THE PAIJAN COMPLEX, PAMPA DE CUPISNIQUE, PERU

Claude Chauchat

Since its discovery by Larco and Bird,[1] the "Paiján" complex has been alluded to in the Peruvian archaeological literature but until recently has received very little attention from scholars, so that no precise description of the tool assemblages was available. Recently, Paul P. Ossa has presented abundant and precise data on various aspects of the "Paiján" occupation of the Moche Valley, an area some 50 km. south of Paiján, where no previous indication of this industry was known.[2] A consistent set of radiocarbon age determinations places this complex earlier than was generally thought.[3] The tool assemblage comprises a variety of long stemmed projectile points, bifacials, sidescrapers--some of them similar to the European Mousterian "limaces" or slugs--denticulates and pebble tools. Unlike the industry from Lauricocha and other related sites of the Central Andes from Guitarrero to the Ayacucho area, the Moche Valley lithic assemblages have no endscraper.

This article is intended to be a further contribution to a definition of the Paiján complex through the description of some surface collections from the south side of the Pampa de Cupisnique, some 20 km. north of the town of Paiján. This collection was made by several members of the Chan Chan-Moche Valley Project and left to me for further study and publication. Subsequently, I made a personal and more extensive survey of the area, collected several isolated pieces of interest, made a systematic collection on a chosen workshop and discovered more interesting details about this and other nearby sites. At present, a more intensive project is being started to study the Cupisnique-Paiján area, sponsored by the French Centre National de la Recherche Scientifique and under the supervision of Professor François Bordes and Denise de Sonneville-Bordes. We hope to gain further insight into this long but poorly known early culture of the north Peruvian coast.

The Site

The site dealt with here is a very large and complex group of surface lithic scatters in a small quebrada on the west side of Cerro Tres Puntas, approximately 3 km. east from km. 634 on the Panamerican Highway (fig. 1). Its south and eastern boundaries are clear enough, since it is blocked on these sides by rocky hills and a dry riverbed but on the northwest side it extends slightly more than 1 km. downhill along the banks of the river.

The site can be readily separated into small discrete units easily visible in the field as spots of various colors. The most visible spots are interpreted as workshops for manufacture of projectile points. In these spots the surface is littered with thousands of flakes and bifacial pieces abandoned at all stages of working. A yellow-pinkish volcanic stone (rhyolite) from a nearby outcrop is the most common material knapped in these workshops, and its color makes them stand out,

even for the least trained observer, against the otherwise gray surface of the desert. Several other materials can be found in these workshops, but their origin is still unknown. These materials include a green cherty stone, a gray fine-grained limestone, gray quartzite, milky quartz, rock crystal and yellow jasper. There is a definite difference in the material used for different kinds of implements. Projectile points are usually made of rhyolite, occasionally of green stone and quartzite, and very seldom of other materials. Only one scraper made of rhyolite is known.

Units containing a majority of implements knapped of black or brown stone are found all over the site. These implements are generally scrapers, denticulates, pebble-tools; any kind of bifacial is generally scarce. Because of their distinctive color, these units are commonly referred to in the field as "the black units." The situation of the black units does not suggest an earlier or later occupation but rather a part of the same site where different activities were carried on at the same time.

A little farther uphill and on the other side of the dry river lies the most important quarry site (see fig. 1). It consists of an outcrop of pink rhyolite about 30 m. high, whose top alone is visible, all the slopes being covered by a considerable amount of knapping debris.

The General Surface Collections

The Chan Chan-Moche Valley Project collection is a general surface collection of 595 implements without any precise provenience within the site. It has been given the code number A1. It was made by several persons with varied aims as well as training in recognizing lithic pieces. The black units were not identified as such, although we suspect that several pieces come from them. The quarry site was not visited either but was seen from a distance and pointed out to me (see Addendum).

A2 is an additional collection made by the author in 1972, containing sixty-eight pieces mainly from outside the units. However, some pieces were collected during a first visit to the quarry site.

A3 is a small collection made at other sites situated more to the east on the same side of the Pampa de Cupisnique. It will not be described here. However, some objects illustrated here belong to this collection.

A4 consists of seventeen pieces collected during a surface survey of the quarry site. Since it is a more precisely located collection, it will be described in the following pages.

It is difficult to make inferences about the whole industry from the collection in hand for several reasons:

1. These collections are not random samples from the assemblages existing on the site. The pieces have generally been chosen because they were conspicuous or were beautifully made, or were different

from what was known in the Moche Valley, or for some other interesting feature.

2. Even if we had random samples of every kind of unit present at the site, we may never know the quantitative relationships between the various assemblages as they would occur in a living site such as a cave where the limited space forces the mixing of remnants of different activities.

3. It is even difficult to form a clear idea of the more specialized toolkit of projectile points, since all we have is a great number of preforms, broken and unfinished pieces from which it is not always easy to perceive the ultimate shapes of the pieces and the quantitative relations between different types.

It is consequently not possible to repeat here even approximately the work done on Kiqche and Tres Ventanas caves [4] where we were dealing with living sites, even if the excavation techniques there were of dubious quality. We are able to draw some conclusions from the present material, but these conclusions can only be of a qualitative order.

Projectile points

It seems that the finished product of the technical process conducted in the workshops was always intended to be a stemmed point. The most elaborate pieces, i.e., those which have the most regular and symmetrical shape, the finest retouch, always show traces of both bifacial knapping with a soft hammer and pressure flaking. Pressure flaking removes rather short chips whose traces never completely cover the piece in its maximum width area. This effect can be seen as either the result of a particular technique or of the nature of the material involved. Since different materials employed show the same sort of retouch, we incline toward the first alternative. The traces of previous knapping can always be seen in the maximum width region, and the previous knapping is always of the sort made with a soft hammer (wood, bone, or antler). We infer from these characters that the manufacture of a stemmed point always passed through two stages: making a laurel-leaf bifacial or foliate piece by percussion flaking, and then shaping it into a stemmed point by pressure flaking. The definitive shape of the projectile point is attained only during the final stage; more specifically, the tip and the stem are shaped only by pressure flaking. Smaller points made on thin flakes or small tabular blocks are the only exceptions where pressure flaking is directly applied to a previously unretouched piece of stone (figs. 18-20).

Some experiments with knapping confirm that it is very difficult to make projectile points of these dimensions and forms without passing through the laurel-leaf intermediate stage. Indeed, the possibility of use of foliate bifacials as tools with no further modification cannot be discarded, but there is no evidence suggesting such use at this stage of research. On the contrary, all the evidence available points to their interpretation as abandoned preforms of stemmed points.

Stemmed points can be separated into several classes. The classification given here, which does not take into account dimensions, especially in the form of relation between length and maximum width, should probably be considered provisional.

