

Sandstone Ground Stone Technology: a multilevel use-wear and residues approach to investigate the function of pounding and grinding tools

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Passive Elements					
Grinding					
n.129	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.22	0.52	0.01	0.10	5.12
<i>Perimeter (cm)</i>	1.59	1.21	0.31	1.29	9.29
<i>Distance from Surface Centre (cm)</i>	4.08	1.92	0.38	4.27	7.84
<i>Dist from Surface Edges (cm)</i>	3.75	1.76	0.56	3.74	7.39
<i>Dist from Surface Used Area (cm)</i>	3.75	1.31	0.69	3.73	6.59
Polishing					
n.70	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.03	0.04	0.00	0.02	0.19
<i>Perimeter (cm)</i>	0.66	0.37	0.20	0.50	1.70
<i>Distance from Surface Centre (cm)</i>	4.04	1.49	0.64	4.13	6.80
<i>Dist from Surface Edges (cm)</i>	3.34	1.37	0.57	3.40	6.36
<i>Dist from Surface Used Area (cm)</i>	3.17	1.42	0.26	3.14	6.20
Pounding					
n.136	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.04	0.05	<0.001	0.03	0.35
<i>Perimeter (cm)</i>	0.79	0.41	0.26	0.67	2.30
<i>Distance from Surface Centre (cm)</i>	2.57	1.15	0.25	2.25	5.57
<i>Distance from Surface Edges (cm)</i>	4.59	0.94	2.39	4.69	6.55
<i>Distance from Surface Used Area (cm)</i>	2.99	2.79	0.10	1.54	9.46
Active Elements					
Grinding					
n.40	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.04	0.07	<0.001	0.01	0.39
<i>Perimeter (cm)</i>	0.69	0.64	0.24	0.42	2.75
<i>Distance from Surface Centre (cm)</i>	2.75	1.25	0.44	2.51	5.68
<i>Distance from Surface Edges (cm)</i>	2.42	0.69	1.00	2.39	4.03
<i>Distance from Surface Used Area (cm)</i>	1.13	0.53	0.09	1.19	2.36
Pounding					
n.32	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.05	0.06	<0.001	0.02	0.26
<i>Perimeter (cm)</i>	0.79	0.48	0.26	0.64	2.49
<i>Distance from Surface Centre (cm)</i>	1.38	1.47	0.00	0.99	4.05
<i>Distance from Surface Edges (cm)</i>	3.39	1.21	1.18	3.47	5.24
<i>Distance from Surface Used Area (cm)</i>	1.69	0.84	0.36	1.64	3.68
Softening					
n.59	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.05	0.06	<0.001	0.04	0.41
<i>Perimeter (cm)</i>	0.90	0.57	0.24	0.79	3.66
<i>Distance from Surface Centre (cm)</i>	2.82	1.21	0.17	2.90	5.04
<i>Distance from Surface Edges (cm)</i>	3.37	0.78	1.72	3.39	5.10
<i>Distance from Surface Used Area (cm)</i>	2.01	0.65	0.73	1.94	3.33

SI Table 1Morphometric characteristics of the residue patches compared by activities

Polishing Dry Bone					
n.70	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.03	0.04	<0.001	0.02	0.19
<i>Perimeter (cm)</i>	0.66	0.37	0.20	0.50	1.70
<i>Distance from Surface Centre (cm)</i>	4.04	1.49	0.64	4.13	6.80
<i>Distance from Surface Edges (cm)</i>	3.34	1.37	0.57	3.40	6.36
<i>Distance from Surface Used Area (cm)</i>	3.17	1.42	0.26	3.14	6.20
Pounding Dry Tendons					
n.65	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.02	0.02	<0.001	0.02	0.09
<i>Perimeter (cm)</i>	0.70	0.33	0.26	0.66	1.94
<i>Distance from Surface Centre (cm)</i>	2.09	0.40	1.19	2.09	2.84
<i>Distance from Surface Edges (cm)</i>	4.80	0.39	4.03	4.80	5.52
<i>Distance from Surface Used Area (cm)</i>	0.95	0.45	0.12	0.93	2.32
Splitting Metapodials					
n.56					
<i>Area (cm²)</i>	0.05	0.07	0.01	0.03	0.35
<i>Perimeter (cm)</i>	0.85	0.49	0.28	0.66	2.30
<i>Distance from Surface Centre (cm)</i>	3.44	1.21	1.01	3.71	5.57
<i>Distance from Surface Edges (cm)</i>	4.06	1.10	2.39	3.86	6.40
<i>Distance from Surface Used Area (cm)</i>	5.79	2.25	1.29	6.12	9.46
Opening Hazelnuts					
n.15	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.06	0.03	0.02	0.04	0.12
<i>Perimeter (cm)</i>	0.96	0.32	0.59	0.83	1.60
<i>Distance from Surface Centre (cm)</i>	1.36	0.76	0.25	1.49	2.79
<i>Distance from Surface Edges (cm)</i>	5.73	0.63	3.99	5.73	6.55
<i>Distance from Surface Used Area (cm)</i>	1.37	0.77	0.10	1.53	2.64
Grinding Oat Grains					
n.105	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.23	0.57	0.01	0.09	5.12
<i>Perimeter (cm)</i>	1.57	1.31	0.31	1.21	9.29
<i>Distance from Surface Centre (cm)</i>	4.28	1.88	0.38	4.33	7.84
<i>Distance from Surface Edges (cm)</i>	3.70	1.79	0.56	3.58	7.39
<i>Distance from Surface Used Area (cm)</i>	3.89	1.34	0.77	3.92	6.59
Grinding Wild Grass Grains					
n.24	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.20	0.15	0.02	0.17	0.70
<i>Perimeter (cm)</i>	1.68	0.64	0.56	1.71	3.42
<i>Distance from Surface Centre (cm)</i>	3.17	1.86	0.39	3.12	7.32
<i>Distance from Surface Edges (cm)</i>	3.93	1.64	0.61	4.26	6.20
<i>Distance from Surface Used Area (cm)</i>	3.13	0.98	0.69	3.07	5.00
<i>Standard Deviational Ellipse (SDE)</i>	Area (cm2)	Major SD (cm)	Minor SD (cm)	Eccentricity (ad)	
Bone Polishing	12,16	2,59	1,49	0,82	

