

Supplementary Material to Accompany "Woodworking and Cultivating in the Late Archaic of the Midcontinent: New Insights from the Microwear Analysis of Flaked-Stone Tools," by Richard W. Yerkes and Brad H. Koldehoff

Appendix

Images of the 26 TSN Tools in the Sample Not Illustrated in Figures 6, 7, 8, and 9

The lateral edge, dorsal face, and ventral face of each tool are shown. All scales are 50 μm .

Key to Tool Images

white lines: location of microwear traces

white circles: photomicrograph locations

lines with three dots: haft traces

white arrows: microwear and striae orientation

red arrows: impact damage

A-1. Type 1 tool from Phillips Spring site (Item# 1725-517 in Table 2). Damaged distal end (bit). Convex bit and wear and hafting traces suggest that this was an adze hafted in a wooden handle with hide or sinew bindings and used to chop and plane wood.

A-2. Type 1 tool from Phillips Spring site (Item# 3268-726 in Table 2). Acute distal bit-edge angle and wear and hafting traces suggest that this was an ax hafted in a wooden handle with hide or sinew bindings and used to chop and plane wood. It was removed and flipped and then hafted as an adze with a beveled edge and used to smooth or plane wood. "Humped" cross section shows it was not thinned properly.

A-3. Type 1 tool from Phillips Spring site (Item# 3350-738 in Table 2). "Humped." Convex bit and wear and hafting traces suggest that this was an adze hafted in a wooden handle with hide or sinew bindings and used to chop and plane wood.

A-4. Type 1 tool from Phillips Spring site (Item# 3356-742 in Table 2). Utilized distal and proximal edges. Distal edge angle and wear and hafting traces suggest this was

initially an ax hafted in a wooden handle with hide or sinew and used to chop and plane wood; then it was removed and flipped and hafted as an adze used to smooth or plane wood. Location of damaged corner suggests a right-handed person used it when it was hafted as an ax.

A-5. Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3A in Table 2). Microwear (and macrosheen) extend farther in from bit edge on dorsal face (*left*). Wear traces and edge damage suggest that the tool was hafted as an adze in a wooden handle with hide or sinew bindings and used to smooth and plane wood, but the deep wide striations (see h and i) probably were from chopping wood.

A-6. Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3C in Table 2). Prominent “hump” on dorsal face may have resulted from failure to thin properly. Microphotographs all at 187.5×. There were no identifiable microwear or hafting traces, only weak generic polish, possibly from handling, and bright stone-on-stone polish from edge grinding to prepare for knapping.

A-7. Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3I in Table 2). Convex bit and wear and hafting traces suggest that this was a resharpened ax hafted in a wooden handle with hide or sinew and used to chop and plane wood. The location of the impact fractures on the corner suggests the ax may have been used by a right-handed person.

A-8. Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3J in Table 2). Convex bit and wear and hafting traces suggest that this was an ax hafted in a wooden handle with hide or sinew bindings, and possibly mastic, and used to chop and plane wood. Randomly oriented striations may be from rough handling.

A-9. Type 2 tool, with cortex on proximal end, from Cole Creek Campsite #3 (Item# Cp- 3D in Table 2). Beveled bit and most microwear traces suggest that it was hafted as an adze in a wooden handle with hide or sinew bindings and used to smooth and plane wood. Flatter microwear with longer striations (e, g) and edge damage on bit

may be from chopping wood.

A-10. Type 2 tool, with cortex on dorsal and ventral faces, from Cole Creek Campsite #3 (Item# Cp-3E in Table 2). Areas with macrosheen and microwear are only at or near the distal edge (bit). Beveled bit and microwear suggest it was hafted as an adze and used to smooth and plane wood. Edge damage on bit may be from chopping wood.

A-11. Type 2 tool, with straight beveled edge, from Cole Creek Campsite #3 (Item# Cp- 3G in Table 2). Microwear was weak generic polish, possibly from working wood. The base was fractured, *possibly* from basal impact when the tool was used to chop hard material (*possibly* hard, not soft, wood). There were no visible hafting traces. Classified as an adze, it was not used very long.

A-12. Type 2 tool, with straight beveled edge, from Cole Creek Campsite #3 (Item# Cp- 3H in Table 1). Beveled bit, impact fractures at the bit and base, and wear and hafting traces suggest that it was hafted as an adze in a wooden handle with hide or sinew bindings and used to chop and plane wood.

A-13. Type 1, tool with beveled edge, from MoDOT excavations at Nebo Hill site (Item# 84-122 in Table 2). Beveled distal bit-edge angle and wear and hafting traces suggest that this was an adze hafted in a wooden handle with hide or sinew bindings and used to plane or smooth wood. The microwear is not well developed, and the tool does not seem to have been used for very long.

A-14. Type 1 tool from MoDOT excavations at Nebo Hill site (Item# 84-1587 in Table 2). The tool may have broken with a lateral snap during use. There are no hafting traces, but the beveled distal bit and microwear suggest this was an adze. The microwear is not well developed, and it does not seem to have been used for very long before it snapped.

A-15. Large Type 1 tool, with square base, from Terry Martin surface collections at

Nebo Hill site (Item# CL11-A in Table 2). Acute distal bit-edge angle and wear and hafting traces suggest that this was an ax hafted in a wooden handle with hide or sinew and used to plane and chop wood. The large impact fracture suggests that the tool was used to chop logs, and the wood polish far in from the edge indicates that it was also used to plane or shave wooden objects.

A-16. Type 1 tool, with damaged base, from Terry Martin surface collections at Nebo Hill site (Item# CL11-B in Table 2). Distal and proximal edges both used. Acute distal bit and wear and hafting traces suggest that this was an ax hafted in a hollow wooden handle, bound with hide or sinew, with both cutting edges exposed. It was used to plane and chop wood. The large impact fracture and snapped proximal edge suggest that the tool was used to chop logs, and the wood polish in from the edges indicates that the ax was also used to plane wooden objects.

A-17. Type 1 tool from Terry Martin surface collections at the Nebo Hill site (Item# CL11-C in Table 2). Distal and proximal edges were both used. Beveled distal and proximal edges and microwear and hafting traces suggest that this was an adze that had been used for woodworking and was removed from its handle, flipped, and rehafted again as an adze. It was used to plane and chop wood. The large impact fractures on the distal and proximal edges suggest that the tool was used to chop logs, and the wood polish farther in from the edges indicates that the adze was also used to plane wooden objects. Most of the wear is on the dorsal face.

A-18. Type 1 tool from Terry Martin surface collections at the Nebo Hill site (Item# CL11-D in Table 2). Beveled distal bit and microwear and hafting traces suggest that this was an adze hafted in a wooden handle and bound with hide or sinew. It was used to plane and chop wood but does not seem to have been used for very long.

A-19. Type 1 tool from Terry Martin surface collections at the Shoal Creek site 23CL8

(Item# CL8-A in Table 2). Acute distal bit edge and microwear and hafting traces suggest that this was an ax hafted in a wooden handle and bound with hide or sinew. It was used to plane and chop wood.

A-20. Type 1 tool from Terry Martin surface collections at the Shoal Creek site 23CL8 (Item# CL8-B in Table 2). Acute distal bit edge and microwear and hafting traces suggest this was an ax hafted in a wooden handle and bound with hide or sinew. It was used to plane or smooth wood but seems to have been used for only a short time.

A-21. Type 3 tool from Lagoon site (Item # LA-1 in Table 2). Macrosheen on both faces. The distal edge of the ventral face seems to have been resharpened. This Type 3 tool seems to have been hafted as an ax in a wooden handle with hide or sinew and used to chop, plane, and smooth wood.

A-22. Type 3 tool from Go-Kart North site (Item # 78-90-7 in Table 2). Distal and proximal edges used. This tool seems to have been hafted as an ax in a hollow wooden handle, with both cutting edges exposed, and bound with hide or sinew. It was used as an ax to chop, plane, and split wood. Impact fractures from wood chopping are on the proximal edge.

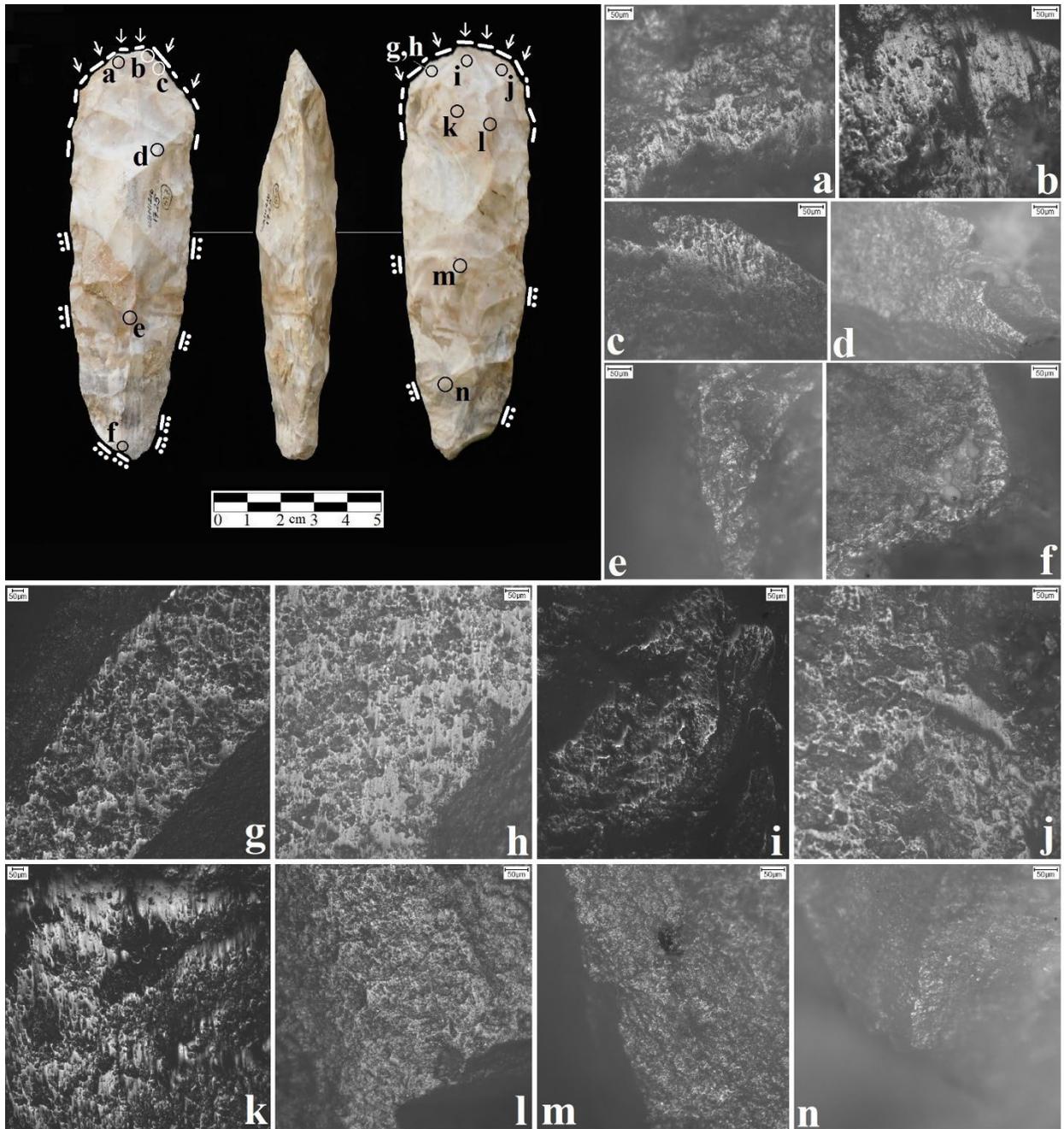
A-23. Type 3 tool from Go-Kart North site (Item# 78-130-1 in Table 2). The “hump” on the dorsal face may have resulted from a failure to thin it properly. There were no identifiable microwear or hafting traces.

A-24. Type 3 tool from Go-Kart North site (Item # 78-140-10 in Table 2). Distal and proximal edges used. This Type 3 tool seems to have been hafted as an adze and used to plane and chop wood; then it was removed from its handle and flipped, and the proximal edge became the working edge, which was not used as intensively. Impact fractures from wood chopping are on the distal edge.

