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Two fluted points from Northern Ohio: Petersen Site, Ottawa County and Fairview Park, Cuyahoga County

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Abstract

We provide data and images on two fluted points found in Ohio: one from the Petersen site in Ottawa County and one from Fairview Park in Cuyahoga County. Our data and images may be useful to syntheses or meta-analyses, and our report serves as a marker for where, or by whom, these fluted points are currently curated.

Introduction

Given their rarity, Paleoindian fluted points should be described and reported upon if possible. Beyond providing information about Stone Age tool morphology, technology, raw material choices, among other possible information, the publishing of fluted points can contribute to fluted point geographic surveys. The latter contribute to archaeologists' broader understanding of Paleoindian mobility and land use or sampling bias (Bever and Meltzer 2007; Gingerich et al. 2025; Lepper 1983, 1985; Slade and Meltzer 2023). Here, we report on two fluted points that have been brought to the attention of Kent State University and Cleveland Museum of Natural History archaeologists. Measurements recorded from each point are presented in Table 1.

Point Descriptions

The first fluted point (Specimen 1) is from the Petersen Site, a multicomponent site in Ottawa County, Ohio (Abel 2012). It is curated at the Cleveland Museum of Natural History (having been previously acquired by co-author Charles Stephens). The specimen was previously depicted by Abel (2012:22, Figure 25b) and it is consistent with Clovis plan-view morphology and other attributes (Figures 1 and 2). The point exhibits ground proximal-lateral and basal edges. An 'impact scar' is present at its tip (which is not to say projectile impact was necessarily

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Table 1.Metric data recorded from the fluted points described in this study.

Specimen	Figure #	Mass (g)	Length (mm)	Width (mm)	Basal Width (mm)	Proximal-Lateral Edge Grinding Length #1 (mm)	Proximal-Lateral Edge Grinding Length #2 (mm)	Flute Length #1 (mm)	Flute Length #2 (mm)	Basal Concavity Depth (mm)
1	2	8.3	44.5	24.8	23.6	23.7	20.1	27.9	23.9	6.4
2	3	9.3	60.8	25.4	28.0	21.0	17.8	22.4	11.0	5.9

