

Typological and use-wear analysis of the lithics of a specialized Swifterbant site at Doel (Scheldt basin, NW Belgium)

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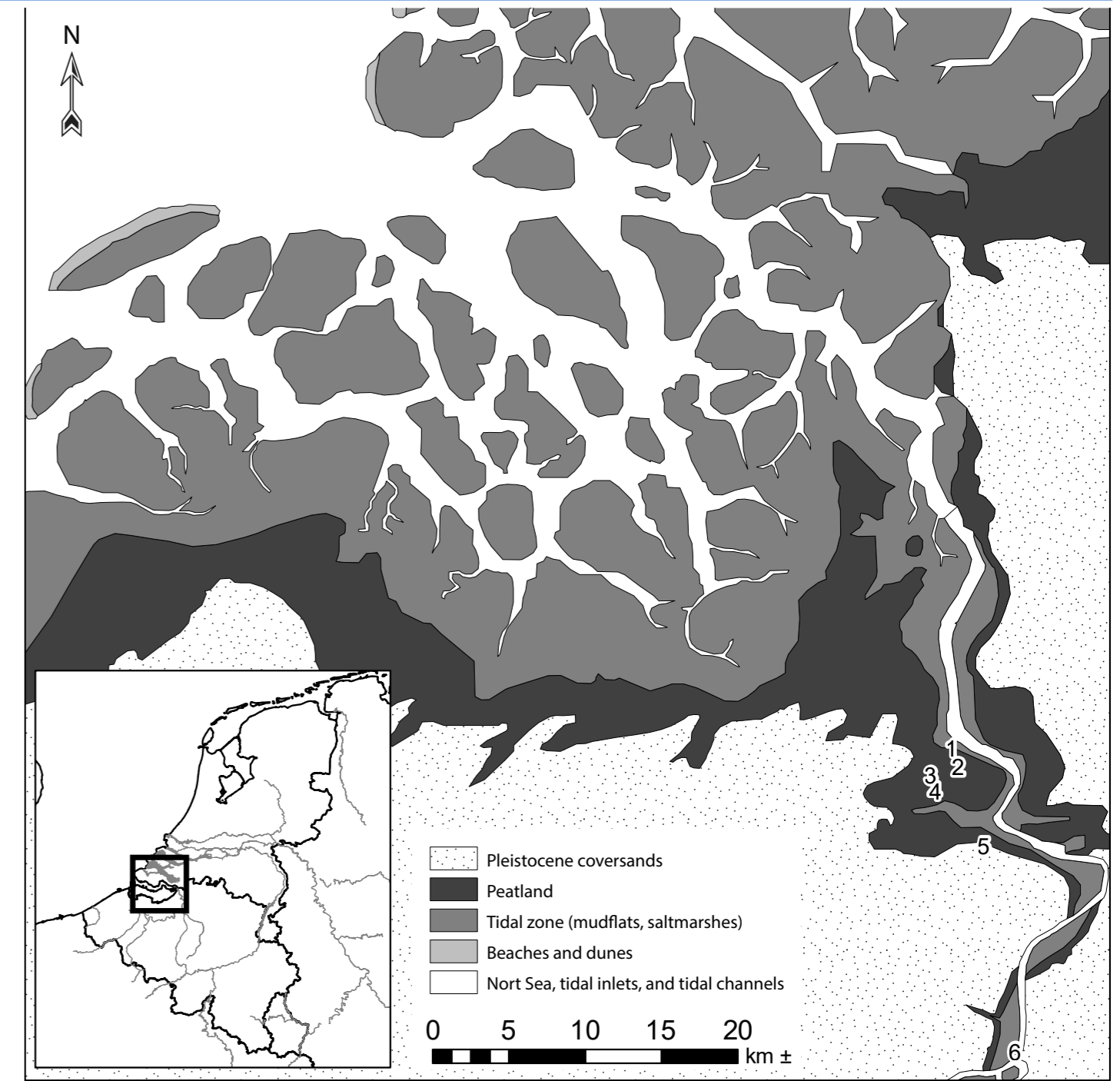
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INTRODUCTION

The presented site is part of a large project examining well-preserved wetland sites from the sandy lowlands of northern Belgium. These sites date back to the 5th and beginning of the 4th mill cal BC and are attributed to the Swifterbant and the subsequent Michelsberg culture. The main aim of the project is to understand the Neolithisation process of the area, i.e. whether earliest farming was established by local adoption of domesticates by indigenous hunter-fisher-gatherers and/or colonization by farmers from the southern loamy areas.