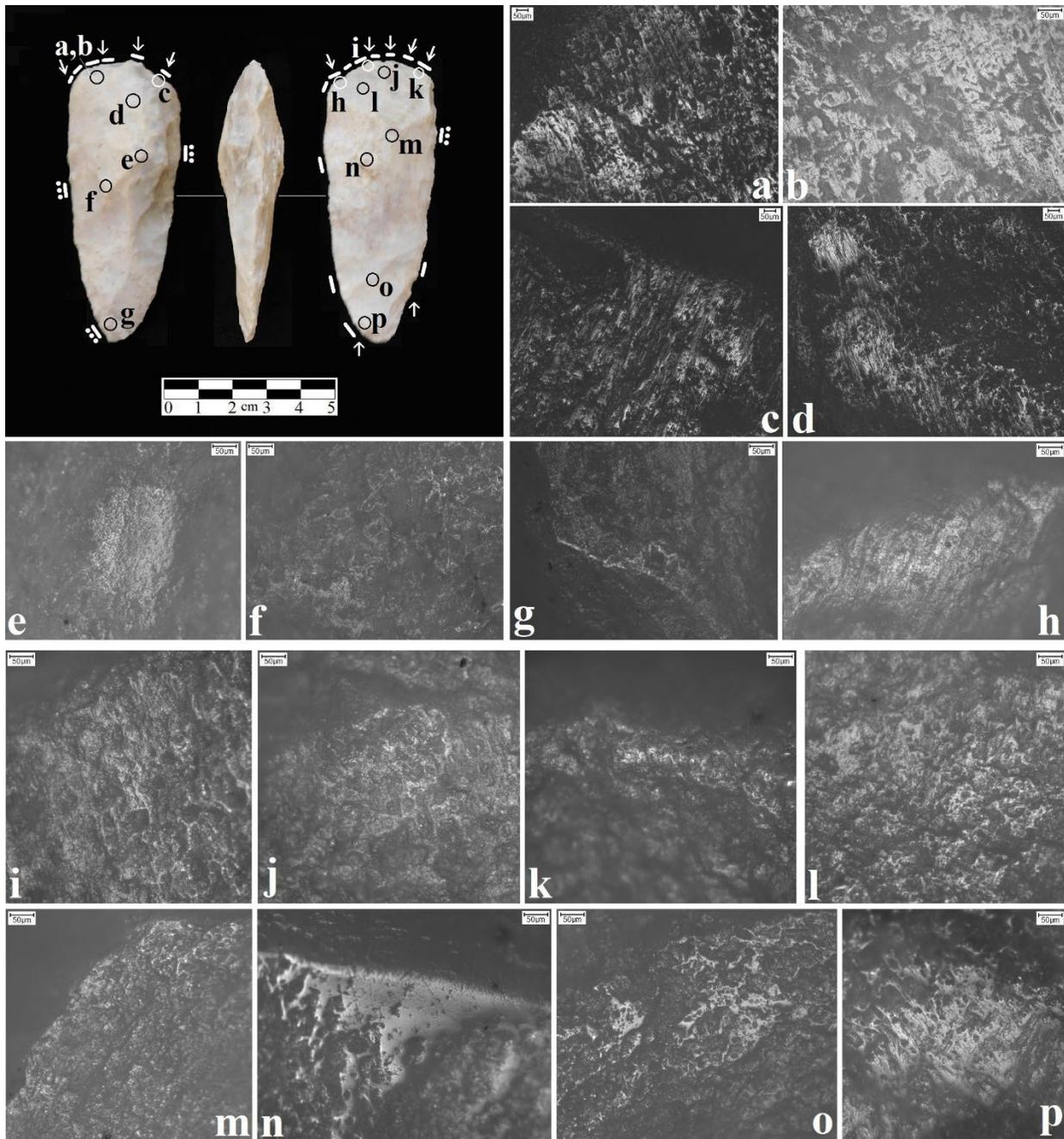
A-25. Type 3 tool from Go-Kart North site (Item # 78-146-15 in Table 2). Snapped proximal end. This tool seems to have been hafted as an adze and used to plane and

chop wood, but its proximal end snapped during heavy use. The impact fractures on the proximal edge seem to be where the base was jammed into its handle during use.

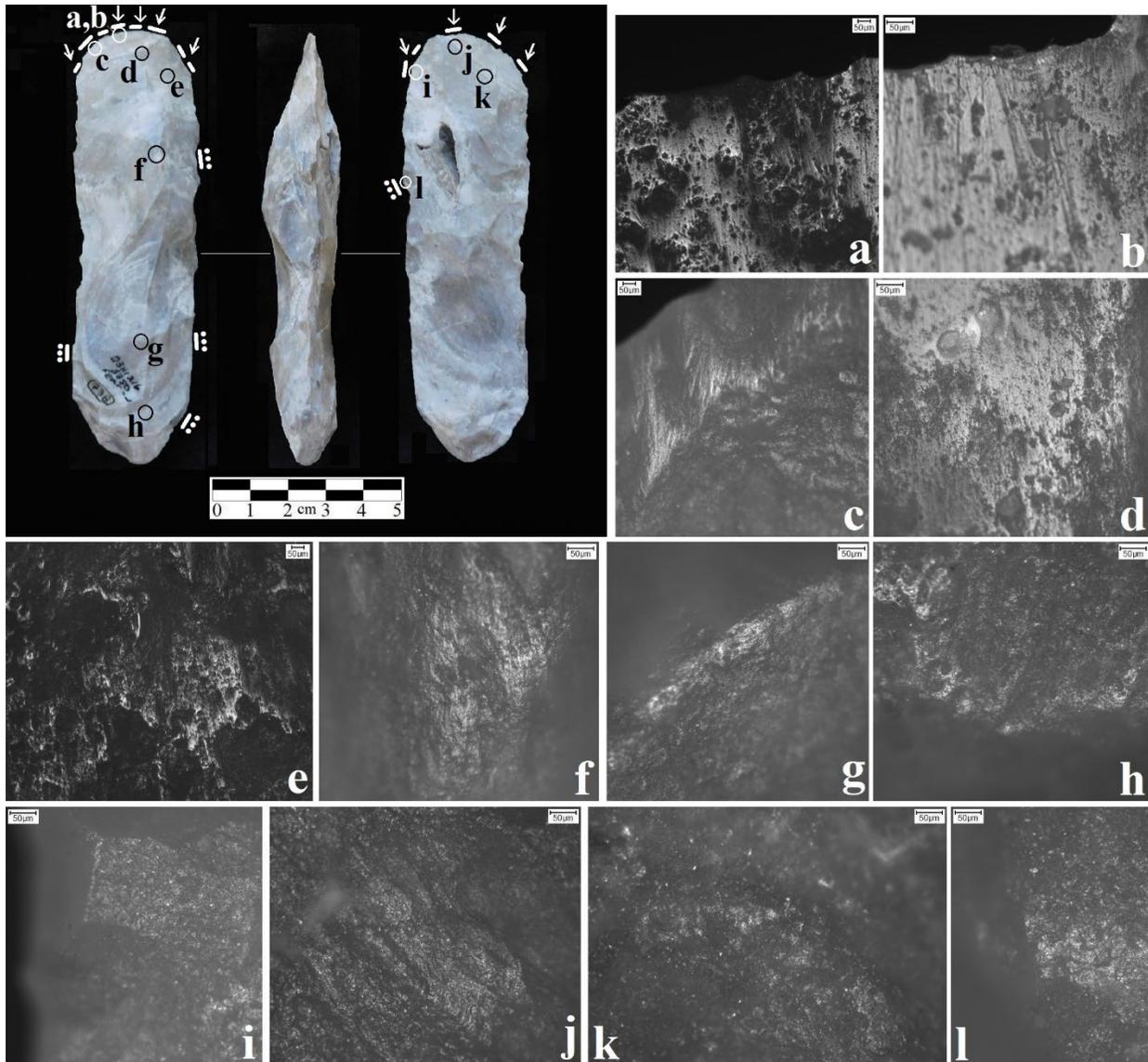
A-26. Type 3 tool from Go-Kart North site (Item # 79-496-1 in Table 2). Distal and proximal edges used. This tool seems to have been hafted as an adze and used to plane wood with its distal edge. It was removed from its handle, flipped, and hafted again as an adze. Its proximal edge was used to chop and split wood. The impact fractures from wood chopping are on the proximal edge.



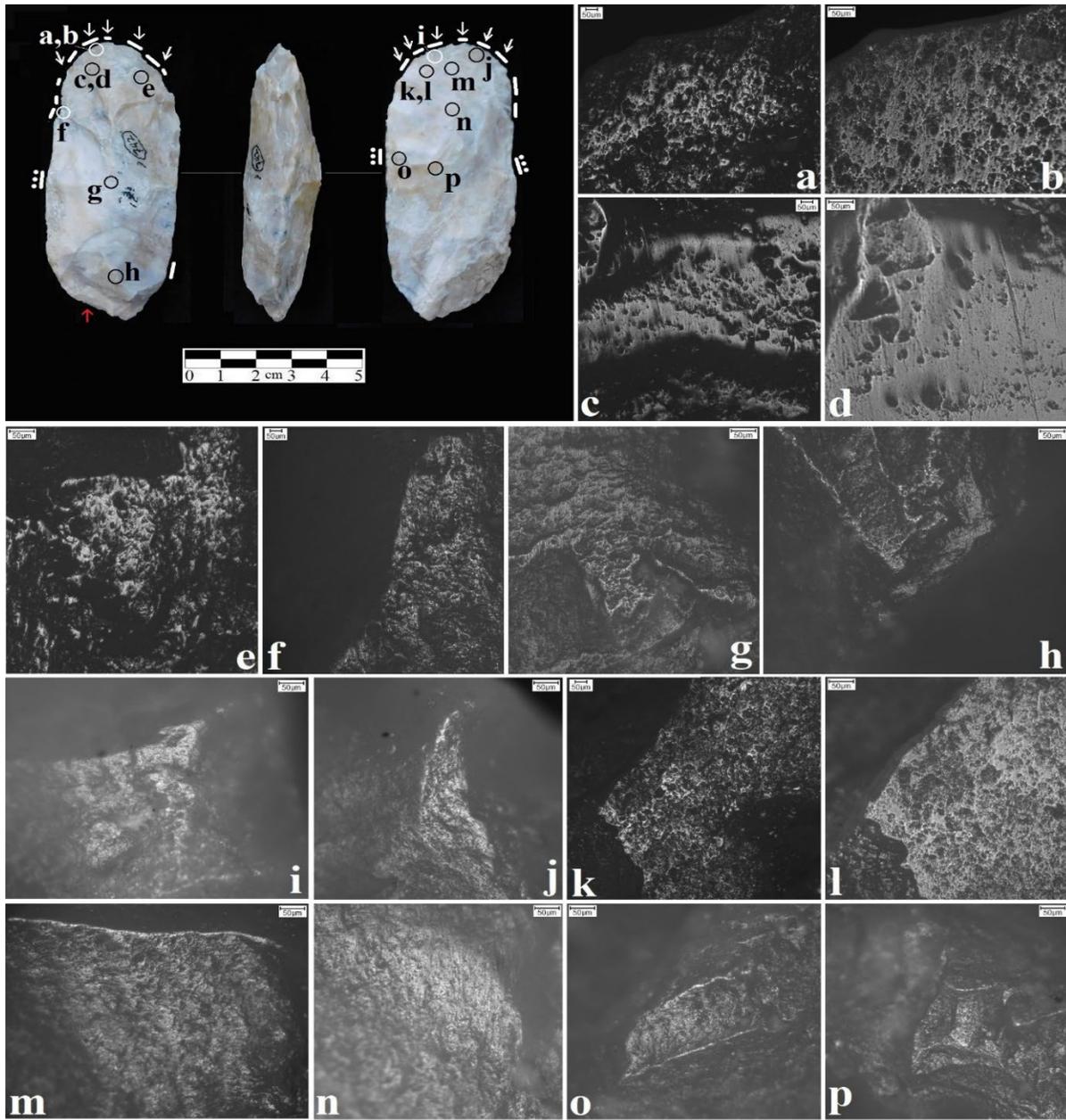
A-1. *Upper left:* Lateral edge (*center*) and dorsal (*left*) and ventral (*right*) faces of Type 1 tool from Phillips Spring site (Item# 1725-517 on Table 2). Microphotographs: (g, i, k) at 93.75× and all others at 187.5×. (a, b, c, g, h, i, j) Bright domed wood planing and flatter wood chopping microwear at distal bit with short narrow striae at a parallel or oblique angle to the long axis; (d) duller wood microwear approximately 30 mm in from the bit; (k, l) bright domed wood microwear approximately 20 mm and 25 mm in from bit edge; (e, f, m, n) dull and “greasy” hide-hafting traces.



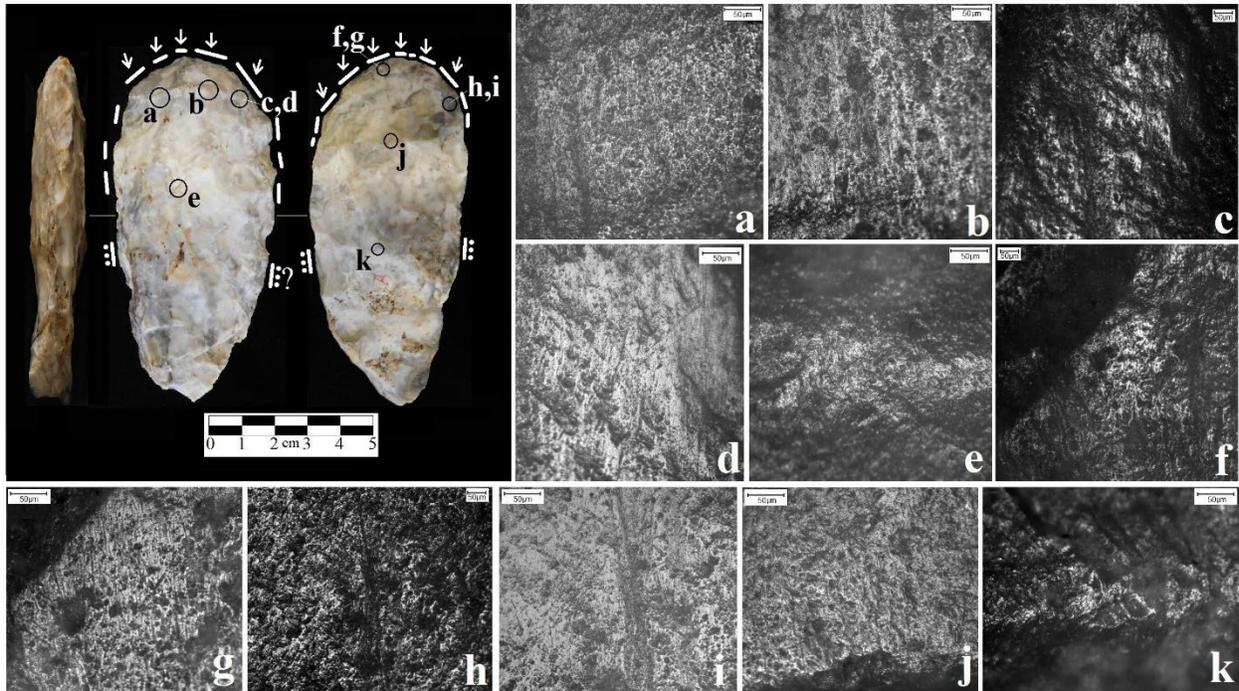
A-2. Upper left: Lateral edge (*center*), dorsal (*left*), and ventral (*right*) faces of Type 1 tool from Phillips Spring site (Item# 3268-726 on Table 2). Utilized distal and proximal edges. Microphotographs: (a, c, d) at 93.75 \times and all others at 187.5 \times . (a, b, c, h, i, j, k) Duller flat wood microwear with many striations near the distal bit; (d, l) similar wear approximately 10 mm and 15 mm in from bit; (n) brighter flat wear approximately 30 mm in from bit; (o, p) bright domed wood planing wear at proximal end; (e, f, g, m) dull and “greasy” hide-hafting traces.