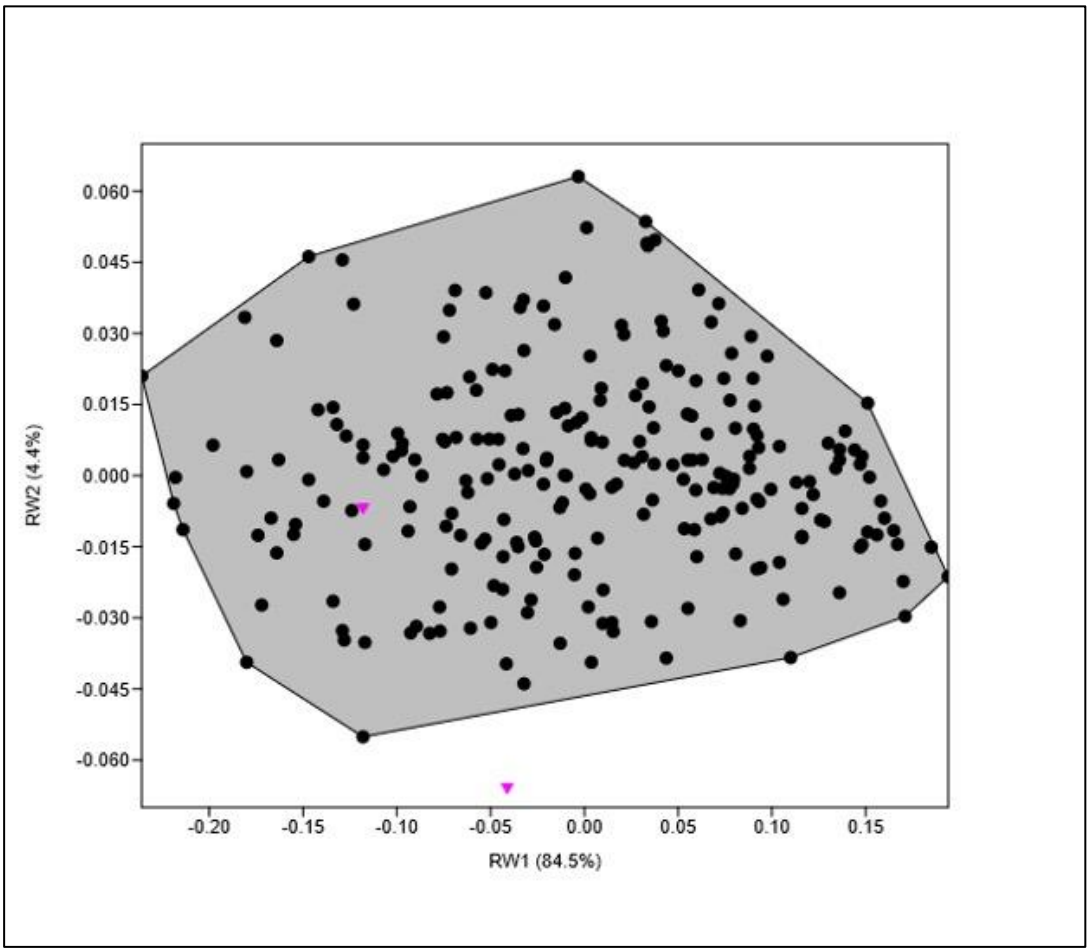

Figure 1. Results of the geometric morphometric analyses of the two Ohio points (for methods see Buchanan et al. 2007, 2014, 2018). The graph shows relative warps scores describing shape variation in the sample of points. The x-axis is relative warp 1 and represents 84.5% of the overall shape variation in the dataset and the y-axis is relative warp 2 and represents 4.4% of that variation. The two fluted points described here are shown in pink, and the Clovis point sample (n=241) is shown in black. The Clovis sample came from across North America (see Buchanan et al. 2014). A convex hull is used to demarcate the extent of shape variation in the Clovis sample. The overall shape of Specimen 1 (from the Petersen site) places it within the overall Clovis variation, whereas the overall shape of Specimen 2 (from Fairview Park) is found outside of the Clovis variation. Specimen 2 differs from the Clovis sample primarily because the maximum width on this specimen is found near the base.

the scar's cause; see Rots and Plisson 2014; Thulman and Fenerty 2024). The presence of 'shoulders' at the junction where the ground edge and sharp blade meet may be indicative of resharpening, although the irregularity of the blade edge, which seems to be contributing to the shoulder morphology, could also be from knife use or taphonomic processes. Minor crushing at the apex of the basal concavity is consistent with the fluting 'shock absorber' hypothesis (Story et al. 2019; Thomas et al. 2017), but this crushing might also be due to taphonomy. The point's stone raw material is macroscopically consistent with Flint Ridge Chalcedony from central Ohio, especially given its blue-grey predominance, the red and yellowish color at its base, its vitreous appearance, and the semi-translucence at its edges (DeRegnaucourt and Georgiady 1998; see also Abel 2012:22).

The second fluted point (Specimen 2, Figures 1 and 3) belongs to the family of co-author Isabella Chismar and was reportedly found by her great, great grandmother Frieda Geiger when the latter lived in Fairview Park, Cuyahoga County, Ohio (at the time of discovery, the town was called 'Parkview'). The property of discovery is located on Mastick Road approximately 300 meters northwest of the Rocky River. Frieda also collected many other point types from the same location (Figure 4).

Like Specimen 1 described above, Specimen 2 exhibits ground proximal-lateral and basal edges. It also exhibits 'shoulders' at the junction where the ground edge and sharp blade meet. We suspect this shouldering is likely evidence of resharpening because there is no evidence of taphonomic damage and both edges exhibit beveling. The point's raw material is macroscopically consistent with several fossiliferous cherts, such as Cedarville-Guelph from west-central Ohio or Harrodsburg chert from central Indiana (DeRegnaucourt and Georgiady 1998).

The reader likely notes that this second fluted point falls outside our depiction of Clovis plan-view variation (Figure 1). One explanation is that Specimen 2 may not be 'culturally Clovis.' Another explanation is that the 'Clovis cultural variation' depicted by the 241 black circles in Figure 1 is not fully representative of all possible Clovis culture point plan-view morphologies (but see Ragan and Buchanan 2018). With respect to the second fluted point, it differs from the Clovis sample primarily because its maximum width is found near the base. This feature could be due to the inferred resharpening we proposed above. However, we cannot say when the resharpening occurred, or the skill of the knapper who did the resharpening. Given the presence of Holocene points at the Fairview Park property (Figure 4), and the documented occurrence elsewhere of Holocene peoples making use of Clovis lithic tools (e.g., Boulanger et al. 2022), perhaps another explanation is that (Specimen 2) *was* initially 'Clovis' but then subsequently altered by a Holocene knapper via resharpening, 'pushing' the specimen out of typical Clovis variation. Without additional evidence (e.g., chronometric; other fluted points found at the same location; the exact context of the Clovis point relative to the Holocene points), we cannot definitively state whether the specimen is 'culturally Clovis,' and to argue one way or another would be "to vainly beat the air" (Darwin 1859:49).