ARCHAEOLOGICAL BACKGROUND

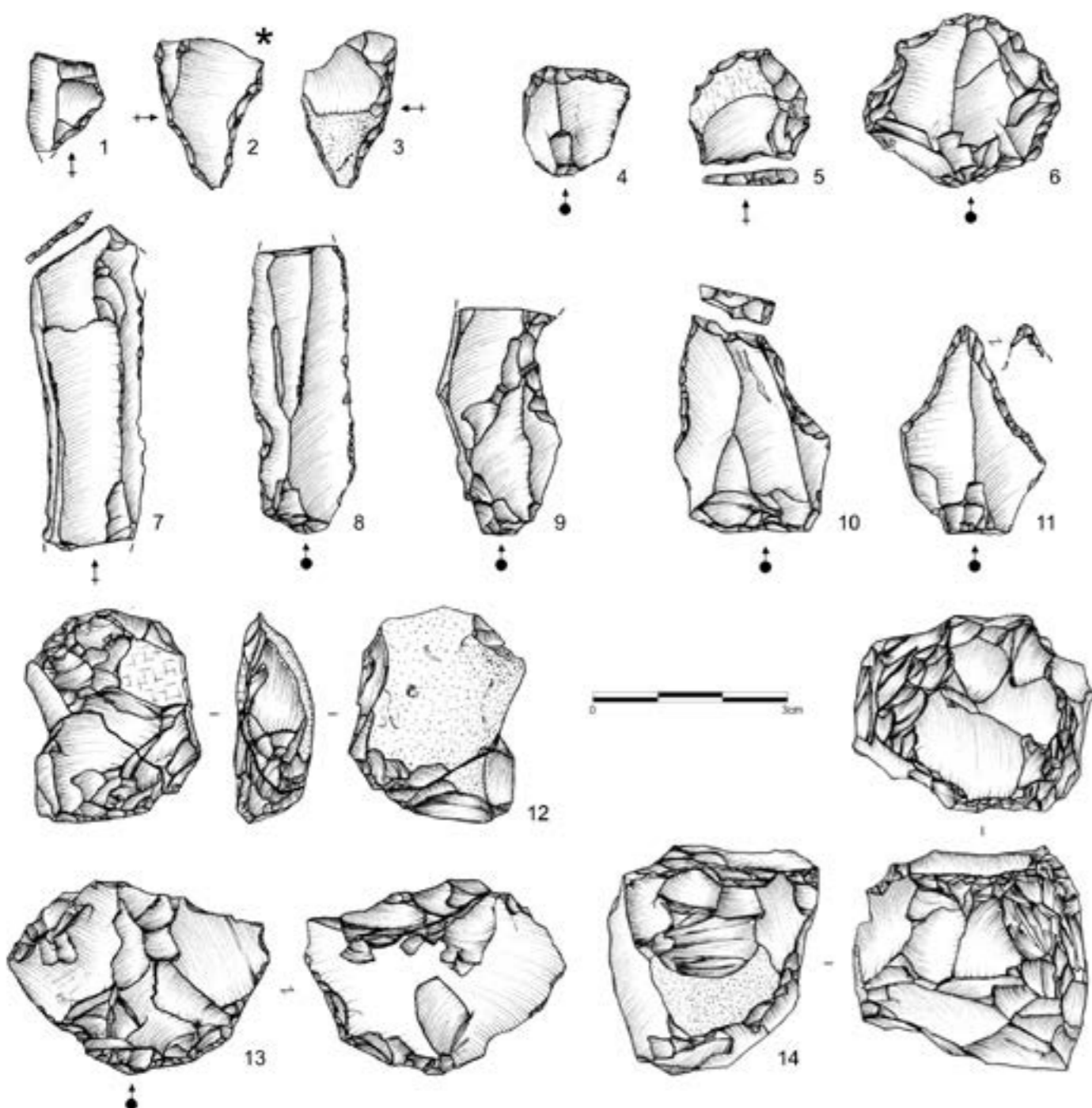
The site of Doel "Deurganckdok" M (4) is located in the Lower Scheldt basin, near the harbor of Antwerp. On top of a Pleistocene coversand dune, covered by peat and (peri-) marine clayey sediments, a small concentration (C2) of lithics, ceramics, calcined bones and other burnt ecofacts was excavated. The pottery as well as the lithic assemblage link C2 to the Swifterbant culture, which is corroborated by two ¹⁴C dates on charred hazelnut shells dating to 4327-4064 cal BC.



