Light Production by Ceramic Using Hunter-Gatherer-Fishers of the Circum-Baltic

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APPENDIX S1

RADIOCARBON DATING

We are aware of 14 radiocarbon (^{14}C) ages on samples of charred organic residue taken from oval bowls found at sites surrounding the southwest Baltic (Table S2). These measurements were obtained by Accelerator Mass Spectrometry (AMS) at five different laboratories over more than two decades. In general, these laboratories would have dated a chemical fraction of the residue which remained insoluble after acid-alkali-acid extraction (designed to dissolve any organic and inorganic compounds absorbed from the burial environment), with variations between laboratories in reaction times, temperatures and pH. Procedures may also have changed over time; for example, KIA-6995-6998, but not the other samples dated by the Kiel laboratory, were treated with solvents to remove soluble lipids prior to the normal acid-alkali-acid extraction. These variations may not have had a measurable effect on the ^{14}C results; for example, soluble lipids may only have accounted for a tiny fraction of the carbon in the organic residue and these lipids may not have had a different ^{14}C age to the insoluble fraction

Accepting that the published ^{14}C ages are accurate and comparable, the main interpretative challenge is that (given the pattern of results seen in isotopic and biomolecular analyses of carbonised surface deposits on other oval bowls in this region) we may assume that most, if not all, of the dated carbon was derived from aquatic organisms. Bulk stable isotope results probably provide the best indicators for the sources of carbon in the dated chemical fraction (as more than half of the bulk residue normally survives acid-alkali-acid extraction), but the correlation between bulk and soluble lipid $\delta^{13}C$ values recorded in this study suggests that soluble and insoluble carbon were largely derived from the same ingredients

Aquatic food webs (marine or freshwater ecosystems) are almost always depleted in ^{14}C relative to terrestrial food webs which rely solely on photosynthesis of atmospheric CO_2. In marine ecosystems, ^{14}C depletion is caused mainly by long residence times; atmospheric CO_2 absorbed at the surface is cycled through the deep ocean over several centuries, giving rise to 'marine reservoir effects' (MREs), which vary geographically according to circulation patterns. ^{14}C samples of marine origin can be calibrated (converted to calendar dates) using a global circulation model (Heaton *et al*. 2020), with a local correction (ΔR) based on ^{14}C measurements of known-age marine species. In the south-west Baltic, evidence from archaeological remains at coastal sites (Philippsen 2018; Fischer & Olsen 2021) suggests that the local MRE at *c*. 4000 cal BC was only about 300 ^{14}C years, which is consistent with an estimated ΔR value in modern marine species of –198±75 (values updated for use with the Marine20 calibration curve (Heaton *et al*. 2020))

In freshwater ecosystems there are several potential causes of ^{14}C depletion, most prominently the dissolution of mineral carbonates which can supply ^{14}C-free carbon to the pool of dissolved inorganic carbon (DIC) used in photosynthesis by submerged plants. Rivers and lakes in northern Germany often have large freshwater reservoir effects (FREs) of over 1000 years (Fernandes *et al*. 2013;

2016; Philippsen & Heinemeier 2013). Modern fish from Friesack 4, one of the sites concerned here, have FREs of *c*. 1200 years (Meadows *et al*. 2018). The FRE at Dąbki 9 is unknown, but a value of *c*. 850 years can be estimated to account for the scatter of ^{14}C ages from foodcrusts on Early Neolithic Funnel Beaker sherds (Meadows unpublished data)

In one case (Timmendorf-Nordmole I, a submerged coastal site in the Bay of Wismar), a dated oval bowl was found in a closed context for which there are several ^{14}C ages on wooden finds, averaging *c*. 5300 BP, which date the context to the late 5th millennium cal BC (Klooß *et al*. 2009). If the bowl was contemporaneous with the wooden finds, its ^{14}C age implies that its carbon content was almost entirely of marine origin. The Nøddekonge oval bowl ^{14}C age is *c*. 300 years greater than ^{14}C ages of two wooden artefacts from the same context, which date to the early 4th millennium (Fischer 2002), presumably due to a freshwater reservoir effect. The Åkonge oval bowl is included in a Bayesian chronological model (Robson *et al*. 2021) that dates it to the beginning of the 4th millennium and implies only a small reservoir effect (although the local FRE was modest, so the carbon content could still be mainly aquatic in origin)

For the other directly dated bowls, contextual dating is more problematic. At Friesack 4, almost all the published ^{14}C ages associated with the Neolithic phase are on foodcrust samples, which either were not subject to organic residue analyses or were assessed to contain freshwater fish (Wetzel 2015; Shevchenko *et al*. 2018). At Dąbki 9, wood and bone dates span over a millennium, and these finds are not meaningfully stratified (Kotula *et al*. 2015), so they cannot be used to constrain the deposition dates of the oval bowls. The East Holstein coastal sites (Grube-Rosenhof LA 58, Siggeneben Süd LA 12, Wangels LA 505) have both late Ertebølle and early Funnel Beaker occupation phases, so the oval bowls could date either to the later 5th or to the earlier 4th millennium cal BC. As a first-order approximation, the chronological interpretation proposed here assumes that in residues from coastal sites, 80–100% of carbon extracted for dating was of marine origin (reflecting the availability of marine mammal blubber), whereas 50–100% of carbon in residues from inland sites is attributed to freshwater organisms

Figure S1 shows a chronology based on simple calibration of the uncorrected ^{14}C ages of oval bowls (upper pane) which incorporates the assumption that all the samples represent a single uniform phase of production (ie bowls are equally likely to date to any time within this phase; this assumption allows the start and end of bowl production to be estimated). All the dated cases appear to fall in the 5th millennium. The lower pane shows a similar chronological model in which contextual dating is used for the Danish inland oval bowls, and the other ^{14}C ages are calibrated using a rough approximation of potential reservoir effects as discussed above. This shows that it is more likely that most of the dated oval bowls were made in the first half of the 4th millennium

METHODS

Technological, morphological, ornamental and use-wear analysis

Technological analysis was based on recording the macrotraces which appeared as a result of vessel modelling and further reconstruction of the *chaîne opératoire*, including determination of temper materials (Creswell 1976; Arnold 1985; Shepard 1985; Livingstone-Smith 2001; Gosselain 2002; Pétrequin *et al*. 2006). Use-wear analysis involved characterisation of the carbonised surface deposits (ie, interior foodcrusts or exterior sooted deposits), including their location as well as traces of abrasion and other physical impacts on the vessel body as a result of use (Skibo 2015).

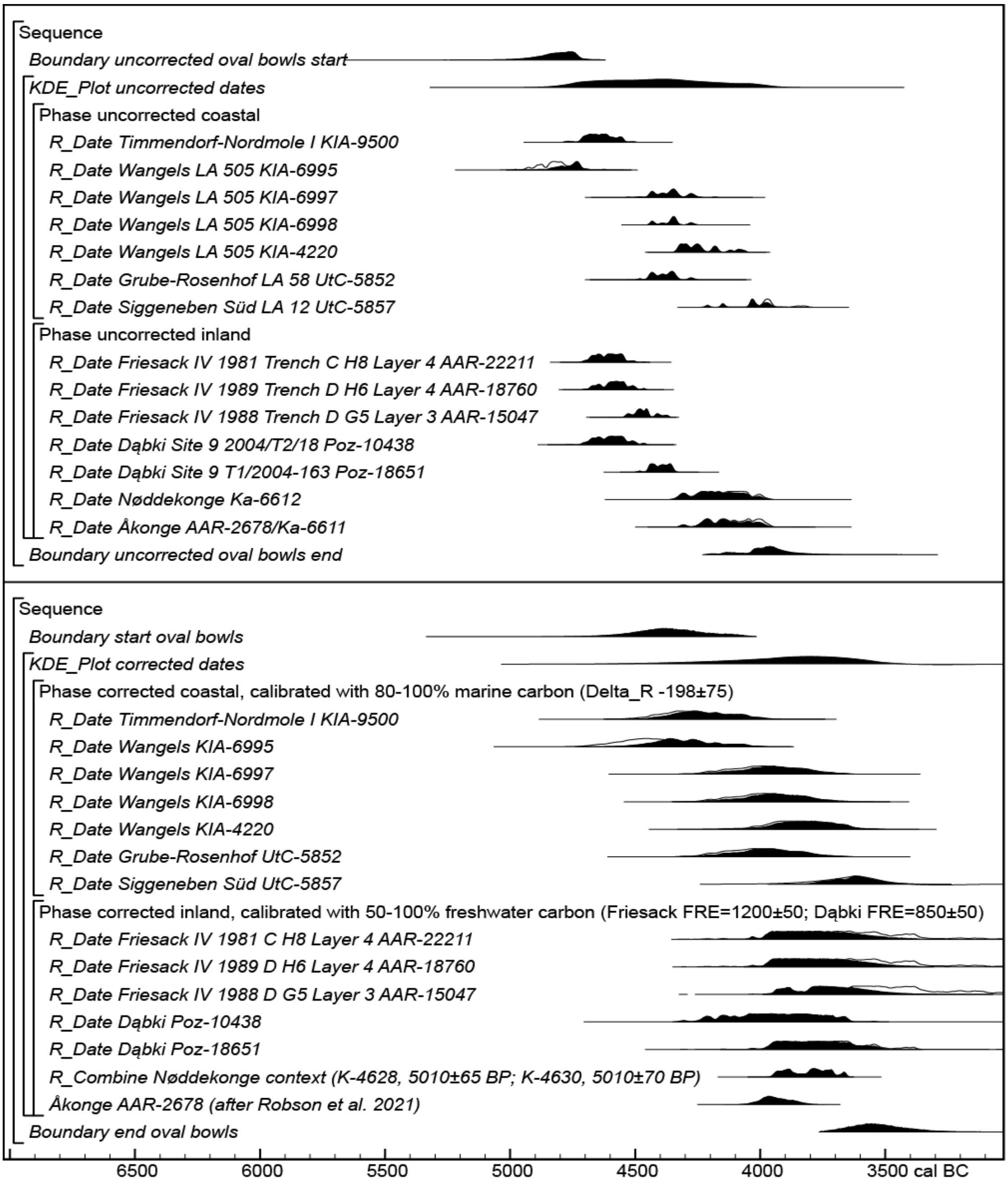

Fig. S1

Bayesian chronological models, implemented in OxCal v4.4 (Bronk Ramsey 2009) for the production of oval bowls in Denmark and northern Germany. Upper panel: ^{14}C ages of carbonised organic residues adhering to these bowls (Table S2) are calibrated using the atmospheric calibration curve (Reimer *et al*. 2020), assuming no reservoir effects. Lower panel: ^{14}C ages from northern German sites calibrated using the Mix_Curves function, with specified contributions from marine or freshwater curves, with specified MRE and FREs (see text). Context dates used for the Danish cases. Both models assume that the dated cases represent a single, uniform phase of activity, whose beginning and end can be estimated using OxCal's Boundary function. The KDE_Plot distributions summarise the modelled dates of individual samples (Bronk Ramsey 2017)

Organic residue analysis

During cooking or storage lipids penetrate into the ceramic matrix or accumulate on the vessel surface as carbonised surface deposits (ie, interior foodcrusts or exterior sooted deposits). In this study, lipids were extracted from powdered ceramic potsherds as well as carbonised surface deposits and analysed using a combination of bulk carbon ($\delta^{13}C$) and nitrogen ($\delta^{15}N$) stable isotope analysis, gas chromatography-mass spectrometry (GC-MS) and GC-combustion-isotope ratio (MS) to characterise the molecular and isotopic compositions of the extracts

Bulk $\delta^{13}C$ and $\delta^{15}N$ stable isotope analysis

Bulk $\delta^{13}C$ and $\delta^{15}N$ stable isotope analysis was undertaken on 111 carbonised surface deposits (ie, interior foodcrusts and exterior sooted deposits) derived from both the oval bowls throughout the circum-Baltic, and stone lamps from North America. The majority (n = 105) of the measurements were obtained from two laboratories: the University of Bradford (UK) and the University of York (UK). In addition, one sample was measured at Aarhus University (Denmark), with the remainder (n = 5) being analysed at the University of Tartu (Estonia). The samples were directly removed from the sherd surfaces using a scalpel, homogenised using a sterile mortar and pestle, weighed (0.8–1.2 mg) out into pressed tin capsules (OEA Laboratories Limited, Exeter, UK), and analysed without any pre-treatment. At Bradford, a Flash EA1112 Elemental Analyzer with ConFlo III coupled to a Thermo Fisher Delta V Advantage was used, whilst a Sercon GSL analyzer linked to a Sercon 20-22 mass spectrometer was employed at York. The results from the analyses are reported in parts per mille (‰) relative to Vienna-Pee Dee Belemnite (V-PDB) and atmospheric nitrogen (AIR N_2), the international standards for $\delta^{13}C$ and $\delta^{15}N$ respectively. A range of laboratory standards traceable to international isotopic reference standards were analysed alongside the samples following standard procedures. Fish Gel and Bovine Liver Serum were analysed with IAEA-600 Caffeine, IAEA-N-1 Ammonium Sulfate and IAEA-CH-3 Cellulose (International Atomic Energy Agency, Vienna, Austria) at Bradford, whilst Fish Gel as well as IAEA-600 Caffeine, IAEA-N-1 Ammonium Sulfate and IA-R006 Cane (International Atomic Energy Agency, Vienna, Austria) were analysed at York. The two elements were measured separately since the quantity of carbon (%C) was often higher than that of nitrogen (%N). The majority of the samples were measured in duplicate, sometimes triplicate, and the results were averaged where applicable (Craig *et al*. 2007; 2011; 2013; Heron *et al*. 2013; 2015). The accuracy and precision of the instrument was calculated from the repeated measurements of each sample, and was ±0.2‰ for both elements. As an additional quality indicator, data were ignored if %C values were <10 and/or %N values were <1. Of the 111 samples analysed, 86 yielded data that could be confidently incorporated into the results and discussion

Sample preparation for acidified methanol extraction

In order to avoid potential contamination resulting from the extraction procedure or subsequent analysis, nitrile gloves were worn at all times. In addition, all glassware and tools had been washed in solvent (3 × dichloromethane (DCM)). All reagents were of analytical grade. To assess any possible contamination, a blank sample (method blank) was prepared and analysed with each batch of archaeological samples, as described elsewhere (Craig *et al*. 2007; 2011; Heron *et al*. 2013; 2015)