Finally, we noted that both fluted points described here exhibit grinding on their proximal-lateral edges. We do not currently know why Paleoindians ground smooth these edges (Eren et al. 2024; Werner et al. 2019), but one long-standing hypothesis is that ground edges

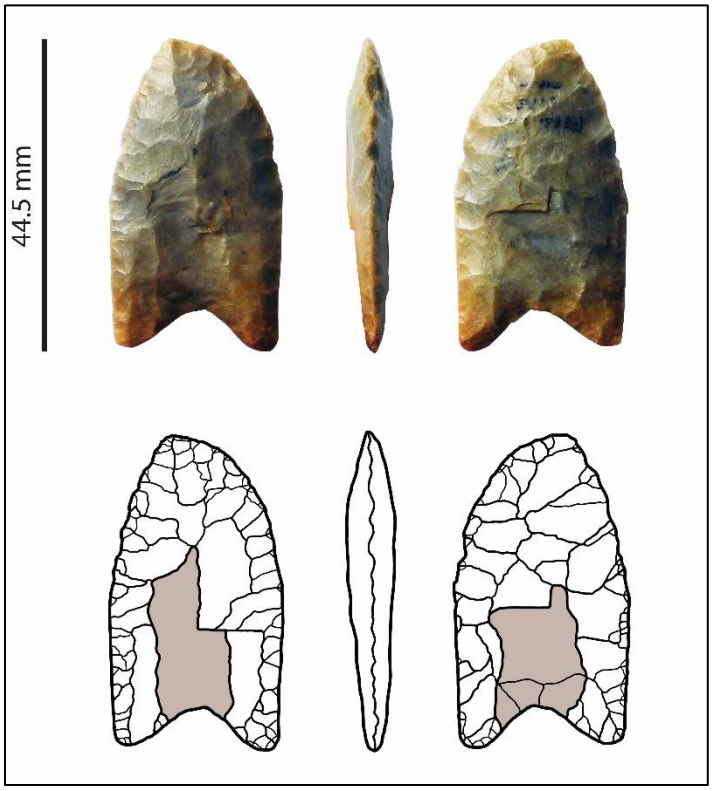

Figure 2. Images and illustrations of Specimen 1 from the Petersen site.

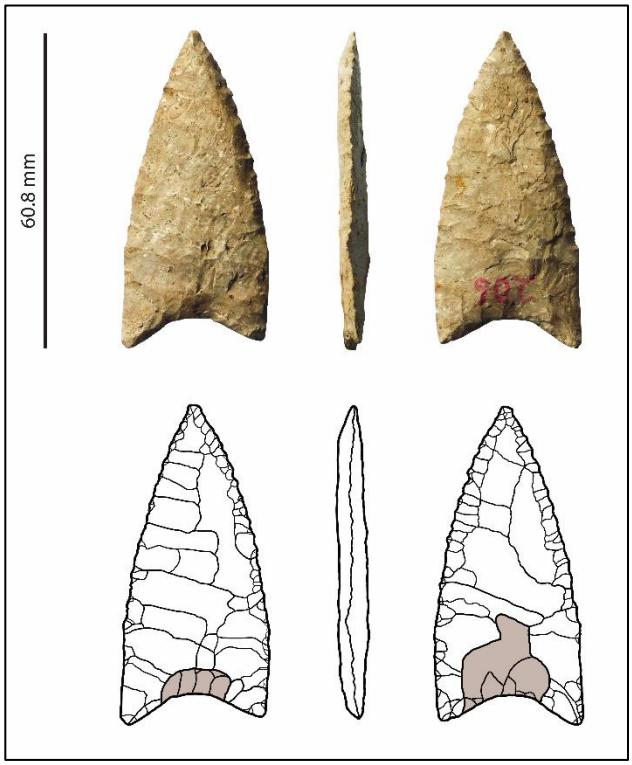

Figure 3. Images and illustrations of Specimen 2 from Fairview Park.

