THE PAIJAN OCCUPATION OF THE CASMA VALLEY, PERU

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During 1980-1981, I conducted research with the intent of identifying the nature of the preceramic occupations in the Casma Valley on the north-central coast of Peru (Malpass, 1983). This research involved investigations in both the lower Casma Valley and the Cordillera Negra above the valley. Sites in both regions provided evidence that people using large, stemmed projectile points occupied the coast and puna during preceramic times. While none of the sites is dated by radiometric means, typologically the points may be classed as belonging to the Paijan Complex, known principally from the north coast.[1] This paper is intended to contribute to our understanding of this complex through a description of its manifestation in the Casma Valley. The most important aspects of the research reported here are two: first, the identification and description of tools belonging to the Paijan Complex on the north-central coast; second, the location of this complex in hitherto unreported geographical contexts, including the first reported evidence of this complex from the highlands of Peru and in locations close to the ocean.

INTRODUCTION

The Paijan Complex forms a relatively distinct assemblage of lithic tools in comparison with other preceramic complexes identified from Andean South America (Lynch, 1983). A relatively consistent set of radiocarbon age determinations dates this complex between approximately 11,000 and 7500 years B. P. (Chauchat, 1979, p. 60; Ossa, 1978, p. 293). The diagnostic tool of this complex is a large, stemmed projectile point, which generally ranges in length from 10 to 15 cm., but may be as long as 22 cm. (Chauchat, 1979, p. 52). Other tools include large bifaces, generally suggested to have been a manufacturing stage of the projectile points, denticulates, sidescrapers, pebble tools, notches, hammerstones, and a variety of miscellaneous unifacial tools.

One of the problems in characterizing the Paijan Complex is that virtually all the sites that can be attributed to it are special activity sites, particularly workshops. The few habitation sites that have been identified are relatively small, and have sparse cultural remains. Thus, researchers have had to describe the complex on the basis of site assemblages that probably reflect only a small percentage of the total number of activities carried out by the occupants in the course of their seasonal and yearly movements. Such limitations hamper our understanding of the people responsible for this complex.

Of the activities inferred from studies of the artifacts at Paijan sites, the manufacture of projectile points appears to have been one of the most important. There were at least four stages in this process: quarrying the raw material; roughing out large, Chivateros-like bifaces by hammerstone flaking; finer soft-hammer flaking to produce thinner, laurel leaf bifacials; and the final shaping and retouch to produce the finished point (Chauchat, 1976, p. 93).[2] These stages were frequently carried out at separate foci, either discrete workshops within a site or at separate sites. Other tools were often manufactured at different foci, although they may be found in association with the products of projectile point manufacture (Chauchat, 1979, p. 51).

The kinds of subsistence activities carried out with these tools is uncertain. Most authors suggest that terrestrial resources, including perhaps extinct Pleistocene megafauna were the intended prey (Lynch, 1983; Ossa and Moseley, 1972). The general nature of the assemblages and their geomorphological locations argue for the importance of land plants and animals. The majority of the known Paijan sites are located in dry quebradas or pampas away from the major river valleys and far from the present coast (Chauchat, 1979, p. 51). While this distribution is largely a function of preservation factors, it does indicate that the zone at the foothills of the western cordillera was an important part of the Paijan settlement system, regardless of the importance of other areas. The few sites excavated that include midden indicate that landsnails, lizards, fox, and cervids were utilized (Chauchat, 1979, pp. 59-60). Ossa and Moseley have also mentioned the possible association between Paijan tools and mastodon and horse at the La Cumbre site (Ossa and Moseley, 1972, pp. 10-13).

While terrestrial resources were important to Paijan groups, it is now clear that maritime resources were also utilized, although to what extent is uncertain. Midden analyzed by Chauchat indicates that fish were eaten, even at sites located many kilometers inland. On this basis, he proposes that the extremely elongated tips of some of the points may have functioned as fish spears (Chauchat, 1979, p. 60). This evidence suggests that an important aspect of the subsistence round of these people may have been submerged by rising sea levels at the end of the Pleistocene. The fact that upwards of 100 km. of coastal plain have been submerged by the eustatic rise in sea level off the north coast (Richardson, 1981, fig. 2) provides an idea of the size of the gap that may exist in our knowledge.

In addition to the north coast Paijan occupations, large, stemmed projectile points hve been found on the central coast, both in the vicinity of the Chillón Valley (Lanning, 1963) and farther south in Lurín.[3] Although the Luz projectile points of the Ancón-Chillón region are frequently cited as bearing close resemblances to Paijan points, there is doubt as to what tools are associated with them. In addition, the dating of the Luz complex is unclear (Rick, 1983, p. 38). The close similarities between the Luz and Paijan points does suggest a genetic relationship of

some sort, however.

LOWER CASMA VALLEY

Three sites with Paijan tools were found in the lower Casma Valley (fig. 1). Two are manufacturing workshops, while the other is a rehafting station. In addition to these sites, an isolated projectile point was found approximately 25 m. from a scatter of chipping debris and midden. Since the point and the debris are of the same material, white quartz, they were considered part of the same site, although the association is tenuous.[4]

The first of the manufacturing workshops, 1251IV-8V-1,[5] is a small (25 × 10 m.) scatter of large basalt flakes together with two large bifaces, one of the Chivateros type (fig. 2). The site is located on the flat east of the small range of hills that lies adjacent to the coast, and is similar to those found by Ossa in the Moche Valley (Ossa, 1973, table 5). Because of the sparse artifactual content, little more can be said about the site.

The projectile point rehafting station, 1251IV-15S-1b, Mongoncillo, is a multicomponent site. The Paijan Complex is identified by the stemmed points, but it is uncertain what other tools pertain to that occupation. Specialized flake tools and willow leaf projectile points of the Mongoncillo Complex (Malpass, 1983, pp. 119-121) are also found there. The site is located on a prominent knoll less than a kilometer from the coast. It is directly across a steep-sided quebrada from the Mongoncillo lomas, a location that probably accounts for the site's popularity through time.