All classes have in common the shape of the base (stem). The stem is slender and has more or less parallel sides; its base is straight in the best retouched specimens, although irregular forms where this extremity is retouched carelessly predominate (figs. 10, 17). Slightly expanded forms do exist but it is doubtful that these stems are finished. We also tentatively interpret as unfinished specimens wider and rounder ones, often with smaller notches and less marked spines (fig. 16).

A. Lanceolate stemmed points (figs. 6, 7, 10). This class contains pieces with convex-sided bodies; the maximum width is distinct from the base of the body; an inflection point exists between the body and the tip, which is very long, thin and sharp (figs. 8, 9). Tips of this sort have been mistakenly described by Lanning as awls in the Luz complex.[5]

B. Triangular stemmed points (figs. 11, 12). This class comprises only specimens with straight sides. The maximum width is located at the base of the body; the inflection point is absent.

C. Intermediate class (fig. 13). Some pieces do not share all the characters of either of the first two classes: the maximum width may be situated at the base of a convex-sided body, or the convexity may be so poorly marked that attribution to class A is dubious.

D. Miscellaneous points (figs. 14, 15). This class contains all the stemmed points that do not fall within the other three classes.

Bifacials

Whole and broken bifacials represent the most numerous artifact class in these collections. They are particularly difficult to describe and classify. All the stages of manufacture are represented from the block with only a few traces of blows to the elongated, thin and regular foliate piece (fig. 5). Bifacials of the type described by Lanning and Patterson from the Chivateros site, Chillón Valley,[6] have been collected and their presence here in a context clearly indicating projectile point manufacture gives weight to their interpretation as blanks instead of a particularly crude sort of implement. Pieces intermediate between Chivateros bifacials and laurel-leafs are abundant. They generally show traces of bifacial flaking with soft hammer and successful or unsuccessful attempts at thinning. The meaning of the Chivateros bifacials will be further discussed below along with the quarry-site description.

Common tools

This broad class of implements is not well represented in the available collections. A majority of the tools can be characterized as sidescrapers, endscrapers being totally absent. The remaining part of this class contains notches and denticulates and quite a few pebble tools.

Most types of sidescrapers are well known in early and middle Palaeolithic cultures of the Old World. Simple and double sidescrapers exist in these collections and do not need any particular description (figs. 21-23). Ossa separated a particular type of sidescraper known in the French literature as "limace" (slug), a type existing in the Quina-Ferrassie Mousterian of Western Europe. True "limaces" exist here also, but several pieces do not seem to fall within the range of variation acceptable for this category. We prefer to lump "limaces" and these related pieces into a class called "unifacials" as opposed to bifacials and defined as follows: pieces on flakes or tabular blocks retouched on one face only all around the edge to give them an ovate, or foliate shape. They can be more or less thick, have one (fig. 29) or two opposite points (fig. 27) or none at all. Some of these pieces are true unifacial points, others are ovate, only a few are similar to the Mousterian "limaces," i.e., thick and bipointed, with "Quina-style" retouch (fig. 28).[7]

Borers do exist but they are rare; the only one found was isolated; it is made on a small jasper block and has three points (fig. 24).

Denticulates are comparatively abundant; they show a clear tendency to be thick, have steep edges and their notches are generally of the Clactonian type (fig. 25).[8] Massive denticulates were seen in the black units. Some single notches are of the retouched type (fig. 26).

From our observations in the field it seems that the provenience of the various classes of common tools existing in the A1 collection is particularly imprecise. There is no evidence at this stage of the research upon which to decide whether they come from the black units or from the workshops. Some workshops clearly contain a good proportion of implements pertaining to the categories existing in the black units while others do not, a fact which further complicates the situation. An exhaustive collection in a workshop which apparently did not contain implements similar to those of the black units led to some interesting observations in this respect as well as yielding a number of other data.

Exhaustive Collection from a Workshop

The workshop chosen for this collection (B) is situated on a gentle slope and more or less in the center of the site. It has a diameter of about 15 m., a size that seems the average in the site. It was given the unit number 42. In the middle of this workshop was drawn a square of 6 x 6 m. or 36 $m.^2$ and all the material visible on the surface inside this square was collected (B1). Then, an additional collection was made on the remaining surface of the workshop, mainly in order to find the missing part of some fragments in B1. This time, only obvious

tools and some blades were collected (B2). The results of this collection follow.

Collection B1

I. Implements

Projectile points	9
Bifacials	119
Common tools	22
Total of tools	150

II. Other artifacts

Cores	1
Ordinary flakes	259
Bifacial knapping flakes	5,966
Blades	102
Debris	27
Minute chips (under 1.5 cm.)	3,203
Total	9,558
Total of artifacts	9,708

These figures need some comment. The major activity carried on at the site is shown very clearly by the great number of flakes, mainly bifacial knapping flakes and minute chips. The proportion of tools to total artifacts is less than 1%. Equally interesting is the proportion of blades, also under 1%. This means that blademaking could be considered as accidental. However if we consider that blades do not exist at all in the Moche Valley assemblages, we must admit that this difference may have some significance. We think that in this instance blades are a rare by-product of bifacial knapping. Experiments by Bordes and Newcomer [9] show that blades often result from an attempt to thin a piece or to remove an axial ridge by blows on one or both ends of the piece. These attempts probably did not take place on every piece, and at each occurrence only very few blades are removed. This explanation may account for the low proportion of blades in the assemblage.

The minute chips under 1.5 cm. have been counted apart here for the sake of future comparison. Since there is no natural and intrinsic lower limit to the size of a flake, different techniques of collection produce different quantities of small flakes. Screening would have probably increased the number of minute chips. It is therefore convenient to have at least one class of flakes whose number is not dependent upon the technique of collection. Also, it seems that different techniques of flaking would produce different numbers of minute chips.

Although rather restricted in size, the tool assemblage leads to interesting conclusions. The more visible evidence of the activities carried on at the site points to bifacial and projectile point manufacture.

It is interesting to note in this respect that the proportion of stemmed projectile points is very low and that nearly all of them are small fragments. The frequent visits to the site by various "archaeologists" since its discovery are probably the main cause of this situation. Most of the projectile points pertaining to collection B are illustrated here (see figs. 7, 8, 11, 13, 16).

The presence of two flakes pointed by very fine pressure flaking (fig. 18) shows us how the small points on flakes that have been noted in the general collection were made. These particular pieces could have been considered as borers, especially if found out of context. In view of what we know about the workshops, I consider such an interpretation unlikely although not completely unthinkable. However, they have been classified with common tools since their morphology is not properly that of a bifacial tool. A double scraper (fig. 23), a fragment of a typical "slug," some notches and denticulates also show that the use of this place as a workshop was not absolutely exclusive.