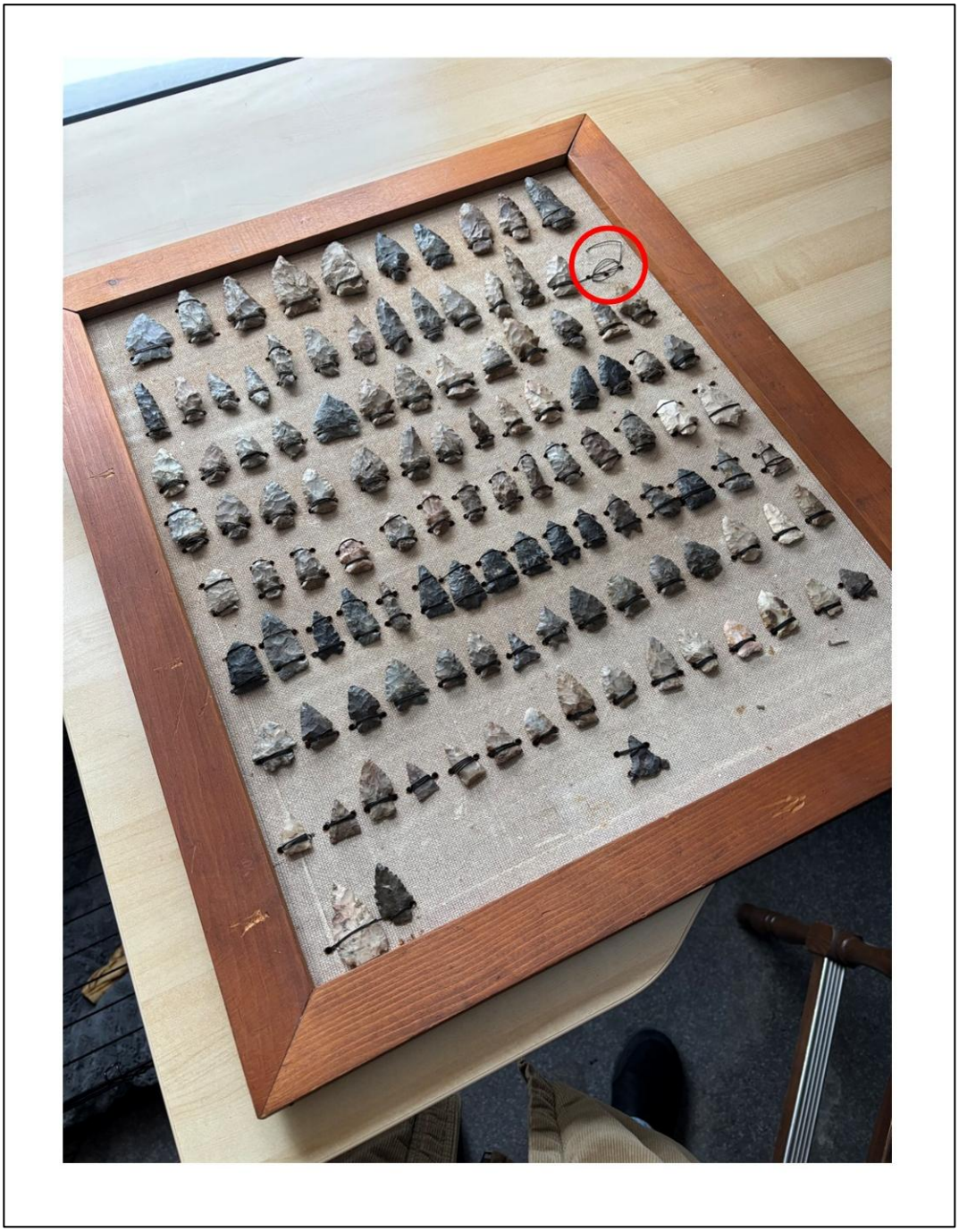

Figure 4. The collection of points from which Specimen 2 was derived. The circled location is where the Clovis point was kept.