Polishing Dry Bone					
n.70	Mean	Std.Dev	Min	Median	Max
Pounding Tendons	1,27	0,92	0,44	0,88	
Splitting Metapodials	19,5	2,96	2,11	0,70	
Opening Hazelnuts	3.58	1.09	1.04	0.3	
Grinding Oat	21,04	3,31	2,03	0,79	
Grinding Wild Grass Grains	13,9	2,20	2,02	0,40	

SI Table 2 Morphometric characteristics of the residue patches identified on GSTs used as passive elements

Softening Dry Hide					
n.59	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.05	0.06	<0.001	0.04	0.41
<i>Perimeter (cm)</i>	0.90	0.57	0.24	0.79	3.66
<i>Distance from Surface Centre (cm)</i>	2.82	1.21	0.17	2.90	5.04
<i>Distance from Surface Edges (cm)</i>	3.37	0.78	1.72	3.39	5.10
<i>Distance from Surface Used Area (cm)</i>	2.01	0.65	0.73	1.94	3.33
Pounding Dry Tendons					
n.18	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.05	0.07	<0.001	0.02	0.26
<i>Perimeter (cm)</i>	0.77	0.61	0.26	0.51	2.49
<i>Distance from Surface Centre (cm)</i>	2.44	1.11	0.56	2.50	4.05
<i>Dist from Surface Edges (cm)</i>	2.58	0.89	1.18	2.76	3.81
<i>Dist from Surface Used Area (cm)</i>	1.65	0.85	0.50	1.38	3.29
Opening Hazelnuts					
n.14	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.04	0.02	0.01	0.04	0.09
<i>Perimeter (cm)</i>	0.81	0.24	0.51	0.79	1.26
<i>Distance from Surface Centre (cm)</i>	0.02	0.01	0.00	0.01	0.03
<i>Distance from Surface Edges (cm)</i>	4.43	0.61	3.37	4.61	5.24
<i>Distance t from Surface Used Area (cm)</i>	1.74	0.85	0.36	1.67	3.68
Grinding Oat Grains					
n.20	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.01	0.00	<0.001	0.01	0.01
<i>Perimeter (cm)</i>	0.32	0.06	0.24	0.30	0.44
<i>Distance from Surface Centre (cm)</i>	1.74	0.63	0.44	1.67	2.73
<i>Distance from Surface Edges (cm)</i>	2.17	0.52	1.23	2.23	3.30
<i>Distance t from Surface Used Area (cm)</i>	1.00	0.45	0.09	1.05	1.71
Grinding Wild Grass Grains					
n.20	Mean	Std.Dev	Min	Median	Max
<i>Area (cm²)</i>	0.07	0.09	0.01	0.03	0.39
<i>Perimeter (cm)</i>	1.05	0.74	0.36	0.76	2.75
<i>Distance from Surface Centre (cm)</i>	3.75	0.81	2.46	3.66	5.68
<i>Distance from Surface Edges (cm)</i>	2.67	0.76	1.00	2.61	4.03
<i>Distance t from Surface Used Area (cm)</i>	1.27	0.58	0.39	1.25	2.36
<i>Standard Deviatonal Ellipse (SDE)</i>	Area (cm2)	Major SD (cm)	Minor SD (cm)	Eccentricity (ad)	
Pounding Tendons	4.04	1.14	1.12	0.21	
Softening Dry Hide	5.9	1.64	1.16	0.71	
Opening Hazelnuts	4.05	1.38	0.93	0.74	
Grinding Oat Grains	1.4	0.72	0.61	0.51	
Grinding Wild Grass Grains	2.01	0.94	0.67	0.7	

SI Table 3 Morphometric characteristics of the residue patches identified on GSTs used as active elements