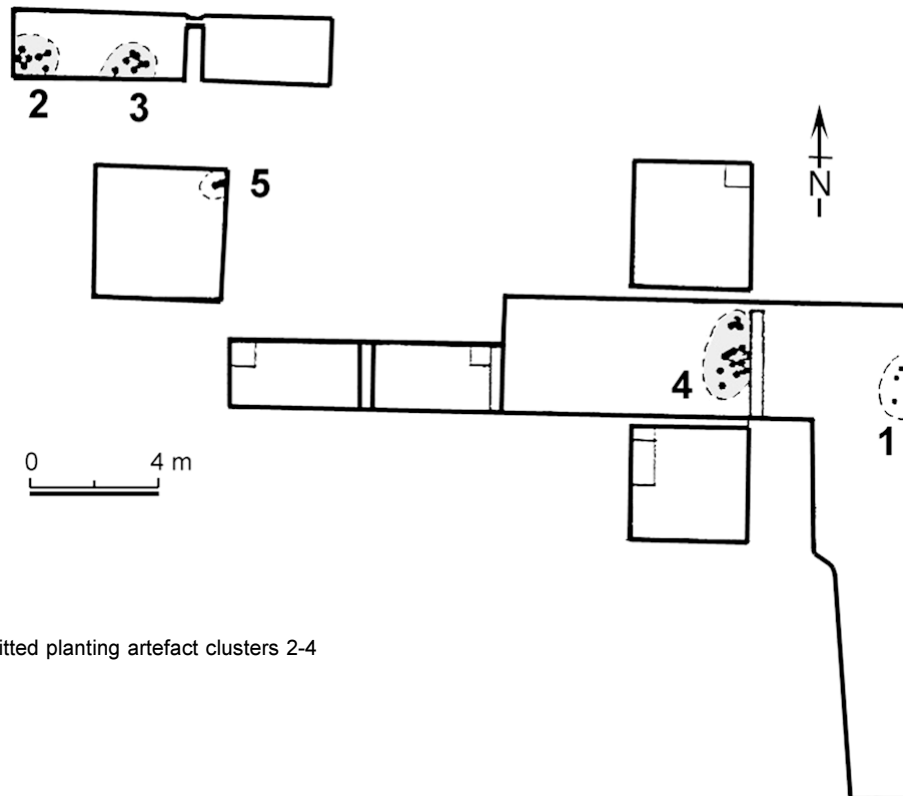


Figure 10: Plan of "features" from Kojikazaka (reproduced in Harunari 2001D:44)



Fujimura admitted planting artefact clusters 2-4

Figure 11: Plan of Soshin Fudozuka (after Nagasaki 2001:3)

Fujimura has claimed that he introduced fakes during the September 2000 season, but denies any wrongdoing at the site previous to that. However, the objects from the previous investigations bear the same telltale signs seen on the other fakes. The site was reinvestigated between August and September 2001 by the Sapporo International University with the support of the Japanese Archaeological Association. Near the original findspots, some new discoveries were made, once again comprising stone materials from Miyagi Prefecture - strong evidence that the claims for Early Palaeolithic materials were spurious, and that the Middle Palaeolithic finds were dubious.

5 Conclusions

The exposure of Fujimura Shinichi's fraudulent activities has shaken Japanese archaeology. It is perhaps still too early to assess fully the impact of the scandal, as the work of the Special Committee is still underway. Trust in the archaeological record and in archaeologists has been undermined and considerable resources are now having to be spent on attempting to assess the extent of the problem. There are still no good reasons why Early and Middle Palaeolithic remains should not be found in the Japanese archipelago - the Chinese mainland was occupied by one million years ago and Japan was accessible at times of low sea level. The problems caused by the incident have been compounded by the speed with which the claims were accepted, with the result that official authorised Japanese high school history text books refer to the Early Palaeolithic, and the permanent displays in the august Tokyo National Museum in Ueno Park were altered to accommodate Japan's earliest ancestors.

The vast majority of the large number of archaeological excavations undertaken in Japan over the past decades has been undertaken as a result of development. The programme of research archaeology into the Palaeolithic of Japan should have stood as an example of interdisciplinary study which engaged both academic scholars and

informed amateurs, the impact of which enthused government agencies charged with overseeing the protection of cultural property against threats from development. It is to be hoped that the "scandal" does not lead to a wholesale rejection of the significance of amateur archaeological endeavour, especially when it is apparently so closely tied into academic research frameworks.

Harunari Hideji, Professor of Archaeology at the National Museum of Japanese History, has reviewed the raft of publications which have resulted from the forgery incident (2001A,B,C,D). One of the earliest publications resulted from a symposium held at the National Museum of Japanese History in January 2001 at Sakura, between metropolitan Tokyo and the New Tokyo International Airport. At this meeting, the fundamental themes were laid out which have since dominated most discussions: the need for objectivity in academic studies, the development of a fuller understanding of the Japanese Palaeolithic, in particular the character of the Early and Middle Palaeolithic records, methods for authenticating Early and Middle Palaeolithic stone tools, and the absence of hominid remains in Japan. These are all themes which are too important to be overshadowed by the misguided actions of a single individual. Even if most of the recent sites thought to have held the key to understanding the Early and Middle Palaeolithic in Japan turn out to be contaminated by the *netzuzo jiken*, it is to be hoped that this is the beginning, rather than the end, of serious, critically-informed research into the earliest occupation of the Japanese archipelago.

Acknowledgements and confessions

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Notes:

Japanese names are given in the usual Japanese order, family name followed by first name.