The Quarry Site

The quarry site is situated on the other bank of the wash and within easy walking distance of most of the workshops. The same rhyolite chipped in great quantities in the workshops was quarried here. Nevertheless the assemblage found is very different and indistinguishable from the "Chivateros" complex as described by Patterson and Lanning and as we have seen it in various collections or museums. From a careful examination of the surface amounting to several hours we can describe the quarry site assemblage as consisting mainly of huge flakes with prominent bulbs and heavy, thick but often elongated bifacials shaped with a hammerstone (figs. 2, 3). Occasional thinner and more slender bifacials similar to Chivateros "spearpoints" can also be found (fig. 4). Use of a soft hammer such as hardwood, bone or antler, if present at all, seems exceedingly rare.

In our opinion this evidence indicates a need for the reinterpretation of the Chivateros complex. The spatial and technological relationship between the quarry site and the workshops is clear beyond any doubt.

1. The same material has been used in both places.

2. There is no trace of different occupations on the small crest where the quarry site lies. Anyway, it is not a very convenient place to live or do anything other than extract stone. Conversely there is no "Chivateros" occupation on the alluvial terrace, on the other bank some 300 m. away, nor can traces of this industry be seen on the pampa, where they could not have been erased completely by the "Paiján" occupation.

3. Chivateros bifacials can be seen inside the workshops where they are associated with other bifacials and projectile points.

4. A technological argument can also be advanced that such an elaborated product as a Paiján point certainly needs a process of manufacture which can be conceived and reproduced. Reproducing this process shows us that to make a Paiján point directly from a block by soft hammer flaking and then pressure flaking is, except in the most favorable and rare case of a very flat and slender block, to go to disproportionate pains for an uncertain result. Making a preform first is a much simpler and easier way. We must stress at this point that the pieces found on the quarry site must not be considered as successful results of bifacial knapping since it is likely that they were abandoned there. Probably only a small minority of good pieces were forgotten on the site, the rest showing flaws or an unsatisfactory shape.

Our conclusion is that we are facing here two facies of the same industry or better, two successive stages of a technological process, and that Chivateros bifacials are blanks for a rather large kind of point, in this case Paiján points.

In the case of the Chivateros site itself, it seems that the only projectile points in the Ancón-Chillón area that could be produced from such blanks as the Chivateros bifacials are the Luz points, on Lanning's admission clearly related to Paiján.[10] Unfortunately this relationship, which cannot be denied, is not very clear, due to the preliminary nature of his reports. From Lanning's descriptions and illustrations we can tell that Luz points seem to be within the same size limits as elongated Paiján points; the only nearly complete specimen illustrated is related to the straight side variety of Paiján points.[11] The stem is noticeably wider on Luz specimens and has a very peculiar shape, basally expanded, which has been found in only one--probably unfinished--specimen from another site of the Pampa de Cupisnique. The small point illustrated by Lanning [12] has no equivalent in the Paiján assemblages. Anyhow, the relationship between Luz and Paiján points is clear enough to be an incentive to further research. Techniques, typology and ecology as well as relative chronology should be investigated. And it would be very strange indeed if no site of a related complex could be discovered between Moche and Ancón.

Conclusions

The conclusions from this preliminary work can be summarized as follows:

A. The tool assemblages present at the site can be separated into three different facies of which two are interpreted as technological stages in the manufacture of projectile points and the third, consisting mainly of common tools, probably reflects a different set of activities.

B. The technological process leading to the widely publicized long-stemmed, pressure-flaked Paiján points passes necessarily through two intermediate stages:

1. Hammerstone flaked, Chivateros-type bifacials, present at the quarry site.

2. Soft-hammer flaked, laurel-leaf bifacials processed in the so-called workshops.

C. The common tool class is best characterized by the absence of endscrapers and burins and the presence of a special category of sidescrapers grouped here under the term "unifacials."

D. Evidence from this site suggests a re-evaluation of the Chivateros complex, which may be only a quarry facies for Luz points.

Acknowledgements

I am greatly indebted to Paul P. Ossa, Michael E. Moseley and Carol Mackey from the Chan Chan-Moche Valley Project staff for allowing me to work on their collection from the Pampa de Cupisnique site and for their help on various occasions.

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Addendum

Progress of the research since the submission of this article has made it necessary to assign site numbers to the localities mentioned. The site where collections A1, A2 and B were made is now numbered PV22-12. It has been subdivided into 140 units each of which is a lithic scatter defined on a general map of the site.

Collection A4 was made on Unit 104.
Collection B was made on Unit 42.

Of the pieces designated as belonging to collection A2, a few, including that shown in fig. 26, were found to belong to a unit containing a shallow midden (Unit 7) from which the surface artifacts were collected prior to excavation. The pieces so collected were included in surface collection A2.

The pieces in collection A3 come from various sites in the area.

Fig. 5 comes from PV22-13, probably from Unit 3 or 5.
Fig. 10 comes from PV22-15, Unit 1, a workshop.

Exact provenience of figs. 20 and 22 was not recorded.

The exact location of all the sites will be given in a later publication following completion of the survey. All of these sites are on the north flank of Cerro Tres Puntas, sometimes also called Cerro Yugo (see fig. 1). Site PV22-12 may well be the site called Pampa de los Fosiles by Larco Hoyle.[13]

NOTES

[1]Larco Hoyle, 1948; Bird, 1948.

[2]Ossa, ms.; see also Ossa and Moseley, 1972.

[3]Lanning and Patterson assign the related Luz complex from Ancón to the 6000-5000 B.C. period on the basis of four radiocarbon measurements (Lanning and Patterson, 1964, p. 20, note 5; Lanning, 1965, p. 72). However we are not told anything about the archaeological context of these measurements and the conditions of collection of the samples. The proximity of these dates to a fifth associated with the Canario complex is also disturbing. It is quite possible that the Luz occupation on the central coast had begun much earlier than these dates suggest, even if they are correct. In any case, we can only advocate more field work to solve this problem.

[4]Chauchat, 1972.

[5]Lanning, 1963, fig. 4h, i, and p. 365.

[6]Various partial definitions of Chivateros bifacial tools can be found in Patterson (1967) and Lanning and Patterson (1967), as well as some illustrations of typical pieces. Perhaps the best definition is given by Lanning (1967, p. 41 with illustration in fig. 2). More pieces of the Chivateros complex are illustrated in Lanning (1970, figs. 23, 24).

[7]The Quina style of retouch, defined from the material from La Quina cave in the Charente, France, is often described in publications dealing with Middle Palaeolithic industries. Bordes (1961) defines this retouch as having scars that are wider than long and whose distal end forms a step produced by a reflection of the shock wave or a premature breaking off of the flake. This retouch generally occurs on thick and rather steep edged pieces. On the thickest pieces the succession of the steps left by the scars gives a stairlike appearance to the retouched side. One effect of this retouch is that the angle of the edge is smaller than allowed by the thickness and overall section of the piece, thus permitting a remarkably sharp edge on a thick tool.

