PALEO-INDIAN RECONNAISSANCE IN THE COUNTIES OF LAMBTON AND MIDDLESEX, ONTARIO

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ABSTRACT

A report on Paleo-Indian site surveys in southern Ontario presents hypotheses concerning settlement patterns, settlement strategies and the utilization of lithic materials. Reconnaissance techniques are described and the artifact inventories of sixty-four sites and locations are listed. Primarily, the report deals with locations yielding fluted points, but data on Plano and Hi-Lo components are also included.

INTRODUCTION

Paleo-Indian studies in the province of Ontario progressed slowly during the late 1960s, partially because of a lack of known sites. Although distributional studies indicated that early Paleo-Indians had been active in several parts of the province (Kidd 1951; Garrad 1971), no major sites yielding fluted points had been reported. However, the turn of the decade marked an upswing in Paleo-Indian research.

William Roosa began encouraging the author to consolidate and test various hypotheses concerning Paleo- Indian settlement patterns. Reconnaissance efforts were redoubled on fossil shorelines of former glacial lakes in southwestern Ontario with positive results. Within a few years the number of fluted point locations reported in the province was more than doubled, bringing the total to over a hundred. Several sites were recorded, including Welke-Tonkonoh, Stewart, Strathroy, McLeod, Heaman and Parkhill (Table 1). Preliminary reports on the survey work were prepared and circulated in manuscript from (Deller 1973a; 1973b), and short articles were eventually published (Deller 1976a; 1976b).

The success of the initial surveys encouraged continuation of the program. Plans were drawn up to search areas adjoining those already surveyed in the counties of Lambton and Middlesex. The surveys were subsequently undertaken on a part-time basis in 1974 and 1975. This paper is a review of the survey work. It is an effort to report several sites and locations attributable to the Paleo-Indian, while at the same time presenting hypotheses which offer foundations for further research. It is also a response to a deluge of inquiries requesting explication of the survey technique.

THE SURVEY TECHNIQUE

The aim of the Lambton-Middlesex survey was to locate as many Paleo-Indian sites and locations as possible within the limited amount of the time available for field work. Careful consideration was given to survey strategies in the hopes of finding a highly productive system for locating sites. The reconnaissance technique eventually employed was based on a former survey model (Deller 1973b). As such, it reflected the bias of its ancestral counterpart while it paralleled the latter in terms of productivity. The term "bias" is used in reference to the survey strategy because liberal use of assumption and speculation was employed in the selection of the terrain to be surveyed. For example, rather than conduct a meticulous and thorough search of all terrain in a neatly defined area, the survey concentrated on scattered localities having certain clusters of physiographic features. It was not meant to imply that Paleo-Indian sites could not exist between the localities, but rather that experience had demonstrated greater chances of finding them in certain areas.

TABLE 1
PALEO-INDIAN
DATA ON THE LOCATIONS

Location No.	Artifacts	Point Type	Approx. Elevation	Soil Type	Reference	Comments
1	1 point scrapers debitage	fluted (Holcombe)	595′		this paper	
5	ca 10 points scrapers preforms debitage	Plano (Agate Basin) (Scottsbluff)	600′		this paper	multi-component site
6	ca 25 points scrapers preforms debitage	Plano (Scottsbluff)	605′		Deller 1976b Location #C.	multi-component site
7	4 points channel flakes preforms knives scrapers chisel gravers debitage	Fluted	630′	Loam	this paper	Thedford II Site (Parkhill Complex)
8	2 points Debitage	Fluted	640′		this paper	
14	1 point	Plano	605′	Fox Fine Sandy Loam	Deller 1973b	
16	1 point scrapers	Plano	595′	Berrien Sandy Loam	Deller 1976b Location #B.	
17	1 point	Fluted	595′	Berrien Sandy Loam	Deller 1976b Location #L.	
18	1 point	Plano	605′	Berrien Sandy Loam	Deller 1976b Location #G.	
20	2 points channel flakes scrapers debitage	Fluted	610′	Berrien Sandy Loam	Deller 1973b Deller 1976b	McLeod Site (Parkhill Complex)
21	1 point	Fluted	610′	Parkhill Loam	Deller 1976b Location #I.	Parkhill Complex
23	1 point	Fluted	595′	Eroded	Stothers 1972b	
24	ca 125 points channel flakes preforms scrapers knives gravers fluted drill debitage	Fluted	610′	Berrien Sandy Loam	Deller 1973b Deller 1976a #A. Roosa 1977a Roosa 1977b	Parkhill Site
25	2 points scrapers scattered-debitage	Fluted	610′	Berrien Sandy Loam	Deller 1976b Location #K.	Parkhill Complex
26	1 point	Hi-Lo	605′	Parkhill Loam	Deller 1976a Location #F.	
27	ca 10 points	Plano	595′	Brookston Clay Loam	Deller 1976b Location #A	Heaman Site
28	1 point scrapers scattered-debitage	Fluted Fluted	605′	Parkhill Loam	Deller 1976b Location #A.	
29	2 points preforms scrapers	Fluted	725′		this paper	
35	1 point	Fluted	710′	Brookston Clay Loam	Deller 1973b	

Location No.	Artifacts	Point Type	Approx. Elevation	Soil Type	Reference	Comments
36	channel flake scrapers graver	Fluted	710′	Brookston Clay Loam	this paper	Murphy Site
40	1 point	Fluted	710′	Brookston Clay Loam	Garrad 1971 Location #10.	
41	2 points preform channel flake scraper	Fluted (Enterline)	725′	Berrien Sandy Loam	this paper	Ferguson Site
42	1 point preform scrapers	Fluted	750′	Oshtemo Sand	Deller 1976a Location #H.	Strathroy Site
43	4 points scraper scattered-debitage	Fluted (Enterline)	760′	Berrien Sandy Loam	Deller 1976a Location #I.	
44	1 point	Hi-Lo	750′	Berrien Sandy Loam	Deller 1976a Location #N.	
45	ca 10 points preforms scrapers debitage	Hi-Lo	760′	Berrien Sandy Loam	Deller, 1976a Location #M.	Stewart Site
46	ca 50 points preforms scrapers scattered-debitage	Hi-Lo	760′	Fox Fine Sandy Loam	Deller 1976a Location #K.	Welke-Tonkonoh
47	1 point	Hi-Lo	760′	Fox Fine Sandy Loam	Deller 1976a Location #0	
48	1 point	Hi-Lo	760′	Berrien Sandy Loam	Deller 1976a Location #P.	
51	1 point	Fluted	710′	Berrien Sand	this paper	
53	3 points preform drill scattered debitage	Hi-Lo	760′	Berrien Sandy Loam	this paper	
54	1 point	Hi-Lo	760′	Berrien Sandy Loam	Deller 1976a Location#R.	
55	1 point	Hi-Lo	775′	Fox Fine Sandy Loam	Deller 1976a Location #S.	
56	1 point	Hi-Lo	810′	Berrien Sandy Loam	Deller 1976a Location #T.	
57	1 point	Fluted	810′	Berrien Sandy Loam	Deller 1976a Location #V.	Parkhill Complex
58	1 point scrapers scattered debitage	Fluted	810′	Oshtemo Sand	Garrad 1971 Location #18.	
59	2 points	Hi-Lo	810′	Oshtemo Sand	Deller 1976a Location #U.	
60	1 point	Fluted	810′	Oshtemo Sand	this paper	Enterline
62	1 point	Hi-Lo	800′	Watrin Sand	Deller 1976a Location #W.	
63	1 point	Plano	805′	Watrin Sand	Deller 1976a Location #X.	
64	1 point	Fluted	810′	Guelph Loam	Deller 1976a Location #Y.	