While all of the dozen Paijan points from this site were broken, the fragments appear to be from finished specimens, rather than ones broken during manufacture. None of the very few bifaces from the site were of the kinds interpreted as preforms for Paijan points, and very little manufacturing debris was encountered either. On this evidence, the site is interpreted as being a place where hunters replaced broken points with new ones. Knowledge of whether other activities were carried out here is hampered by the lack of certainty regarding what other tools are associated with the stemmed points. From the site's location, hunting in the lomas may have been the principle activity, although the proximity of the sea argues for the possibility of a secondary orientation to marine resources.

The final Paijan site to be discussed is 1252III-27M-2b, Campanario, named for the small bay that it overlooks. The site is approximately 120 × 40 m., and sits on the long axis of a low ridge about 400 m. from the sea. It is a single component Paijan workshop where roughed-out bifaces, including some of the Chivateros type, were thinned to make finished projectile points. The site is easily recognized by the quantity of soft-hammer flakes (sometimes called bifacial thinning flakes), preforms, and projectile points on the surface. A large majority of the points and debris are made of a coarse-grained white sandstone, which is conspicuous on the brown desert pavement of the site.

There are three main areas of high density debris at the site, within which the numbers of small flakes of sandstone and quartz are much higher than in the intervening zones. These areas were probably workshops where projectile points were manufactured. As at Mongoncillo, a few large, coarsely chipped bifaces were found, indicating that the quarrying and roughing out of the preforms was accomplished elsewhere.

Aside from the bifacial tools, the other lithics were few, consisting of utilized flakes, pebble tools, denticulates, hammerstones, a notch, miscellaneous unifacial tools, and six cores. A total of 40 other tools was collected, as compared to 76 bifacial tools. On this basis, this site is interpreted as being a workshop where projectile points were finished. As at the Mongoncillo site, none of the points was complete. The degree to which they were finished is also uncertain; all of the points except one were so wind eroded that almost no manufacturing scars were present. However, from the generally rough outline of the points, it is inferred that the majority are unfinished specimens that broke during manufacture. The one point with manufacturing scars still extant appears to have had a fine pressure retouch applied along the edges of the point, but along one edge only.

As at sites on the north coast, different materials were used for different artifacts (Chauchat, 1976, pp. 85-86). Tools other than points and bifaces were generally made of the andesite that composed the desert pavement. Because we made no systematic samples from the site, it is probable that unifacial tools were under-represented in our collection.

In addition to the projectile point production, we may infer that other activities were conducted at the Campanario site as well. An anvil fragment suggests that some pounding was carried out. Several of the miscellaneous implements show heavy crushing along one edge, suggesting chopping functions for the tools. The notch, utilized flakes, and denticulates could have been used for subsistence or industrial purposes. The location of the site provides few clues to the activities carried out there; the site is on a barren desert, approximately 2 km. from the irrigated part of the floodplain but at least 6 km. from the Río Casma itself. While the site is presently close to the sea, during late Pleistocene and early Holocene times the sea would have been 5-7 km. away (Malpass, 1983, chap. III). A few marine shells and fragments of sea urchin were found at the site.

No outcrops of sandstone were found nearby, and it is presumed that the quarries for the projectile points were located farther south along the coast. No such quarries were located in the areas surveyed by the author. Santiago Uceda (pers. comm., 1984) has found additional workshops and quarries in his recent work farther inland in the Casma Valley, but little information is yet available concerning them. Bonavia also identified a large quarry site in the Huarmey Valley, some 55 km. to the south, which he believes indicates a Paijan presence there as well (Bonavia, 1979).

Unfortunately, no datable materials were recovered from any of the Casma Paijan sites. On typological grounds, the sites are seen as being roughly contemporary with the Paijan occupation of the north coast or perhaps slightly later (Malpass, 1983, pp. 117-121). A date of 9000-8000 years B.P. is reasonable, although the sites could be older.

In summary, the three Paijan sites in the lower Casma Valley appear to be fairly representative of the kinds of occupation defined from sites on the north

coast. The sites are stations where a limited number of activities were performed. Campanario and Mongoncillo were used for the manufacture or rehafting of projectile points, while 1251IV-8V-1 was a small biface production site. These sites vary from other Paijan sites by being located much closer to the coast. Thus, the possibility exists that different functions related to the resources of the sea and the lomas were carried out at these sites.

PUNA ZONE

In addition to the sites in the lower Casma Valley, Paijan artifacts were found in two rockshelters close to the summit of the Cordillera Negra (Malpass, ms.). Both sites are relatively small (16 and 20 m^2 respectively), although they provide adequate protection from the wind and rain. One of these sites, Tecliomachay, is located approximately 4650 m. above sea level, overlooking Laguna Teclio, the source of the Río Sechín, a major tributary of the Casma. The other site, Huachanmanmachay, is located at 4500 m. above sea level and about 4 linear km. away and on the opposite side of the summit from Tecliomachay. Strictly speaking, it is in the Callejón de Huaylas.

A single 1 × 2 m. test pit was excavated in each of the rockshelters using a combination of natural and arbitrary levels, and bedrock was reached in both. It was apparent from the kinds of ceramics present that deposits in both rockshelters were mixed. However, some cultural stratigraphy was preserved in Huachanmanmachay, with ceramic levels found above aceramic levels. In the deepest aceramic levels, six large, stemmed projectile points and a utilized flake were encountered. Similar points were also located in the levels above the lowest one. The points were all made of a fine-grained gray rock that is abundant in the area. Typologically, the points bear close resemblances to those from the site of Campanario.

While the majority of the identifiable artifacts from Tecliomachay date to the Initial Period, two stemmed points were found in the lower levels. These points were made of the same material as those from Huachanmanmachay, and had almost exactly the same form. On this basis, it is suggested that the same group was responsible for the stemmed projectile points from both rockshelters.