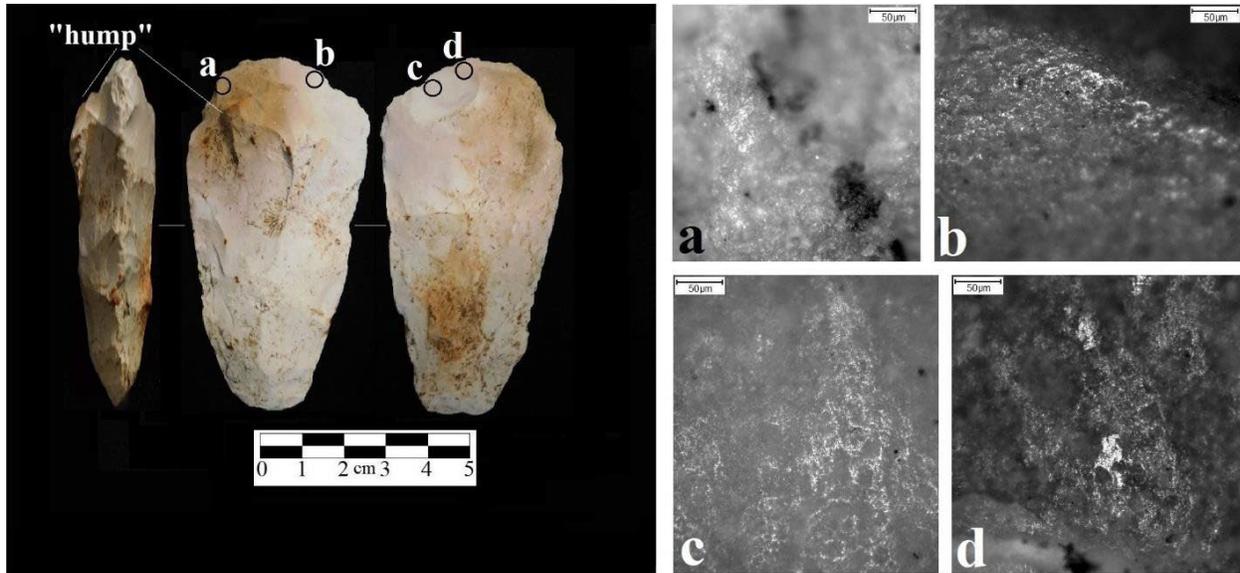
A-3. Upper left: Lateral edge (*center*), and dorsal (*left*), and ventral (*right*) faces of Type 1 tool from Phillips Spring site (Item# 3350-738 on Table 2). Microphotographs: (a, c, e) at 93.75 \times and all others at 187.5 \times . (a, b, c) Bright domed wood planing and flatter wood chopping microwear on dorsal face of distal bit with short narrow striae at a parallel or oblique angle to the long axis; (d, e) similar wear roughly 5–10 mm in from bit; (i, j, k) less-developed wood microwear on ventral face at or near the distal bit; (f, g, h, l) dull and “greasy” hide-hafting traces.



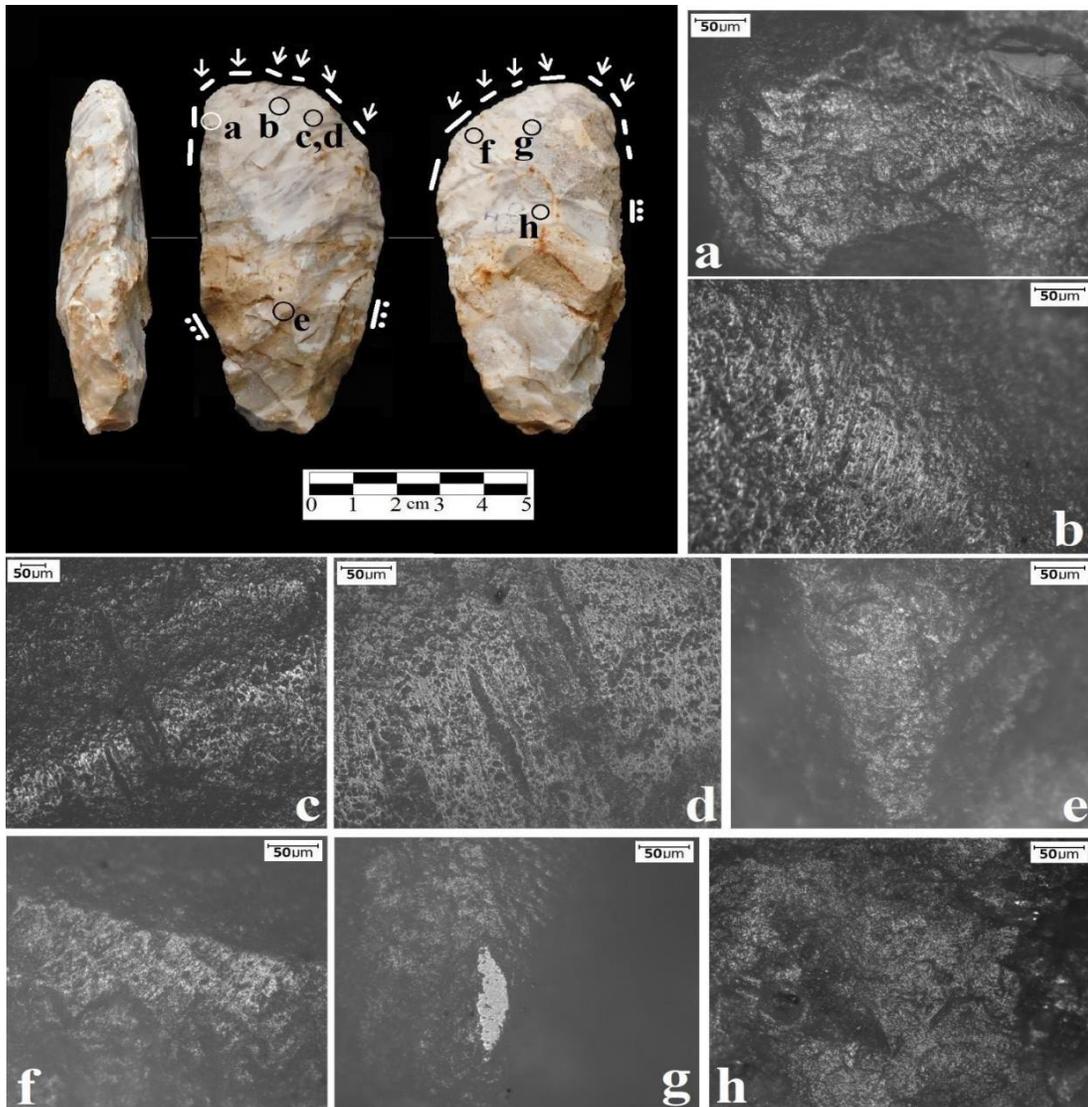
A-4. Upper left: Lateral edge (*center*), and dorsal (*left*), and ventral (*right*) faces of Type 1 tool from Phillips Spring site (Item# 3356-742 on Table 2). Microphotographs: (a, c, f, k) at 93.75× and all others at 187.5×. (a, b, c, d, e) Bright domed wood-planing and flatter wood-chopping wear on dorsal face at or near distal bit; (f) similar wear on dorsal at left lateral edge approximately 30 mm in from bit; (h) less developed bright domed wood-planing wear on dorsal face approximately 15 mm in from proximal edge; (i, j, k, l, m) less developed bright domed wood-planing wear on ventral face at or near distal bit; (n) similar wear approximately 25 mm in from distal bit; (g, o, p) dull and “greasy” hide-hafting traces.



A-5. Upper left: Lateral (left), dorsal (center), and ventral (right) faces of Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3A on Table 2). Microphotographs: (c, f, h) at 93.75× and all others at 187.5×. All microphotographs except k in areas with macrosheen. (a, b, f, g) Flat bright wood microwear at and near the bit with striae parallel to long axis; (c, d, h, i) brighter wood microwear at lateral edges of bit with oblique and parallel striae, note deep wide striation on h at 93.75× and on i at 187.5×; (e, j) bright wood microwear with fewer striae farther in from the bit; (k) domed wood and “greasy” hide-hafting traces with short striae nearly perpendicular to long axis.

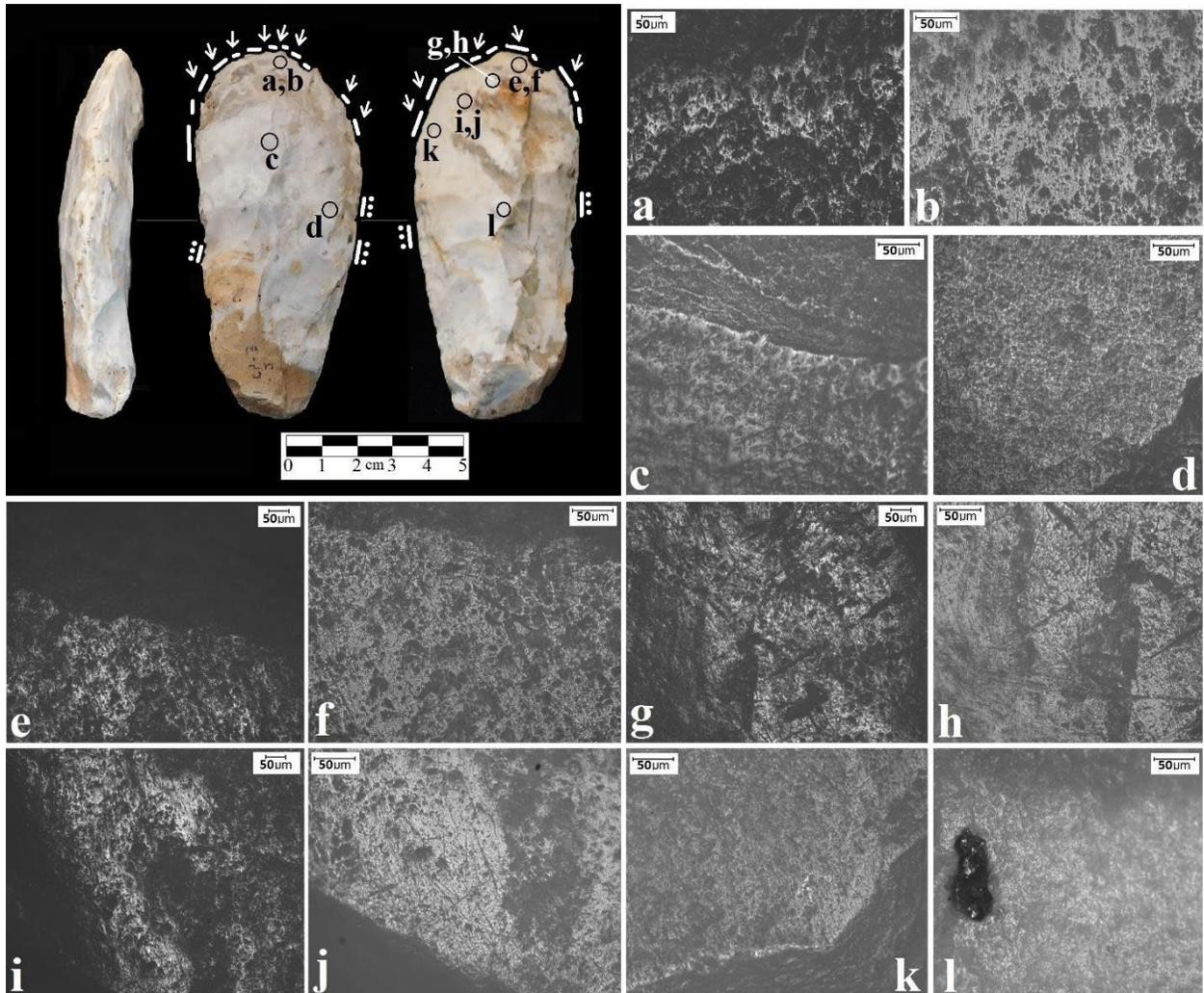


A-6. *Upper left:* Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3C in Table 2). Prominent “hump” on dorsal face may have resulted from failure to thin it properly. Microphotographs at 187.5 \times . There were no identifiable microwear or hafting traces; (a, c) weak generic polish, possibly from handling; (b, d) bright stone-on-stone polish from edge grinding to prepare for knapping.