▲ Map of the research area: (1) Doel Deurganckdok B; (2) Doel Deurganckdok C; (3) Doel Deurganckdok J/L; (4) Doel Deurganckdok M; (5) Melsele Hof ten Damme; (6) Bazel Sluis

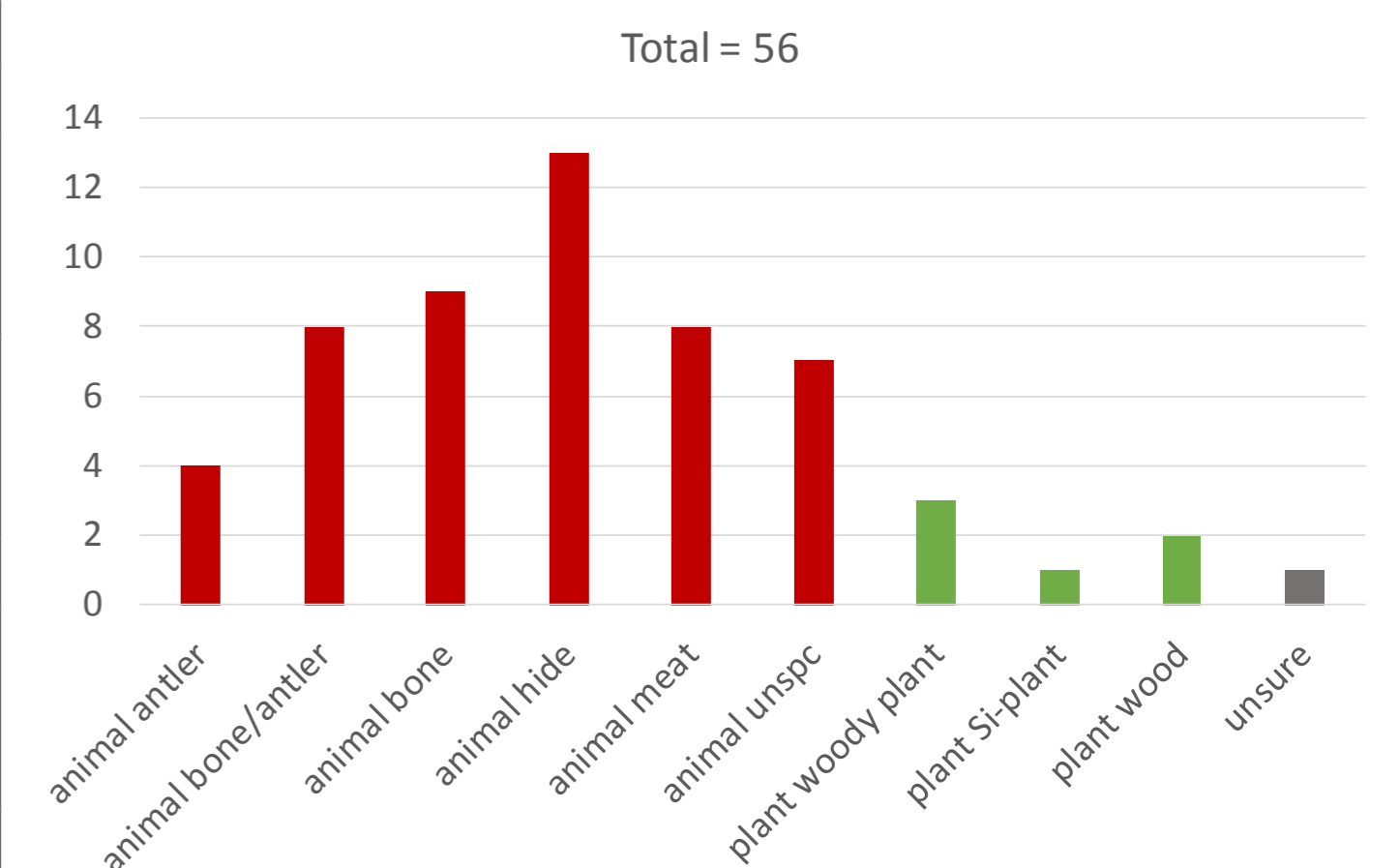
LITHIC TYPO-TECHNOLOGY

- Main raw material - regionally sourced pebble flint - knapped on site - flake production (40%)
- Long distance raw materials (12%) - procurement in the Hesbaye and Hainaut regions - regular Montbani style blades
- Tool kit: projectiles - transverse arrowheads and trapezes (1-3) - scrapers (4-6) - splintered tools (12-13) - artefacts with possible use-wear - drills (10-11) - faceted tools (14) - flake adze - macrolithic stone tools