Because the mixing of deposits was more severe at Tecliomachay, little can be said about the tools associated with the stemmed points. However, at Huachanmanmachay, the deposits were sufficiently distinct to enable us to recognize the kinds of tools that were used along with the points. These included utilized flakes, beaked tools, notches, and an occasional burin. Very little debitage was found at either site, indicating that tool manufacture was done elsewhere.

THE ARTIFACTS

The tools found at the Paijan sites in the lower Casma Valley are generally of the kinds found at the north coast sites with one possible exception; few sidescrapers were found at the Casma sites.[6] Sidescrapers form a fairly substantial class at Ossa's Moche Valley sites (Ossa, 1973), and are found in varying quantities at the Paijan sites of the Chicama region (Chauchat, 1979). The lack of scrapers may, of course, be due to the specific activities that were carried out at a site. Chauchat notes that unifacials and projectile points were found in separate workshops in the Pampa de los Fosiles and Pampa de Cupisnique sites (Chauchat, 1979, p. 51).

This scarcity may be more apparent than real if some of the sidescrapers found at Mongoncillo pertain to the Paijan occupation, since this is the only site where any kind of scraper was found in appreciable quantities (7%). Arguing against this interpretation, however, is the fact that the scrapers are made of the same rock types as the small flake tools that are associated with the later Mongoncillo occupation of the site.

Because of the importance of projectile points to our understanding of the Paijan phenomenon, a detailed description of the examples from Casma is warranted. The Casma stemmed points were divided into three types: Broad Stemmed, Paijan, and a miscellaneous category. The Paijan type was further divided into two subtypes, convex-bladed and straight-bladed.[7]

The distinction between the Broad Stemmed and Paijan types was based not so much on a difference in stem widths, as on the quality of their workmanship. The Broad-Stemmed type is represented by at least five stems, one from Mongoncillo and four from Campanario, which have been very carefully flaked to produce almost parallel sides and a flat to convex base (figs. 3-5). The Mongoncillo example is of a cherty material, while the Campanario ones are sandstone or white quartzite. Unfortunately, no complete specimens exist, so we have no measurements. Cross sections are lenticular to prismatic, and pressure flaking is evident, particularly around the base.

There were seven examples of the convex-bladed Paijan point subtype (figs. 6-9). The distinguishing criterion of this type is the convex shape of the blade outline between the point tip and the shoulders. The maximum width of these points is within the lowest one-third of the blade, although usually not at the shoulder. Specimens in this type range between 24 and 36 mm. in width and 8 and 11 mm. in thickness. Cross sections are generally lenticular, trending toward the prismatic.

All the points from the Campanario site in this subtype are of sandstone, except for a single example of andesite (fig. 6), while the examples from Mongoncillo are of white quartz or quartzite. The isolated point was also of white quartz, and provides perhaps the best example of the size of these points (fig. 9).

The straight-bladed Paijan subtype included five identifiable specimens (figs. 10-14). The blade outline of these points is straight, and the maximum width is always at the shoulder. Widths range between 26 and 30 mm., and thicknesses range between 8 and 10 mm. for specimens in this subtype. Cross sections are the same as the convex-bladed subtype. The materials are also similar, with white quartz or quartzite used at Mongoncillo and sandstone at Campanario. The blades may either narrow directly to a point, thus forming a triangle (figs. 10, 11), or remain almost parallel for one-third to one-half of the height (figs. 12-14). It is interesting to note that the triangular-bladed variant is found only at Mongoncillo.

In addition to these point types, there are two

subtypes in the miscellaneous category that are related to the Paijan varieties already mentioned. The first is the short, stemmed point, made of white quartz, from Campanario (fig. 15). It is only 26 mm. long, 19 mm. wide, and 6 mm. in thickness. Points of this shape, albeit larger, have been found in the Cupisnique-Ascope region (Uceda, pers. comm., 1981), and also in the puna zone (see below).

The final Paijan-related subtype is represented by three specimens, all from Campanario, whose defining characteristic is a long, sharply contracting stem (figs. 16-17). While the Paijan points may also have contracting stems, none approach the length or sharpness of the stems of these examples. It is possible, however, that they are aberrant examples of the normal Paijan type. Cross sections are lenticular. Three points of this type were also found at the puna sites (figs. 18-19).

Of the 22 stemmed point fragments found in the puna, all but 4 can be placed in the straight-bladed Paijan category (figs. 20-23). All of these points are rather coarsely flaked, and all but one are broken. One of the distinctive characteristics of these points is their short thinning flakes, which seldom extend to the center of the blade, resulting in an almost hexagonal cross section. Whether this result was deliberate or due to their being in a preliminary stage of manufacture is uncertain.

The exception to the above characterizations is a large, rather thick, stemmed point from the middle levels of Huachanmanmachay (fig. 24). It has the same form as the small point from Campanario (fig. 15), although it is significantly larger. This point is of brown quartzite, and measures 57 × 36 × 12 mm.

There are relatively close similarities among the projectile points from Tecliomachay, Huachanmanmachay, and Campanario. The straight-bladed examples from all of these sites closely resemble one another, and differ principally in the materials used in their manufacture. This difference is probably due to the utilization of local stone resources in each area. The Mongoncillo straight-bladed points also resemble the highland specimens, but only in cross section. Like the highland examples, these points' hexagonal cross section results from the removal of relatively steep thinning flakes along the edges. I have argued previously that the stemmed points from the puna reflect visits by groups from the lower valley (Malpass, ms.), and the results of this study support that argument.

COMPARISONS

While a detailed comparison of the Paijan inventories of the Casma Valley sites with those of other areas is beyond the scope of this paper, some of the more important similarities and differences may be addressed. Since the following comparisons are based on verbal descriptions and drawings from four separate typologies, which vary in both completeness of descriptions and quality of drawings (Chauchat, 1976; 1979; Kornfeld, 1972; Malpass, 1983; Ossa, 1973), they should be considered as tentative until more definitive comparisons can be made.