Generally the technique was a process of "zeroing-in" on potential site areas by using various hypotheses and assumptions to reduce prospective regions down to promising localities. In other words, it was a series of steps leading from the general to the specific, going from the known to the unknown.

The first step involved the selection of regions to be surveyed. It was assumed that distributional studies such as Kidd (1951), Garrad (1971) and Deller (1973b) could be used to indicate regions of the province where Paleo-Indians were known to have been active. Priority was given to areas yielding a variety of Paleo-Indian point types, suggesting that more than one band might have occupied the area. The presence of more than one component considerably increases the site potential of an area.

Once the general areas were selected, the next step consisted of narrowing them down to the most promising localities. Again, the former survey work provided a useful model by demonstrating that Paleo-Indian sites in the survey area were often found in proximity to certain clusters of physiographic features and, furthermore, that such clusters could easily be identified from topographic maps. When utilizing maps to identify the most promising locatilies, the following assumptions were kept in mind:

(a) Paleo-Indian sites and locations in southern Ontario are frequently situated in proximity to areas that were formerly innundated by glacial waters. Generally the sites are located on the shorelines of former Pleistocene lakes, especially at places where the fossil beach is cut by a stream. Lagoon areas, bays and small inlets of the former lake seem to have been particularly attractive and are often marked by clusters of sites. Several locations in southern Ontario are adjacent to glacial spillways and kettle lakes.

(b) Early sites often occur near present-day swampy terrain, which is easily identified from aerial photographs or topographic maps. When plotted onto soil survey maps, Paleo sites frequently occur on loam soils in proximity to muck soil. Probably the soil pattern is a function of shoreline phenomena. The muck is attributable to the low, formerly-drowned terrain of the lakebed, whereas the loam can be associated with the higher terrain of the beach area. Whatever the explanation, the pattern is easy to recognize on soil survey maps, and can provide a useful aid in the search for early sites.

(c) Late Pleistocene sites are often situated on terrain having a southern exposure, either on the north side of drainage features, basins or other low areas where the terrain is consequently sloping to the south, or on the southern slopes of hills, knolls, and ridges.

(d) Sites and locations often have a commanding, longitudinal view down the axis of a valley. The overview is commonly provided by the situation of a camp on the bank opposite the perpendicular junction of two waterways, or in other words above a "T" configuration of streams. The overview of a river axis is occasionally provided by the location of a camp at the vertex of an angular bend in a river or at an oxbow.

Before taking to the field reconnaissance, a review was made of the lithic material commonly utilized by the Paleo-Indians in southern Ontario. The following assumptions based upon previous survey work were kept in mind:

(a) The recognition of certain lithic materials can be very useful in identifying fluted point components, especially if diagnostic artifacts such as fluted points, channel flakes or gravers are not found at the time of the initial survey. Collingwood chert (identified by William Fox, personal communication) merits special attention as it serves as a kind of index fossil in the survey area. It was frequently utilized by the Paleo-Indians and was seldom, if ever, used by later groups. Bayport chert was utilized by the Paleo-Indians, but it is not an absolute indicator of a Paleo site because it was also used by later cultures in the survey area. Onondaga chert and other local varieties were used, but again, they cannot be regarded as index material. Finally, exotic cherts merit special attention since Paleo-Indians had a definite preference for high quality, non-local materials.

(b) Flake typology can be useful in the identification of early Paleo-Indian sites. Generally, sites in the survey area are characterized by small, thin flakes of bifacial retouch. Ground striking platforms are common. As a rule, the local Paleo sites show an economy of lithic material, and unlike their Archaic and Woodland counterparts, fire cracked rock is rare.

The next step in the survey was crucial to the success of the project. It consisted of interviewing residents and people familiar with the selected areas. Generally they were shown a small collection of artifacts including a fluted point, some scrapers and chert flakes. Diagnostic attributes were pointed out and discussed. The people were asked if they knew of any locations where similar material or other artifacts had been found, or if they knew of any person or reference that might be able to contribute helpful information. Whenever possible, the local people were involved in the project, either contacting friends, gathering data or assisting in the field under careful supervision. Permission to surface hunt was obtained and the fields selected for investigation were searched according to the method hereafter described. From this step onward the survey hypotheses were readjusted to incorporate new information concerning lithic materials or other local variations.

The final step of the survey involved the actual searching of the localities. Due to the limited amount of time available, focus was directed solely upon cultivated surfaces. Many promising fields, according to the hypotheses, were reluctantly passed by because they were covered with bush, pasture, or were otherwise not available for surface investigation.

The actual on-site reconnaissance technique varied according to prevailing circumstances such as crop cover, attitude of the landowner, conditions of soil and weather, and the availability of time, assistance and equipment. If the land was planted in crops of corn or beans, which was usually the case, the field was arbitrarily divided into quadrants or sections. Each section was searched by walking up and down the spaces between the crop rows, usually surveying three spaces at a time if the size of the plants allowed good visibility. When artifacts or features were discovered, they were located on a sketch map of the site. By counting the rows between the artifact and the edge of the field and observing the relationship to various bench marks and physiographic features, a fairly precise location could be recorded.

If the land was lying fallow, it was initially sampled at random, followed by the searching of natural features such as ridges, knolls, basins and southern exposures. Both the crest and the slope of the Algonquin ridge were given special attention. Although the backshore seemed to yield more artifacts of Paleo-Indian vintage, the slope provided some very interesting Archaic specimens, many of which were polished and worn smooth, apparently tumbled by wave action. The water worn flakes and artifacts have unique implications for dating. It is probable that they pre-date Lake Nipissing, whose waters occupied and reworked the Algonquin ridge in the survey area. It is questionable whether any of the artifacts were tumbled by Algonquin waters.

The weather conditions most favourable for surface reconnaissance were during and after a rain, and if the soil was sandy, during windy weather when the sand was shifting.

THE LOCATIONS

All locations in this study are situated on or near shoreline features of late Pleistocene lakes. Approximate provenance of the sites and artifacts relative to shorelines are shown in Figs. 1, 2 and 3. The numbered locations are cross-referenced to the artifacts illustrated.

The shorelines in Fig. 2 are identified as Algonquin and Warren (Cooper and Clue 1976). In Fig. 3, the twin beaches approximating the 700-foot contour of elevation near Alvinston are also attributed to Lake Warren (Chapman and Putnam 1966). The shorelines near Mt. Brydges were tentatively identified as Whittlesey and Maumee on the basis of their elevation about 50 and 100 feet higher than the Warren beach near Alvinston (Deller 1976), but subsequent research has indicated that the Whittlesey and Maumee designations are probably in error.