To reduce contamination from the burial environment, the surfaces of the potsherds were removed to a depth of 1–2 mm using a Dremel modelling drill fitted with a tungsten carbide bit – this powder was then disposed of. To extract absorbed residues from the ceramic matrix, *c*. 1 g of the ceramic powder was removed by drilling to a depth of 2–4 mm from the interior surfaces of the potsherds. To extract absorbed residues from the carbonised surface deposits, when present, *c*. 20 mg of the interior foodcrusts or exterior sooted deposits were directly removed from the sherd surfaces using a scalpel. Both the powdered ceramic potsherds as well as carbonised surface deposits were homogenised using a sterile mortar and pestle for acidified methanol extraction followed by GC-MS and GC-C-IRMS

Acidified methanol extraction
In total, 94 oval bowls throughout the circum-Baltic and eight stone lamps from North America were selected for analysis. Lipids were directly extracted and methylated using an acidified methanol extraction procedure (Craig *et al*. 2013; Correa-Ascencio & Evershed 2014; Papakosta *et al*. 2015). Briefly, methanol (4 mL) was added to each sample. The samples were ultrasonicated in a water bath for 15 min, acidified with concentrated sulphuric acid (800 μL), vortexed and heated in closed vials for 4 h at 70°C. After centrifugation, the acidified supernatants were transferred to sterilised and clean vials. Lipids were extracted with *n*-hexane (3 × 2 mL), and filtered through a pipette with potassium carbonate and glass wool to neutralise any sulphuric acid. The extracts were evaporated under a gentle stream of N_2 at 37°C, resuspended with *n*-hexane and transferred to a new vial. At the beginning and end of the extraction procedure 10 μL of an internal standard (1.0 μg μL^{-1}, alkanes C_{34} and C_{36}) was added to each sample. Finally, copper turnings were added to many of the extracts to remove cyclic octaatomic sulphur before analysis by GC-MS and GC-C-IRMS using published methodologies (Hansel *et al*. 2004; Craig *et al*. 2007; 2012)

Gas Chromatography-Mass Spectrometry
The acidified methanol extracts were initially analysed by GC-MS using an Agilent 7690A Series Gas Chromatograph coupled to an Agilent 5975C Inert XL Mass-Selective Detector with a Quadrupole Mass Analyser and Triple-Axis Detector (Agilent Technologies, Cheadle, UK). To calculate the lipid yields and identify the main molecular compounds, a DB-5MS column (30 m × 250 μm × 0.25 μm; J&W Scientific, Inc., Folsom, USA) was employed. The carrier gas (3 ml min^{-1}) was helium, whilst the oven temperature was set at 50°C for 2 min, which was increased by 10°C min^{-1} until 325°C was achieved. This temperature was held for 15 min. The ionisation energy of the mass spectrometer was 70 eV and spectra were obtained in scanning mode between *m/z* 50 and 800

The acidified methanol extracts were subsequently analysed by GC-MS using a DB-23 (50%-cyanopropyl)-methylpolysiloxane column (60 m x 250 μm × 0.25 μm; J&W Scientific, Inc., Folsom, USA). The carrier gas (1.5 ml min^{-1}) was helium, whilst the oven temperature was set at 50°C for 2 min, which was increased to 100°C (10°C min^{-1}). Then, the temperature was raised by 4°C min^{-1} to 140°C, followed by 0.5°C min^{-1} to 160°C, and finally by 20°C min^{-1} to 250°C. It was held at this temperature for 10 min. To target specific ion groups related to aquatic organisms, selected-ion monitoring (SIM) mode was used: *m/z* 74, 87, 213, 270 for 4,8,12-trimethyltridecanoic acid (TMTD), *m/z* 74, 88, 101, 312 for pristanic acid, *m/z* 74, 101, 171, 326 for phytanic acid, and *m/z* 74, 105, 262, 290, 318, 346 for *ω*-(*o*-alkylphenyl) alkanoic acids of carbon lengths C_{16} to C_{22} ($APAA_{16\text{-}22}$). Furthermore, separation of the two phytanic acid diastereomers (3S,7R,11R,15-phytanic acid, SRR and 3R,7R,11R,15-phytanic acid, RRR) was obtained, which enabled the calculation of *SRR*% in total phytanic acid by integrating the *m/z* 101 ion (Lucquin *et al*. 2016)

Gas Chromatography-Combustion-Isotope Ratio Mass Spectrometry
To further distinguish the origins of the different foodstuffs, the acidified methanol extracts were analysed by GC-C-IRMS using a Delta V Advantage Isotope Ratio Mass Spectrometer (Thermo Fisher Scientific, Bremen, Germany) linked to a Trace 1310 Gas Chromatograph (Thermo Fisher Scientific, Bremen, Germany) with a ConFlo IV interface (CuO combustion reactor held at 850°C). 1 μl of each sample was injected into a DB-5MS fused-silica column (60 m × 250 μm × 0.25 μm; J&W Scientific, Inc., Folsom, USA). The carrier gas (2 ml min^{-1}) was ultra high-purity-grade helium, whilst the temperature was set at 50°C for 0.5 min, which was increased by 25°C min^{-1} to 175°C, and then raised by 8°C min^{-1} to 325°C. It was held at this temperature for 20 min. The eluted products were combusted to CO_2 and ionised in the source of the mass spectrometer by electron ionisation. The ion intensities of *m/z* 44, 45, and 46 were monitored to automatically compute the $^{13}C/^{12}C$ ratio of each peak in the acidified methanol extract. Computations were performed with Isodat 3.0 Gas Isotope Ratio MS Software (version 3.0; Thermo Fisher Scientific, Bremen, Germany) that were based on comparisons with a standard reference gas (CO_2) of known isotopic composition that was repeatedly measured. The results from the analyses

are reported in parts per mille (‰) relative to Vienna-Pee Dee Belemnite (V-PDB). The accuracy and precision of the instrument was determined on *n*-alkanoic acid ester standards of known isotopic composition (Indiana standard F8-3). The mean ±Std Dev values of these were –29.90±0.20‰ and –23.19±0.12‰ for the methyl ester of $C_{16:0}$ (reported mean value vs. V-PDB –29.90±0.03‰) and $C_{18:0}$ (reported mean value vs. V-PDB –23.24±0.01‰) respectively. Each sample was measured in replicate (mean of Std Dev 0.04‰ for $C_{16:0}$ and 0.03‰ for $C_{18:0}$). Values were also corrected subsequent to analysis to account for the methylation of the carboxyl group that occurs during acidified methanol extraction. Corrections were based on comparison with a standard mixture of $C_{16:0}$ and $C_{18:0}$ fatty acids of known isotopic composition processed in each batch under identical conditions

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TABLE S1: ALL KNOWN OVAL BOWL BEARING SITES THROUGHOUT THE CIRCUM-BALTIC REGION, INCLUDING DETAILS ON THEIR CULTURAL AFFILIATION &/OR WARE, THE NUMBER OF SHERDS & RELEVANT CITATION

Site name	*Location*	*Culture/ware*	*No. sherds*	*Reference*
		Denmark, western Baltic		
Agernæs	Coastal	Ertebølle	12	Richter & Noe-Nygaard 2003; Andersen 2009
Åkonge	Inland	Ertebølle	1	Fischer 2002
Asnæs Havnemark	Coastal	Ertebølle	3	Price *et al.* 2018
Bloksbjerg	Coastal	Ertebølle	6	Westerby 1927, 122; Mathiassen 1935, 140
Bodal K	Inland	Ertebølle	3	Saul 2011
Bogensø NØ	Coastal	Ertebølle	P	Skaarup 2004 in Skaarup & Grøn 2004
Brabrand/Rugholm	Coastal	Ertebølle	2	Thomsen & Jensen 1906, 40; Mathiassen 1935, 141; Haugsted 1947, 20
Dejrø NØ	Coastal	Ertebølle	P	Skaarup 2004 in Skaarup & Grøn 2004
Dyreborg	Coastal	Ertebølle	P	Skaarup 2004 in Skaarup & Grøn 2004
Dyrholmen	Coastal	Ertebølle	3	Mathiassen *et al.* 1942, 30
Elinelund	Inland	Ertebølle	P	This study
Ertebølle	Coastal	Ertebølle	3	Tranekjer pers. comm.
Fårevejle	Coastal	Ertebølle	2	Madsen *et al.* 1900, 119; Mathiassen 1919, 24; 1935, 141
Flynderhage	Coastal	Ertebølle	2	Gabrielsen 1953
Gamborg Fjord (4257)	Coastal	Ertebølle	1	Andersen 2009
Godsted Mose	Inland	Ertebølle	5	Mathiassen 1935, 141; Tranekjer pers. comm.
Gudsø Vig (E. Jørg)	Coastal	Ertebølle	3	Andersen 2009
Gudsø Vig (National Museum)	Coastal	Ertebølle	11	Mathiassen 1935, 150–2; Andersen 2009
Hallebygård	Inland	Ertebølle	P	This study
Hjarnø Sund	Coastal	Ertebølle	1	Astrup pers. comm.
Hjarnø Vesterhoved	Coastal	Ertebølle	2	Astrup pers. comm.
Kalvø	Coastal	Ertebølle	1	This study
Klintesø	Coastal	Ertebølle	1	Mathiassen 1935, 141
Kolding Fjord	Coastal	Ertebølle	5	Mathiassen 1935, 140; Andersen 2009
Kongemose L	Inland	Ertebølle	1	Fischer 1986
Maglelyng XL	Inland	Ertebølle	7	Tranekjer pers. comm.
Meilgaard	Coastal	Ertebølle	1	This study
Møllegabet I	Coastal	Ertebølle	2	Gron & Skaarup 2004
Neverkær	Inland	Ertebølle	P	This study
Nøddekonge	Inland	Ertebølle	1	Fischer 2002
Norsminde	Coastal	Ertebølle	2	Andersen 1989
Øgårde	Inland	Ertebølle	6	Mathiassen *et al.* 1942, 95; Tranekjer pers. comm.
Øksnebjerg ('Langø')	Coastal	Ertebølle	4	Broholm *et al.* 1928, 172; Mathiassen 1935, 140–1; Skaarup 2004 in Skaarup & Grøn 2004
Ølby Lyng	Coastal	Ertebølle	5	Brinch Petersen 1971, 8
Præstelyngen	Inland	Ertebølle	1	Andreasen 2002
Ringkloster	Inland	Ertebølle	2	Andersen 1975; 1994–1995

Site name	*Location*	*Culture/ware*	*No. sherds*	*Reference*
Rødhals	Coastal	Ertebølle	1	Fischer *et al.* 2021
Ronæs Skov	Coastal	Ertebølle	14	Andersen 2009
Salpetermosen	Inland	Ertebølle	P	Kramer 2001
Smakkerup Huse	Coastal	Ertebølle	1	Price & Gebauer 2005, 123, 214
Sølager	Coastal	Ertebølle	P	Skaarup 1973
Spangkonge	Inland	Ertebølle	1	Fischer & Asmussen 1988
Stenø	Inland	Ertebølle	1	Saul 2011
Stensballe Sund	Coastal	Ertebølle	1	This study
Strandegaard	Coastal	Ertebølle	1	Broholm & Rasmussen 1931, 272; Mathiassen 1935, 145
Syltholm sites	Coastal	Ertebølle	16	This study
Teglgård-Helligkilde	Coastal	Ertebølle	3	Andersen 2009
Tybrind Vig	Coastal	Ertebølle	4	Andersen 1985; 2013
Vængesø III	Coastal	Ertebølle	1	Andersen 2018, 184
Vålse Vig	Coastal	Ertebølle	P	This study
Vedbæk Fjord	Coastal	Ertebølle	1	This study
Vejle Kro	Coastal	Ertebølle	1	Price 2006
Vente	Coastal	Ertebølle	2	Mathiassen 1935, 141
Vestermosen at Vester Ulslev	Inland	Ertebølle	16	Mathiassen 1935, 141; Tranekjer pers. comm.
Estonia, eastern Baltic				
Akali	Inland	Narva	1	Jaanits 1959; This study
Kääpa	Inland	Narva	35	Jaanits 1965
Narva III	Estuary	Narva	P	Gurina 1967
Narva Joaorg	Estuary	Narva	6	Oras *et al.* 2017; this study
Zveisalas	Inland	Narva	1	Loze 1988
Germany, western Baltic				
Altfriesack	Inland	Ertebølle/Friesack-Boberg	1	Wetzel & Beran forthcoming
Baabe 2	Coastal	Ertebølle	2	Hirsch *et al.* 2007
Basedow 30	Inland	Ertebølle	1	Schuldt 1973
Feddersen Wurth LA 51	Coastal	Ertebølle	1	Bradtmöller 2008
Friesack 4	Inland	Friesack-Boberg	3	Kotula *et al.* 2015; Wetzel 2015; 2021
Grube-Brücke LA 66	Coastal	Ertebølle	1	This study
Grube-Rosenhof LA 58	Coastal	Ertebølle	14	Hartz 2011; this study
Hamburg-Boberg 15 and 15-east	Inland	Friesack-Boberg	9	This study
Kiel-Ellerbek LA 1	Coastal	Ertebølle	2	Schwabedissen 1994
Lietzow-Buddelin/Saiser 1	Coastal	Ertebølle	1	Terberger & Seiler 2004; Kotula 2009
Neustadt LA 156	Coastal	Ertebølle	14	Glykou 2016
Parow 4	Coastal	Ertebølle	1	Mertens & Schirren 2000
Rhinow 30	Inland	Ertebølle/Friesack-Boberg	1	Wetzel & Beran forthcoming
Schlamersdorf LA 05	Inland	Ertebølle	1	Meyer pers. comm.
Siggeneben Süd LA 12	Coastal	Ertebølle	4	Meurers-Balke 1983
Speichrow 10	Inland	Ertebølle/Friesack-Boberg	1	Wetzel 2021
Timmendorf-Nordmole I	Coastal	Ertebølle	1	Lübke 2000
Wangels LA 505	Coastal	Ertebølle	16	Hartz 2011; this study