The general agreement among investigators of the Paijan Complex about the form and size variation present in the projectile points suggests that the points being described are basically the same. All four authors identify a convex blade shape, and all except Ossa include a triangular blade shape as well. Interestingly, the latter is the only kind identified for the Luz occupations of Ancón-Chillón (Lanning, 1963). Parallel-sided forms are also identified by Malpass and Kornfeld; they would presumably be included in Chauchat's intermediate class.

Related to the blade is the shape of the tip. All authors except Kornfeld commented on the presence of long, pointed tips (figs. 25-26). In the Casma and Moche valleys, these point tips have a squarish cross section. Chauchat has also suggested that the awls identified by Lanning in the Luz Complex are point tips of these types (Chauchat, 1976, p. 88), thus indicating their presence on the central coast as well. Unfortunately, it is not possible to associate any of these long, narrow tips with a single blade shape, although Chauchat (1976, p. 88) suggests that the elongate kind are found on the convex-bladed varieties.

From the published accounts, a rather wide range of stems appears to be found in the different areas. Chauchat suggests the stem was intended, presumably in all examples, to be slightly constricted in the middle, then expanded at the base (Chauchat, 1979, p. 52). Such stems are identified from all the areas with Paijan occupations, including Ancón-Chillón. Other forms include the contracting- and parallel-sided stem, with either a flat or convex base. Again, there do not appear to be particular stem forms associated with particular blade forms.

The term "Broad Stemmed point" is used by both Ossa and Malpass, but the criteria these authors give are different. Ossa says that his Broad Stemmed points have stems that are wider than those of his Paijan points, but he does not suggest a difference in the quality of flaking (Ossa and Moseley, 1972, p. 6). I am more impressed by the difference in flaking than by the width as such. In the Casma specimens, the broad stem is carefully flaked to achieve almost parallel sides and a very smooth surface. Examples of this type are identified by Kornfeld as well (Kornfeld, 1972, pl. XXXIII).[8]

The Broad Stemmed points from Casma also show resemblances to some of the point types from El Inga and Chobshi Cave in Ecuador. In fact, Mayer-Oakes has commented on the close similarities between the points from Peru and Ecuador (William Mayer-Oakes, pers. comm., 1982). What these similarities tell us about the makers of the points is uncertain. The broad stem may be purely functional, reflecting a different way of hafting the point to the foreshaft of a spear. Alternatively, it may be stylistic, reflecting different traditions of tool manufacture utilized by distinct social groups. While this question cannot be adequately addressed here, it is a potentially important one for our understanding of the origin of the Paijan Complex.

Regarding the rest of the tool assemblages, very little can be said, again because of the scarcity of tools from the Casma sites. Paijan sites on the north coast also have very few tools so scarcity of tools may be considered a similarity between the two areas. What tools are present in Casma, in general mirror the types present in the sites farther north. The general nature of the Casma sites is, thus, the same as the north coast sites; they are special

activity sites where only a small percentage of the total number of cultural activities was performed.

Two features are unique to the Paijan sites in Casma. The first is their proximity to the shoreline. None of the north coast sites is within 12 km. of the present shore line, which indicates that they were much farther away during the time they were occupied. Both Mongoncillo and Campanario are within a kilometer of the shore, and would have been less than seven kilometers away during the early Holocene. The suggestion that these sites were located so as to utilize marine as well as terrestrial resources lends credence to the idea that the subsistence round of the Paijan people did include the littoral zone.

A second unique feature of the Paijan occupation of Casma is its extension to the puna zone above the valley. While the puna sites were not occupied long, and do not represent the presence of many people, they do indicate that hunters from the lower Casma Valley occasionally made use of upper altitude resource zones, in contrast to what is known from other areas. Whether this feature is truly unique to the Casma region or merely represents a lack of archaeological work in the sierra of the north coast must await further research in the latter area.

One interesting aspect of the Paijan occupations in all the regions except the one studied by Kornfeld is the preference shown for particular rock types for certain kinds of tools. There appears to have been a strong preference for light-colored rocks for projectile points and dark-colored rocks for other tools. While it seems doubtful that color was the main factor controlling the choice, it is curious that almost all the light-colored rocks used (quartz, quartzite, rhyolite, and sandstone) have very poor flaking qualities. Why the makers chose these rocks for the tools that would have required the greatest amount of skill to manufacture is unknown. Possibly this characteristic should be considered a stylistic one, reflecting conscious choices made by manufactures due to social or personal factors, rather than functional ones.

Raw material preferences are also evident in the projectile point types from Campanario and Mongoncillo. The points from the latter are made of white quartz or quartzite, and cherty materials, while virtually all the Campanario points are of white sandstone. In addition, points with triangular blades are found only at Mongoncillo. What these facts tell us about the makers of the points is not clear. It is tempting to suggest again that different groups, or at least different members of the same group, were responsible for the variation. However, alternative explanations are possible. Triangular blades may have been preferred for certain kinds of game, which may not have been present in the environs of Campanario. Regarding the raw material variation, a few points of white quartz and an abundance of white quartz chipping debris were found at Campanario, suggesting that the Mongoncillo points could have been manufactured there. Thus, it is possible that the same group was responsible for the cultural remains at both sites, although this suggestion does not explain why no sandstone points were found at Mongoncillo.

It should be clear from the preceding discussions that there is considerable variability in the projectile points and other lithics from the Paijan occupations in Peru. It should also be clear that we are far from achieving a good explanation of this variability. On the macrolevel, the Paijan Complex appears to be remarkably similar over the entire area where it is found. On the microlevel, variations are present that may be significant in the identification of divisions within this complex. A detailed study of the combinations of raw materials, stem and blade characteristics of the projectile points at the different sites, coupled with a theoretical framework such as that Weissner employed with such fruitful results in her study of Kalahari San projectile points (Weissner, 1983), could potentially provide new insights into the nature of the Paijan Complex, its origins, and dispersal along the Peruvian coast and hinterlands.