[8]Clactonian notches, as opposed to retouched notches are made with a single blow. They were first defined from the lower Palaeolithic site of Clacton-on-sea, in the southern part of England. See Bordes (1961) for a precise definition and illustration.

[9]Bordes, verbal communication; Newcomer, 1971.

[10]Lanning, 1963, p. 363; Lanning, 1967, p. 50.

[11]Lanning, 1963, fig. 4j; Lanning, 1967, fig. 3f.

[12]Lanning, 1963, fig. 4g.

[13]Larco Hoyle, 1948, p. 11.

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KEY TO ILLUSTRATIONS

Plate XXXIII

Fig. 6. Gray quartzite; from a private collection.
Fig. 7. Quartz; from collection B.
Fig. 8. Rhyolite; from collection B.
Fig. 9. Rhyolite; from collection A1.
Fig. 10. Rhyolite; from PV22-15, Unit 1.
Fig. 11. Rhyolite; from collection B.
Fig. 12. Green stone; from collection A2.
Fig. 13. Rhyolite; from collection B.

Plate XXXIV

Figs. 14-15. Rhyolite; from collection A1.
Fig. 16. Rhyolite; from collection B.
Fig. 17. Rhyolite; from collection A1.
Fig. 18. Rhyolite; from collection B.
Fig. 19. Rhyolite; from collection A1.
Fig. 20. Rhyolite; from collection A3.

Plate XXXV

Fig. 21. Black stone (basalt?); from collection A1.
Fig. 22. Green stone; from collection A3.
Fig. 23. Unidentified gray stone; from collection B.
Fig. 24. Yellow jasper; from collection A2.
Fig. 25. Brown rhyolite; from collection A2.
Fig. 26. Green stone; from collection A2.

Plate XXXVI

Fig. 27. Green stone; from collection A2
Figs. 28-29. Green stone; from collection A1.

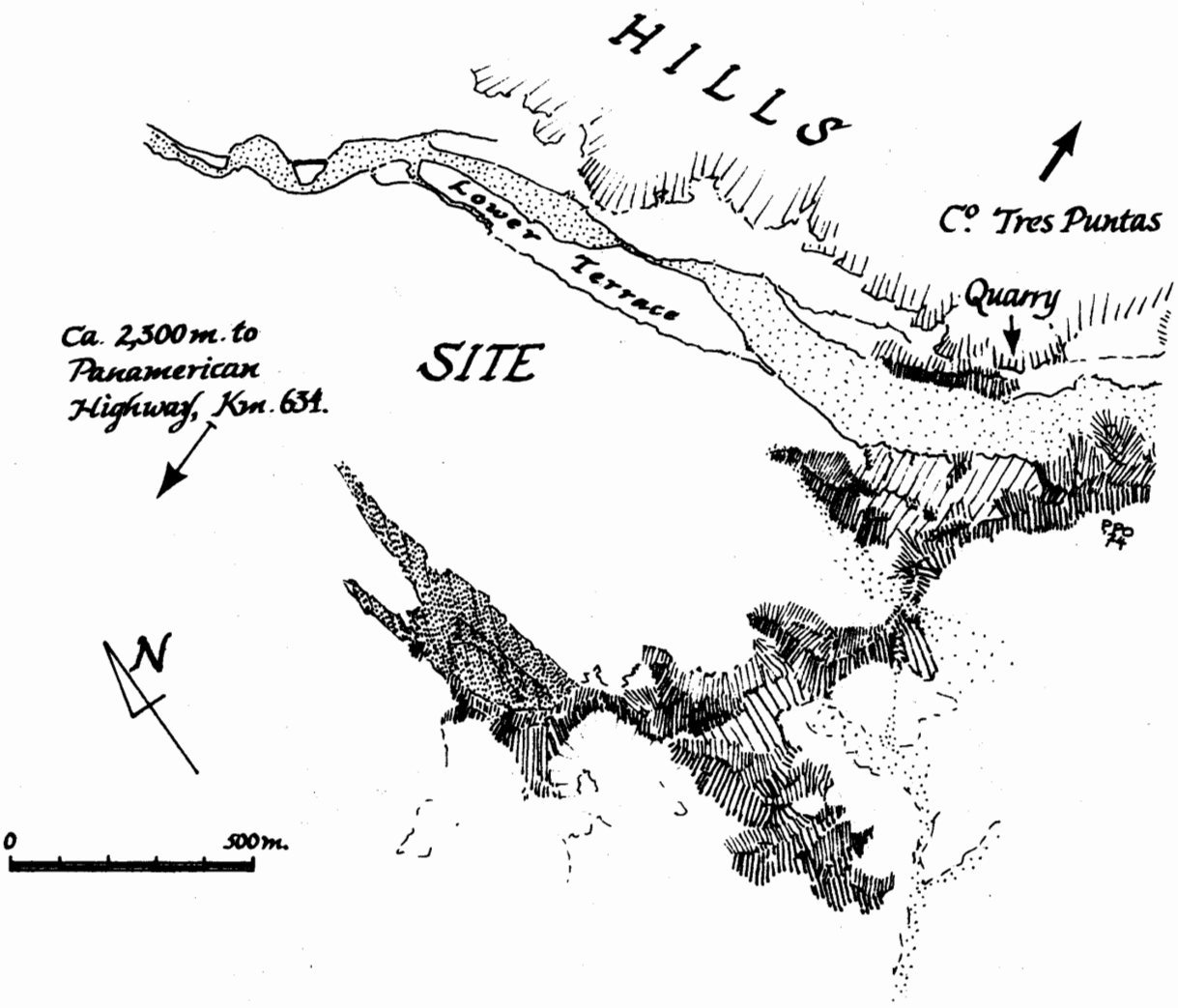

Plate XXIX. Fig. 1, map of the site based on Servicio Aereofotográfico Nacional air photo 124-64-A, no. 365.