Site name	*Location*	*Culture/ware*	*No. sherds*	*Reference*
		Latvia, eastern Baltic		
Abora I	Inland	Late Subneolithic Narva/Porous Ware	P	Loze & Eberhards 2015
Bērzpils Osas	Inland	Narva	P	This study
Dviete	Inland	Narva	P	This study
Ičа	Inland	Narva	P	Kriiska *et al.* 2017
Osa	Inland	Narva	P	Dumpe *et al.* 2011
Sārnate (Užavas Sārnates)	Estuarine/ Lagoonal	Narva	16	Vankina 1970; Bērziņš 2008; this study
Zvidze	Inland	Narva	40	Loze 1988; 1992
		Lithuania, eastern Baltic		
Daktariškė 5	Inland	Porous Ware	2	This study
Kretuonas 1B	Inland	Narva	16	Brazaitis 2002; Piezonka 2015
Nida	Estuarine/ Lagoonal	Rzucewo	100	Rimantienė 1989; 2016; Piličiauskas & Heron 2015
Šventoji 1	Estuarine/ Lagoonal	Late Subneolithic Narva/Porous Ware	16	Rimantienė 2005
Šventoji 2/4	Estuarine/ Lagoonal	Late Subneolithic Narva/Porous Ware	33	Rimantienė 2005
Šventoji 23	Estuarine/ Lagoonal	Late Subneolithic Narva/Porous Ware	114	Rimantienė 2005
Šventoji 3	Estuarine/ Lagoonal	Late Subneolithic Narva/Porous Ware	41	Rimantienė 2005
Šventoji 5	Estuarine/ Lagoonal	Late Subneolithic Narva/Porous Ware	1	Rimantienė 2005
Šventoji 6	Estuarine/ Lagoonal	Late Subneolithic Narva/Porous Ware	15	Rimantienė 2005
Žemaitiškė 1	Inland	Narva	P	Girininkas & Daugnora 2015
Žemaitiškė 3	Inland	Narva	P	Piezonka 2015
		Poland, western/eastern Baltic		
Dąbki 9	Inland	Late Mesolithic ceramic phase	87	Ilkiewicz 1989; Kotula 2015
Koszalin-Dzierżęcino 7	Inland	Ertebølle	P	Ilkiewicz 1997
Rewa	Coastal	Rzucewo	1	Felczak 1983
Rzucewo	Coastal	Rzucewo	P	Kabacinski *et al.* 2011
Suchacz	Coastal	Rzucewo	P	Ehrlich 1936
Swęty Kamień (Wieck-Luisenthal)	Coastal	Corded Ware	1	Gaerte 1927, 200; Mathiassen 1935, 148
Szczepanki 8	Inland	Brześć Kujawski Group	1	Gumiński 2011
Tanowo 3	Inland	Ertebølle	P	Nowak 2010, 457; Galinski 2012
Tolkmicko	Coastal	Rzucewo	P	Kilian 1955, 22
Wełcz Wielki 10B	Inland	Funnel Beaker	1	Kukawka 1997; 2010
Kaliningrad Oblast, Russian Federation, eastern Baltic				
Pribrezhnoye	Coastal	Rzucewo	P	Saltsman 2013, 14, 24
Ushakovo 3	Inland	Rzucewo	P	Saltsman 2016
Zedmar A	Inland	Zedmar	P	Gaerte 1927; Saltsman 2013, 25
		Sweden, western Baltic		
Hagestad	Inland	Ertebølle	1	Hulthén 1977
Löddesborg	Coastal	Ertebølle	1	Jennbert 1984
Soldattorpet	Coastal	Ertebølle	3	Kjellmark 1903, 89, 95, 104; Mathiassen 1935, 147; Stilborg & Holm 2010, 336
Vik	Coastal	Ertebølle	3	Hulthén 1977, 23

Key: P = present

TABLE S2: PUBLISHED RADIOCARBON DATES OBTAINED DIRECTLY FROM OVAL BOWLS THROUGHOUT THE CIRCUM-BALTIC REGION

Site name	*Location*	*Culture/ware*	*Sample type*	*Lab no.*	*Radiocarbon age (BP)*	δ^{13}*C (‰)* ± 1σ	*Reference*
Denmark							
Nøddekonge	Inland	Ertebølle	Exterior sooted deposit	Ka-6612	5320±80	–29	Fischer 2002
Åkonge	Inland	Ertebølle	Interior foodcrust	AAR-2678/ Ka-6611	5260±70	–32.5	Fischer 2002
Germany							
Friesack 4	Inland	Friesack-Boberg	Interior foodcrust	AAR-15047	5640±26	–32.6±0.1	Kotula *et al.* 2015a; 2015b
Friesack 4	Inland	Friesack-Boberg	Interior foodcrust	AAR-18760	5737±30	–29.7±0.1	Kotula *et al.* 2015a; 2015b
Friesack 4	Inland	Friesack-Boberg	Interior foodcrust	AAR-22211	5758±29	–28.3±0.2*	Wetzel & Beran forthcoming
Grube-Rosenhof LA 58	Coastal	Ertebølle	Interior foodcrust	UtC-5852	5530±50	–20.6	Hartz 2011
Siggeneben Süd LA 12	Inland	Ertebølle	Interior foodcrust	UtC-5857	5166±40	–21.3	Hartz 2011
Timmendorf-Nordmole I	Coastal	Ertebølle	Interior foodcrust	KIA-9500	5791±39	–19.8	Lübke pers. comm.
Wangels LA 505	Inland	Ertebølle	Interior foodcrust	KIA-6995	6140±35	–17.7	Hartz 2011
Wangels LA 505	Inland	Ertebølle	Interior foodcrust	KIA-6997	5510±54	–19.1	Hartz & Lübke 2006; Hartz 2011
Wangels LA 505	Inland	Ertebølle	Interior foodcrust	KIA-6998	5505±36	–20.2	Hartz & Lübke 2006; Hartz 2011
Wangels LA 505	Inland	Ertebølle	Interior foodcrust	KIA-4220	5390±40	–20.7	Hartz & Lübke 2006; Hartz 2011
Poland							
Dąbki 9	Inland	Mesolithic	Interior foodcrust	Poz-10438	5750±40		Kotula 2015
Dąbki 9	Inland	Mesolithic	Interior foodcrust	Poz-18651	5560±35		Kabaciński & Terberger 2011

Key: *, δ^{15}N value also obtained (12.2‰)

TABLE S3: BULK δ13C AND δ15N STABLE ISOTOPE DATA OBTAINED FROM CARBONISED SURFACE DEPOSITS ADHERING TO OVAL BOWLS FROM THE CIRCUM-BALTIC REGION AND STONE LAMPS FROM NORTH AMERICA ACQUIRED IN THIS STUDY

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C$ (‰)*	*%C*	*$\delta^{15}N$ (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
				Acceptable data							
				Oval bowls							
Dąbki 9	Inland	Late Mesolithic	Dą.2ea+b	Exterior sooted deposit	–30.0	25.0	11.0	1.3	22.4	York	1
Dąbki 9	Inland	Late Mesolithic	Dą.2ia+b	Interior foodcrust	–30.2	44.5	7.8	2.4	21.6	York	1
Dąbki 9	Inland	Late Mesolithic	D-2-Ia+b	Interior foodcrust	–25.5	49.6	11.9	7.9	7.4	Bradford	1
Dąbki 9	Inland	Late Mesolithic	D-4-Ia+b	Interior foodcrust	–26.5	30.1	8.0	2.8	12.5	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-7-Ia+b	Interior foodcrust	–30.9	49.1	9.5	3.3	17.5	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-9-Ia+b	Interior foodcrust	–27.1	42.9	11.0	5.4	9.3	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-10-Ia+b	Interior foodcrust	–28.8	43.9	5.8	1.8	28.3	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-11-Ia+b	Interior foodcrust	–23.8	57.4	9.0	10.2	6.5	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-12-Ia+b	Interior foodcrust	–30.6	59.5	10.1	3.7	18.8	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-13-Ia+b	Interior foodcrust	–31.3	39.5	9.2	1.8	25.8	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-14-Ia+b	Interior foodcrust	–27.5	46.1	8.3	3.7	14.5	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-15-Ia+b	Interior foodcrust	–33.2	36.5	7.7	2.0	21.6	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D-16-Ia+b	Interior foodcrust	–30.7	60.3	9.5	3.2	22.2	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic–Funnel Beaker	D-18-Ia+b	Interior foodcrust	–29.9	18.3	9.9	1.2	17.6	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic–Funnel Beaker	D-19-Ia+b	Interior foodcrust	–27.0	19.4	7.0	1.3	17.2	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	D9-EBK-45-Ea-c	Exterior sooted deposit	–28.5	15.2	8.8	1.9	9.1	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9-EBK-45-Ia-c	Interior foodcrust	–28.7	39.6	9.6	5.3	8.7	York	n/a
Flynderhage	Coastal	Ertebølle	FL-1-Ea+b	Exterior sooted deposit	–21.2	15.2	0.9	1.1	16.9	York	0
Friesack 4	Inland	Friesack–Boberg	excav. 1981; Tr C; H8; Layer 4	Interior foodcrust	–28.3	48.5	12.2	7.0	8.1	Aarhus	n/a
Friesack 4	Inland	Friesack–Boberg	FR-1-Ea+b	Exterior sooted deposit	–29.2	49.6	10.8	6.4	9.1	York	n/a
Friesack 4	Inland	Friesack–Boberg	FR-1-Ia+b	Interior foodcrust	–29.0	42.6	9.1	6.4	7.8	York	n/a
Friesack 4	Inland	Friesack–Boberg	FR-2-Ea-d	Exterior sooted deposit	–33.3	53.6	7.9	1.7	38.6	York	n/a
Friesack 4	Inland	Friesack–Boberg	FR-2-Ia+b	Interior foodcrust	–28.9	52.0	11.8	8.2	7.4	York	n/a
Friesack 4	Inland	Friesack–Boberg	FR-4-Ea+b	Exterior sooted deposit	–29.0	27.0	9.2	3.2	9.7	York	n/a

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-3-Ea-d	Exterior sooted deposit	–19.8	21.1	4.9	1.7	14.7	York	n/a
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-4-Ea+b	Exterior sooted deposit	–22.0	27.6	6.2	1.0	31.8	York	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-5-Ea+b	Exterior sooted deposit	–19.9	39.9	7.0	1.2	39.4	York	n/a
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-6-Ea-d	Exterior sooted deposit	–20.4	53.4	6.9	2.4	26.6	York	n/a
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-9-Ea+b	Exterior sooted deposit	–20.3	49.1	9.2	2.3	25.3	York	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-11-Ea-d	Exterior sooted deposit	–20.4	51.3	7.2	2.5	24.5	York	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-12-Ea-d	Exterior sooted deposit	–20.4	50.2	8.2	2.4	24.9	York	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-13-E/Ia-d	Interior foodcrust	–20.4	50.8	7.7	2.5	24.7	York	n/a
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-14-E/Ia-d	Interior foodcrust	–20.5	29.7	4.2	1.5	23.9	York	n/a
Hamburg Boberg 15	Inland	Friesack–Boberg	HB-1-Ea+b	Exterior sooted deposit	–32.3	33.1	0.5	12.7	11.4	York	n/a
Ič̌a	Inland	Narva	ICA 798-F	Interior foodcrust	–31.7	30.7	9.8	3.4	10.6	Bradford	1
Ič̌a	Inland	Narva	ICA 799-F	Interior foodcrust	–30.5	29.2	9.6	2.3	15.0	Bradford	1
Ič̌a	Inland	Narva	ICA 803-F	Interior foodcrust	–31.0	21.0	8.5	1.6	15.4	Bradford	1
Kääpa*	Inland	Narva	EO35	Interior foodcrust	–31.6	20.5	10.1	1.8	13.7	Tartu	1
Kääpa*	Inland	Narva	EO45	Interior foodcrust	–32.2	32.5	10.5	2.2	16.9	Tartu	1
Kääpa*	Inland	Narva	EO51	Interior foodcrust	–30.1	20.9	8.5	1.0	24.4	Tartu	1
Kääpa*	Inland	Narva	EO53	Interior foodcrust	–31.1	26.7	9.5	1.6	20.6	Tartu	1
Kääpa*	Inland	Narva	EO55	Interior foodcrust	–30.6	23.8	9.0	1.3	22.5	Tartu	1
Kiel-Ellerbek LA 1	Inland	Ertebølle	EK-1-I/Ea-d	Interior foodcrust	–30.7	40.3	8.9	3.3	14.4	York	n/a
Kiel-Ellerbek LA 1	Inland	Ertebølle	EK-2-Ea+b	Exterior sooted deposit	–22.7	14.7	0.4	1.1	15.1	York	n/a
Osa	Inland	Narva	OSA 807-F	Interior foodcrust	–33.4	51.9	9.8	5.8	10.4	Bradford	1
Osa	Inland	Narva	OSA 821-F	Interior foodcrust	–32.2	44.7	9.6	4.7	11.0	Bradford	1
Ringkloster	Inland	Ertebølle	RI-2Eiia+b; RI-2Eiiia+b	Exterior sooted deposit	–24.9	55.8	6.4	1.7	37.5	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-1-Ea+b	Exterior sooted deposit	–17.3	28.7	0.6	1.0	32.7	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-2-Ea+b	Exterior sooted deposit	–22.2	34.1	7.4	3.0	13.1	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-3-Ea+b	Exterior sooted deposit	–18.3	32.6	4.4	1.3	29.4	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-4-Ia-d	Interior foodcrust	–24.2	15.1	4.9	1.3	13.7	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-5-Ea+b	Exterior sooted deposit	–16.3	43.1	5.1	1.0	48.0	York	1
Ronæs Skov	Coastal	Ertebølle	RO-6-Ea+b	Exterior sooted deposit	–19.7	47.0	7.4	3.1	17.8	York	1
Ronæs Skov	Coastal	Ertebølle	RO-6-Ia+b	Interior foodcrust	–19.7	50.4	6.8	2.6	22.5	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-8-Ea+b	Exterior sooted deposit	–17.6	34.2	3.8	1.0	38.2	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-10-Ea+b	Exterior sooted deposit	–14.1	10.1	7.5	1.0	11.7	York	n/a