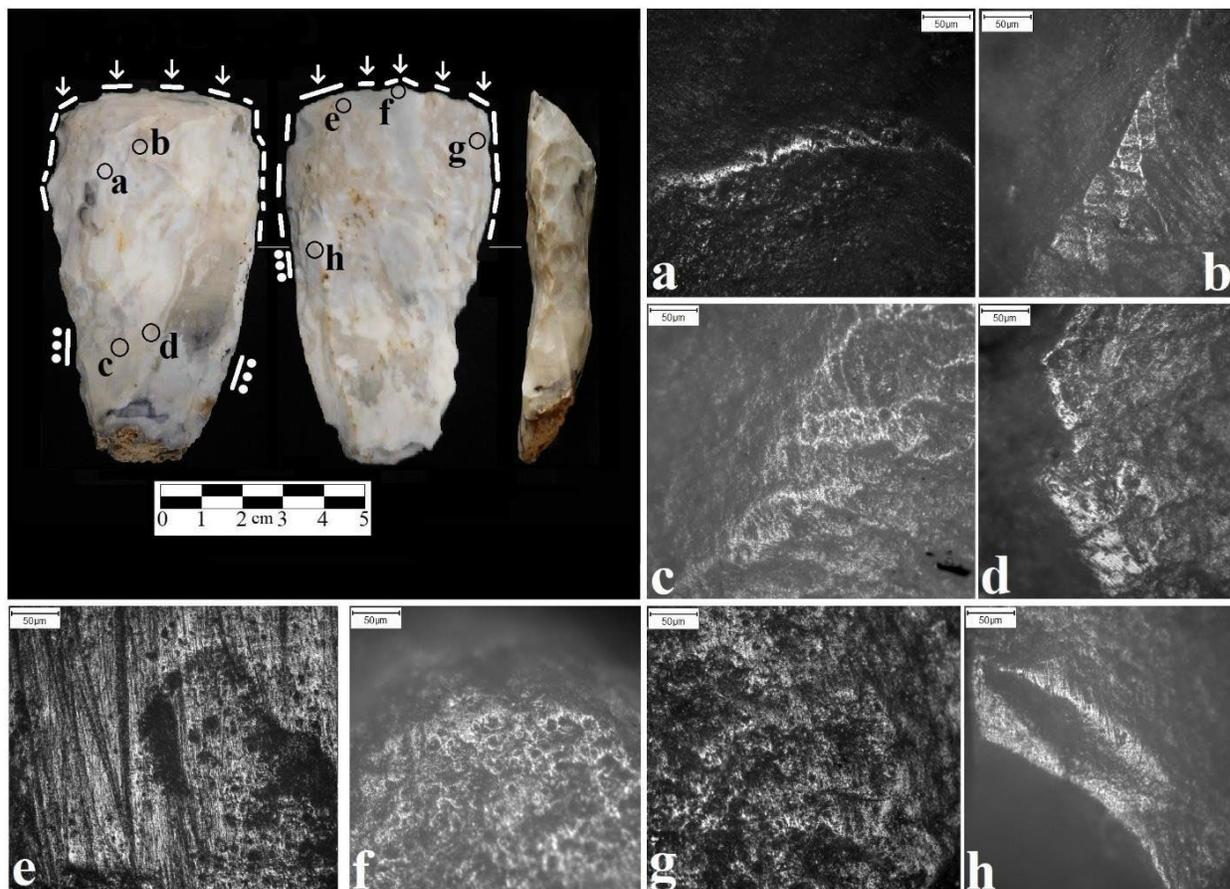
A-7. *Upper left:* Lateral (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3I in Table 2). Microphotograph (c) at 93.75 \times and all others at 187.5 \times ; all (except e, h) are in areas with macrosheen. (a, f) Bright domed wood-planing microwear at and near the distal bit with short narrow striae at a parallel or oblique angle to the long axis; (c, d) bright domed and flatter wood-chopping microwear near the bit with longer, wider, and deeper striae at an oblique angle to the long axis; (g) bright domed wood microwear and patch of bright flat stone-on-stone wear approximately 10 mm in from bit edge; (e, h) bright wood-hafting and “greasy” hide-hafting traces with short striae at an oblique or nearly

perpendicular angle to long axis.



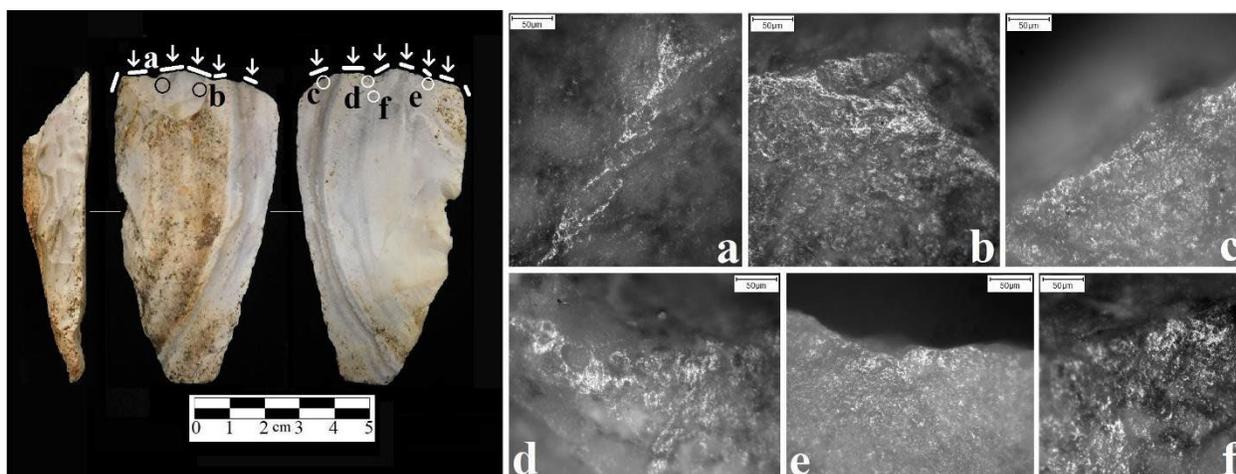
A-8. *Upper left:* Lateral (*left*), dorsal (*center*), and ventral (*right*) faces of Type 1 tool from Cole Creek Campsite #3 (Item# Cp-3J in Table 2). Microphotographs a, e, g, and i at 93.75× and all others at 187.5×; all (except d and l) are in areas with macrosheen. (a, b, e, f) Bright domed wood-planing and flatter wood-chopping microwear at distal bit with short narrow striae at a parallel or oblique angle to the long axis; (c) bright domed wood-planing microwear approximately 30 mm in from the bit; (g, h, i, j) bright flatter wood microwear with many randomly oriented striations approximately 10 mm and 20 mm in from bit edge; (k) bright domed and flatter wood microwear near distal

lateral edge with short striae at an oblique angle to long axis; (d, l) dull and “greasy” hide-hafting traces, with black spot that *may* be mastic on l.

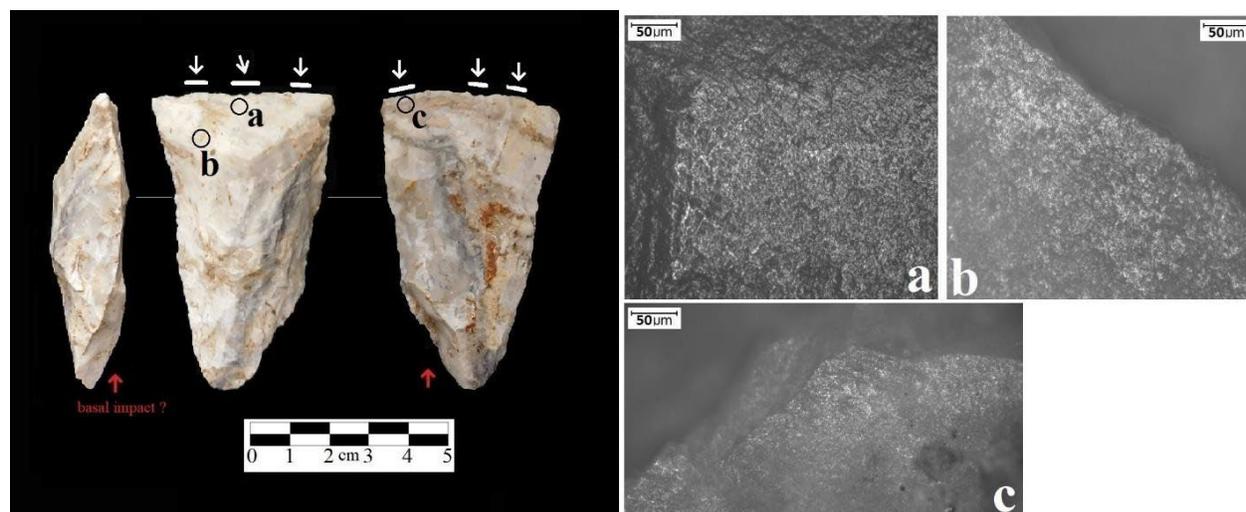


A-9. *Upper left:* Dorsal (*left*) and ventral (*center*) faces and lateral edge (*right*) of Type 2 tool with cortex on proximal end, from Cole Creek Campsite #3 (Item# Cp-3D in Table 2). Microphotographs at 187.5×; all (except c and d) are in areas with macrosheen. (a) Well-developed bright domed wood microwear on a ridge approximately 18 mm in from the bit with short narrow striae parallel to the long axis; (b) less-developed bright domed wood microwear on a ridge approximately 14 mm in from the bit; (c) bright wood-hafting and duller hide-hafting traces at proximal end with short striae at oblique angle to the long axis; (d) bright domed wood-hafting traces (near c), with short striae at oblique angle to the long axis; (e, g) flatter wood

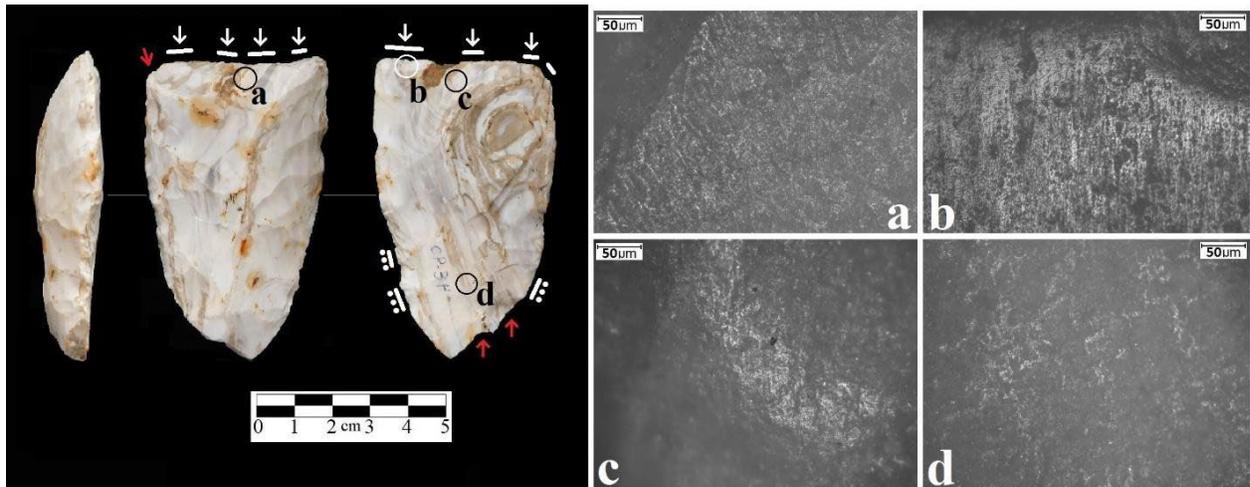
microwear at the bit and distal right lateral edge with many long striae parallel to the long axis; (f) well-developed bright domed and flat wood microwear at bit with short parallel striae; (h) bright domed wood-hafting traces approximately 38 mm in from the bit, with short parallel striae. Flatter microwear with longer striations (e, g) and edge damage on bit may be from chopping wood.