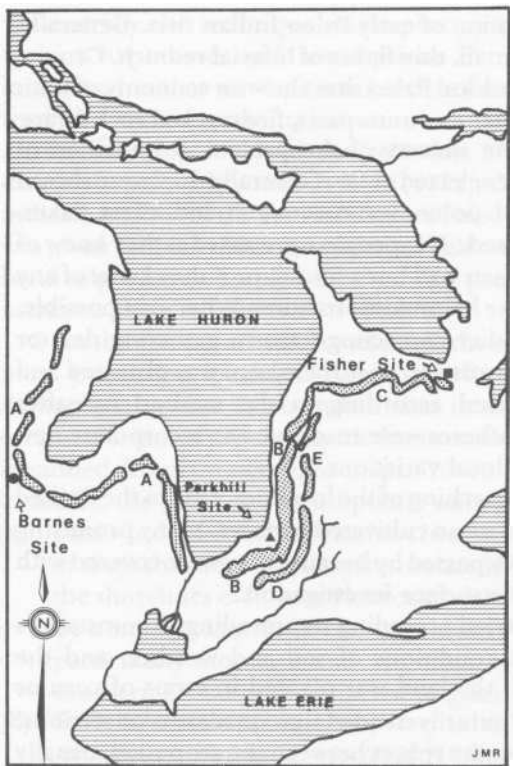

Figure I Sites of the Parkhill Complex Relative to Late Pleistocene Moraines

A Port Huron Moraine
B Wyoming (Port Huron) Moraine
C Singhampton Moraine
D Seaforth Moraine
E Wawanosh Moraine

Fig. 1. Sites of the Parkhill Complex relative to late Pleistocene moraines.

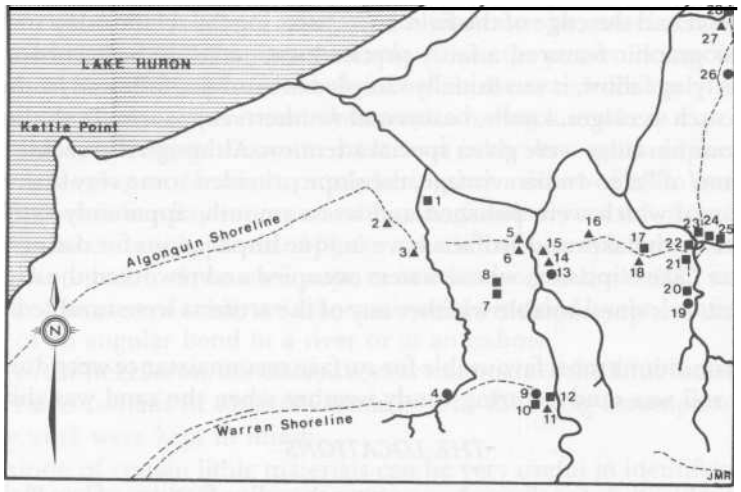

Figure 2 Paleo Locations Relative to Shorelines and Drainage

■ FLUTED POINT LOCATION
● HI-LO LOCATION
▲ PLANO LOCATION

Fig. 2. Paleo locations relative to shorelines and drainage.

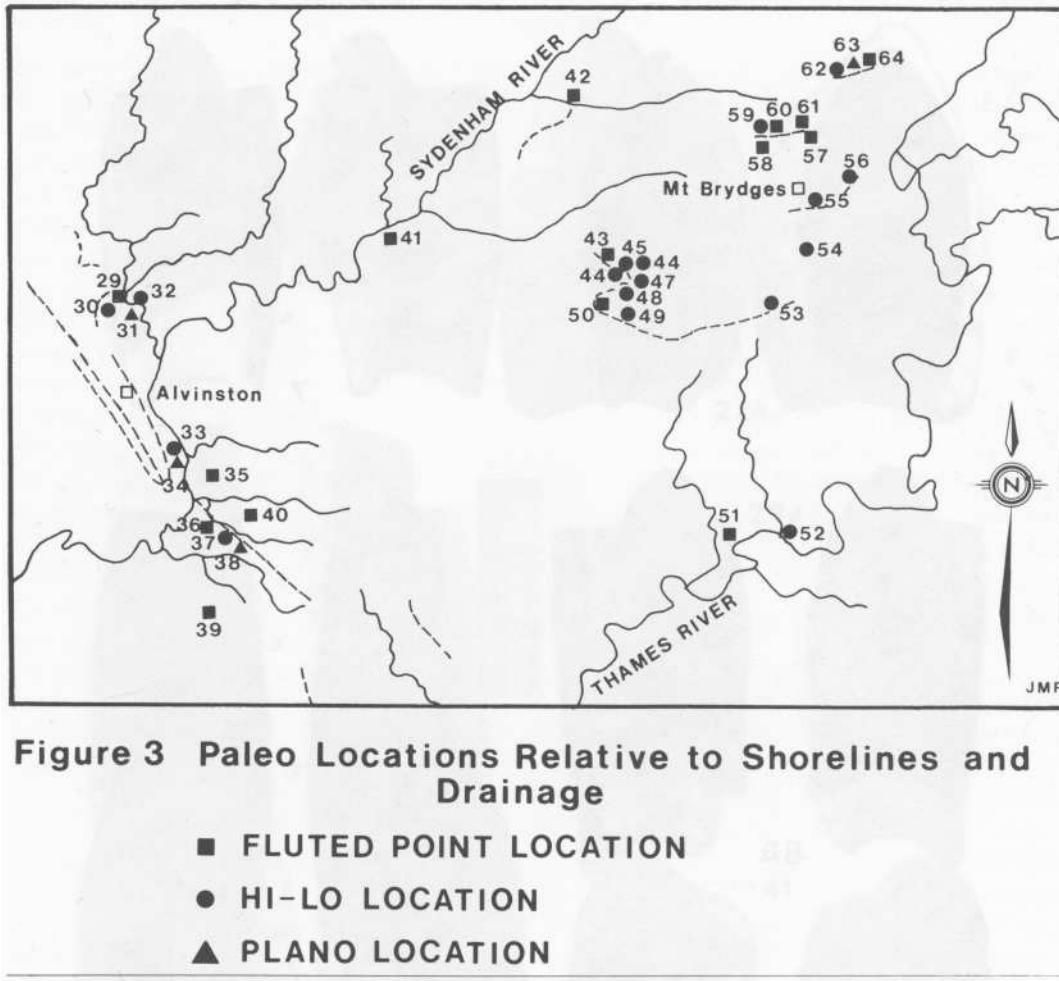

Fig. 3. Paleo locations relative to shorelines and drainage.

THE ARTIFACTS

In terms of hours spent in the field, the count of artifacts attributable to Paleo-Indian cultures is high. Although this report directs attention primarily to those artifacts that originally served as projectile points, it should be noted that a variety of tool types were recovered. A representative sample of preforms, knives and scrapers is shown in Fig. 6.