CONCLUSIONS

Sites belonging to the Paijan Complex have been identified in the lower Casma Valley, and evidence of similar occupations was found in the neighboring highlands. These finds are unique in two ways. The first is the proximity of the coastal sites to the sea, suggesting that marine resources may have been important to their inhabitants. The second is the evidence that Paijan hunters from the coast did, at least on some occasions, utilize the highlands, probably to procure terrestrial game.

The discovery of Paijan sites in the Casma Valley affirms the fact that this complex was not restricted to the north coast of Peru, but was a phenomenon that stretched at least to the north-central, if not the central, coast. Thus, we may anticipate more sites being discovered as research is focused on valley margins and intervalley areas where such sites are most likely to be found. It is also probable that more sites will be located near the shore in the regions south of the Río Santa, where Pleistocene shoreline was not so far from the present one (Richardson, 1981). And, to paraphrase Chauchat (1976, p. 92), it would be strange indeed if sites of related complexes were not found in the western cordillera between the Chicama Valley and Ancón.

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NOTES

[1]Chauchat, 1976; 1979; Kornfeld, 1972; Ossa, 1973; 1978; Ossa and Moseley, 1972.

[2]The term "Chivateros-like biface" refers to any large, coarsely chipped, percussion-flaked biface. The Chivateros designation comes from the site of that name in the Ancón-Chillón Valley, where large quantities of such bifaces were found.

[3]In the Seminario de Arqueología of the Instituto Riva-Agüero, Lima, is an example of a Paijan point, which Dra. Mercedes Cárdenas M. said was collected in the Lurín Valley near the coast (pers. comm., 1981).

[4]On the other evidence, the midden and debris were hypothesized to be of Late Preceramic age (Malpass, 1983, pp. 117-122).

[5]The numbering system for the sites follows that recommended by Dra. Cárdenas of the Instituto Riva-Agüero. The first group of Arabic and Roman numerals designates the Instituto Geográfico Militar map on which the site is located. In this case, 1251IV- is the 1:50,000 map sheet called La Ponderosa. The second number-letter designation locates the site within a one square kilometer area, the basic unit on the 1:50,000 maps. Starting with the northwest corner, the one-kilometer-wide rows are designated by numbers and the one-kilometer-wide columns by letters (using, in this instance, the English alphabet). Thus, 8V- signifies the one-square-kilometer unit located at the intersection of the eighth row and the twenty-second column. The final number denotes the order in which the sites in that unit were discovered. Where a lower case letter is included after the number, it denotes a part of that site (e.g., 1b).

[6]The original Campanario site collection included no sidescrapers. However, Uceda (pers. comm., letter of 19 April 1985) found *raederas* in his later collection from the site, and recovered additional examples from other sites in the Casma Valley.

[7]See Malpass (1983, pp. 66-108) for a thorough description of the typology employed.

[8]Uceda Castillo, who has worked on the Paijan materials from both the north coast and Casma, notes that the Casma projectile points include specimens with much wider stems than those from the north coast (Uceda, ms., p. 19).

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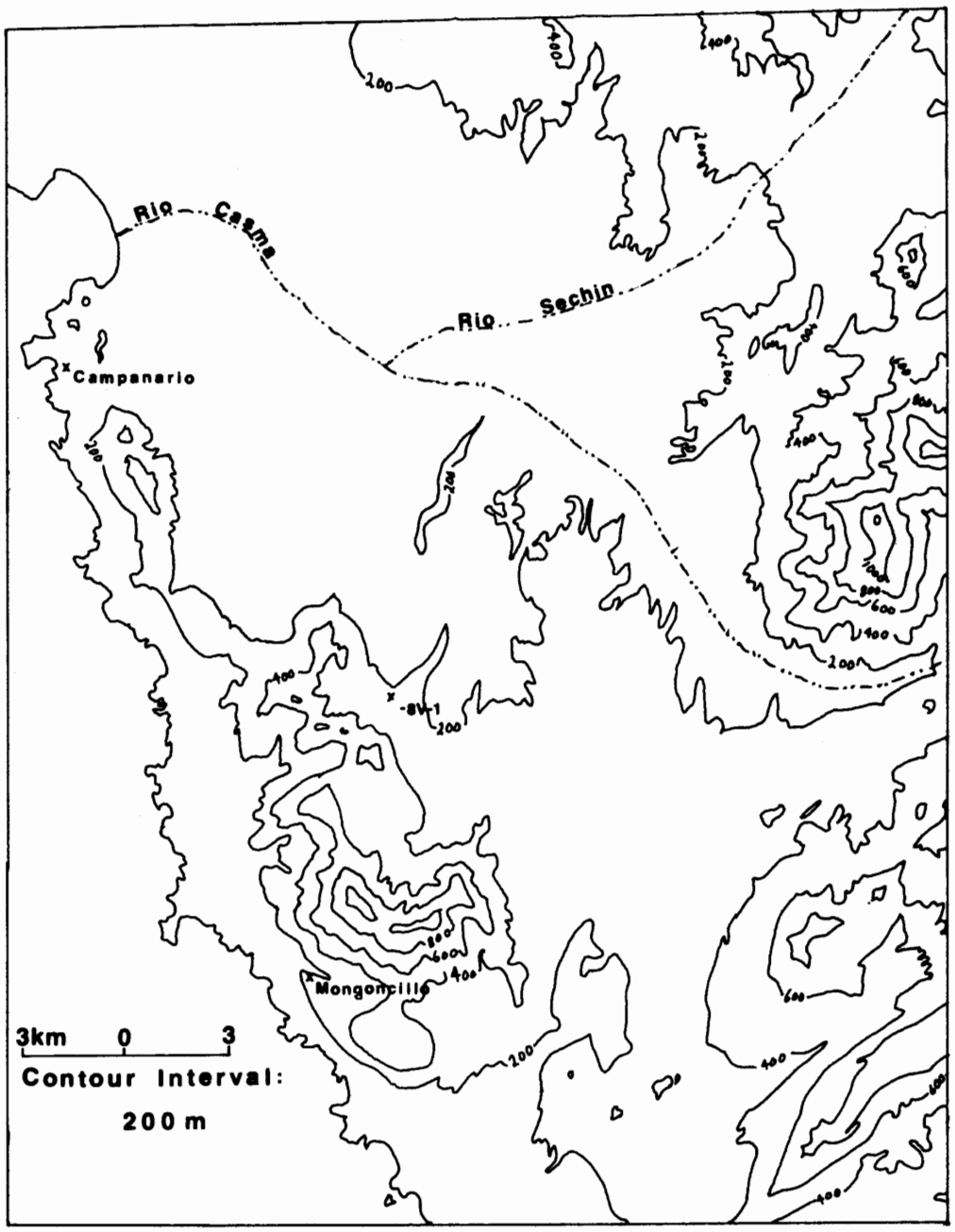


Fig. 1. Paijan sites in the lower Casma Valley.