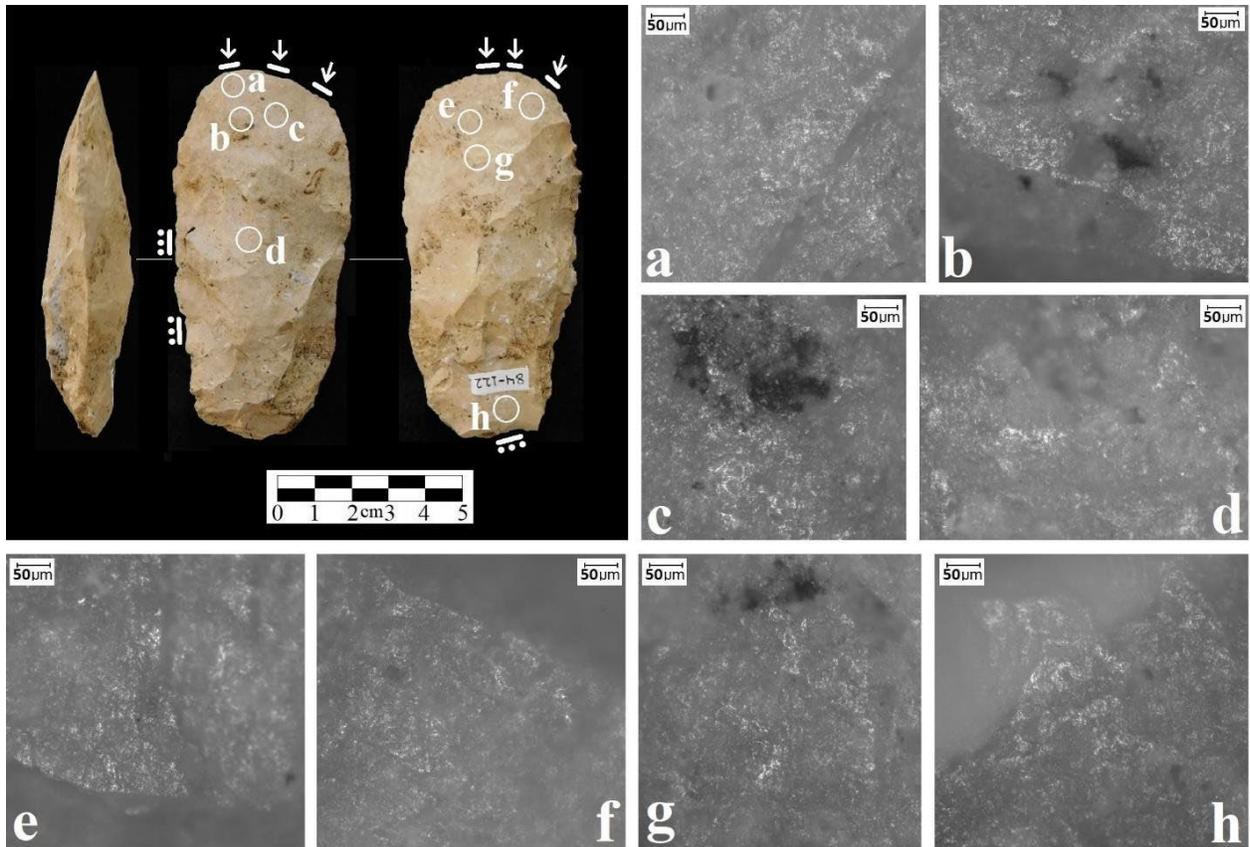
A-10. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 2 tool, with cortex on dorsal and ventral faces, from Cole Creek Campsite #3 (Item# Cp-3E in Table 2). Microphotographs at 187.5×; all in areas with macrosheen, which is only at or near the bit. (a, b, c, d, f) Bright domed wood microwear with short narrow striae parallel to the long axis on both faces; (e) less-developed bright domed wood microwear at right edge of bit on ventral face.



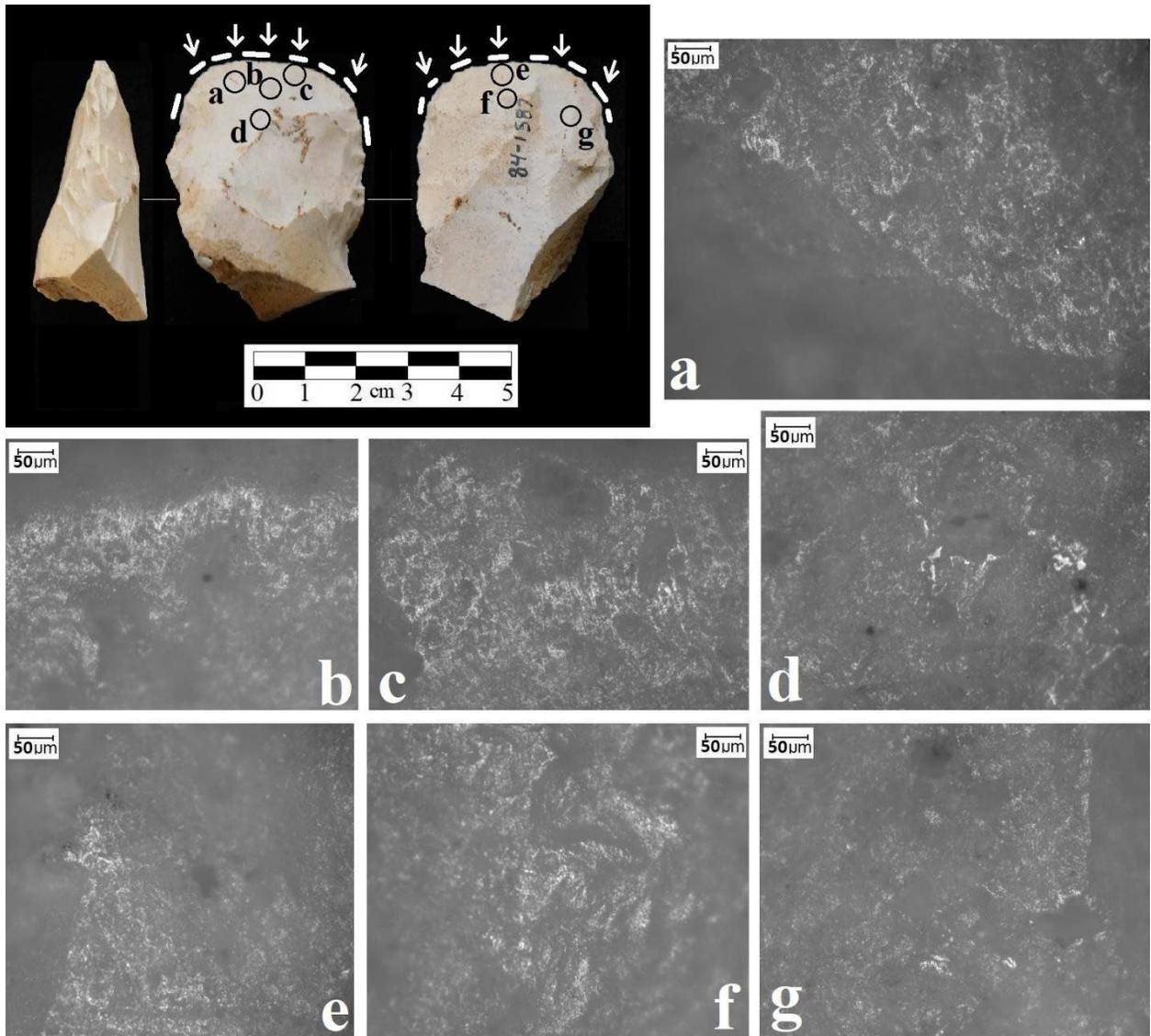
A-11. *Upper left:* Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 2 tool, with straight beveled edge, from Cole Creek Campsite #3 (Item# Cp-3G in Table 2). Microphotographs at 187.5 \times . (a–c) Weak generic polish, possibly from working wood.



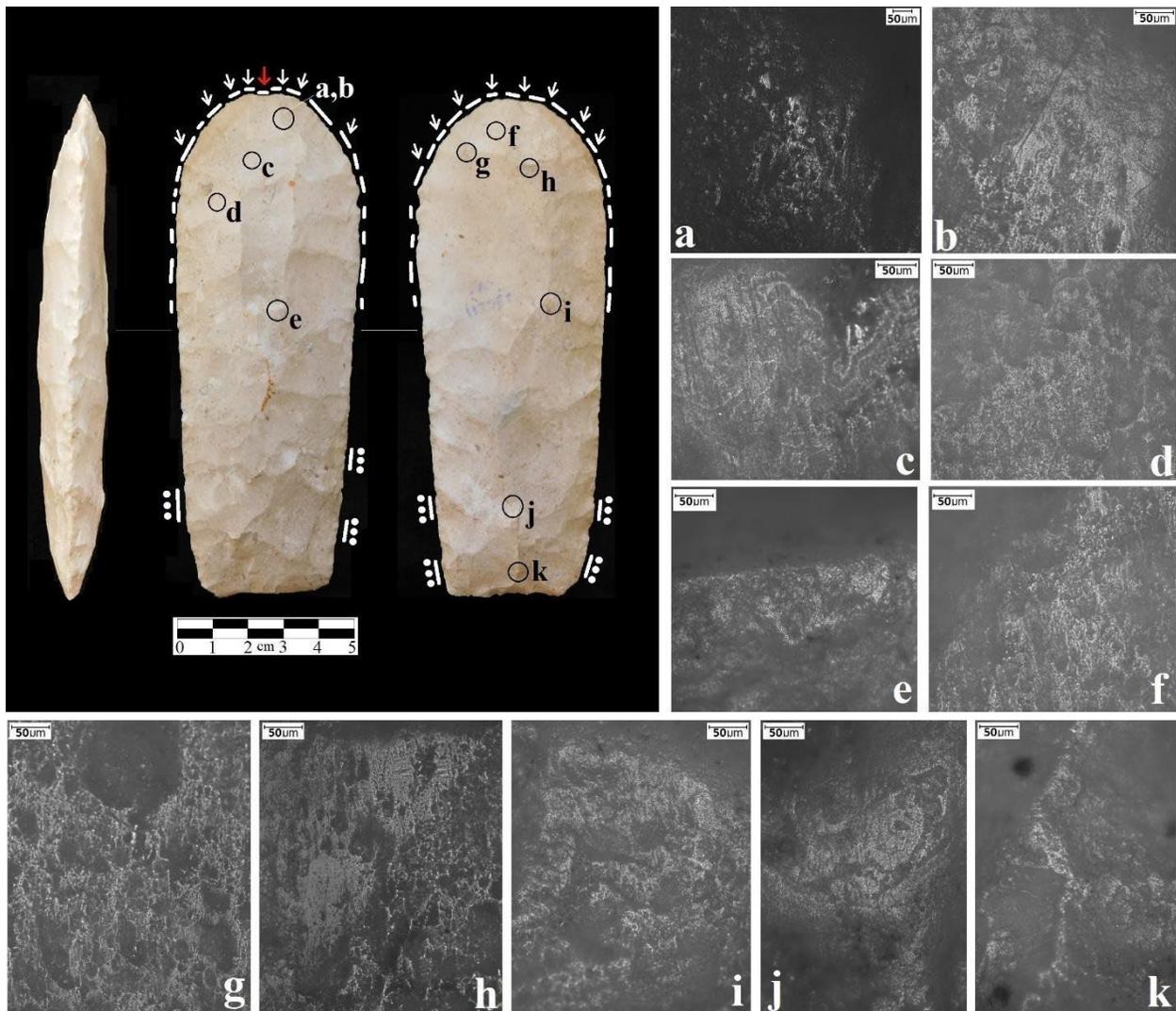
A-12. *Upper left:* Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 2 tool, with straight beveled edge, from Cole Creek Campsite #3 (Item# Cp-3H in Table 1). Microphotographs at 187.5 \times . (a, c) Bright domed wood polish along ridges near distal edge; (b) flatter wood microwear at the bit with many long striae parallel to the long axis; (d) bright wood-hafting and duller hide-hafting traces at proximal end with short striae at oblique angle to the long axis.



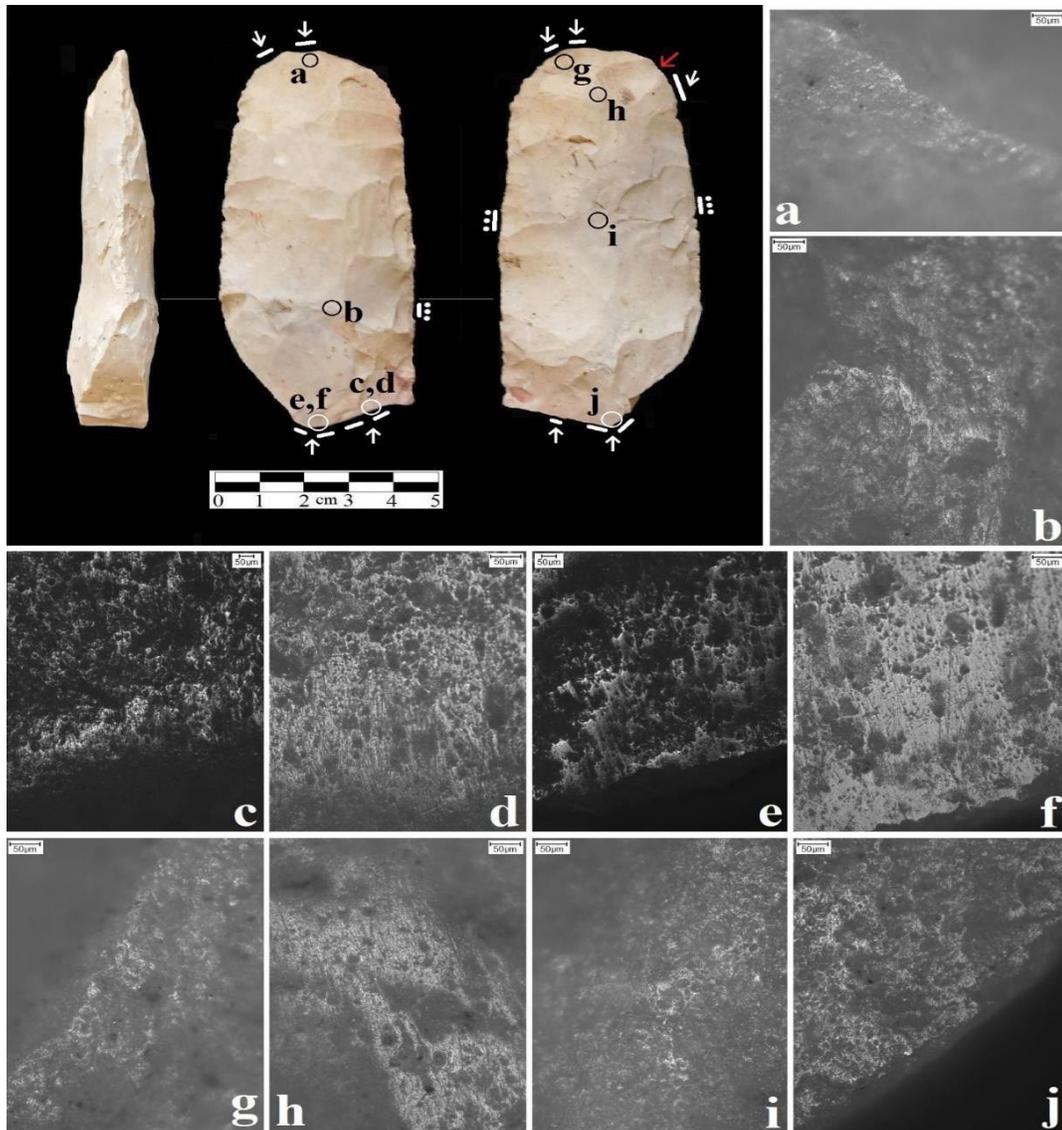
A-13. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 1 tool, with beveled edge, from MoDOT excavations at Nebo Hill site (Item# 84-122 in Table 2). Microphotographs at 187.5 \times . (a–c, e–f) Weakly developed bright domed wood-planing wear on dorsal and ventral faces at or near distal bit; (g) similar wear on ventral face approximately 25 mm in from bit; (d, h) dull and “greasy” hide-hafting and bright wood-hafting traces.