The majority of projectile points can be ascribed to either fluted, Hi-Lo or Plano components on the basis of workmanship and metric attributes. Bearing in mind that it is often difficult to type isolated finds of fluted points (Roosa 1965, 1977), it is assumed that artifacts 7,8a, 8b, 10a, 10b, 20, 22, 24, 29a, and 51 belong to the Parkhill Complex. Points 23, 39, 41, 60, and 61 appear to be Enterline, and artifact 1 is probably a Holcombe point.

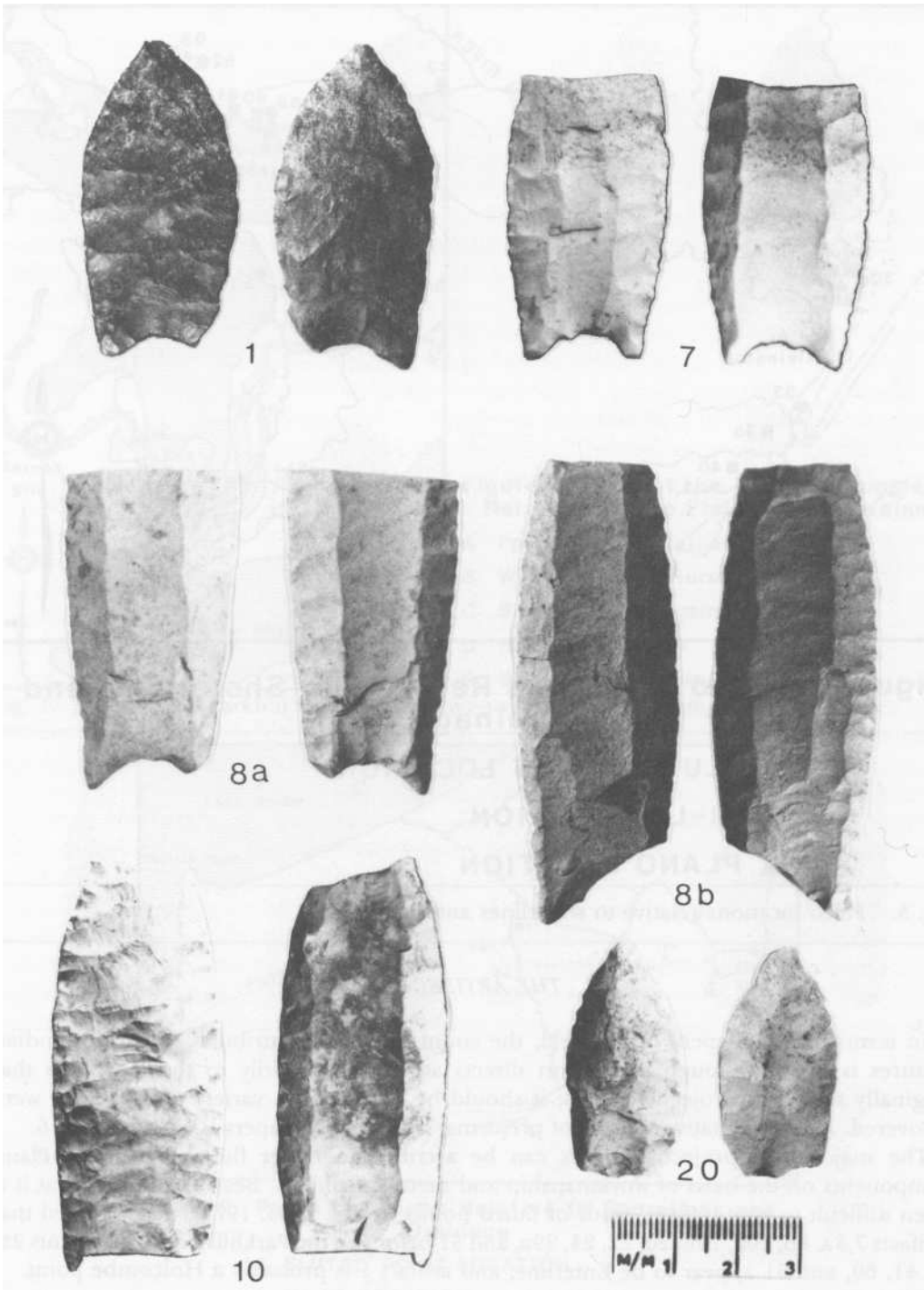

Fig. 4. Fluted points (numerals refer to locations shown on the maps and Table 1).

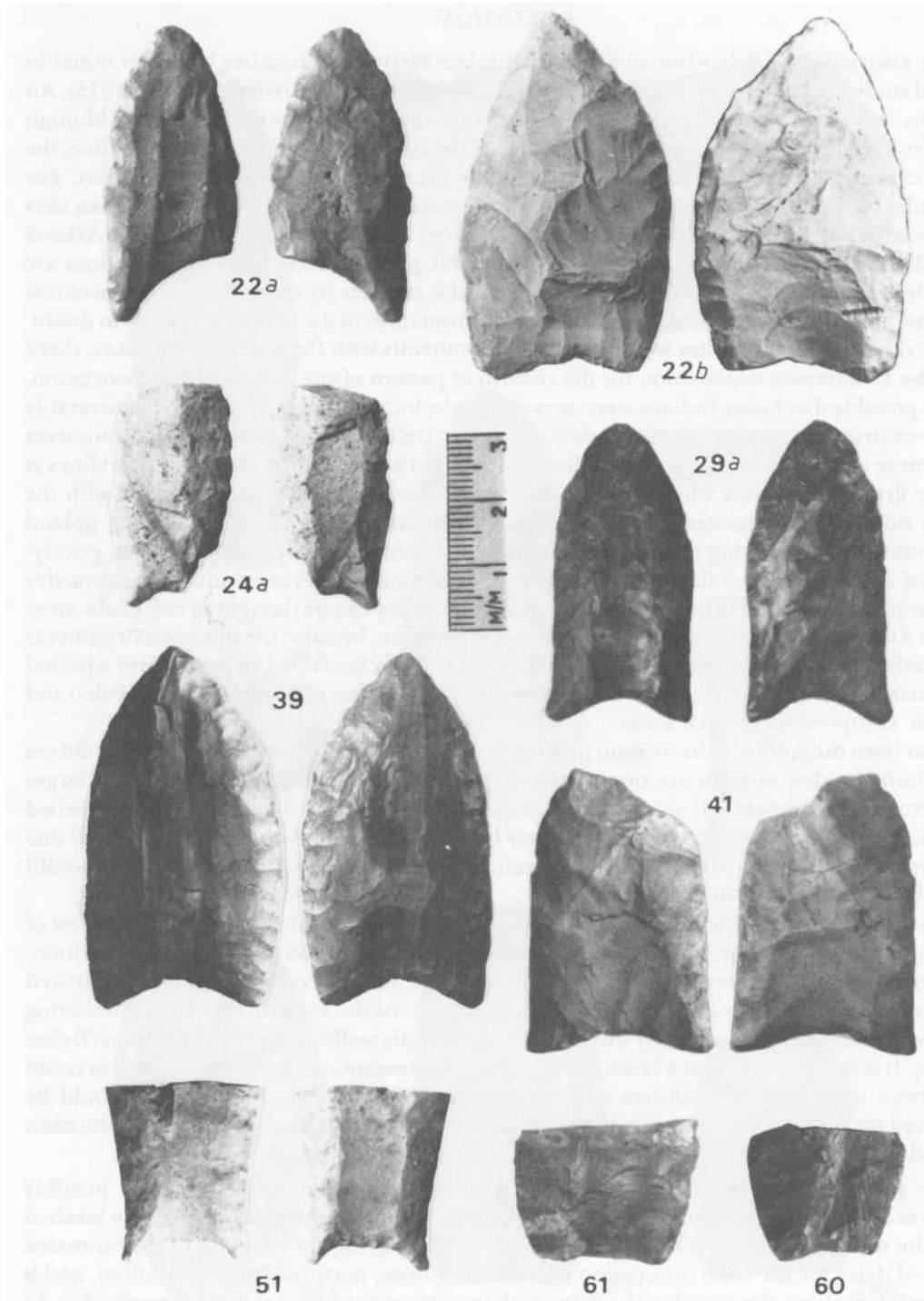

Fig. 5. Fluted points (numerals refer to locations shown on the maps and Table 1.)