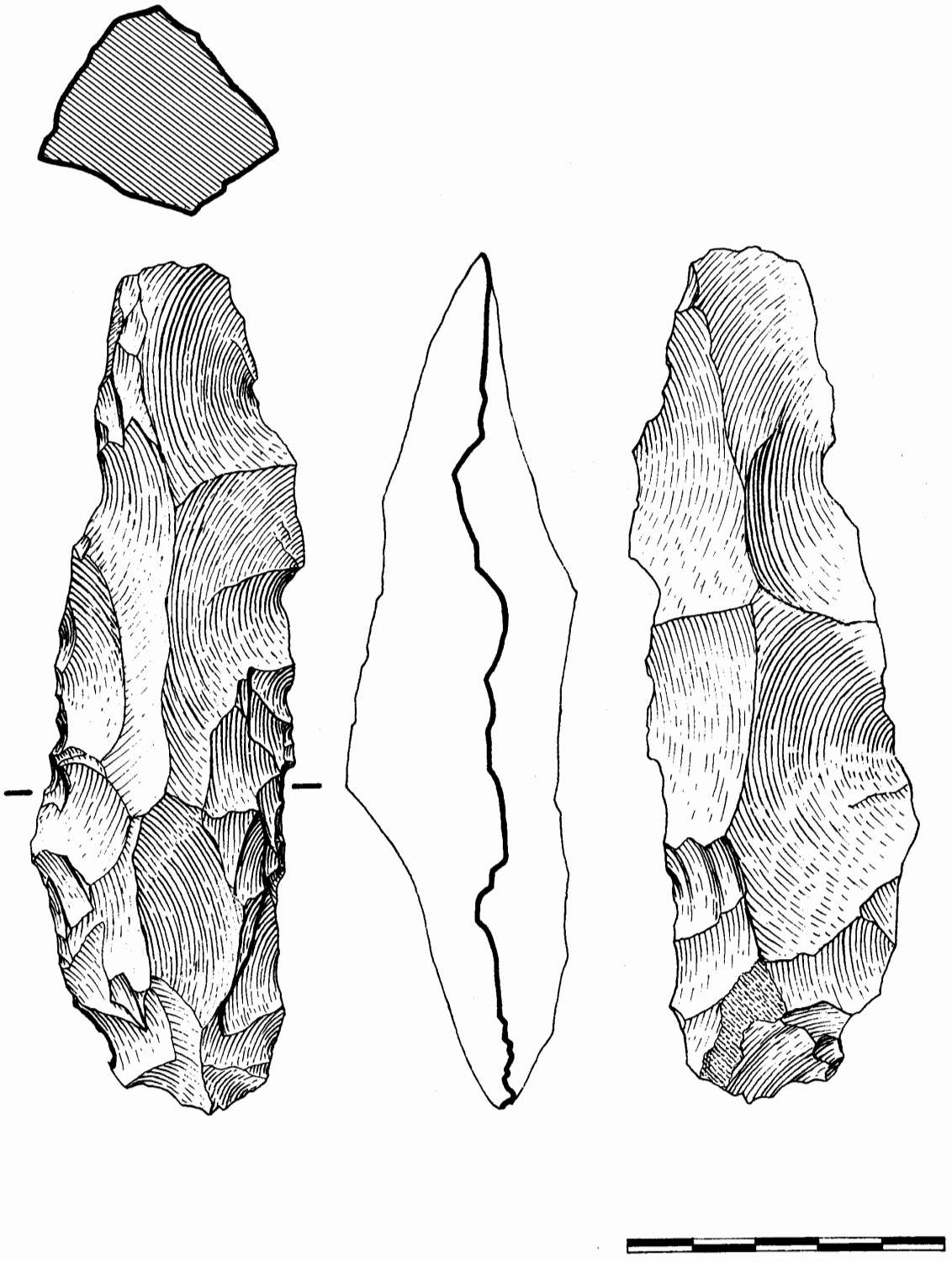

Plate XXX. Fig. 2, Chivateros type bifacial, quarry site, natural size.

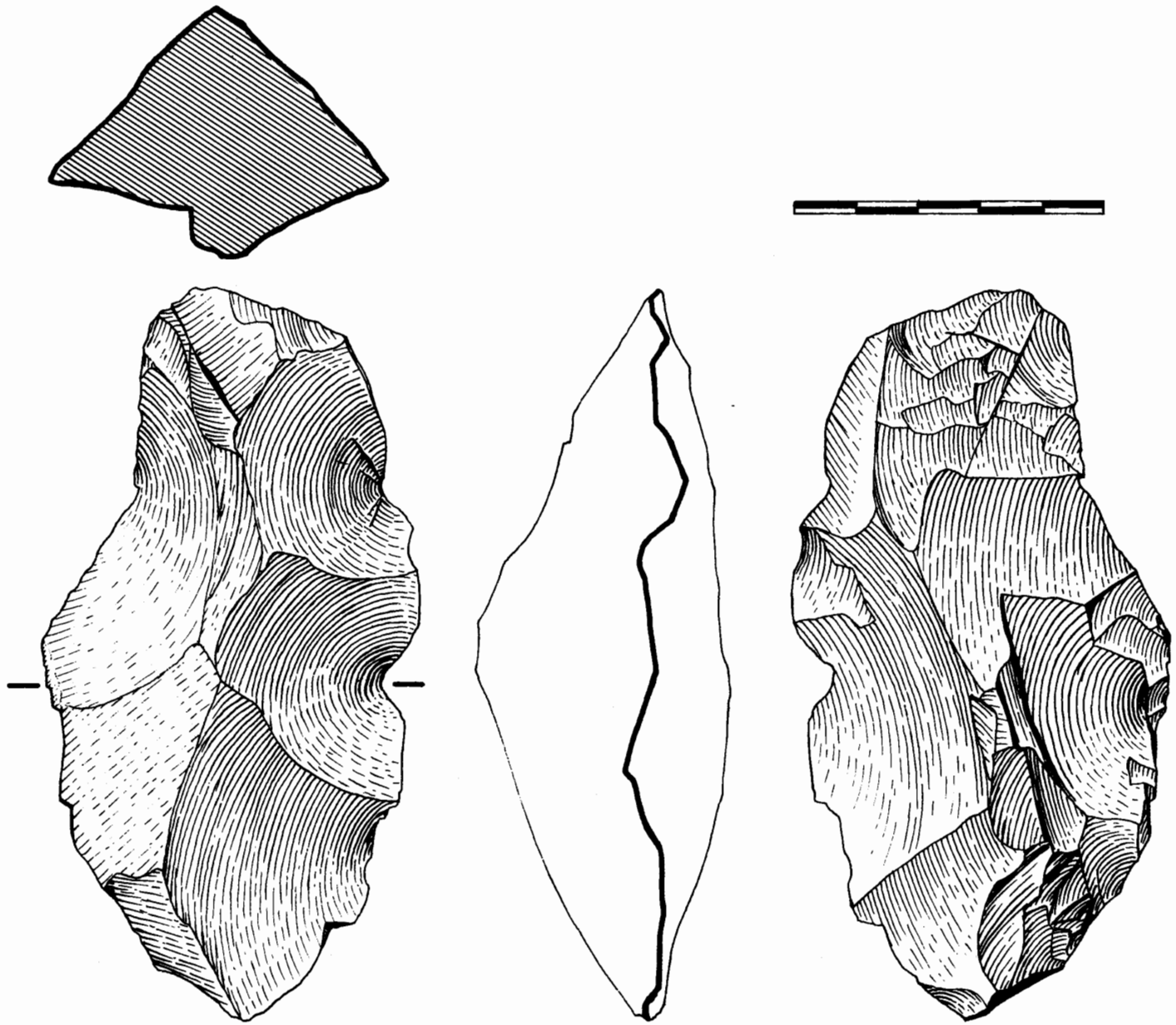

Plate XXXI. Fig. 3, Chivateros type bifacial, quarry site, natural size.