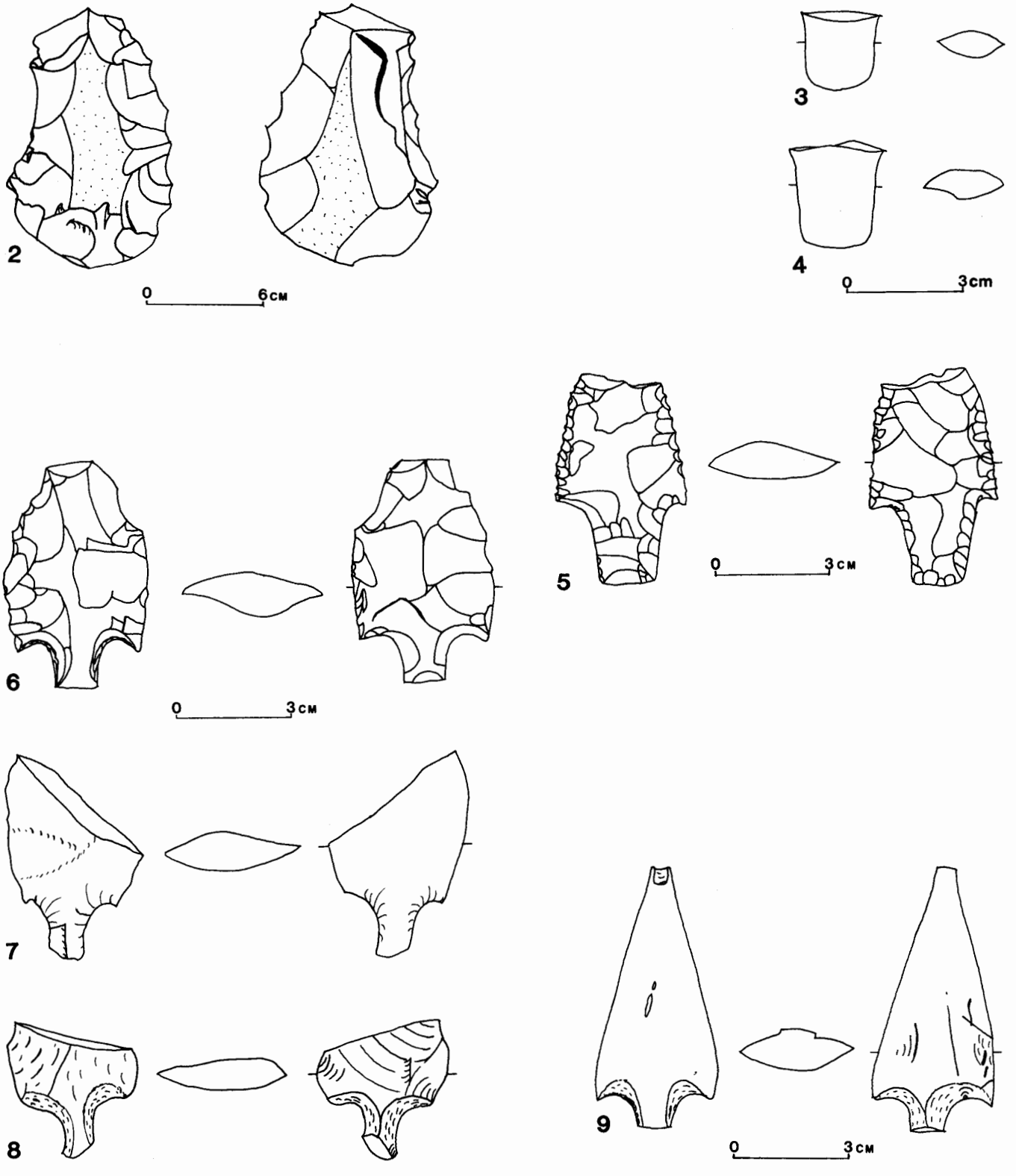
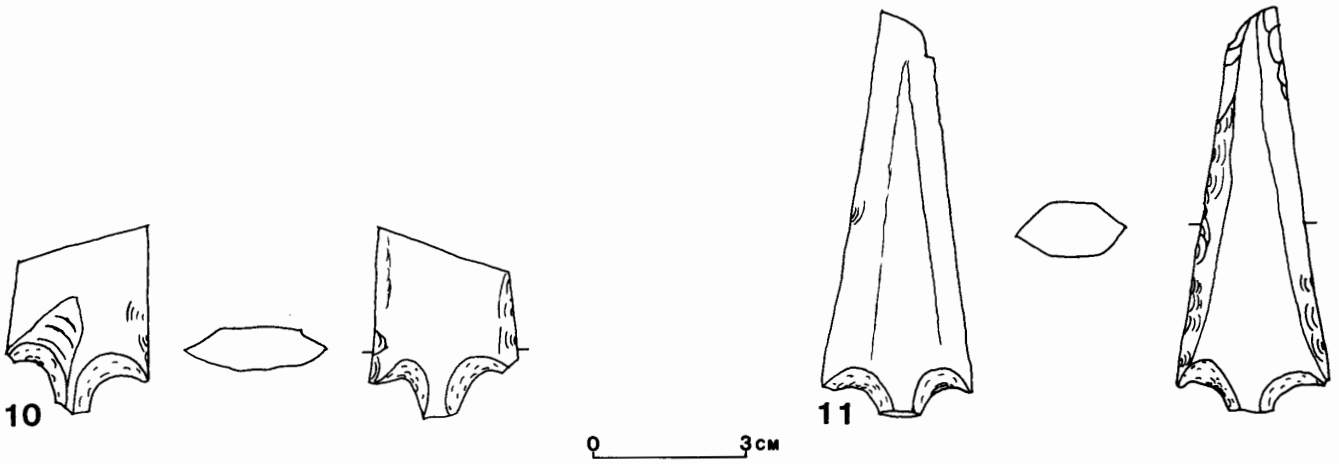
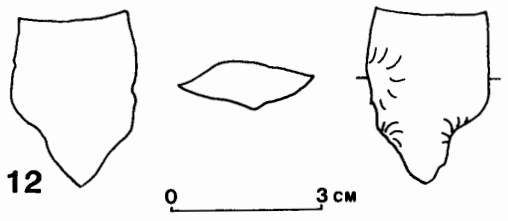
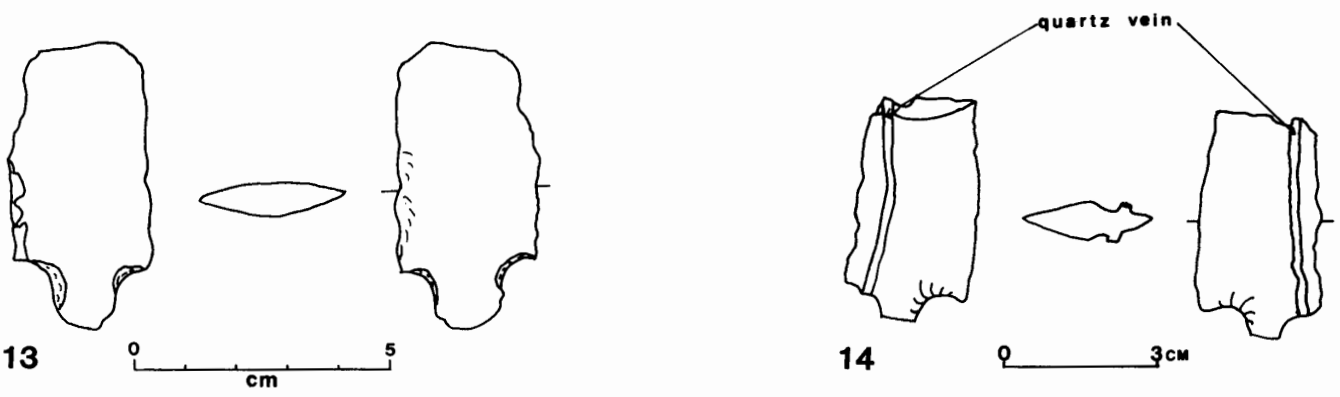