DISCUSSION

The association of Paleo-Indian artifacts with late Pleistocene beaches has been noted in several studies (Mason 1958; Roosa 1965; Wright and Roosa 1966; Deller 1973; Fox 1975). An obvious interpretation is that the Paleo-Indians were camping by the water's edge. Although waterfront activities may be indicated for certain of the sites along the Algonquin shoreline, the same explanation may not apply to many of the locations referred to in this report. For example, distributional studies in southwestern Ontario demonstrate that Paleo-Indian sites and locations frequently occur on shorelines associated with lakes Warren, Whittlesey, Arkona and Maumee (Deller 1973b, 1976a, 1976b, and this paper). Since the latter shorelines are considered to be thousands of years older than the artifacts in question (Roosa, personal communication), the implication of waterfront provenance on the shorelines is cast in doubt. on the other hand, if the sites were not contemporaneous with the waters of the lakes, there must be an alternate explanation for the consistent pattern of site and shoreline association.

It is possible that Paleo-Indians were attracted to the localities by the presence of favourable micro-environments existing in fossil shoreline areas (Deller 1976b). The micro-environments were more a product of physiography than of climate. They are found along the shorelines at poorly drained locations where the low, flat lakebed joins the uplands associated with the beach ridges. It is suggested that during prehistoric times, when the surrounding upland environment was evolving through various stages of coniferous cover, the low, flat, poorly-drained areas of lakebed flanking the relict shorelines offered a richer and more attractive environment consisting of lush sedges and grasses etc. They can be thought as rich glade-areas within a more sterile coniferous environment. Furthermore, because the micro-environments were indirectly a product of static landforms, they probably remained attractive over a period of thousands of years, accounting for the consistent orientation of a wide variety of Paleo and Archaic components to such areas.

It has been the author's observation in the sub-Arctic, confirmed by discussions with modern Inuit hunters, that caribou are often attracted to poorly-drained glade areas within larger coniferous environments. If animals such as caribou were attracted to the low-lying lakebed areas in prehistoric times, it is logical that early hunters would follow suit. It is also logical that they would set up their camps on the well-drained uplands of the former beach which would provide an overview of the hunting area.

In addition to providing a southern exposure, a well drained campsite and an overview of the hunting area, the shoreline ridges might have assisted the hunters in the taking of caribou. Although it is highly speculative, the possibility is noted that deep snowdrifts accumulated along the shoreline ridges and that Paleo-hunters frightened the animals into the encumbering drifts where they were more easily dispatched, a technique well known to the Eskimos (Deller 1973b). It is also possible that a favourable "zig-zag" orientation of the shoreline ridges could have been utilized by the hunters as a natural trapping area. A few of the band could be stationed on top of the ridges while the main force frightened the caribou into a trap situation created by the convergence of the surrounding bluffs.

The provenance of some Paleo-Indian artifacts on the Algonquin shoreline possibly requires an explanation other than a favourable micro-environment existing on the lakebed after the water's recession. The terminal dates for lake Algonquin fall close to the estimated range of dates for the early occupation of the area (Roosa, personal communication), and it may well have been the case that the Paleo-Indians were camping next to the water's edge. In support of waterfront camps, it could be noted that nearly all of the sites and locations on the Algonquin shoreline are situated near crossing barriers. A crossing barrier has been defined as a physiographic feature which would offer resistance to migrating caribou, thus providing a