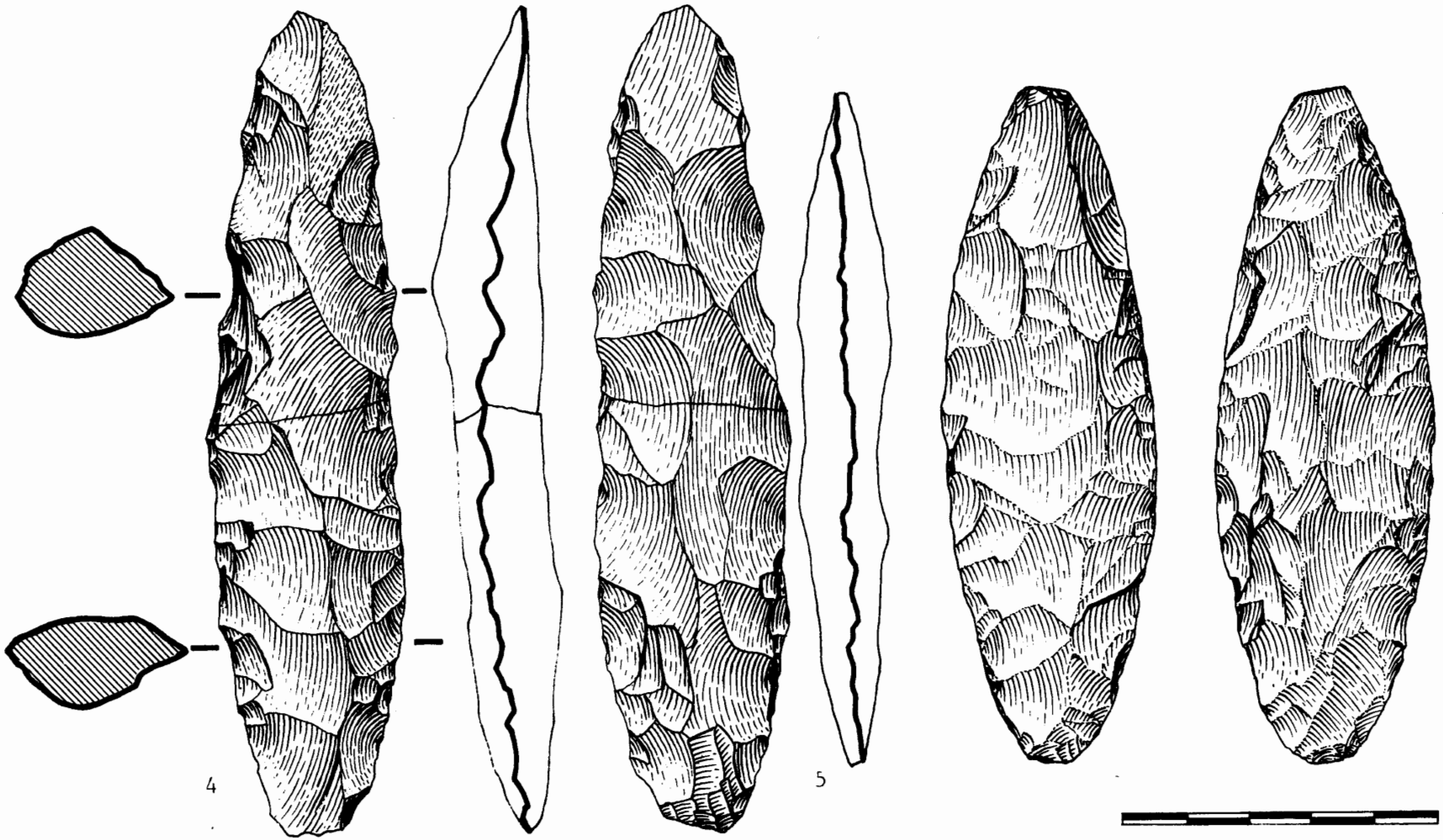

Plate XXXII. Fig. 4, foliate piece from the quarry site, natural size; fig. 5, foliate piece from a workshop, natural size, collection A3, rhyolite.