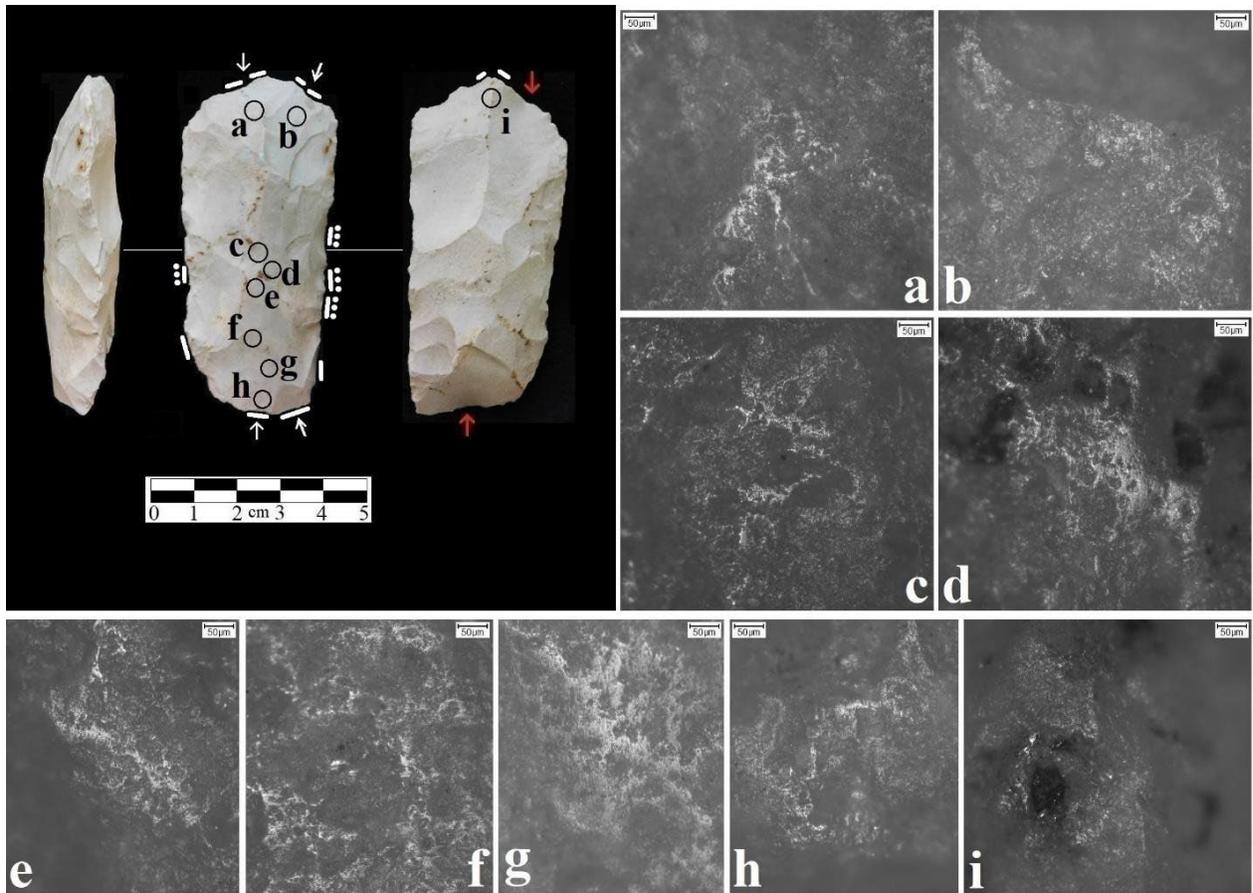
A-14. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of a distal fragment of a Type 1 tool, with beveled edge, from MoDOT excavations at Nebo Hill site (Item# 84-1587 in Table 2). The tool may have broken with a lateral snap during use. Microphotographs at 187.5 \times . (a–c, e, f) Weakly developed bright domed wood-planing wear on dorsal and ventral faces at or near distal bit; (d, g) similar wear and some abrasion on dorsal face approximately 20 mm in from bit and on ventral face approximately 10 mm in from bit.



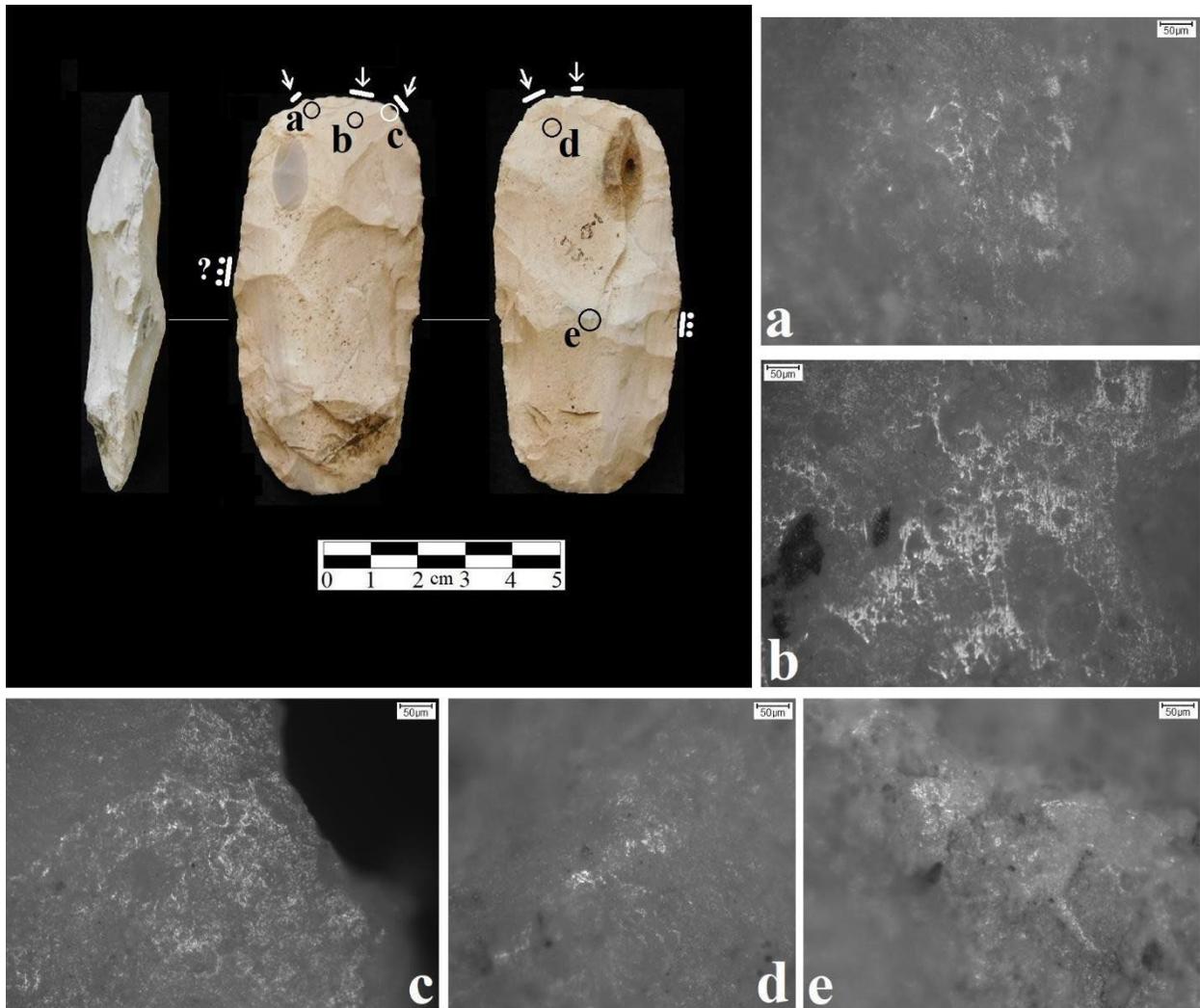
A-15. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of large Type 1 tool, with square base, from Terry Martin surface collections at Nebo Hill site (Item# CL11-A in Table 2). Microphotograph (a) at 93.75× and all others at 187.5×. (a, b, f, g) Bright domed wood-planing wear and flatter wood-chopping wear on dorsal and ventral faces at or near distal bit; (c, d, h) similar wear on dorsal and ventral faces approximately 20–30 mm in from bit; (e, i) bright domed wood-working wear approximately 60 mm in from bit on dorsal and ventral faces; (j, k) dull and “greasy” hide-hafting and bright wood-hafting traces.



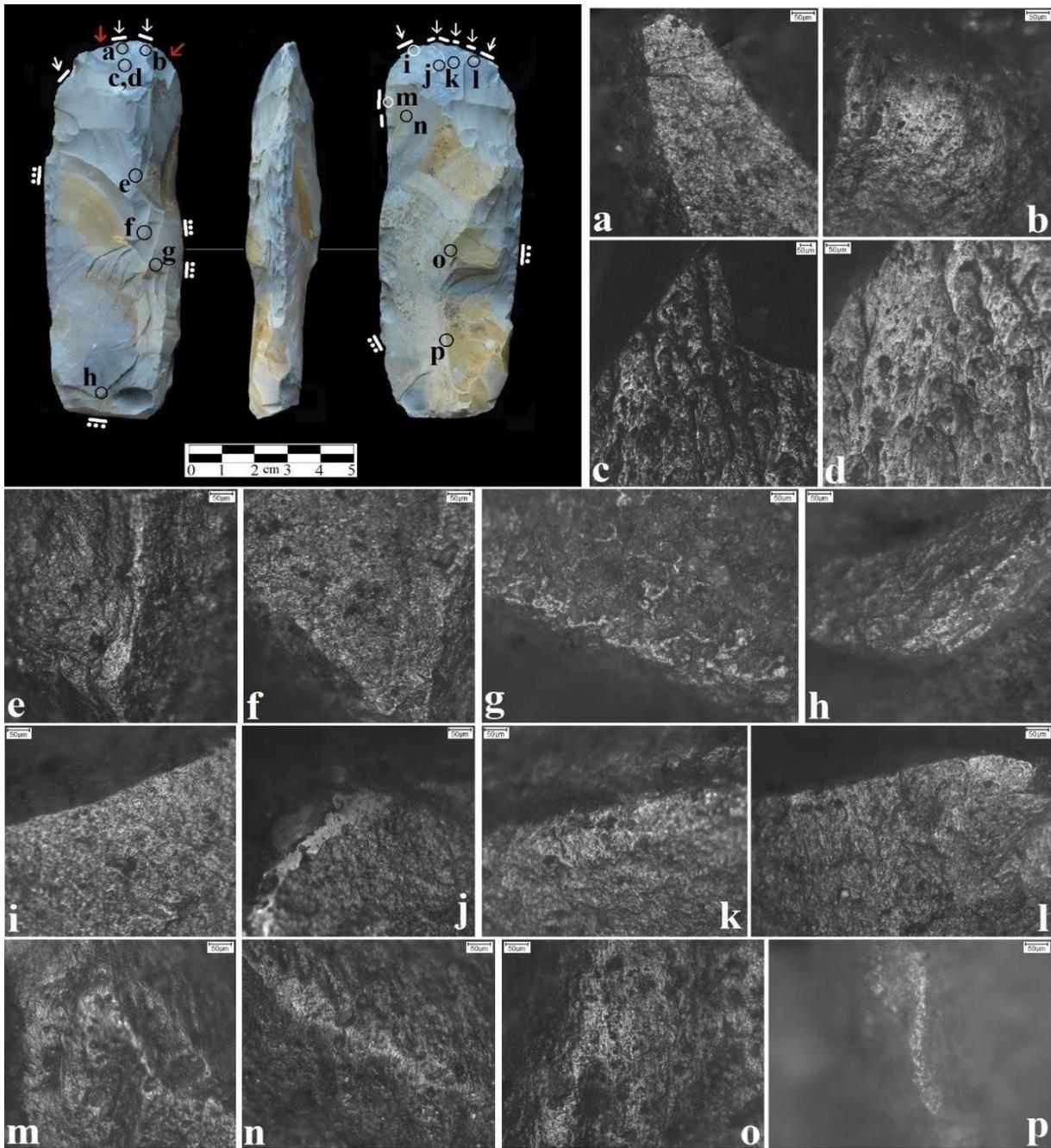
A-16. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of large Type 1 tool, with damaged base, from Terry Martin surface collections at Nebo Hill site (Item# CL11-B in Table 2). Microphotographs: (c, e) at 93.75× and all others at 187.5×. (a, g) Weakly developed flat wood-chopping wear on dorsal and ventral faces at or near distal bit; (h) more extensive wood-chopping wear on ventral face approximately 20 mm in from bit; (c–f, j) bright domed wood-planing and flatterer wood-chopping wear on dorsal and ventral faces at or near snapped proximal edge; (b, i) dull and “greasy” hide-hafting and bright wood-hafting traces some distance in from proximal edge.