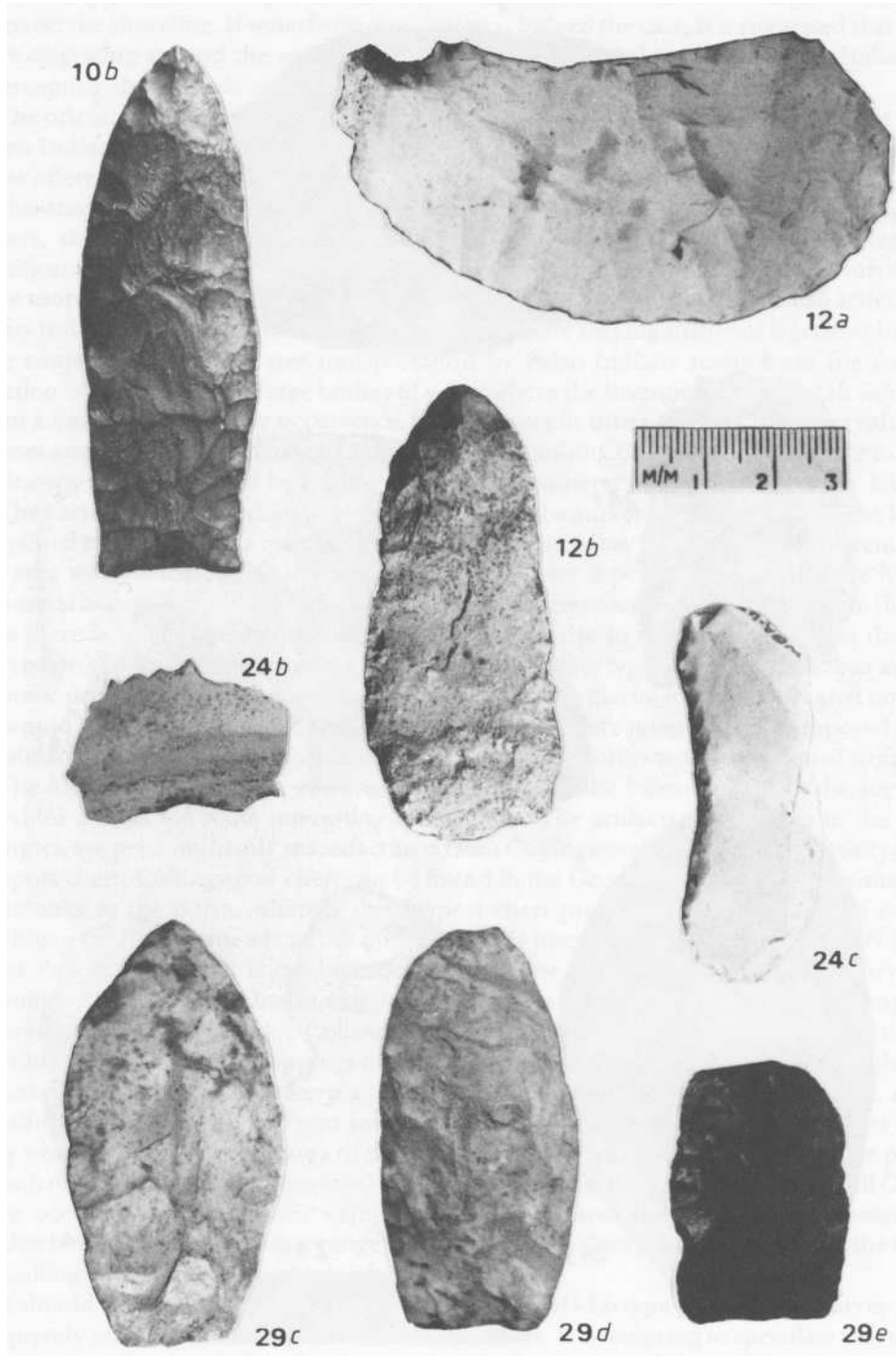

Fig. 6 Artifacts attributable to fluted point components.

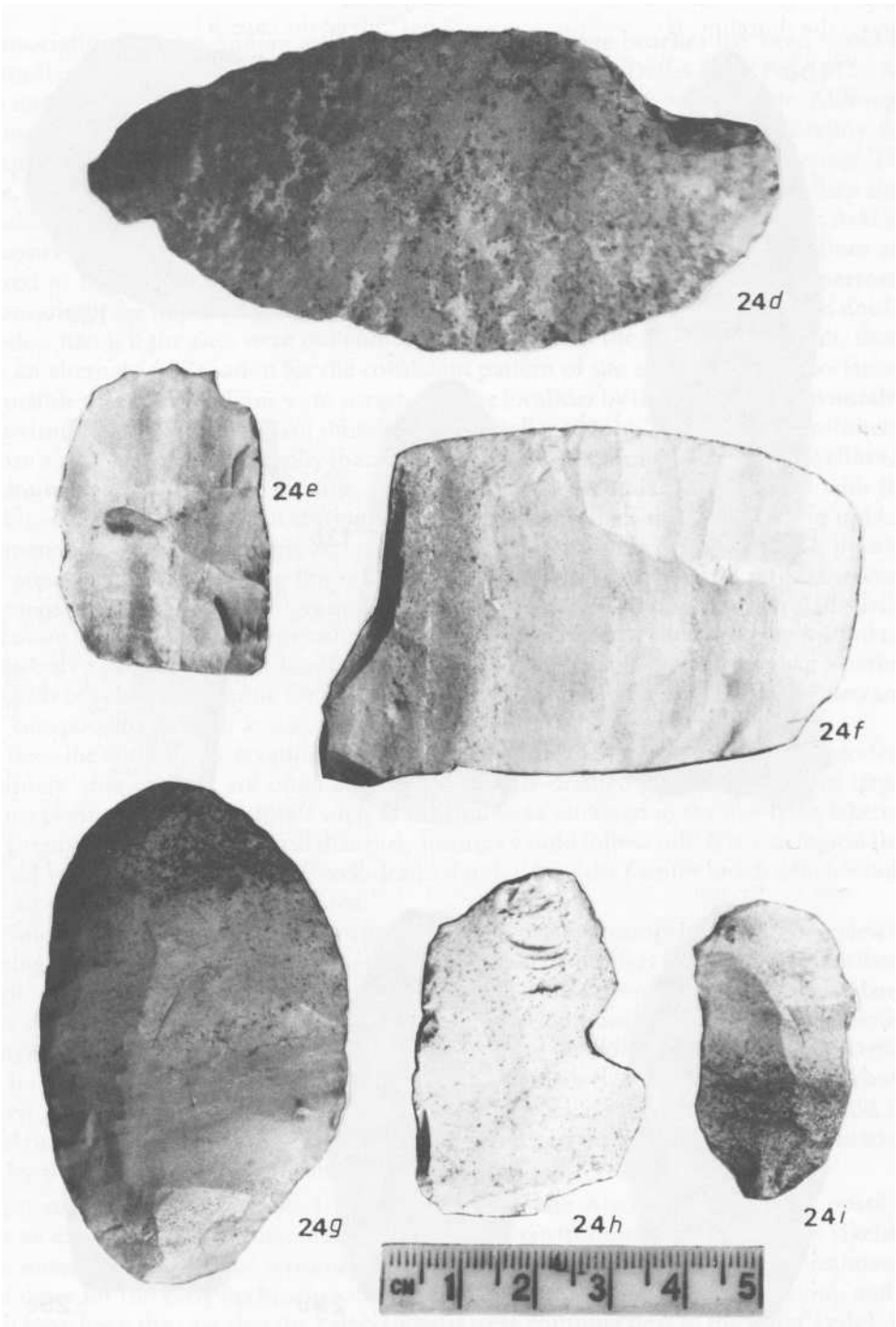

Fig. 7 Artifacts attributable to the Parkhill Complex.

natural trap (Deller 1973b). The barriers usually take the form of creeks or streams which intersect the shoreline. If waterfront occupation is indeed the case, it is suggested that caribou were migrating around the southeastern extremity of the Lake, and the Paleo-Indians were intercepting the animals at places where the shoreline was cut by a stream.

The orientation of Paleo-Indian sites to lagoon areas seems to be a highly significant factor in Paleo-Indian settlement strategies (Deller 1973b, 1976). It is possible that the former lagoon areas offered favourable micro-environments after the waters' recession, as previously noted in this study. However, if the early inhabitants were indeed camping next to the Algonquin waters, the functional relationship between the contemporaneous sites and lagoons is significantly altered. It is possible that the Paleo-Indians were utilizing fish resources which were more easily obtained in the shallow waters of lagoons. The possibility also arises that the Paleo-Indians had some sort of watercraft and thus were seeking shelter of lagoon or bay areas. The conjectured use of water transportation by Paleo-Indians stems from the consistent location of their sites near large bodies of water where the invention of watercraft would have been a natural and simple occurrence. In more recent times, the use of watercraft such as canoes and kayaks greatly facilitated the capture of caribou. Caribou frequently take to water of their own volition, or can be frightened there by hunters, where they are easily killed.

The variety of Paleo-Indian point types found in the survey area suggests that the localities remained attractive over a number of years. That is not to say that the same band remained in the area with their point style gradually changing over a period of time. If there had been continual occupation, there would be a fairly neat progression of point types, but in the survey area there is no apparent continuity of form, giving rise to the speculation that the people moved on. To find either ancestral or descendent artifact types, one might look to adjoining regions, probably to the north or to the south, for as the glacial ice-front retreated northward so would the particular ecozone to which the people were adapted. It is proposed that the inhabitants would be induced to follow suit, giving rise to a northward progression of artifact styles.