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Siggeneben Süd LA 12	Coastal	Ertebølle	SS-1-Ea-d	Exterior sooted deposit	–20.9	33.1	2.1	1.2	32.7	York	n/a
Siggeneben Süd LA 12	Coastal	Ertebølle	SS-1-Ia-d	Interior foodcrust	–21.0	24.2	2.7	1.3	23.6	York	n/a
Siggeneben Süd LA 12	Coastal	Ertebølle	SS-2-Ia+b	Interior foodcrust	–20.4	27.4	3.6	1.0	31.9	York	n/a
Siggeneben Süd LA 12	Coastal	Ertebølle	SS-2-Ea+b	Exterior sooted deposit	–20.8	41.7	5.9	1.2	42.2	York	1
Šventoji 4	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-1-Ea+b	Exterior sooted deposit	–29.9	35.3	9.9	1.5	27.9	York	1
Šventoji 4	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-1-Ia+b	Interior foodcrust	–30.2	48.5	9.5	3.0	19.0	York	n/a
Šventoji 4	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-2-Ia+b	Interior foodcrust	–29.0	27.0	6.4	1.7	18.5	York	n/a
Šventoji 6	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-3-Ia+b	Interior foodcrust	–28.0	57.2	9.0	2.4	27.4	York	n/a
Šventoji 6	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-4-Ia+b	Interior foodcrust	–25.3	50.4	10.2	8.0	7.4	York	n/a
Šventoji 6	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-5-Ia+b	Interior foodcrust	–28.9	60.3	9.5	3.2	21.8	York	n/a
Šventoji 6	Estuarine /Lagoonal	Narva/ Porous Ware	SV-6-Ia+b	Interior foodcrust	–30.3	56.4	7.8	2.7	24.6	York	n/a
Šventoji 6	Estuarine/ Lagoonal	Narva/ Porous Ware	SV-7-Ia+b	Interior foodcrust	–29.2	56.5	8.3	2.6	25.2	York	1
Syltholm II	Coastal	Ertebølle	MLF906-1X11033a+b	Exterior sooted deposit	–19.8	24.4	10.6	3.8	7.5	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X4726a+b	Exterior sooted deposit	–18.3	37.0	9.2	2.2	19.6	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X37 P144a+b	Interior foodcrust	–25.7	30.3	5.7	4.0	8.9	Bradford	n/a
Wangels LA 505	Coastal	Ertebølle	W-4-Ea+b	Exterior sooted deposit	–21.5	38.4	0.6	1.0	42.9	York	1
Wangels LA 505	Coastal	Ertebølle	W-9-Ea+b	Exterior sooted deposit	–19.4	17.6	4.3	1.3	15.3	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-9-Ia-d	Interior foodcrust	–19.8	24.2	6.4	2.9	9.7	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-11-Ea+b	Exterior sooted deposit	–19.6	17.3	3.2	1.2	16.7	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-12-Ea+b	Exterior sooted deposit	–20.7	18.4	3.0	1.0	20.9	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-13-Ea+b	Exterior sooted deposit	–20.8	27.6	4.9	1.8	17.5	York	n/a

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ13C (‰)*	*%C*	*δ15N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Zvidze	Inland	Narva	ZVID 765-F	Interior foodcrust	–32.7	29.1	8.4	2.4	14.0	Bradford	1
Zvidze	Inland	Narva	ZVID 768-F	Interior foodcrust	–31.5	45.8	8.1	5.4	9.8	Bradford	1
Zvidze	Inland	Narva	ZVID 773-F	Interior foodcrust	–30.3	43.1	8.5	6.4	7.9	Bradford	1
Zvidze	Inland	Narva	ZVID 774-F	Interior foodcrust	–33.2	63.6	9.4	5.9	12.6	Bradford	1
Zvidze	Inland	Narva	ZVID 796-F	Interior foodcrust	–31.4	58.6	9.3	8.0	8.5	Bradford	1
Stone lamps											
Amaknak Island	Coastal	Late Aleutian	ARI-1a+b	Interior foodcrust	–25.9	36.0	17.3	1.6	25.8	York	1
Atka Island	Coastal	Late Aleutian	AI-1a+b	Interior foodcrust	–23.9	46.0	14.9	4.0	13.6	York	1
Uyak Bay	Coastal	Late Aleutian	UB-1a+b	Interior foodcrust	–24.6	37.9	16.2	1.3	34.1	York	1
Uyak Bay	Coastal	Late Aleutian	UB-2a+b	Interior foodcrust	–24.7	60.1	13.5	1.9	36.6	York	1
Discarded data											
Oval bowls											
Dąbki 9	Inland	Late Mesolithic	D-3-Ia-d	Interior foodcrust	–26.2	9.3	9.6	1.5	7.3	Bradford	n/a
Hamburg Boberg 15	Inland	Friesack–Boberg	HB-1-Ea+b	Exterior sooted deposit	–30.3	10.9	2.8	0.5	23.4	York	n/a
Kiel-Ellerbek LA 1	Coastal	Ertebølle	EK-2-Ea+b	Exterior sooted deposit	–21.5	13.8	6.9	0.4	36.5	York	n/a
Ringkloster	Inland	Ertebølle	RI-2Eia+b	Exterior sooted deposit	–24.0	22.2	4.5	0.8	34.5	York	1
Ronæs Skov	Coastal	Ertebølle	RO-1-Ea+b	Exterior sooted deposit	–16.9	32.6	4.0	0.7	51.9	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-3-Ea+b	Exterior sooted deposit	–18.0	32.9	7.6	0.9	43.4	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-7-Ea-d	Exterior sooted deposit	–18.8	21.3	4.3	0.7	36.3	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-8-Ea+b	Exterior sooted deposit	–17.5	29.8	4.8	0.7	52.4	York	n/a
Ronæs Skov	Coastal	Ertebølle	RO-10-Ea+b	Exterior sooted deposit	–14.5	9.8	6.2	1.2	9.3	York	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X11841Outa+b	Exterior sooted deposit	–19.2	18.1	6.9	0.4	49.2	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X11841Ina+b	Interior foodcrust	–19.2	37.9	6.4	0.9	47.7	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X4132a+b	Interior foodcrust	–20.7	5.3	3.8	0.3	19.2	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X5340 P234a+b	Interior foodcrust	–26.1	26.3	4.0	0.7	45.9	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X11837 P235a+b	Interior foodcrust	–19.0	37.2	6.7	0.7	68.0	Bradford	n/a

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Syltholm II	Coastal	Ertebølle	MLF906-1X11837 P236a+b	Interior foodcrust	–17.9	50.7	9.0	0.8	78.9	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X9044a+b	Interior foodcrust	–22.8	2.2	5.5	0.2	16.3	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X37a+b	Interior foodcrust	–26.2	7.8	5.5	1.0	9.5	Bradford	n/a
Wangels LA 505	Coastal	Ertebølle	W-3-Ea-d	Exterior sooted deposit	–20.5	31.1	0.5	0.8	49.8	York	1
Wangels LA 505	Coastal	Ertebølle	W-8-Ia-d	Interior foodcrust	–21.3	9.5	-9.2	0.8	13.0	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-8-Ea-d	Exterior sooted deposit	–21.8	26.5	-2.4	1.6	18.9	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-10-Ea+b	Exterior sooted deposit	–19.7	12.6	0.4	0.6	22.3	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-10-Ia+b	Interior foodcrust	–20.3	8.8	-7.7	0.7	13.9	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-14-Ea+b	Exterior sooted deposit	–21.3	21.2	-2.7	1.1	23.3	York	n/a
Wangels LA 505	Coastal	Ertebølle	W-14-Ia+b	Interior foodcrust	–22.2	19.6	-2.1	1.3	18.2	York	n/a
Stone lamps											
Atka Island	Coastal	Late Aleutian	AI-2a+b	Interior foodcrust	–24.5	4.2	6.7	0.2	21.6	York	1

Key: 1, aquatic biomarkers present; 0, aquatic biomarkers absent; n/a, aquatic biomarkers unknown; *, some data previously reported by Oras *et al*. (2017). The discarded data were deemed unreliable as they either had %C <10 or %N <1.

TABLE S4: PUBLISHED BULK δ13C & δ15N STABLE ISOTOPE DATA OBTAINED FROM CARBONISED SURFACE DEPOSITS ADHERING TO OVAL BOWLS FROM THE CIRCUM-BALTIC REGION AS WELL AS OVAL PLATES & STONE LAMPS FROM NORTH AMERICA

Site	*Location*	*Culture*	*Sample code*	*Sample type*	*$\delta^{13}C$ (‰)*	*%C*	*$\delta^{15}N$ (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*	*Reference*
Acceptable data												
Ceramic oval bowls												
Kääpa	Inland	Narva	EO33	Interior foodcrust	–30.9	28.8	12.1	3.5	9.6	York	0	Oras *et al.* 2017
Kääpa	Inland	Narva	EO36	Exterior sooted deposit	–32.8	44.5	10.8	2.6	20.0	York	1	Oras *et al.* 2017
Kääpa	Inland	Narva	EO56	Exterior sooted deposit	–32.8	52.9	11.0	5.0	12.3	York	1	Oras *et al.* 2017
Kääpa	Inland	Narva	EO92	Exterior sooted deposit	–31.5	23.2	9.3	3.3	8.3	York	n/a	Oras *et al.* 2017
Kääpa	Inland	Narva	Kä-2007/70	Interior foodcrust	–29.2	57.6	10.7	8.3	8.1	Bradford	n/a	Piezonka *et al.* 2016
Neustadt LA 156	Coastal	Ertebølle	N1009sa	Exterior sooted deposit	–18.1	53.0	9.0	4.0	15.5	Bradford	1	Craig *et al.* 2011; Heron *et al.* 2013
Neustadt LA 156	Coastal	Ertebølle	N1682sa	Exterior sooted deposit	–22.8	27.0	11.0	1.2	26.3	Bradford	n/a	Heron *et al.* 2013
Nida	Estuarine/ Lagoonal	Rzucewo Ware	2/10A; EM 2243:2949	Interior foodcrust	–33.2	27.6	11.0	2.2	14.8	Bradford	n/a	Heron *et al.* 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	5/6A; em 2243:6121	Interior foodcrust	–33.5	46.2	12.0	3.9	14.0	Bradford	n/a	Heron *et al.* 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L12f	Interior foodcrust	–32.8	56.5	10.2	2.8	23.6	Bradford	1	Heron *et al.* 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L12s	Exterior sooted deposit	–33.1	31.9	11.6	1.0	35.7	Bradford	n/a	Heron *et al.* 2015
Sventoji 4	Estuarine/ Lagoonal	Narva	Prk2/115	Interior foodcrust	–31.7	52.9	11.2	3.8	20.0	Bradford	n/a	Heron *et al.* 2015

Site	*Location*	*Culture*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*	*Reference*
Sventoji 6	Estuarine/ Lagoonal	Narva	31g	Interior foodcrust	–29.5	119.5	9.9	5.0	29.6	Bradford	n/a	Heron *et al*. 2015
Teglgård-Helligkilde	Coastal	Ertebølle	TH1fa-d	Interior foodcrust	–18.9	31.7	10.2	1.2	32.2	Bradford / York	1	Craig *et al*. 2011; Heron *et al*. 2013; Robson 2015
Oval plates												
Kame Hills	Inland	Terminal Woodland	MAT1	Interior foodcrust	–32.9		10.5		14.8	Guelph	n/a	Sherriff *et al*. 1995
Kame Hills	Inland	Terminal Woodland	MAT6	Interior foodcrust	–32.2		11.4		12.6	Guelph	n/a	Sherriff *et al*. 1995
Kame Hills	Inland	Terminal Woodland	MAT7	Interior foodcrust	–30.7		10.6		13.4	Guelph	n/a	Sherriff *et al*. 1995
Kame Hills	Inland	Terminal Woodland	MAT8	Exterior sooted deposit	–31.6		8.7			Guelph	n/a	Sherriff *et al*. 1995
Kame Hills	Inland	Terminal Woodland	MAT9	Interior foodcrust	–32.5		9.7		25.5	Guelph	n/a	Sherriff *et al*. 1995
Kame Hills	Inland	Terminal Woodland	MAT10	Exterior sooted deposit	–33.3		8.8		40.4	Guelph	n/a	Sherriff *et al*. 1995
Kame Hills	Inland	Terminal Woodland	MAT11	Interior foodcrust	–26.8		11.9		8.2	Guelph	n/a	Sherriff *et al*. 1995
Stone lamps												
Oiled Blade (UNL-318)	Coastal	Early Anangula	UNL318-48	Interior foodcrust	–23.9	37.5	11.9	2.2	19.7	York	1	Admiraal *et al.* 2018
Oiled Blade (UNL-318)	Coastal	Early Anangula	UNL318-49	Interior foodcrust	–23.7	38.2	12.3	1.3	34.8	York	1	Admiraal *et al.* 2018
Tanaxtaxak (UNL-55)	Coastal	Margaret Bay phase	UNL55-42	Interior foodcrust	–24.6	56.3	14.0	3.4	19.4	York	1	Admiraal *et al.* 2018
Discarded data												
Ceramic oval bowls												
Neustadt LA 156	Coastal	Ertebølle	N2285fa	Interior foodcrust	–23.4	10.0	8.5	0.6	19.4	Bradford	0	Craig *et al*. 2011; Heron *et al*. 2013

Key: 1. aquatic biomarkers present; 0. aquatic biomarkers absent; n/a, aquatic biomarkers unknown. The discarded data were deemed unreliable as they either had %C <10 or %N <1

TABLE S5: BULK δ^{13}C & δ^{15}N STABLE ISOTOPE DATA OBTAINED FROM CARBONISED SURFACE DEPOSITS ADHERING TO CONTEMPORANEOUS COOKING VESSELS FROM THE CIRCUM-BALTIC REGION ACQUIRED IN THIS STUDY