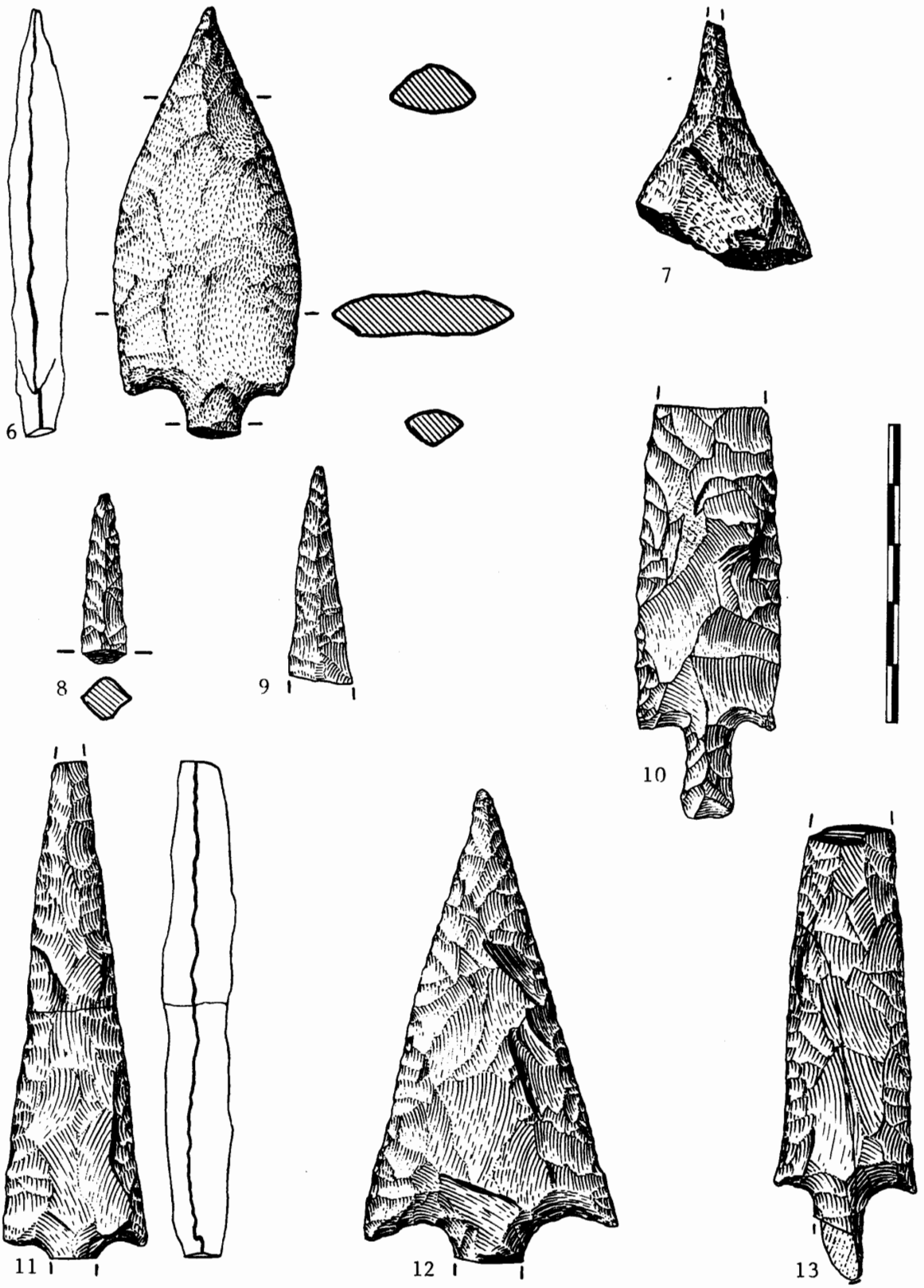

Plate XXXIII. Projectile points, natural size. See Key to Illustrations.

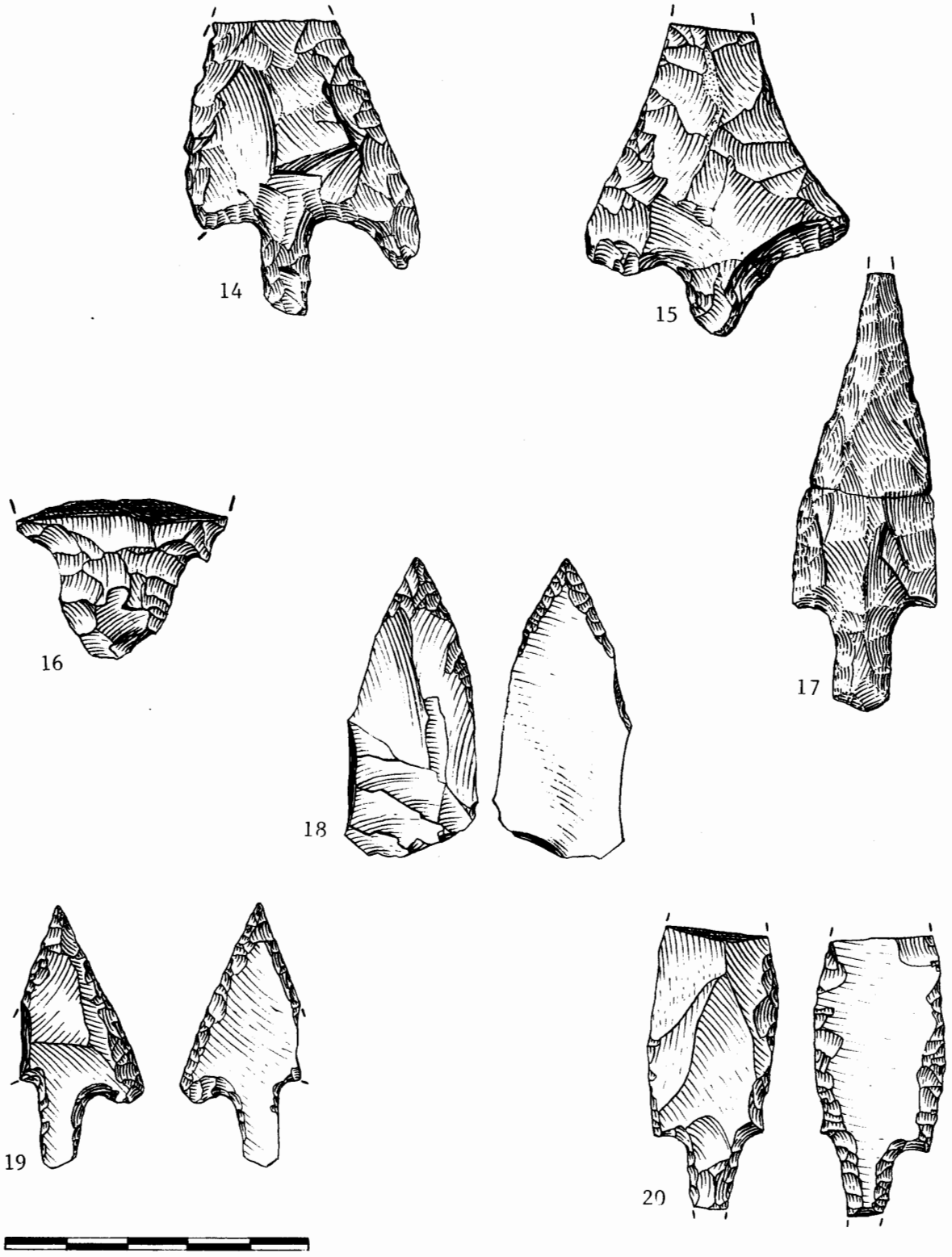

Plate XXXIV. Projectile points, natural size. See Key to Illustrations.