The identification of lithic raw materials utilized by the Paleo-Indians in the survey area provides a basis for some interesting speculation. The artifacts attributable to the Parkhill complex are predominantly manufactured from Collingwood chert, with a minority made of Bayport chert. Collingwood chert can be found in the Georgian Bay area approximately 175 kilometers to the north, whereas the Bayport chert probably originated from a source in Michigan ca. 175 kilometers to the northwest. It is interesting to note that Kettle Point chert (alias Port Franks chert) is rarely associated with the Parkhill Complex in the survey area, although it is a high quality material outcropping a few kilometers from the campsites in question. The preference for Collingwood chert could be due to a variety of factors. It is possible that the local outcroppings of Kettle Point material were submerged under the waters of Lake Algonquin whose waterplain was somewhat higher than the chert source. Another possibility is that the Kettle Point source was unknown to the inhabitants, perhaps because they were newcomers to the area of the sources were obscured by snow during the principal season of occupation. It has previously been suggested that the people of the Parkhill Complex were occupying most of their camps in the survey area during the winter season, and furthermore, that their summer range extended into the Georgian Bay area where the supplies of Collingwood chert were obtained (Deller 1973a).

It should be noted that Agate Basin, Hell Gap and Hi-Lo type points in the survey area are frequently manufactured from the Kettle Point chert. It is tempting to speculate that the post-Algonquin reduction in lake levels sounded the beginning of the end for the fluted point cultures of the region, while making the Kettle Point outcroppings available to the late Paleo-Indians who were exploiting grazing resources on the former lakebed.

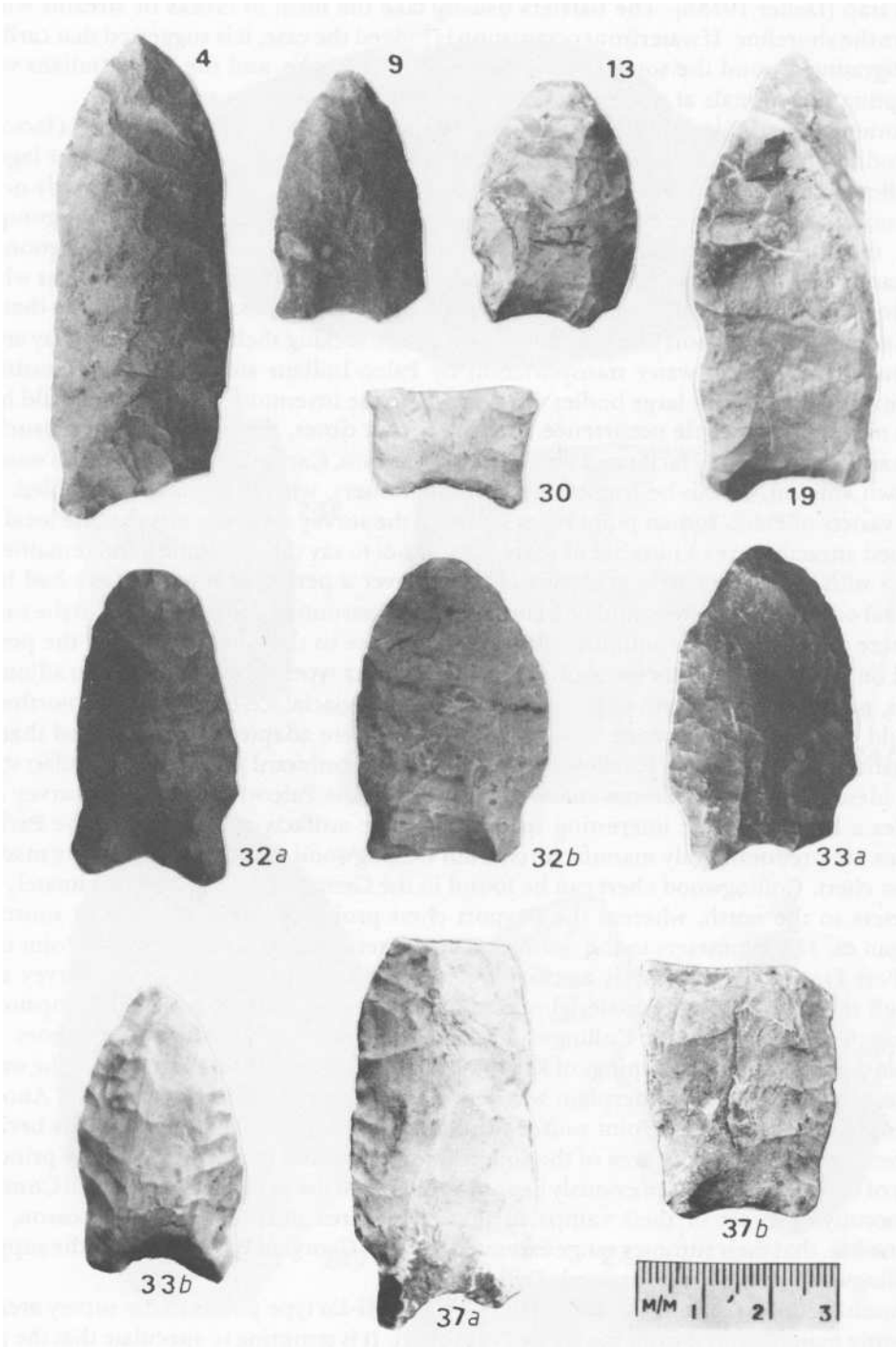

Fig. 8. Hi-Lo points.