Fig. 2. Chivateros-type biface, 1251IV-8V-1. **Figs. 3, 4.** Stems of Broad Stemmed projectile points, Campanario. **Fig. 5.** Broad Stemmed projectile point, Mongoncillo. **Figs. 6, 7.** Convex-bladed Paijan projectile points, Campanario. **Fig. 8.** Convex-bladed Paijan projectile point, Mongoncillo. **Fig. 9.** Convex-bladed Paijan projectile point, isolated find.







Straight-bladed Paijan projectile points with parallel sides. **Figs. 10, 11.** Mongoncillo. **Figs. 12-14.** Campanario.

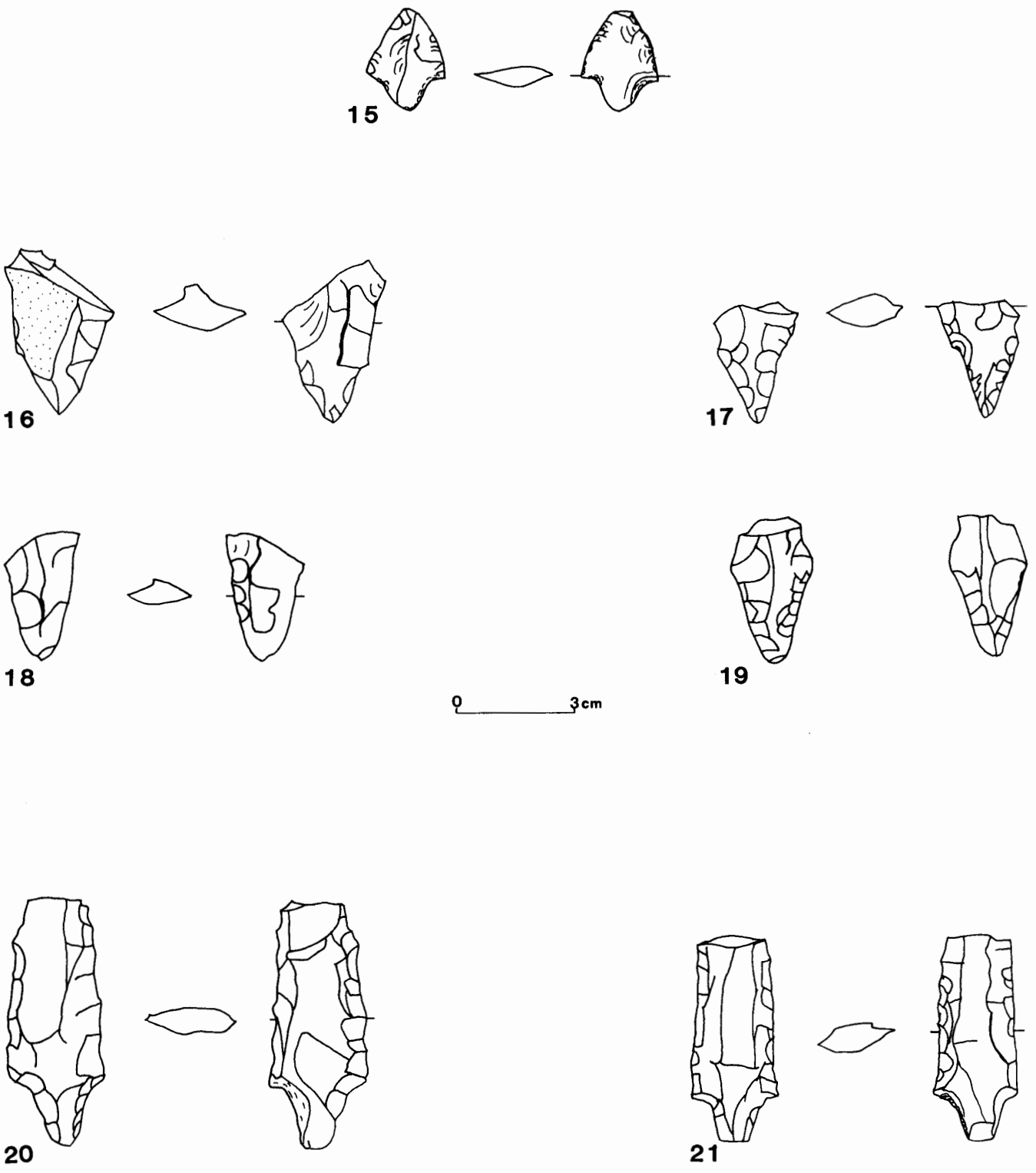
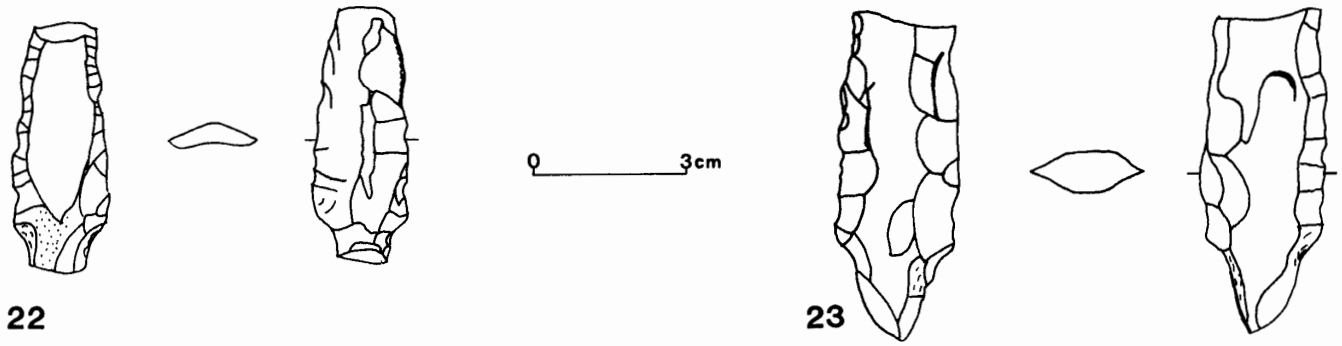
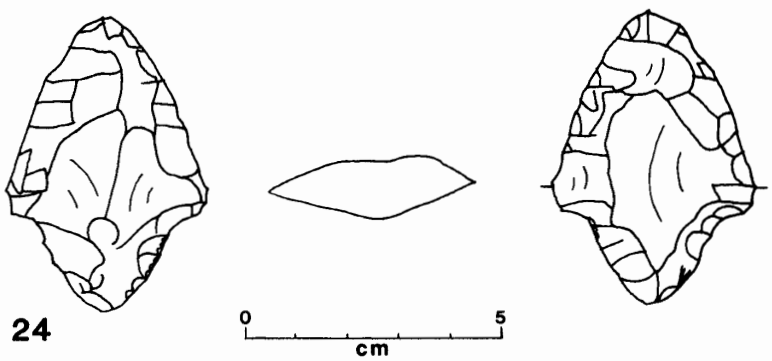


Fig. 15. Short Paijan projectile point, Campanario. **Figs. 16-17.** Projectile points with sharply contracting stems, Campanario. **Figs. 18, 19.