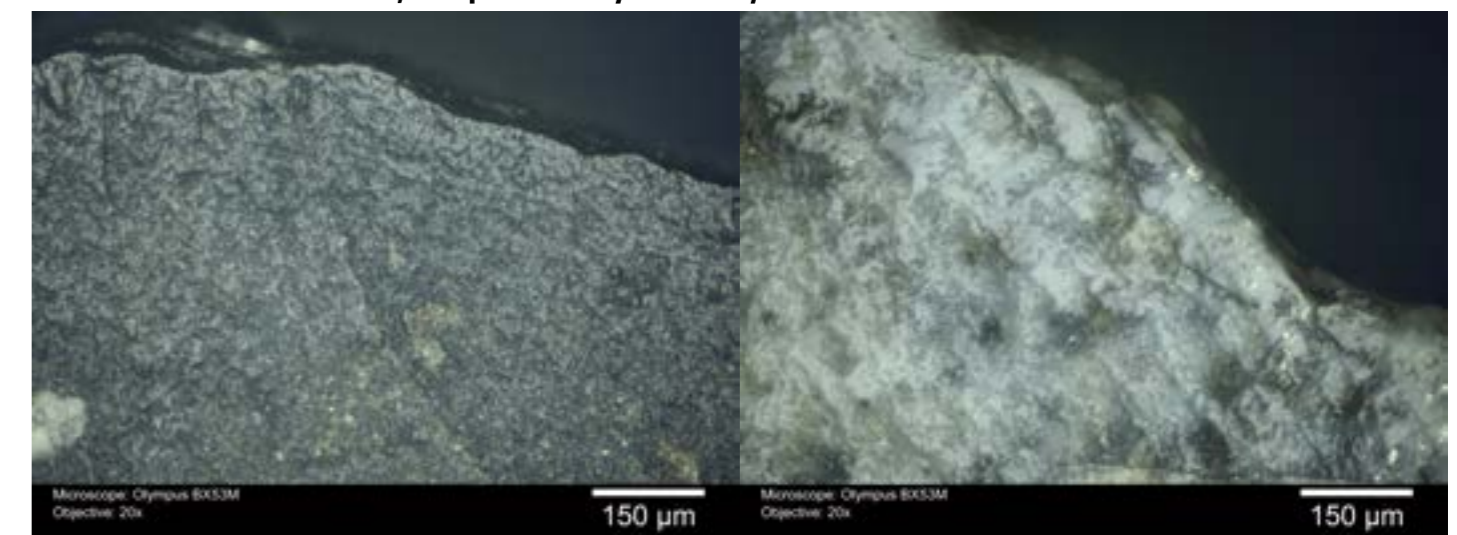


LITHIC MICROWEAR ANALYSIS

C2	Total	Low Power	High Power
Total > 1 cm	413	174	75
Debitage	287	62	18
core	3	1	0
core-trimming pieces	4	1	0
flake	165	36	10
blade(let)	47	22	8
undetm. detachment	29	2	0
debris	39	0	0
Armatures	9	5	4
microlith	3	0	0
trapeze	2	1	1
transverse arrowhead	4	4	3
Common Tools	87	84	39
retouched blade(let)	10	8	6
scraper	16	16	12
retouched flake	1	1	0
drill	6	6	4
combination tool	1	1	0
splintered piece	24	23	2
faceted piece	8	8	5
undetm. toolfragment	20	19	8
flake-adze	1	1	1
Artefacts w/possible use-wear	24	24	15
Macrolithic stone tools	6	0	0



▲ Distribution of worked materials among the artefacts with use-wear traces. Note that 87% of traces show contact with animal material, especially bone/antler and fresh hide.



▲ Microscopic photos: Left: Fresh hide scraping traces; Right: bone cutting traces overlaid with white patina

CONCLUSION

Use-wear analysis points to a specialised butchering site (satellite or non-residential site) at Doel "Deurganckdok" M C2.

The whole range of activities connected to processing animal material is recognisable from butchering, through scraping, drilling, shaping of hide, bone and antler.

This suggests a complex Swifterbant settlement system with functional differences between sites, as other concentrations show broad spectrum of activities.

Good preservation of micro-traces and residue (bone, resin) on the site proves the potential of use-wear analysis on this type of wetland sites.