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ^{13}C (‰)*	*%C*	*δ^{15}N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Acceptable data											
Åkonge	Inland	Ertebølle	KML 50.0/75.5:8sa+b	Exterior sooted deposit	–27.2	47.0	10.7	10.8	10.4	Bradford	n/a
Åkonge	Inland	Ertebølle	KML 50.5/78.5:2sa+b	Exterior sooted deposit	–27.0	46.8	11.1	4.1	13.3	Bradford	n/a
Dąbki 9	Inland	Late Mesolithic	Dą.1ia+b	Interior foodcrust	–26.4	28.9	9.7	4.3	7.9	York	0
Dąbki 9	Inland	Late Mesolithic	Dą.1ea+b	Exterior sooted deposit	–26.7	64.7	10.1	5.7	13.3	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_01_Ia+b	Interior foodcrust	–26.0	45.9	4.3	3.8	14.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_02_Ia+b	Interior foodcrust	–26.5	51.8	3.7	4.2	14.5	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_02_Ea+b	Exterior sooted deposit	–25.7	44.8	7.4	4.2	12.4	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_03a_Ia+b; D9_EBK_03b_Ia+b	Interior foodcrust	–26.5	38.9	6.7	5.0	9.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_03b_Ea+b	Exterior sooted deposit	–25.6	29.2	10.3	2.6	13.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_04_Ia+b	Interior foodcrust	–27.2	47.1	7.7	5.2	10.6	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_04_Ea+b	Exterior sooted deposit	–25.5	30.1	8.6	3.8	9.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_05_Ia+b	Interior foodcrust	–27.1	45.4	6.3	4.8	11.1	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_06_Ia+b	Interior foodcrust	–27.8	47.5	6.8	2.1	27.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_07_Ia+b	Interior foodcrust	–26.3	45.4	3.6	4.4	12.1	York	0
Dąbki 9	Inland	Late Mesolithic	D9_EBK_08_Ia+b	Interior foodcrust	–26.6	46.3	6.4	5.4	10.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_09_Ia+b	Interior foodcrust	–27.2	29.3	6.4	4.2	8.1	York	0
Dąbki 9	Inland	Late Mesolithic	D9_EBK_10_Ia+b	Interior foodcrust	–27.0	51.6	4.0	4.3	14.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_11_Ia+b	Interior foodcrust	–26.7	50.8	6.0	4.9	12.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_11_Ea+b	Exterior sooted deposit	–26.0	51.2	9.1	3.9	15.4	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_12_Ia+b	Interior foodcrust	–26.9	39.2	4.2	3.8	12.0	York	n/a

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ13C (‰)*	*%C*	*δ15N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Dąbki 9	Inland	Late Mesolithic	D9_EBK_12_Ea+b	Exterior sooted deposit	–25.5	29.4	8.6	1.2	27.7	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_13_Ia+b	Interior foodcrust	–27.1	49.2	4.1	4.0	14.3	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_14_Ia+b	Interior foodcrust	–27.2	54.9	6.4	5.0	12.8	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_15_Ia+b	Interior foodcrust	–26.8	52.1	6.3	5.4	11.3	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_16_Ia+b	Interior foodcrust	–26.3	29.3	5.2	3.8	9.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_17_Ia+b	Interior foodcrust	–25.7	47.5	7.4	5.8	9.5	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_19_Ia+b	Interior foodcrust	–26.4	26.6	8.0	3.8	8.1	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_19_Ea+b	Exterior sooted deposit	–26.3	47.9	9.9	4.5	12.3	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_20_Ia+b	Interior foodcrust	–27.6	36.5	7.8	4.0	10.8	York	0
Dąbki 9	Inland	Late Mesolithic	D9_EBK_21_Ia+b	Interior foodcrust	–27.1	39.9	8.2	6.1	7.7	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_22_Ia+b	Interior foodcrust	–26.5	29.8	5.5	3.2	11.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_23_Ia+b	Interior foodcrust	–27.1	38.2	6.2	6.3	7.1	York	0
Dąbki 9	Inland	Late Mesolithic	D9_EBK_23_Ea+b	Exterior sooted deposit	–26.1	46.6	8.9	3.0	18.4	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_24_Iaa+b; D9_EBK_24_Iba+b; D9_EBK_24_Ica+b	Interior foodcrust	–26.5	37.1	6.8	3.5	12.3	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_24_Eaa+b; D9_EBK_24_Eba+b	Exterior sooted deposit	–26.8	41.8	10.1	3.0	16.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_25_Ia+b	Interior foodcrust	–27.4	56.5	3.7	4.4	15.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_26_Ia+b	Interior foodcrust	–26.9	53.4	5.5	4.8	13.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_27_Ia+b	Interior foodcrust	–26.6	51.6	3.1	4.5	13.3	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_28_Ia+b	Interior foodcrust	–22.1	43.7	11.8	11.6	4.4	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_29_Ia+b	Interior foodcrust	–24.6	31.6	7.8	4.9	7.5	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_30_Ia+b	Interior foodcrust	–26.3	39.6	8.8	5.4	8.5	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_30_Ea+b	Exterior sooted deposit	–25.6	36.1	9.4	4.2	10.1	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_31_Iaa+b; D9_EBK_31_Iba+b	Interior foodcrust	–26.8	42.8	4.3	3.4	14.6	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_31_Ea+b	Exterior sooted deposit	–26.0	27.5	5.2	2.2	14.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_32_Ia+b	Interior foodcrust	–27.2	47.4	6.8	5.8	9.6	York	1

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Dąbki 9	Inland	Late Mesolithic	D9_EBK_33_Ia+b	Interior foodcrust	–27.3	28.7	6.2	3.6	9.2	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_33_Ea+b	Exterior sooted deposit	–25.9	30.3	10.1	2.3	15.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_34_Ia+b	Interior foodcrust	–27.1	38.5	7.2	4.8	9.3	York	0
Dąbki 9	Inland	Late Mesolithic	D9_EBK_35_Ia+b	Interior foodcrust	–26.8	45.9	2.1	5.9	9.1	York	1
Dąbki 9	Inland	Late Mesolithic	D9_EBK_36_Ia+b	Interior foodcrust	–28.2	45.8	8.1	4.5	11.9	York	0
Dąbki 9	Inland	Late Mesolithic	D9_EBK_36_Ea+b	Exterior sooted deposit	–26.2	38.4	9.5	2.6	17.4	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_37_Ia+b	Interior foodcrust	–25.2	22.8	9.4	3.6	7.4	York	0
Dąbki 9	Inland	Late Mesolithic	D9_02_Ia+b	Interior foodcrust	–27.1	38.0	6.6	5.3	8.3	York	0
Dąbki 9	Inland	Late Mesolithic	D9_02_Ea+b	Exterior sooted deposit	–26.2	33.0	8.6	2.6	15.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_03_Ia+b	Interior foodcrust	–27.9	43.0	7.7	7.1	7.0	York	1
Dąbki 9	Inland	Late Mesolithic	D9_03_Ea+b	Exterior sooted deposit	–26.0	41.5	11.2	2.8	17.4	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_04_Ia+b	Interior foodcrust	–25.7	42.7	7.4	7.5	6.7	York	1
Dąbki 9	Inland	Late Mesolithic	D9_05_Ia+b	Interior foodcrust	–26.0	37.7	6.7	5.8	7.5	York	1
Dąbki 9	Inland	Late Mesolithic	D9_05_Ea+b	Exterior sooted deposit	–24.9	27.8	7.1	1.9	17.3	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_06_Ia+b	Interior foodcrust	–27.2	50.9	5.3	5.0	11.8	York	1
Dąbki 9	Inland	Late Mesolithic	D9_07_Ia+b	Interior foodcrust	–26.5	39.6	4.4	3.4	13.7	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_08_Ia+b	Interior foodcrust	–27.2	52.4	6.0	6.1	10.1	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_09_Ia+b	Interior foodcrust	–27.7	35.8	8.5	4.3	9.7	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_10_Ia+b	Interior foodcrust	–27.9	42.6	7.6	8.1	6.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_10_Ea+b	Exterior sooted deposit	–26.4	52.8	10.7	3.9	16.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_11_Ea+b	Exterior sooted deposit	–24.5	28.6	10.5	4.4	7.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_12_Ia+b	Interior foodcrust	–26.4	34.1	6.7	5.6	7.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_12_Ea+b	Exterior sooted deposit	–24.7	48.2	8.6	6.9	8.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_13_Ia+b	Interior foodcrust	–26.6	30.0	6.6	5.2	6.8	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_14_Ia+b	Interior foodcrust	–27.8	47.4	6.4	6.3	8.8	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_15_Ia+b	Interior foodcrust	–27.6	55.1	6.4	6.0	10.8	York	n/a

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Dąbki 9	Inland	Late Mesolithic	D9_16_Ia+b	Interior foodcrust	–27.8	45.6	7.2	7.7	7.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_16_Ea+b	Exterior sooted deposit	–26.1	26.7	9.4	1.6	19.7	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_17_Ia+b	Interior foodcrust	–28.2	57.6	7.1	3.7	18.3	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_18_Ia+b	Interior foodcrust	–26.3	31.5	7.2	5.7	6.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_19_Ia+b	Interior foodcrust	–26.4	27.3	6.9	5.2	6.1	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_20_Ia+b	Interior foodcrust	–28.0	44.2	7.5	7.0	7.4	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_20_Ea+b	Exterior sooted deposit	–26.1	27.7	9.8	2.0	16.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_21_Ia+b	Interior foodcrust	–26.3	40.1	8.3	4.1	11.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_22_Ia+b	Interior foodcrust	–27.6	31.8	6.9	4.0	9.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_23_Ia+b	Interior foodcrust	–27.4	31.0	6.8	3.9	9.3	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_24_Ia+b	Interior foodcrust	–25.8	33.3	9.3	4.0	9.8	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_25_Ia+b	Interior foodcrust	–26.6	41.1	10.2	5.4	9.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_25_Ea+b	Exterior sooted deposit	–26.5	22.0	10.0	1.8	14.6	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_26_Ia+b	Interior foodcrust	–26.2	22.3	7.0	3.4	7.6	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_27_Ia+b	Interior foodcrust	–26.8	11.9	6.5	1.6	8.7	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_27_Ea+b	Exterior sooted deposit	–26.0	30.5	9.8	2.4	14.8	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_28_Ia+b	Interior foodcrust	–26.2	20.8	3.2	1.8	13.2	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_29_Ia+b	Interior foodcrust	–27.2	49.0	4.9	4.9	11.8	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_38_Ia+b	Interior foodcrust	–26.5	43.0	8.4	7.7	6.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_39_Ia+b	Interior foodcrust	–27.5	16.1	6.7	1.9	9.9	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_40_Iaa+b; D9_EBK_40_Iba+b; D9_EBK_40_Ica+b	Interior foodcrust	–31.4	36.2	0.4	3.6	11.5	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_40_Ea+b	Exterior sooted deposit	–26.4	45.9	8.4	4.1	13.0	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_41_Ia+b	Interior foodcrust	–26.9	46.1	4.8	3.7	14.7	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_42_Ia+b	Interior foodcrust	–26.9	36.6	5.5	4.7	9.1	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_43_Ia+b	Interior foodcrust	–25.7	30.8	3.6	1.7	20.8	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_EBK_44_Ia+b	Interior foodcrust	–26.9	46.2	5.8	5.8	9.3	York	n/a

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ13C (‰)*	*%C*	*δ15N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Daktariškė 5	Inland	Narva	DAK 945.F	Interior foodcrust	–27.3	57.7	8.4	8.4	8.0	Bradford	1
Daktariškė 5	Inland	Narva	DAK 946.F	Interior foodcrust	–27.9	60.1	9.5	9.2	7.7	Bradford	1
Daktariškė 5	Inland	Narva	DAK 947.F	Interior foodcrust	–28.6	58.9	8.2	8.4	8.2	Bradford	1
Daktariškė 5	Inland	Narva	DAK 948.F	Interior foodcrust	–27.3	42.1	6.9	6.7	7.3	Bradford	0
Daktariškė 5	Inland	Narva	DAK 949.F	Interior foodcrust	–26.9	52.7	9.2	11.2	5.5	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	GR_EBK_Ia+b	Interior foodcrust	–24.0	38.9	11.7	4.1	11.1	York	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.42A-Fa+b	Interior foodcrust	–23.5	26.0	9.5	3.0	10.3	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.42B-Sa+b	Exterior sooted deposit	–24.9	48.3	12.3	2.3	24.6	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 841-Sa+b	Exterior sooted deposit	–25.7	52.8	12.1	3.9	15.8	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 842-Sa+b	Exterior sooted deposit	–24.9	50.0	13.8	4.4	13.3	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 843-Fa+b	Interior foodcrust	–26.1	13.2	7.9	1.4	11.1	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 844-Fa+b	Interior foodcrust	–26.2	45.5	9.7	2.8	19.3	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 844-Sa+b	Exterior sooted deposit	–25.6	28.3	6.6	3.3	10.0	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 854-Fa+b	Interior foodcrust	–24.6	60.3	7.6	3.9	18.2	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 855-Fa+b	Interior foodcrust	–24.5	27.7	7.6	2.6	12.7	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 859-Fa+b	Interior foodcrust	–27.3	37.4	9.8	1.9	22.7	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 860-Fa+b	Interior foodcrust	–25.2	43.3	6.6	3.0	16.8	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 864-Fa+b	Interior foodcrust	–24.2	48.5	7.0	3.1	18.1	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 870-Fa+b	Interior foodcrust	–26.0	22.8	7.6	3.0	8.8	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.15-Fa+b	Interior foodcrust	–24.1	14.6	6.4	1.0	16.4	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.17-Fa+b	Interior foodcrust	–26.9	21.3	6.2	2.4	10.4	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.19-Fa+b	Interior foodcrust	–25.6	38.5	7.5	5.9	7.6	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.25-Fa+b	Interior foodcrust	–24.3	41.1	7.9	4.0	12.1	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.26-Fa+b	Interior foodcrust	–25.7	38.1	3.4	1.5	30.0	Bradford	0
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.28-Fa+b	Interior foodcrust	–25.2	33.6	7.9	4.1	9.5	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.29-Fa+b	Interior foodcrust	–26.3	15.1	5.8	1.6	10.9	Bradford	n/a
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.29-Sa+b	Exterior sooted deposit	–25.2	15.4	9.2	1.4	13.2	Bradford	0