** Projectile points with sharply contracting stems. Huachanmanmachay (Level 7, 105-120 cm. below datum). **Figs. 20, 21.** Straight-bladed Paijan projectile points with parallel sides, Huachanmanmachay (Level 7, 105-120 cm. below datum).





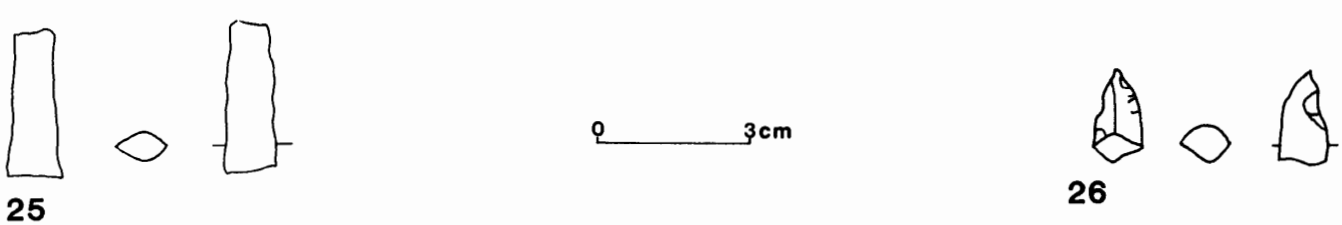


Fig. 22. Straight-bladed Paijan projectile point with parallel sides, Tecliomachay (bottom of Feature 1). **Fig. 23.** Straight-bladed Paijan projectile point with parallel sides, Tecliomachay (Level 4a, 60-75 cm. below datum). **Fig. 24.** Large, stemmed projectile point, Huachanmanmachay (Level 6, 90-105 cm. below datum). **Fig. 25.** Elongate projectile point tip, Campanario. **Fig. 26.** Projectile point tip, Campanario.