A-17. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 1 tool from Terry Martin surface collections at the Nebo Hill site (Item# CL11-C in Table 2). Microphotographs at 187.5 \times . (a, b, i) Weakly developed domed wood-planing wear on dorsal and ventral faces near distal bit; (g, h) more extensive domed planing and flat wood-chopping wear on dorsal face at or near proximal edge; (f) bright domed wood-planing wear on dorsal face approximately 20 mm in from proximal edge; (c–e) dull and “greasy” hide-hafting and bright wood-hafting traces.

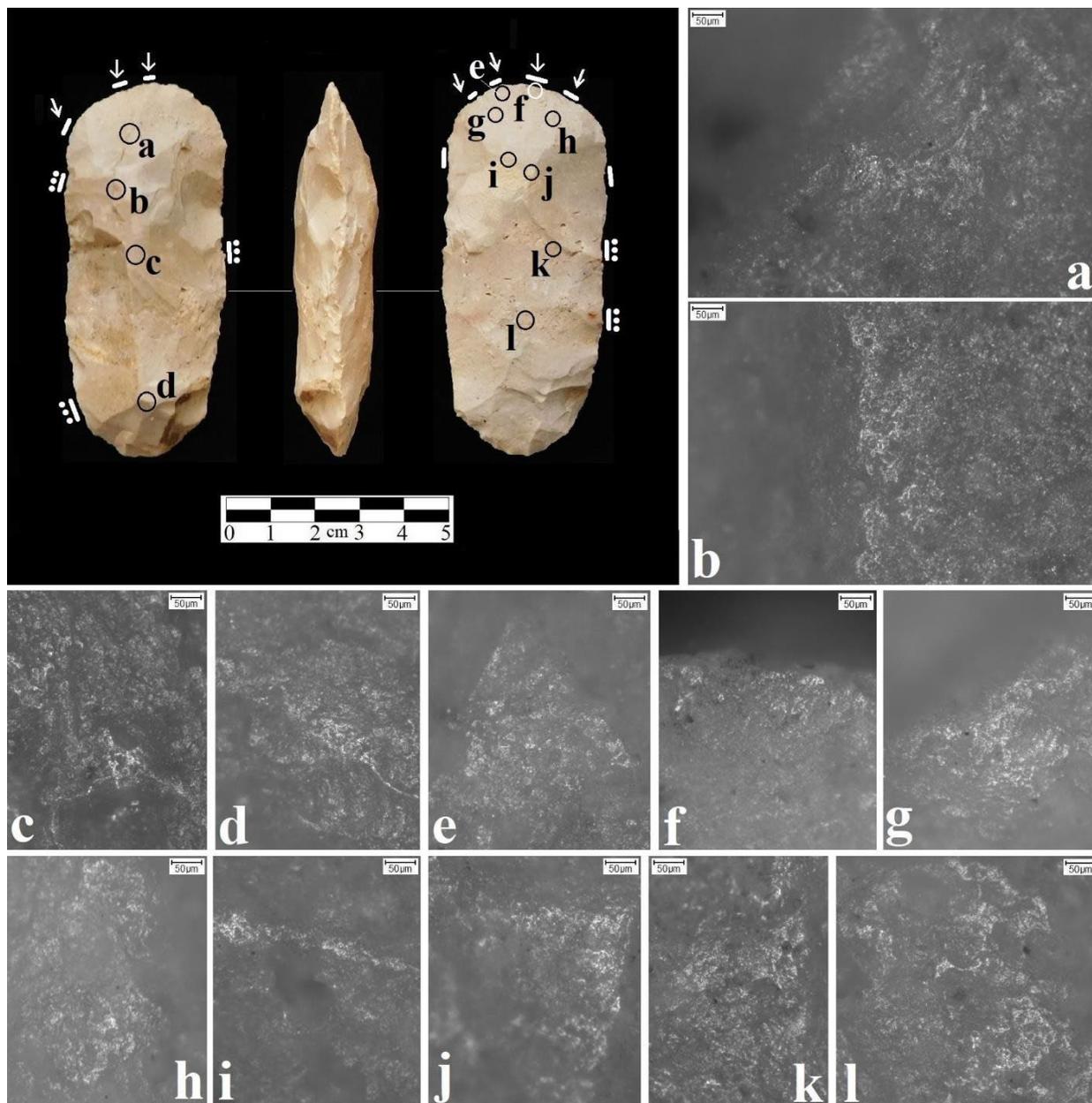


A-18. *Upper left:* Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 1 tool from Terry Martin surface collections at the Nebo Hill site (Item# CL11-D in Table 2). Microphotographs at 187.5 \times . (a–d) Weakly developed domed wood-planing microwear and flat wood-chopping microwear on dorsal and ventral faces near distal bit; (e) dull and “greasy” hide-hafting and bright wood-hafting traces.



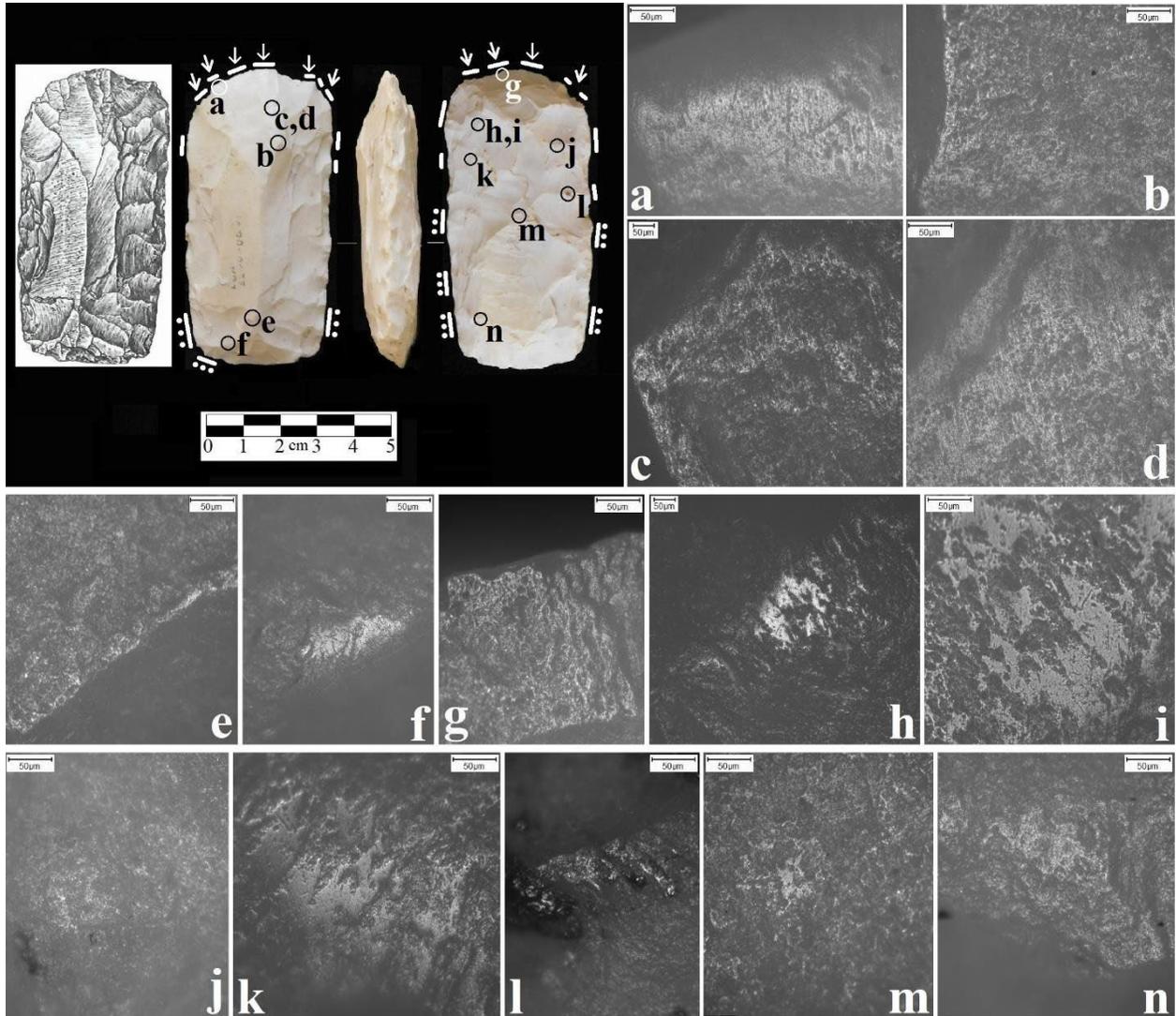
A-19. Upper left: Lateral edge (*left*) and dorsal (*center*) and ventral (*right*) faces of Type 1 tool from Terry Martin surface collections at the Shoal Creek site 23CL8 (Item# CL8-A in Table 2). Microphotographs: (c) at 93.75 \times ; all others at 187.5 \times . (a–d, i, k, l) Domed wood-planing wear and flat wood-chopping wear on dorsal and ventral faces near distal bit; (j) abraded area on ventral face near bit; (m, n) domed and

smooth wood-planing wear on ventral face approximately 20 mm in from bit; and (e–h, o, p) dull and “greasy” hide-hafting and bright wood-hafting traces.



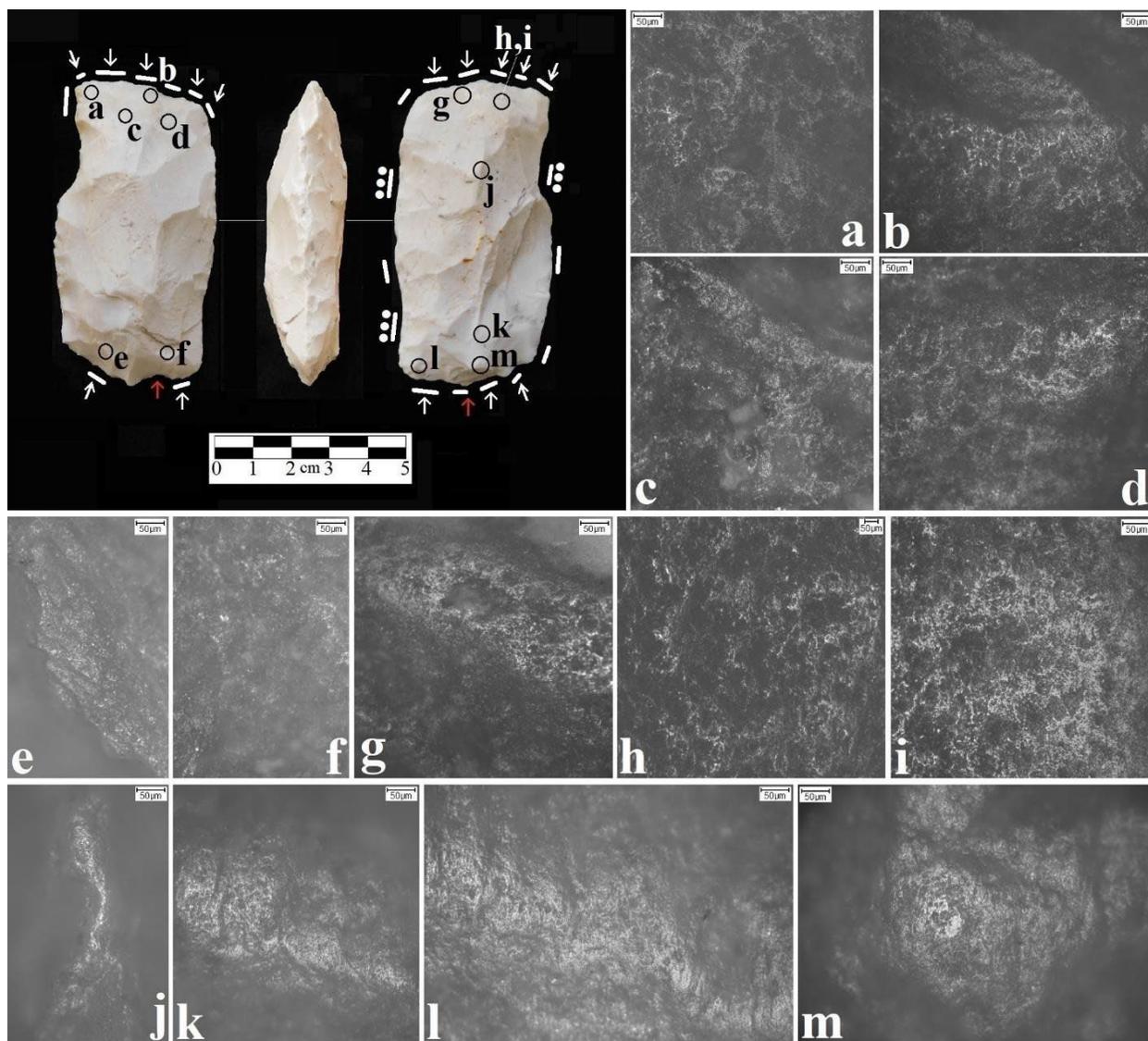
A-20. Upper left: Lateral edge (*center*) and dorsal (*left*) and ventral (*right*) faces of Type 1 tool from Terry Martin surface collections at the Shoal Creek site 23CL8 (Item# CL8-B in Table 2). Microphotographs at 187.5×. (e–g) Domed wood-planing or wood-

smoothing wear on ventral face at or near distal bit; (a, h, i, j) similar wear approximately 10–25 mm back from bit on dorsal and ventral faces; (b–d, k, l) dull and “greasy” hide-hafting and bright wood-hafting traces on both faces.