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.31A-Fa+b; ROS8.31B-Fa+b; ROS8.31C-Fa+b	Interior foodcrust	–24.2	34.7	7.0	3.4	11.2	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.33-Fa+b	Interior foodcrust	–23.6	43.1	8.2	3.8	13.2	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.33-Sa+b	Exterior sooted deposit	–24.1	42.5	9.1	3.2	15.6	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.34-Fa+b	Interior foodcrust	–25.6	50.3	10.4	4.2	14.0	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.35-Fa+b	Interior foodcrust	–25.5	32.8	6.6	2.6	14.9	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.36-Fa+b	Interior foodcrust	–21.7	38.0	7.8	3.0	15.0	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.37-Fa+b	Interior foodcrust	–25.2	31.5	8.2	3.7	10.0	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.38-Fa+b	Interior foodcrust	–22.7	30.7	8.3	3.7	9.8	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.39A-Fa+b	Interior foodcrust	–26.0	50.4	8.3	2.2	27.1	Bradford	1
Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.40A-Fa+b; ROS8.40B-Fa+b; ROS8.41C-Fa+b	Interior foodcrust	–25.4	41.4	9.8	3.6	14.6	Bradford	1
Hjarnø	Coastal	Ertebølle	H1-Ia+b	Interior foodcrust	–25.9	48.5	4.3	3.0	18.9	York	1
Hjarnø	Coastal	Ertebølle	H2-Ea+b	Exterior sooted deposit	–24.0	45.3	10.7	3.4	15.6	York	n/a
Hjarnø	Coastal	Ertebølle	H2-Ia+b	Interior foodcrust	–24.1	15.6	7.2	1.2	15.2	York	1
Hjarnø	Coastal	Ertebølle	H3-Ia+b	Interior foodcrust	–24.9	42.1	6.8	3.2	15.2	York	1
Iča	Inland	Narva	ICA 800-Fa+b	Interior foodcrust	–29.3	19.5	10.0	3.3	7.0	Bradford	1
Iča	Inland	Narva	ICA 802-Fa+b	Interior foodcrust	–30.1	36.7	9.7	5.9	7.3	Bradford	n/a
Kretuonas 1	Inland	Narva	KRET-964.F	Interior foodcrust	–28.8	16.9	9.4	2.0	9.7	Bradford	1
Margiai	Inland	Narva	968.F	Interior foodcrust	–34.2	46.4	10.7	4.4	12.4	Bradford	n/a
Osa	Inland	Narva	OSA 810-Fa+b	Interior foodcrust	–28.7	32.7	8.2	6.7	5.7	Bradford	n/a
Osa	Inland	Narva	OSA 811-Fa+b	Interior foodcrust	–33.4	49.0	8.4	6.5	8.9	Bradford	1
Osa	Inland	Narva	OSA 812-Fa+b	Interior foodcrust	–30.8	49.2	9.7	7.3	7.8	Bradford	1
Osa	Inland	Narva	OSA 813-Fa+b	Interior foodcrust	–32.8	49.1	9.9	5.8	9.9	Bradford	1
Osa	Inland	Narva	OSA 814-Fa+b	Interior foodcrust	–30.1	50.3	9.3	3.9	15.0	Bradford	1
Osa	Inland	Narva	OSA 815-Fa+b	Interior foodcrust	–30.9	57.3	9.1	4.7	14.3	Bradford	1
Osa	Inland	Narva	OSA 816-Fa+b	Interior foodcrust	–29.1	44.9	9.4	3.1	17.1	Bradford	0
Osa	Inland	Narva	OSA 819-Fa+b	Interior foodcrust	–29.1	64.4	9.0	2.9	25.9	Bradford	1
Osa	Inland	Narva	OSA 820-Fa+b	Interior foodcrust	–27.8	39.2	7.7	2.2	21.2	Bradford	1
Osa	Inland	Narva	OSA 822-Fa+b	Interior foodcrust	–30.0	21.3	8.2	3.5	7.2	Bradford	1

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Osa	Inland	Narva	OSA 826-Fa+b	Interior foodcrust	–26.9	31.9	7.4	6.0	6.2	Bradford	1
Osa	Inland	Narva	OSA 828-Fa+b	Interior foodcrust	–33.3	58.8	10.0	6.0	11.4	Bradford	1
Osa	Inland	Narva	OSA 829-Fa+b	Interior foodcrust	–27.9	33.6	8.2	3.9	10.0	Bradford	1
Osa	Inland	Narva	OSA 830-Fa+b	Interior foodcrust	–33.5	47.0	9.4	5.5	10.0	Bradford	1
Osa	Inland	Narva	OSA 831-Fa+b	Interior foodcrust	–28.1	27.1	7.3	4.7	6.7	Bradford	1
Osa	Inland	Narva	OSA 832-Fa+b	Interior foodcrust	–33.4	35.0	8.5	2.5	16.6	Bradford	1
Osa	Inland	Narva	OSA 833-Fa+b	Interior foodcrust	–29.4	22.7	8.2	2.8	9.4	Bradford	0
Osa	Inland	Narva	OSA 834-Fa+b	Interior foodcrust	–32.4	47.9	9.7	7.7	7.3	Bradford	1
Neustadt LA 156	Coastal	Ertebølle	N1025sa	Exterior sooted deposit	–26.5	45.0	10.0	4.0	13.4	Bradford	n/a
Neustadt LA 156	Coastal	Ertebølle	N162sa	Exterior sooted deposit	–25.4	45.0	10.2	4.7	11.1	Bradford	n/a
Neustadt LA 156	Coastal	Ertebølle	N3201sa	Exterior sooted deposit	–26.6	42.0	8.4	4.1	12.2	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X9644Inta-d	Interior foodcrust	–26.1	36.8	4.6	2.0	21.4	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X8352 P253a+b	Interior foodcrust	–18.4	48.2	9.7	6.6	8.5	Bradford	0
Syltholm II	Coastal	Ertebølle	MLF906-1X5409 P246a+b	Interior foodcrust	–25.8	25.0	5.2	1.3	22.7	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X8262 P247a+b	Interior foodcrust	–22.9	39.8	8.4	3.8	12.3	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X2873 P248a+b	Interior foodcrust	–22.1	30.2	8.0	3.1	11.5	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X8714 P250a+b	Interior foodcrust	–20.8	20.7	9.3	2.2	11.2	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X4531a+b	Interior foodcrust	–23.4	38.0	8.0	4.7	9.5	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X4602a+b	Interior foodcrust	–22.1	21.1	8.5	3.2	7.9	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X5411a+b	Interior foodcrust	–25.7	32.1	7.4	2.9	13.2	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF00906-11X6254-1-a+b	Interior foodcrust	–17.2	48.1	9.8	6.8	8.3	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF00906-11X6254-2-a+b	Interior foodcrust	–17.6	47.4	9.3	8.1	6.9	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF00906-11X7110-a	Interior foodcrust	–15.4	22.4	10.0	4.2	6.3	Bradford	n/a

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Syltholm XIII	Coastal	Ertebølle	MLF939-1X1660a+b	Interior foodcrust	–19.6	35.6	7.6	1.1	40.2	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	1MLF939-1X2052a+b	Interior foodcrust	–26.6	18.3	3.7	1.3	16.6	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	1MLF939-1X2052 P168a+b	Interior foodcrust	–26.0	10.7	3.4	1.0	13.1	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X232 P146a+b	Interior foodcrust	–25.2	22.9	7.9	2.8	9.7	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X605 P173a+b	Interior foodcrust	–17.6	15.4	10.1	2.2	8.3	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X607 P174a+b	Interior foodcrust	–20.5	29.7	9.5	3.1	11.4	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X627 P175a+b	Interior foodcrust	–21.2	23.6	8.6	3.1	9.0	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X821 P176a+b	Interior foodcrust	–26.3	27.0	5.1	2.2	14.7	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X822 P177a+b	Interior foodcrust	–25.8	30.9	5.5	2.0	18.4	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X1129 P178a+b	Interior foodcrust	–22.5	19.7	6.7	1.3	17.3	Bradford	n/a
Zacennie	Inland	Narva	BEL 475-F	Interior foodcrust	–26.9	37.9	7.4	5.8	7.6	Bradford	1
Zvidze	Inland	Narva	ZVID 761-Fa+b	Interior foodcrust	–33.7	45.3	8.6	5.1	10.3	Bradford	1
Zvidze	Inland	Narva	ZVID 762-Fa+b	Interior foodcrust	–29.4	55.0	9.3	5.9	10.9	Bradford	1
Zvidze	Inland	Narva	ZVID 763-Fa+b	Interior foodcrust	–25.7	64.4	10.9	3.0	25.2	Bradford	1
Zvidze	Inland	Narva	ZVID 764-Fa+b	Interior foodcrust	–26.6	52.8	9.4	3.1	20.0	Bradford	1
Zvidze	Inland	Narva	ZVID 766-Fa+b	Interior foodcrust	–30.2	18.5	9.0	3.4	6.3	Bradford	1
Zvidze	Inland	Narva	ZVID 769-Fa+b	Interior foodcrust	–32.5	43.3	10.1	6.4	7.9	Bradford	1
Zvidze	Inland	Narva	ZVID 770-Fa+b	Interior foodcrust	–28.4	36.6	8.2	7.6	5.6	Bradford	1
Zvidze	Inland	Narva	ZVID 771-Fa+b	Interior foodcrust	–30.5	57.6	8.9	5.6	12.1	Bradford	1
Zvidze	Inland	Narva	ZVID 772-Fa+b	Interior foodcrust	–31.2	42.4	7.8	5.8	8.6	Bradford	1
Zvidze	Inland	Narva	ZVID 775-Fa+b	Interior foodcrust	–27.4	35.6	10.2	3.2	13.1	Bradford	1
Zvidze	Inland	Narva	ZVID 776-Fa+b	Interior foodcrust	–27.7	53.1	11.1	4.0	15.3	Bradford	1
Zvidze	Inland	Narva	ZVID 777-Fa+b	Interior foodcrust	–27.8	43.8	9.9	4.6	11.0	Bradford	1
Zvidze	Inland	Narva	ZVID 778-Fa+b	Interior foodcrust	–31.0	52.9	8.6	3.4	18.2	Bradford	1
Zvidze	Inland	Narva	ZVID 780-Fa+b	Interior foodcrust	–32.5	30.4	9.4	3.9	9.0	Bradford	1
Zvidze	Inland	Narva	ZVID 781-Fa+b	Interior foodcrust	–25.6	32.8	9.6	6.0	6.4	Bradford	1
Zvidze	Inland	Narva	ZVID 783-Fa+b	Interior foodcrust	–30.1	49.8	9.5	6.4	9.1	Bradford	1
Zvidze	Inland	Narva	ZVID 785-Fa+b	Interior foodcrust	–27.1	39.3	9.3	4.4	10.5	Bradford	1
Zvidze	Inland	Narva	ZVID 786-Fa+b	Interior foodcrust	–26.4	29.9	8.9	3.1	11.2	Bradford	1
Zvidze	Inland	Narva	ZVID 787-Fa+b	Interior foodcrust	–28.0	55.8	9.6	6.0	10.8	Bradford	1
Zvidze	Inland	Narva	ZVID 788-Fa+b	Interior foodcrust	–32.8	21.8	8.6	3.1	8.3	Bradford	0
Zvidze	Inland	Narva	ZVID 790-Fa+b	Interior foodcrust	–29.8	30.8	8.1	5.4	6.6	Bradford	1

Site	*Location*	*Cultural epoch/ ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Aquatic biomarkers*
Zvidze	Inland	Narva	ZVID 792-Fa+b	Interior foodcrust	–27.7	58.3	9.2	5.8	11.8	Bradford	1
Zvidze	Inland	Narva	ZVID 793-Fa+b	Interior foodcrust	–29.3	27.4	6.9	3.7	8.6	Bradford	1
Zvidze	Inland	Narva	ZVID 795-Fa+b	Interior foodcrust	–28.7	45.2	8.6	3.5	15.0	Bradford	1
Zvidze	Inland	Narva	ZVID 797-Fa+b	Interior foodcrust	–30.0	45.9	9.8	6.8	7.9	Bradford	1
				Discarded data							
Dąbki 9	Inland	Late Mesolithic	D9_28_Ea+b	Exterior sooted deposit	–25.8	8.4	2.6	0.8	11.6	York	n/a
Dąbki 9	Inland	Late Mesolithic	D9_30_Ea+b	Exterior sooted deposit	–24.7	8.9	7.1	1.1	9.5	York	n/a
Flynderhage	Coastal	Ertebølle	FL_EBK_Ia+b	Interior foodcrust	–25.3	1.9	1.9	0.3	6.4	York	1
Syltholm II	Coastal	Ertebølle	MLF906-1X3311a+b	Interior foodcrust	–24.3	5.2	4.1	0.4	14.9	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X10047a+b	Interior foodcrust	–25.6	46.4	3.8	0.9	61.5	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-1X12261 P249a+b	Interior foodcrust	–18.3	10.0	7.8	0.8	15.6	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X9877.1a+b	Interior foodcrust	–26.7	5.7	3.0	0.5	15.0	Bradford	n/a
Syltholm II	Coastal	Ertebølle	MLF906-11X8042a+b	Interior foodcrust	–21.3	4.0	7.5	0.4	12.4	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X1660 P167a+b	Interior foodcrust	–21.8	3.0	4.0	0.2	17.0	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X1659 P179a+b	Interior foodcrust	–21.9	2.5	5.2	0.2	14.6	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X2333 P180a+b	Interior foodcrust	–26.4	1.7	5.2	0.2	10.1	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X102int P169a+b	Interior foodcrust	–23.8	1.2	2.9	0.1	15.4	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X102outer P170a+b	Exterior sooted deposit	–21.6	2.8	8.8	0.3	12.7	Bradford	n/a
Syltholm XIII	Coastal	Ertebølle	MLF939-1X325 P171a+b	Interior foodcrust	–27.0	45.8	5.2	0.5	112.9	Bradford	n/a

Key: 1. aquatic biomarkers present; 0. aquatic biomarkers absent; n/a, aquatic biomarkers unknown. The discarded data were deemed unreliable as they either had %C<10 or %N <1

TABLE S6: PUBLISHED BULK δ13C AND δ15N STABLE ISOTOPE DATA OBTAINED FROM CARBONISED SURFACE DEPOSITS ADHERING TO CONTEMPORANEOUS COOKING VESSELS FROM THE CIRCUM-BALTIC REGION