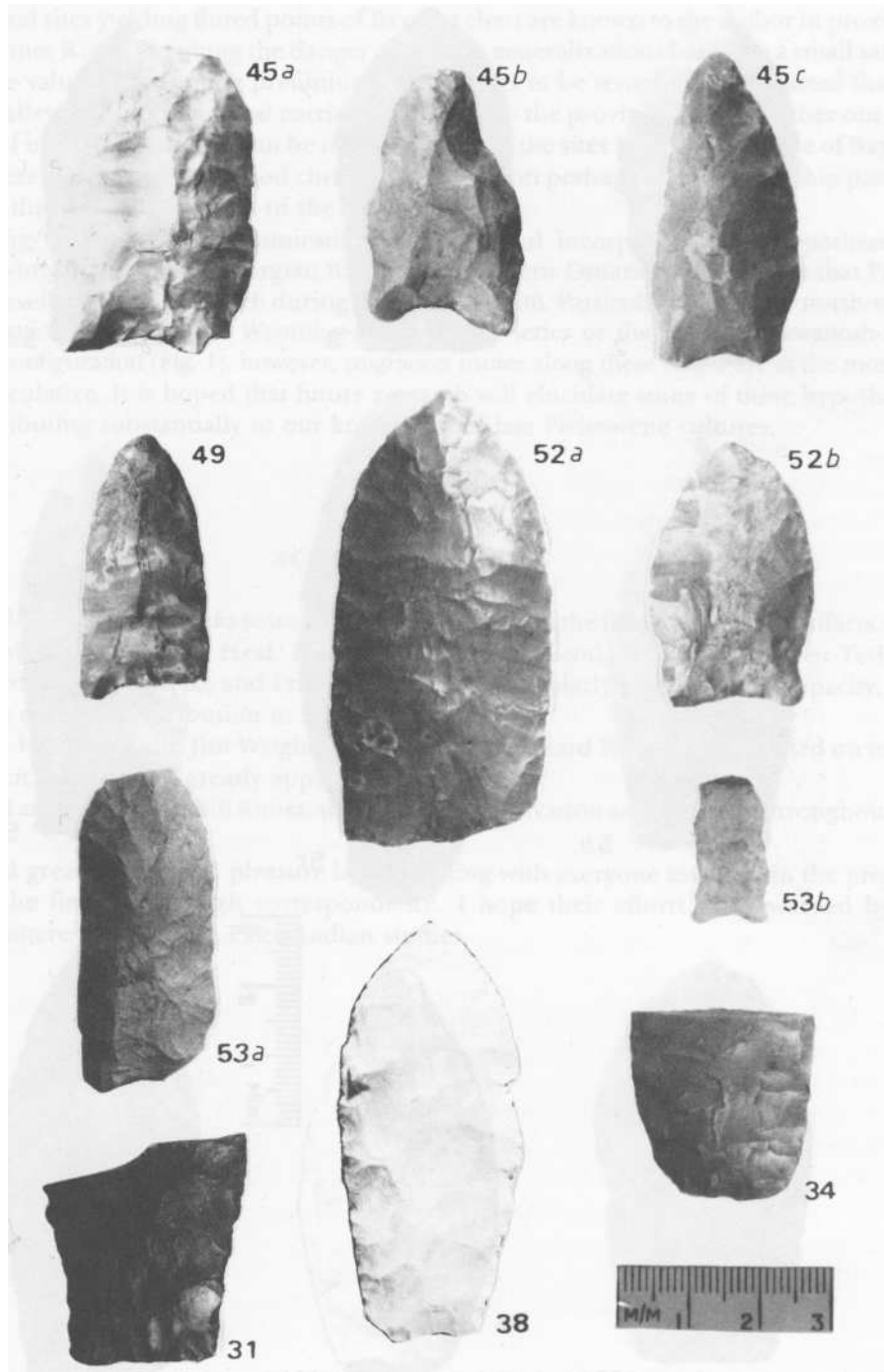

Fig. 9. Hi-Lo and Plano points.

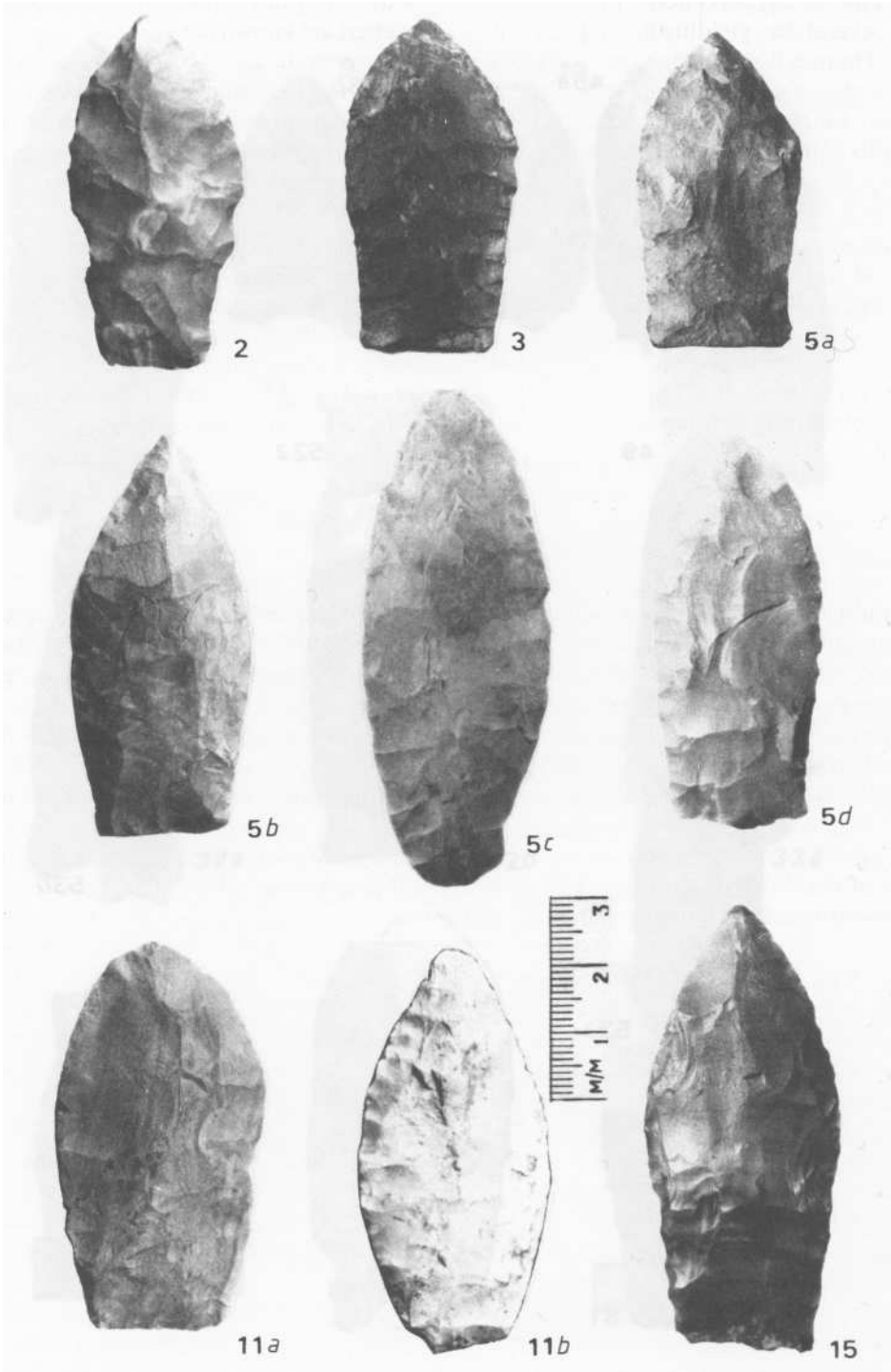

Fig. 10. Plano points.

The use of Bayport chert by the fluted-point cultures implies contact with Michigan to the west. Several sites yielding fluted points of Bayport chert are known to the author in proximity to the Thames River. Weighing the danger of making generalizations based on a small sample against the value of presenting preliminary hypotheses to be tested, it is suggested that the Thames valley provided a natural corridor of entry into the province. Going further out onto the limb of insufficient data, it can be noted that two of the sites have points made of Bayport and scrapers made of Collingwood chert, a phenomenon perhaps related to kinship patterns but more than likely a function of the small sample.

Expanding the idea of communication corridors and incorporating the hypotheses of summer-winter range from Georgian Bay to southwestern Ontario, it is possible that Paleo-Indians travelled on moraines left during the last glaciation. Particularly suited for north-south communication would be the Wyoming-Singhampton series or the Seaforth-Wawanosh-Singhampton configuration (Fig. 1). however, migration routes along these ridges are at the moment highly speculative. It is hoped that future research will elucidate some of these hypotheses, thus contributing substantially to our knowledge of late Pleistocene cultures.

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