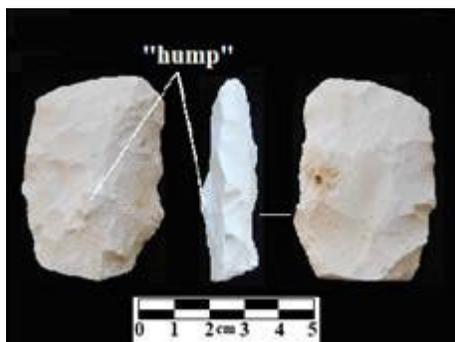
A-21. Upper left: Dorsal face (left, drawing and photo), lateral edge (center), and ventral face (right) of Type 3 tool from Lagoon site (Item # LA-1 in Table 2). Microphotographs: (c, h) at 93.75× and all others at 187.5×. (a, g) Edge-rounding and bright domed wood-planing and flat wood-chopping microwear with parallel and oblique striae at distal edge on both faces; (b, j) bright domed wood-planing wear approximately 20 mm in from distal edge on both faces; (c, d, h, i, k) bright domed wood-planing and flatter wood-chopping wear approximately 10–25 mm in from distal

edge on both faces; (l) bright domed wood-planing wear and black spots that *may* be charcoal approximately 35 mm in from distal edge on ventral face; (e, n) duller “greasy” hide-hafting and brighter wood-hafting microwear near the base on both faces; (f, m) dull greasy hide-hafting microwear with “bright spots” from rubbing against the handle on both faces (see Rots 2010:Plates 44–46).



A-22. Upper left: Dorsal face (*left*), lateral edge (*center*), and ventral face (*right*) of Type 3 tool from Go-Kart North site (Item # 78-90-7 in Table 2). Microphotographs: (h) at 93.75× and all others at 187.5×. (a–d, g–i) Edge-rounding and bright domed wood-planing microwear at distal edge on both faces; (e, f, k–m) bright domed and flat

wood-chopping wear at or near proximal edge on both faces; and (j) dull greasy hide-hafting and bright wood-hafting microwear on ventral face.

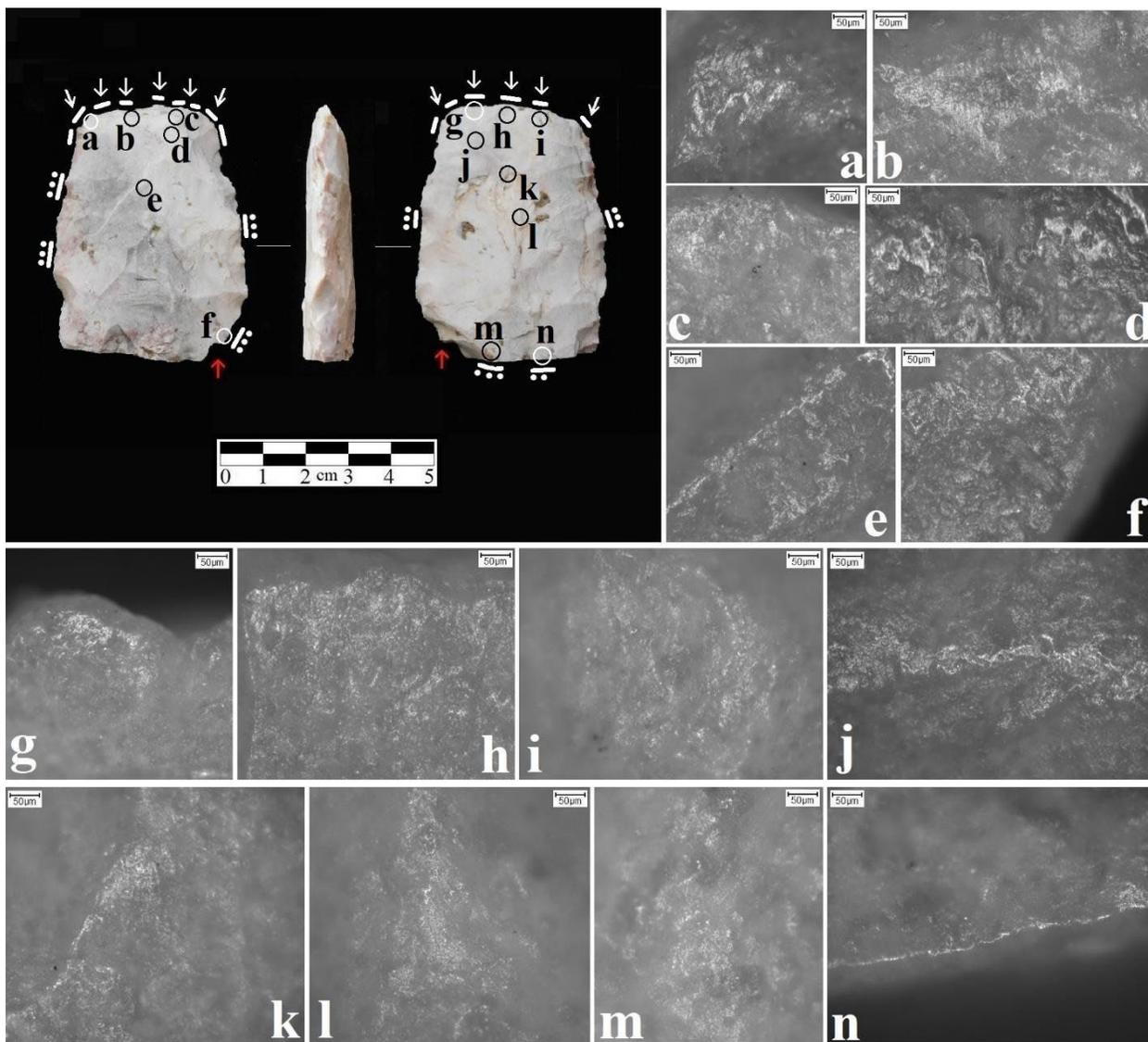


A-23. Dorsal (*left*) and ventral (*right*) faces and lateral edge (*center*) of Type 3 tool from Go-Kart North site (Item# 78-130-1 in Table 2). "Hump" on dorsal face. No identifiable microwear or hafting traces.



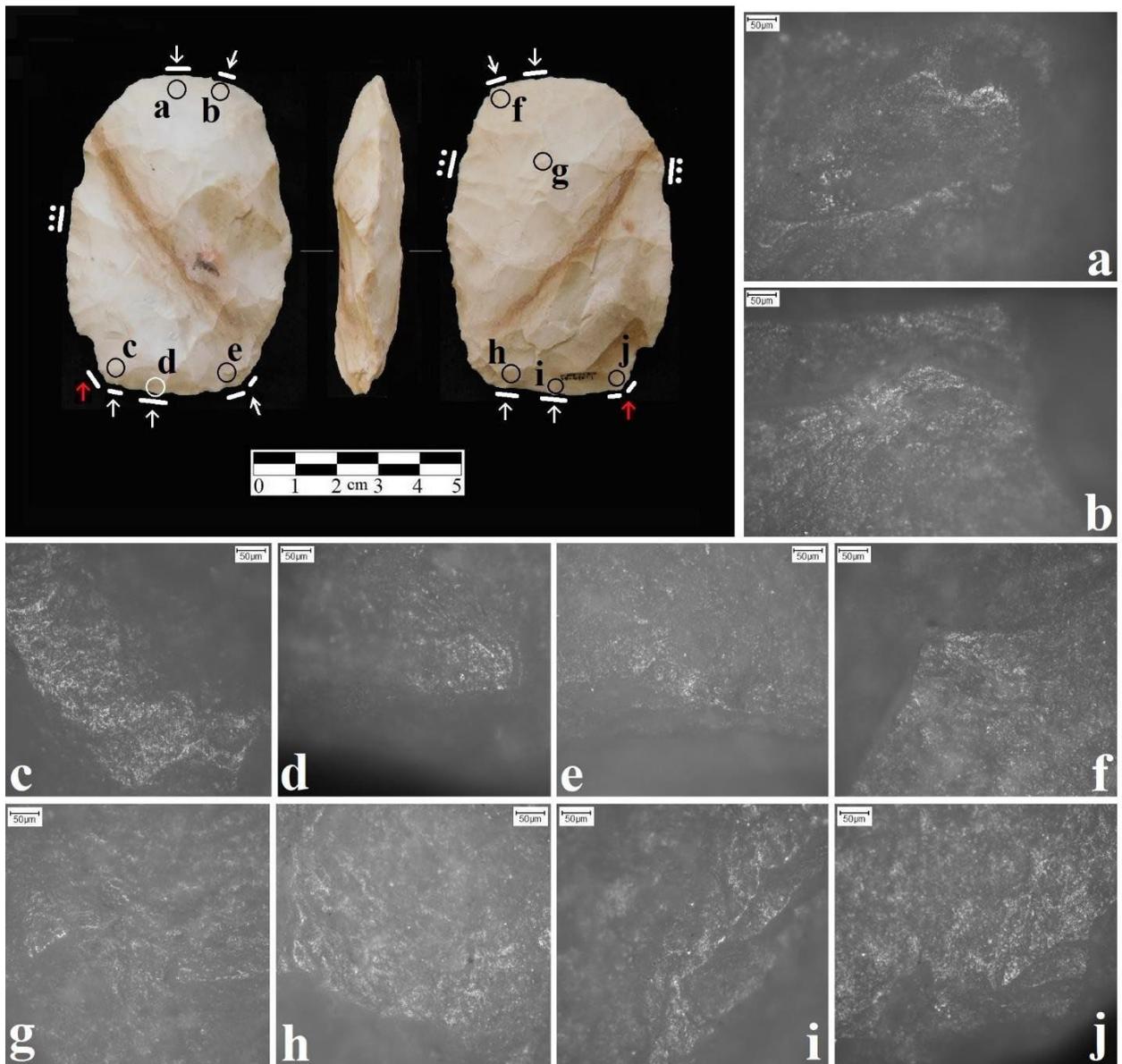
A-24. Upper left: Dorsal face (*left*), lateral edge (*center*), and ventral face (*right*) of Type 3 tool from Go-Kart North site (Item # 78-140-10 in Table 2). Microphotographs at 187.5×. (a, b, d, k, m) Bright domed wood-planing and flatter wood-chopping wear

on dorsal face at distal edge; (c) similar wear on dorsal face approximately 20 mm in from distal bit; (l) less developed wood-planing and wood-chopping wear on ventral face approximately 10 mm in from distal bit; (j, o) less developed wood-planing and wood-chopping wear with abrasion on both faces at proximal edge; (f–i) bright domed wood-planing wear on dorsal face approximately 10–30 mm in from proximal edge; and (e, n) dull greasy hide-hafting and bright wood-hafting microwear on both faces in the middle and on the proximal edge of the tool.



A-25. Upper left: Dorsal face (*left*), lateral edge (*center*), and ventral face (*right*) of Type 3 tool from Go-Kart North site (Item # 78-146-15 in Table 2). Microphotographs

at 187.5×. (a–d) Edge-rounding, bright domed wood-planing, and flatter wood-chopping wear on dorsal face at distal edge; (e) similar wear on dorsal face approximately 30 mm in from distal bit; (g, h, I, j) less-developed bright domed planing and flat wood-chopping wear on ventral face at or near distal edge; (k) similar wear on ventral face approximately 20 mm in from distal end; (f, l–n) dull greasy hide-hafting and bright wood-hafting microwear on both faces in the middle and on the proximal edge of the tool.



A-26. *Upper left:* Dorsal face (*left*), lateral edge (*center*), and ventral face (*right*) of Type 3 tool from Go-

Kart North site (Item # 79-496-1 in Table 2). Microphotographs at 187.5 \times . (a, b, f) Bright domed wood-planing wear on dorsal face at distal edge; (e) similar wear on dorsal face approximately 30 mm in from distal bit; (c–e, h–j) less-developed flat wood-chopping wear at or near proximal edge on both faces; (g) dull greasy hide-hafting and bright wood-hafting microwear on both faces in the middle and on the proximal edge of the tool.