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C$ (‰)*	*%C*	*$\delta^{15}N$ (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
				Acceptable data							
Akali	Inland	Narva	EO60	Interior foodcrust	–31.3	17.1	12.7	2.0	10.2	York	Oras *et al*. 2017
Akali	Inland	Narva	EO63	Interior foodcrust	–31.4	31.9	12.9	3.9	9.4	York	Oras *et al*. 2017
Åkonge	Inland	Ertebølle	KML 49.5/ 77.0:113fa+b	Interior foodcrust	–29.6	31.3	7.3	4.4	8.3	Bradford	Robson 2015
Åkonge	Inland	Ertebølle	KML 49.5/ 78.0:49f(1)a+b	Interior foodcrust	–28.1	17.5	7.3	2.5	8.4	Bradford	Robson 2015
Åkonge	Inland	Ertebølle	KML 49.5/ 78.0:49f(2)a+b	Interior foodcrust	–28.3	20.2	7.9	2.6	9.3	Bradford	Robson 2015
Åkonge	Inland	Ertebølle	KML 50.0/ 75.5:84fa+b	Interior foodcrust	–27.5	27.2	7.7	4.6	6.9	Bradford	Robson 2015
Daktariškė 5	Inland	Narva	Dk16-497D1	Exterior sooted deposit	–27.9	53.3	10.1	5.6	11.1	Vilnius	Piličiauskas *et al*. 2018
Daktariškė 5	Inland	Narva	Dk16-259D	Interior foodcrust	–29.4	53.5	7.2	6.2	10.1	Vilnius	Piličiauskas *et al*. 2018
Daktariškė 5	Inland	Narva	Dk16-485C	Interior foodcrust	–28.6	39.9	8.5	7.2	6.5	Vilnius	Piličiauskas *et al*. 2018
Daktariškė 5	Inland	Narva	Dk16-230C	Interior foodcrust	–27.8	42.2	8.5	8.2	6.0	Vilnius	Piličiauskas *et al*. 2018
Daktariškė 5	Inland	Narva	Dk16-526D1	Interior foodcrust	–28.8	41.1	9.6	7.1	6.7	Vilnius	Piličiauskas *et al*. 2018
Daktariškė 5	Inland	Narva	II 6b	Exterior sooted deposit	–26.6	47.0	9.3	8.2	6.7	Bradford	Piličiauskas *et al*. 2018
Gamborg Fjord	Coastal	Ertebølle	A7154a-d	Interior foodcrust	–23.2	47.5	4.9	4.9	11.4	York	Robson 2015

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ13C (‰)*	*%C*	*δ15N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Kääpa	Inland	Narva	EO27	Exterior sooted deposit	–28.5	52.9	10.8	6.3	10.0	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO30	Interior foodcrust	–31.0	22.7	11.7	3.1	8.5	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO31	Exterior sooted deposit	–29.2	54.1	13.0	8.1	7.8	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO38	Interior foodcrust	–28.9	44.0	7.2	6.1	8.3	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO40	Interior foodcrust	–32.6	46.4	11.6	7.8	6.9	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO42	Interior foodcrust	–30.8	49.5	11.2	8.0	7.3	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO47	Interior foodcrust	–29.1	48.6	9.3	6.8	8.5	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO49	Interior foodcrust	–25.8	22.7	6.7	2.7	9.9	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO99	Interior foodcrust	–29.8	32.8	10.2	5.6	6.9	York	Oras *et al*. 2017
Kääpa	Inland	Narva	EO100	Exterior sooted deposit	–30.9	16.8	8.5	1.1	17.3	York	Oras *et al*. 2017
Kayhude LA 8	Inland	Ertebølle	KAY8-432,01	Interior foodcrust	–28.4	60.5	7.0	8.5	8.8	Aarhus	Philippsen *et al*. 2010; Philippsen 2013; Philippsen & Heinemeier 2013; Philippsen & Meadows 2014
Kayhude LA	Inland	Ertebølle	KAY8-168,01	Interior foodcrust	–28.9	56.9	12.5	8.1	8.3	Aarhus	Philippsen *et al*. 2010; Philippsen 2013; Philippsen & Heinemeier 2013; Philippsen & Meadows 2014

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ13C (‰)*	*%C*	*δ15N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Kayhude LA 8	Inland	Ertebølle	KAY8-412.01	Interior foodcrust	–26.5	43.5	6.4	2.9	17.8	Aarhus	Philippsen *et al*. 2010; Philippsen 2013; Philippsen & Heinemeier 2013; Philippsen & Meadows 2014
Kõnnu	Coastal	Narva	EO95	Interior foodcrust	–24.0	13.2	10.1	1.1	13.7	York	Oras *et al*. 2017
Kõnnu	Coastal	Narva	EO97	Interior foodcrust	–23.9	14.5	8.7	1.5	11.6	York	Oras *et al*. 2017
Kõnnu	Coastal	Narva	EO98	Interior foodcrust	–25.2	15.9	8.4	1.2	14.8	York	Oras *et al*. 2017
Kretuonas 1C	Inland	Narva	NM848:487/2408	Interior foodcrust	–30.5	24.9	10.9	3.6	8.0	Bradford	Piličiauskas & Heron 2015
Kroodi	Estuarine/ Lagoonal	Narva	EO86	Interior foodcrust	–25.8	31.6	8.1	1.1	34.5	York	Oras *et al*. 2017
Narva Joaorg	Estuarine/ Lagoonal	Narva	EO71	Interior foodcrust	–25.0	34.2	11.7	6.0	6.7	York	Oras *et al*. 2017
Narva Joaorg	Estuarine/ Lagoonal	Narva	EO73	Interior foodcrust	–27.5	16.2	12.0	2.0	9.4	York	Oras *et al*. 2017
Narva Joaorg	Estuarine/ Lagoonal	Narva	EO94	Interior foodcrust	–27.5	20.3	10.6	2.6	9.1	York	Oras *et al*. 2017
Neustadt LA 156	Coastal	Ertebølle	N1193fa	Interior foodcrust	–21.5	48.0	11.1	5.0	11.4	Bradford	Craig *et al*. 2011
Neustadt LA 156	Coastal	Ertebølle	N1456fa+b	Interior foodcrust	–26.0	38.7	9.7	4.9	9.1	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N1317fa	Interior foodcrust	–23.7	49.0	8.1	4.4	13.1	Bradford	Craig *et al*. 2011; Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N1919fa	Interior foodcrust	–24.4	26.0	9.1	3.1	9.9	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N2452fa+b	Interior foodcrust	–23.7	37.3	9.1	5.4	8.0	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N262fa	Interior foodcrust	–27.8	24.0	7.4	4.0	7.1	Bradford	Robson 2015

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Neustadt LA 156	Coastal	Ertebølle	N2756fa	Interior foodcrust	–24.0	45.0	11.1	5.2	10.1	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N2772fa	Interior foodcrust	–27.7	17.0	8.1	2.3	8.6	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N3020fa	Interior foodcrust	–24.7	50.0	11.9	3.8	15.4	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N3148fa	Interior foodcrust	–22.5	44.0	8.8	6.9	7.4	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N3304fa	Interior foodcrust	–22.9	37.0	7.2	3.4	12.9	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N3305fa	Interior foodcrust	–24.2	47.0	8.3	3.8	14.3	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N3377fa+b	Interior foodcrust	–25.0	49.8	9.2	5.9	9.8	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N629fa	Interior foodcrust	–20.6	36.0	9.3	5.8	7.3	Bradford	Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N2860fa+b	Interior foodcrust	–28.6	40.1	9.8	5.1	9.2	Bradford	Craig *et al*. 2011
Neustadt LA 156	Coastal	Ertebølle	N3020sa	Exterior sooted deposit	–23.0	44.0	7.6	4.7	10.7	Bradford	Craig *et al*. 2011; Robson 2015
Neustadt LA 156	Coastal	Ertebølle	N2648fa	Interior foodcrust	–29.8	38.0	9.7	6.2	7.2	Bradford	Robson 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L5f	Interior foodcrust	–30.5	43.0	9.0	5.7	8.8	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L5s	Exterior sooted deposit	–30.1	33.3	12.3	2.7	14.5	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L6f	Interior foodcrust	–29.5	25.1	8.4	2.8	10.4	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L6s	Exterior sooted deposit	–28.0	28.0	9.7	1.5	22.3	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L7f	Interior foodcrust	–28.2	20.3	7.6	1.9	12.6	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L7s	Exterior sooted deposit	–28.6	36.2	10.5	2.8	15.1	Bradford	Heron *et al*. 2015

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ^{13}C (‰)*	*%C*	*δ^{15}N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L8f	Interior foodcrust	–31.2	35.4	10.3	3.7	11.1	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L8s	Exterior sooted deposit	–29.9	39.8	10.7	3.4	13.5	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L9s	Exterior sooted deposit	–32.2	42.7	9.7	2.1	23.1	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L10f	Interior foodcrust	–28.0	36.7	6.6	4.0	10.7	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L10s	Exterior sooted deposit	–26.9	16.0	7.5	1.9	9.8	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L11f	Interior foodcrust	–27.7	11.9	8.6	1.2	11.3	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L19f	Interior foodcrust	–31.8	16.9	10.0	1.3	15.2	Bradford	Heron *et al*. 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	L9f	Interior foodcrust	–30.7	44.7	10.4	5.5	9.4	Bradford	Heron *et al*. 2015; Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd7336/7359	Exterior sooted deposit	–30.3	35.3	10.8	2.1	19.5	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd8045	Interior foodcrust	–29.2	36.8	8.4	4.6	9.4	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd7880	Exterior sooted deposit	–30.0	29.9	9.0	1.5	23.7	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd8387	Exterior sooted deposit	–28.2	39.6	11.7	3.7	12.6	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd8254	Exterior sooted deposit	–28.9	45.7	10.4	2.3	22.9	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd3556 (=8556)	Exterior sooted deposit	–29.7	38.2	11.9	3.8	11.8	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd8522	Interior foodcrust	–28.7	46.5	9.6	4.3	12.5	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd8823	Interior foodcrust	–32.4	35.2	10.0	2.3	17.6	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd10093	Exterior sooted deposit	–26.0	36.4	8.9	6.9	6.2	Bradford	Piličiauskas *et al*. 2018

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ^{13}C (‰)*	*%C*	*δ^{15}N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd8840	Interior foodcrust	–31.4	48.3	11.1	3.1	18.4	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9055	Exterior sooted deposit	–30.3	46.6	9.9	6.2	8.7	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9170	Exterior sooted deposit	–31.6	44.6	9.8	5.4	9.6	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9283	Exterior sooted deposit	–29.7	41.2	10.1	5.1	9.3	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9304	Interior foodcrust	–28.7	40.7	10.4	5.3	9.0	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9402	Exterior sooted deposit	–31.0	36.9	10.0	5.6	7.7	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9504	Exterior sooted deposit	–28.9	41.3	8.7	7.2	6.7	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9301	Exterior sooted deposit	–28.2	44.2	8.6	5.3	9.7	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9740	Interior foodcrust	–28.0	37.1	8.2	4.5	9.7	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9734	Interior foodcrust	–27.2	32.2	4.5	3.2	11.7	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9682	Interior foodcrust	–31.4	37.4	9.4	4.4	9.9	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9578	Interior foodcrust	–30.7	46.8	9.4	5.4	10.2	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9917	Interior foodcrust	–29.6	41.9	8.3	4.5	10.8	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9570	Interior foodcrust	–29.9	40.7	9.4	5.2	9.1	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9916	Interior foodcrust	–28.7	43.4	8.8	8.0	6.3	Vilnius	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9973	Interior foodcrust	–29.7	37.2	9.7	6.5	6.6	Bradford	Piličiauskas *et al*. 2018

Site	Location	Culture/ware	Sample code	Sample type	δ13C (‰)	%C	δ15 N (‰)	%N	C:N atomic ratio	Lab.	Reference
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9943	Interior foodcrust	–30.0	43.0	9.4	6.9	7.2	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9783	Interior foodcrust	–29.8	29.2	10.1	4.4	7.8	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9816	Interior foodcrust	–28.0	40.5	8.3	5.6	8.4	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9976	Interior foodcrust	–29.0	44.4	9.4	5.0	10.4	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd10006	Exterior sooted deposit	–31.7	40.8	9.2	2.3	21.0	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd9942	Interior foodcrust	–30.9	34.5	10.7	3.5	11.6	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	Nd10044	Interior foodcrust	–29.7	39.6	9.5	5.5	8.3	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	189	Interior foodcrust	–30.4	36.1	9.8	4.2	10.0	Bradford	Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	6921	Interior foodcrust	–29.0	36.6	8.3	5.5	7.8	Bradford	Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	EM2243:3778	Interior foodcrust	–29.4	34.6	8.8	4.3	9.4	Bradford	Piličiauskas *et al*. 2011; Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	EM2243:2321	Interior foodcrust	–29.3	43.6	9.2	5.6	9.1	Bradford	Piličiauskas *et al*. 2011; Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	EM2243:3760	Interior foodcrust	–31.6	47.5	8.5	5.0	11.0	Bradford	Piličiauskas *et al*. 2011; Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	EM2243:4331	Exterior sooted deposit	–27.1	30.8	9.6	6.5	5.6	Bradford	Piličiauskas *et al*. 2011; Piličiauskas & Heron 2015
Nida	Estuarine/ Lagoonal	Rzucewo Ware	6930	Exterior sooted deposit	–33.6	33.3	11.5	1.1	36.0	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	5472	Exterior sooted deposit	–30.2	29.3	11.0	1.9	17.8	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	2030	Interior foodcrust	–29.3	49.9	9.5	6.1	9.5	Bradford	Piličiauskas *et al*. 2018
Nida	Estuarine/ Lagoonal	Rzucewo Ware	17	Exterior sooted deposit	–29.3	37.2	11.3	3.0	14.5	Bradford	Piličiauskas *et al*. 2018