would have prevented lashings used in hafting from being torn (Roberts 1935, 1940). We also noted that both fluted points exhibit basal edges that have been ground as well. If indeed lashings were used by Paleoindians to haft points to shafts or handles, we wonder whether the presence or absence of basal grinding broadly reveals *how* the lashings wrapped around the point. Perhaps on

fluted points *without* basal edge grinding the lashings only contacted the proximal lateral edges (Figure 5a), but on fluted points *with* basal edge grinding the lashings also wrapped around the ears in some way (Figure 5b). If fluted point 'ear wrapping' occurred, another question is whether it potentially had a functional benefit to the overall composite tool, beyond preserving lashings. For example, perhaps ear wrapping stabilized or strengthened the haft, prevented ear breakage, or somehow deterred the point from splitting the wooden shaft upon impact. Future artifact analyses such as microwear might be able to assess whether fluted point ear wrapping occurred and future experiments can test whether the practice provided potential functional benefits.

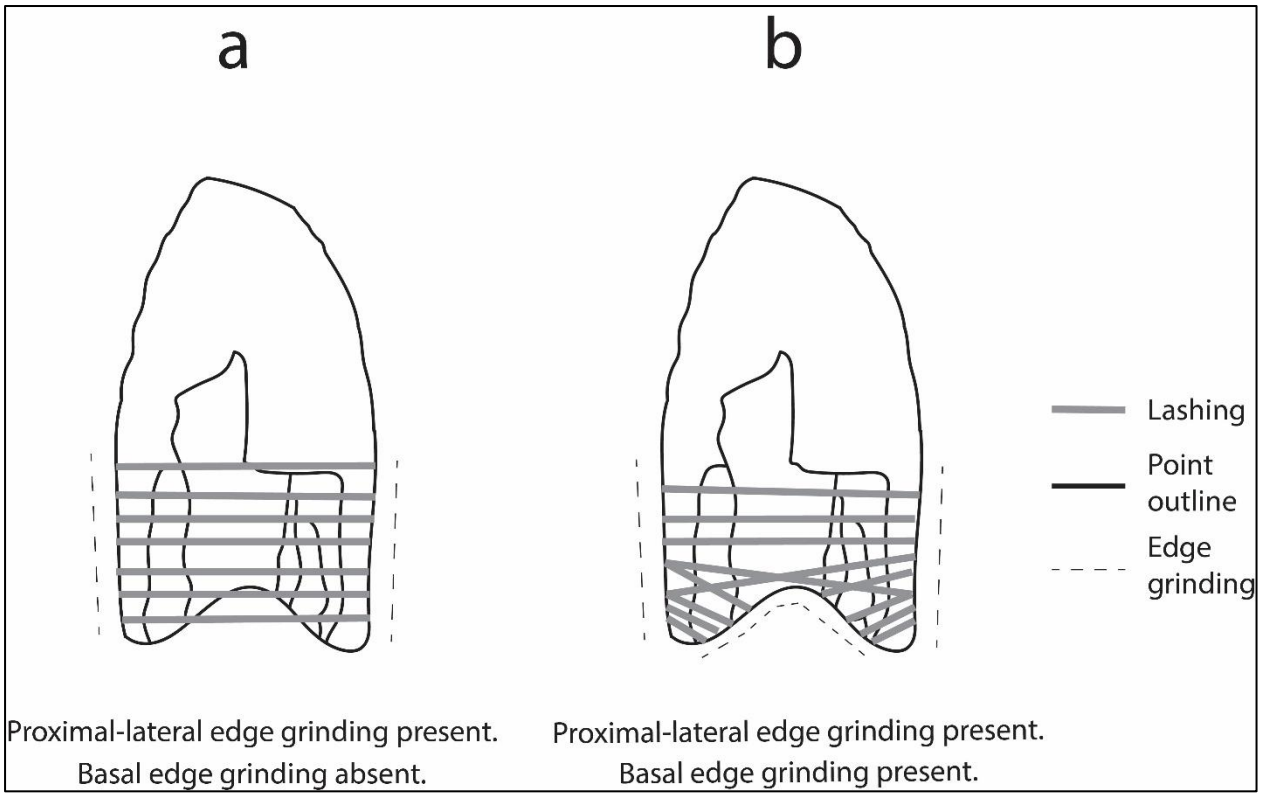

Figure 5. A schematic illustration of fluted point lashing differences: lashings making contact only with the proximal-lateral edges (a) versus "ear wrapping" (b). We hypothesize that basal grinding may indicate the latter. We note, however, that Paleoindian lashings have never been recovered archaeologically, and we do not currently know how often, or even if, Paleoindians used lashings to haft their points.

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