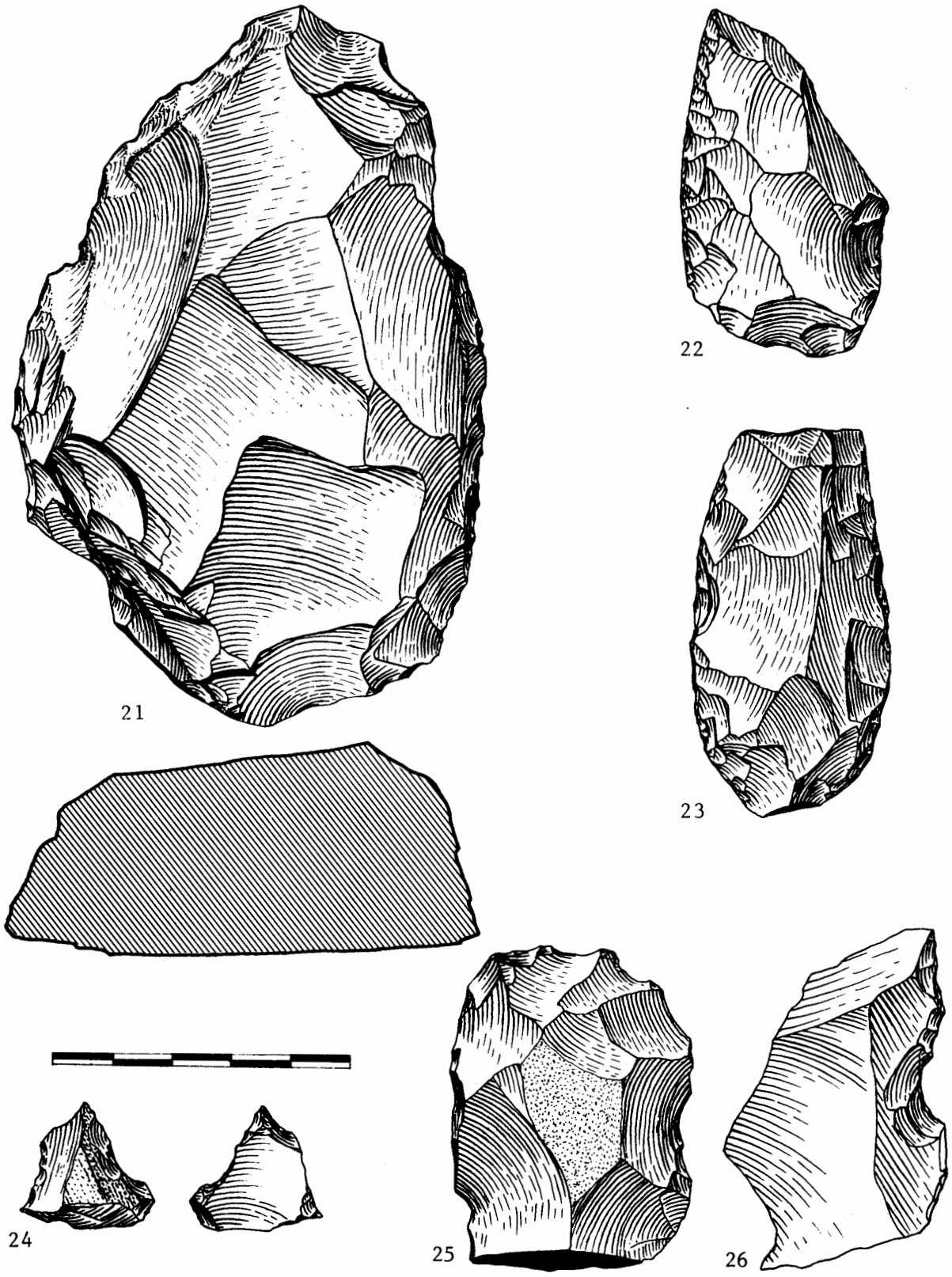

Plate XXXV. Common tools, natural size. See Key to Illustrations.

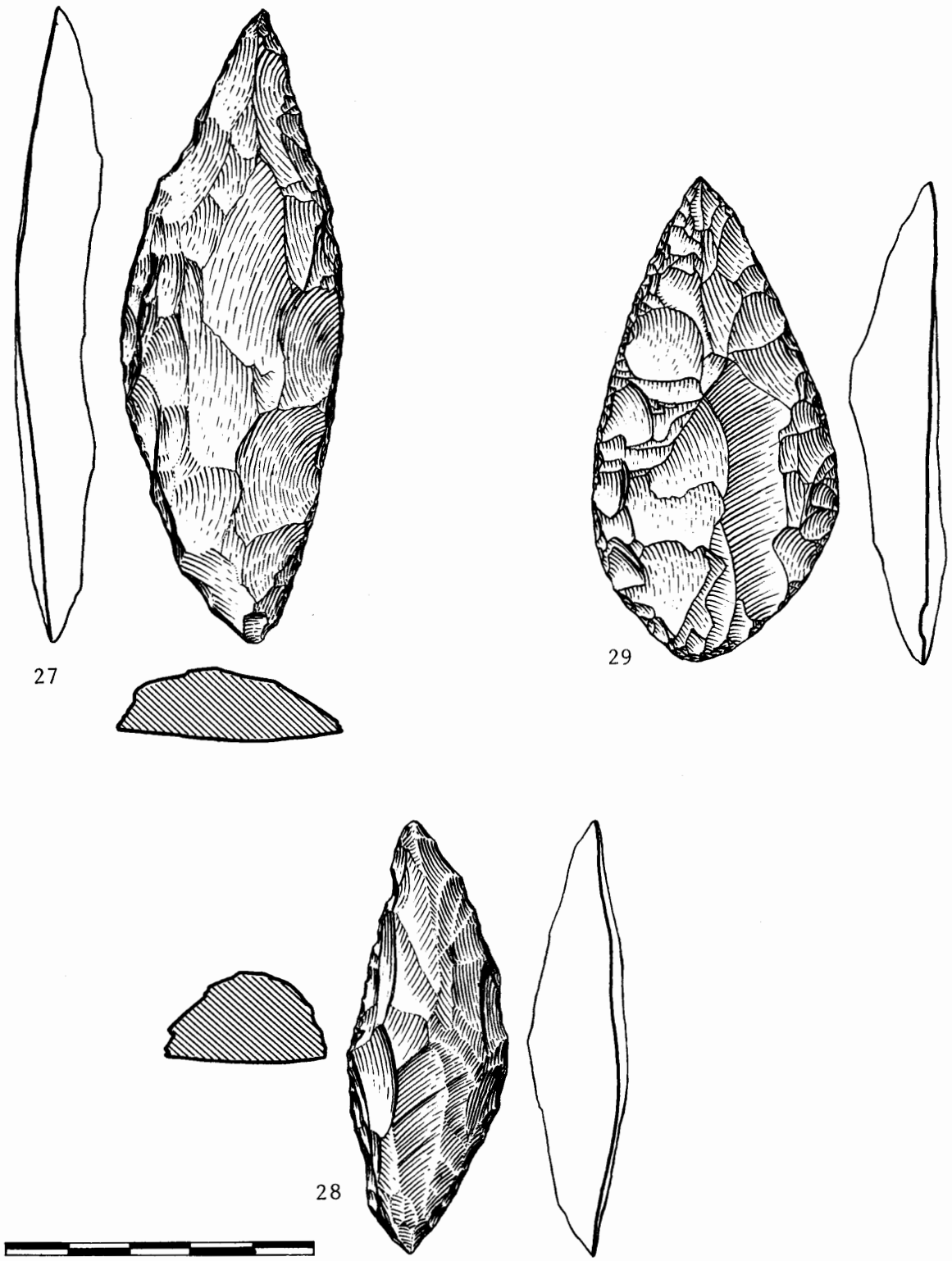

Plate XXXVI. Common tools; unifacials, natural size. See Key to Illustrations.