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Nida	Estuarine/ Lagoonal	Rzucewo Ware	2/28R	Interior foodcrust	–32.9	15.9	9.9	0.6	29.0	Bradford	Piličiauskas *et al*. 2018
Ringkloster	Inland	Ertebølle	1592 AACJBa	Interior foodcrust	–31.7	39.0	11.2	5.0	8.6	Bradford	Craig *et al*. 2007
Ringkloster	Inland	Ertebølle	1592 BVAEa	Interior foodcrust	–28.7	10.0	8.4	1.0	7.9	Bradford	Craig *et al*. 2007; Robson 2015
Ringkloster	Inland	Ertebølle	1592 CSANa	Interior foodcrust	–27.5	41.0	3.9	3.0	14.2	Bradford	Craig *et al*. 2007; Robson 2015
Ronæs Skov	Coastal	Ertebølle	3705_ABEa-d	Interior foodcrust	–23.1	34.8	4.9	3.9	10.4	York	Courel *et al*. 2020; Robson 2015
Ronæs Skov	Coastal	Ertebølle	3705_AQQa-d	Interior foodcrust	–23.0	33.2	5.0	3.3	11.8	York	Courel *et al*. 2020; Robson 2015
Ronæs Skov	Coastal	Ertebølle	3705_AFWa-d	Interior foodcrust	–25.0	42.2	6.6	2.7	18.5	York	Courel *et al*. 2020; Robson 2015
Ronæs Skov	Coastal	Ertebølle	3705_AWJa-f	Interior foodcrust	–23.4	40.6	6.7	4.4	10.9	York	Courel *et al*. 2020; Robson 2015
Ronæs Skov	Coastal	Ertebølle	3705_AYUa	Interior foodcrust	–21.8	49.5	5.6	6.3	9.2	York	Courel *et al*. 2020; Robson 2015
Satrup-Förstermoor LA 71	Inland	Ertebølle	F51fa+b	Interior foodcrust	–23.5	44.8	7.8	5.3	9.8	Bradford	Robson 2015
Schlamersdorf LA 5	Inland	Ertebølle	SLA5-2683	Interior foodcrust	–33.0	41.1	6.9	3.8	12.1	Aarhus	Philippsen *et al*. 2010; Philippsen 2013; Philippsen & Heinemeier 2013; Philippsen & Meadows 2014
Stenø	Inland	Ertebølle	ST_X004_201fa+b	Interior foodcrust	–29.2	28.8	6.7	3.9	8.7	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X004_205fa	Interior foodcrust	–27.4	9.3	7.2	1.0	10.8	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X018_215f	Interior foodcrust	–28.1	19.1	5.9	2.5	8.9	Bradford	Robson 2015

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C (‰)*	*%C*	*δ¹⁵N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Stenø	Inland	Ertebølle	ST_X026_222fa+b	Interior foodcrust	–27.7	43.3	7.9	7.2	7.0	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X028_217fa+b	Interior foodcrust	–28.2	28.9	8.1	3.3	10.2	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X082_029fa+b	Interior foodcrust	–28.4	0.5	7.7	4.9	12.3	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X087_007fa+b	Interior foodcrust	–28.6	33.3	6.3	5.1	7.6	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X095_039fa	Interior foodcrust	–26.5	26.1	7.7	2.9	11.0	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X095_047f	Interior foodcrust	–28.6	24.3	7.7	3.4	8.3	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X095_047s	Exterior sooted deposit	–27.0	36.6	9.8	2.9	14.6	Bradford	Robson 2015
Timmendorf-Nordmole	Coastal	Ertebølle	T151fa+b	Interior foodcrust	–26.5	26.5	13.0	2.5	12.8	Bradford	Robson 2015
Timmendorf-Nordmole	Coastal	Ertebølle	T850fa+b	Interior foodcrust	–25.4	29.5	10.1	2.2	15.6	Bradford	Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 AAXa	Interior foodcrust	–23.1	47.0	10.4	6.0	7.9	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 AFKa+b	Interior foodcrust	–23.7	40.1	8.0	5.3	7.5	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 BGUa	Interior foodcrust	–24.8	41.0	7.1	5.0	7.9	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 BHJa	Interior foodcrust	–22.5	35.0	9.1	7.0	5.3	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 BNKa	Interior foodcrust	–23.0	22.0	10.3	3.0	7.1	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 FSZa	Interior foodcrust	–23.3	31.0	6.7	4.0	7.5	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 LGKa	Interior foodcrust	–22.0	40.0	10.5	7.0	5.4	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 MBOa	Interior foodcrust	–24.2	27.0	7.0	4.0	7.0	Bradford	Craig *et al*. 2011

Site	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ13C (‰)*	*%C*	*δ15N (‰)*	*%N*	*C:N atomic ratio*	*Lab.*	*Reference*
Tybrind Vig	Coastal	Ertebølle	2033 MTCa	Interior foodcrust	–22.7	26.0	11.0	4.0	6.3	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 NRWa	Interior foodcrust	–22.7	38.9	10.3	3.0	15.3	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 PCMa	Interior foodcrust	–22.6	37.0	9.2	4.0	8.8	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 PJTa+b	Interior foodcrust	–24.0	52.5	9.9	4.2	13.1	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 ABa	Interior foodcrust	–24.3	51.5	11.3	3.0	20.3	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 BOFa	Interior foodcrust	–24.6	45.0	7.5	7.0	6.7	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 QMEa+b	Interior foodcrust	–21.9	46.3	7.0	8.2	5.8	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 RAGa+b	Interior foodcrust	–21.8	70.8	9.0	7.5	11.7	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 RBDa	Interior foodcrust	–22.3	27.6	8.7	2.2	14.3	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 RCFa	Interior foodcrust	–22.8	59.5	9.9	3.8	18.3	Bradford	Craig *et al*. 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 SGBa	Interior foodcrust	–23.6	51.6	7.3	4.0	15.2	Bradford	Craig *et al*. 2007; 2011; Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033_BQL.E.Ra+b	Interior foodcrust	–22.6	22.2	12.3	2.8	9.4	York	Robson 2015

Discarded data											
Akali	Inland	Narva	EO93	Interior foodcrust	–27.9	4.3	2.4	0.3	18.9	York	Oras *et al*. 2017
Kõnnu	Coastal	Narva	EO96	Exterior sooted deposit	–25.1	9.1	8.4	0.6	18.0	York	Oras *et al*. 2017
Schlamersdorf LA 5	Inland	Ertebølle	SLA5-1713	Interior foodcrust	–28.0	8.8	3.4	0.4	16.3	Aarhus	Philippsen *et al*. 2010; Philippsen 2013; Philippsen & Heinemeier 2013; Philippsen & Meadows 2014
Stenø	Inland	Ertebølle	ST_X004_205fa	Interior foodcrust	–27.4	9.3	7.2	1.0	10.8	Bradford	Robson 2015
Stenø	Inland	Ertebølle	ST_X082_029fa+b	Interior foodcrust	–28.4	0.5	7.7	4.9	12.3	Bradford	Robson 2015
Tybrind Vig	Coastal	Ertebølle	2033 KPUa	Interior foodcrust	–23.7	9.0	10.9	2.0	6.0	Bradford	Craig *et al*. 2011; Robson 2015

Key: 1. aquatic biomarkers present; 0. aquatic biomarkers absent; n/a, aquatic biomarkers unknown. The discarded data were deemed unreliable as they either had %C <10 or %N <1

TABLE S7: CARBON (δ13C) STABLE ISOTOPE VALUES OF INDIVIDUAL MID-CHAIN FATTY ACIDS (PALMITIC, C_{16}:0 & STEARIC, C_{18}:0) OBTAINED FROM OVAL BOWLS THROUGHOUT THE CIRCUM-BALTIC & STONE LAMPS FROM NORTH AMERICA ACQUIRED IN THIS STUDY

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C_{16}$:0 (‰)*	*$\delta^{13}C_{18}$:0 (‰)*	*$\Delta^{13}C$*	*Aquatic biomarkers*
Ceramic oval bowls									
Western Baltic	Dąbki 9	Inland	Late Mesolithic	Dą.2i	Interior foodcrust	–29.2	–30.2	–1.0	1
Western Baltic	Dąbki 9	Inland	Late Mesolithic	D-2-I	Interior foodcrust	–27.8	–28.2	–0.3	1
Western Baltic	Dąbki 9	Inland	Late Mesolithic	D-5-S	Interior sherd powder	–31.6	–32.0	–0.4	0
Western Baltic	Dąbki 9	Inland	Late Mesolithic	D-6-S	Interior sherd powder	–28.9	–29.6	–0.6	0
Western Baltic	Dąbki 9	Inland	Late Mesolithic	D-9-S	Interior sherd powder	–29.5	–29.4	0.2	0
Western Baltic	Dąbki 9	Inland	Late Mesolithic	D-10-S	Interior sherd powder	–29.5	–29.8	–0.4	1
Western Baltic	Dąbki 9	Inland	Late Mesolithic	D-13-S	Interior sherd powder	–31.9	–32.0	–0.1	1
Western Baltic	Flynderhage	Coastal	Ertebølle	FL-1-E	Exterior sooted deposit	–26.2	–26.3	0.0	0
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-1-S	Interior sherd powder	–22.3	–22.4	–0.1	0
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-2-S	Interior sherd powder	–23.4	–23.4	0.0	0
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-5-S	Interior sherd powder	–20.8	–20.0	0.8	0
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-6-S	Interior sherd powder	–21.0	–21.2	–0.2	1
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-9-E	Exterior sooted deposit	–20.1	–19.6	0.6	1
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-11-E	Exterior sooted deposit	–20.9	–21.0	0.0	1
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-12-E	Exterior sooted deposit	–21.8	–22.0	–0.2	1
Western Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR-14-S	Interior sherd powder	–19.4	–19.4	0.0	0
Western Baltic	Hamburg Boberg 15	Inland	Friesack-Boberg	HB-1-S	Interior sherd powder	–31.1	–32.7	–1.7	0
Western Baltic	Hamburg Boberg 15	Inland	Friesack-Boberg	HB-2-S	Interior sherd powder	–29.6	–29.9	–0.2	0
Western Baltic	Hamburg Boberg 15	Inland	Friesack-Boberg	HB-3-S	Interior sherd powder	–30.0	–29.9	0.2	0
Western Baltic	Hamburg Boberg 15-east	Inland	Friesack-Boberg	HB22iA (1959:34_3)	Interior sherd powder	–31.1	–31.3	–0.2	n/a
Western Baltic	Hamburg Boberg 15-east	Inland	Friesack-Boberg	HB22iM (1959:34_3)	Interior sherd powder	–28.7	–28.9	–0.2	n/a
Eastern Baltic	Iča	Inland	Narva	ICA 798-W	Whole sherd	–32.6	–32.8	–0.2	1
Eastern Baltic	Iča	Inland	Narva	ICA 798-F	Interior foodcrust	–32.5	–33.2	–0.7	1
Eastern Baltic	Iča	Inland	Narva	ICA 799-W	Whole sherd	–33.3	–32.7	0.6	1
Eastern Baltic	Iča	Inland	Narva	ICA 799-F	Interior foodcrust	–32.7	–33.0	–0.3	1
Eastern Baltic	Iča	Inland	Narva	ICA 803-W	Whole sherd	–34.2	–30.7	3.5	1
Eastern Baltic	Iča	Inland	Narva	ICA 803-F	Interior foodcrust	–32.2	–31.7	0.5	1

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ13C16:0 (‰)*	*δ13C18:0 (‰)*	*Δ13C*	*Aquatic biomarkers*
Eastern Baltic	Kretuonas 1B	Inland	Narva/Porous Ware	KRET-961.W	Whole sherd	–32.4	–34.0	–1.5	0
Eastern Baltic	Kretuonas 1B	Inland	Narva/Porous Ware	KRET-966.W	Whole sherd	–33.7	–34.3	–0.6	1
Western Baltic	Meilgaard	Coastal	Ertebølle	ME-1-S	Interior sherd powder	–26.6	–27.7	–1.1	1
Eastern Baltic	Narva Joaorg	Estuarine/ Lagoonal	Narva	NJ13	Interior sherd powder	–31.6	–31.4	0.2	0
Eastern Baltic	Narva Joaorg	Estuarine/ Lagoonal	Narva	NJ21	Interior sherd powder	–31.1	–29.4	1.7	1
Eastern Baltic	Narva Joaorg	Estuarine/ Lagoonal	Narva	NJ25	Interior sherd powder	–29.9	–28.4	1.5	1
Eastern Baltic	Narva Joaorg	Estuarine/ Lagoonal	Narva	NJ34	Interior sherd powder	–32.7	–32.3	0.4	1
Eastern Baltic	Osa	Inland	Narva	OSA 807-W	Whole sherd	–36.8	–35.6	1.2	1
Eastern Baltic	Osa	Inland	Narva	OSA 807-F	Interior foodcrust	–35.0	–35.2	–0.2	1
Eastern Baltic	Osa	Inland	Narva	OSA 821-W	Whole sherd	–34.2	–31.0	3.1	1
Eastern Baltic	Osa	Inland	Narva	OSA 821-F	Interior foodcrust	–33.6	–32.3	1.3	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-1-S	Interior sherd powder	–16.9	–16.4	0.5	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-5-E	Exterior sooted deposit	–16.2	–15.7	0.5	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-6-E	Exterior sooted deposit	–18.6	–18.6	0.0	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-8-S	Interior sherd powder	–19.3	–18.1	1.2	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-9-S	Interior sherd powder	–18.4	–18.1	0.3	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-12-S	Interior sherd powder	–22.3	–23.0	–0.7	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-13-S	Interior sherd powder	–23.6	–23.8	–0.2	1
Western Baltic	Ronæs Skov	Coastal	Ertebølle	RO-14-S	Interior sherd powder	–20.7	–22.6	–1.9	1
Western Baltic	Siggeneben Sửd LA 12	Coastal	Ertebølle	SS-1-S	Interior sherd powder	–21.1	–21.0	0.1	1
Western Baltic	Siggeneben Sửd LA 12	Coastal	Ertebølle	SS-2-E	Exterior sooted deposit	–22.0	–21.5	0.5	1
Western Baltic	Siggeneben Sửd LA 12	Coastal	Ertebølle	SS-3-S	Interior sherd powder	–26.5	–26.1	0.4	0
Eastern Baltic	Šventoji 4	Estuarine/ Lagoonal	Narva	SV-1-E	Exterior sooted deposit	–31.0	–31.5	–0.6	1
Eastern Baltic	Šventoji 6	Estuarine/ Lagoonal	Narva	SV-7-I	Interior foodcrust	–29.5	–29.6	–0.2	1
Eastern Baltic	Szczepanki 8	Inland	Zedmar-Post Zedmar	S_Z_PZ_02_S	Whole sherd	–28.9	–29.5	–0.7	1

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-2-S	Interior sherd powder	–19.7	–22.3	–2.6	0
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-3-E	Exterior sooted deposit	–20.2	–20.8	–0.6	1
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-4-E	Exterior sooted deposit	–21.0	–22.3	–1.4	1
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-12-S	Interior sherd powder	–21.5	–21.7	–0.2	1
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-13-S	Interior sherd powder	–19.9	–23.0	–3.1	1
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-14-S	Interior sherd powder	–21.4	–21.4	0.0	1
Western Baltic	Wangels LA 505	Coastal	Ertebølle	W-15-S	Interior sherd powder	–17.7	–17.9	–0.2	0
Western Baltic	Wełcz Wielki, st. 10B	Inland	Funnel Beaker	N247	Interior sherd powder	–27.2	–27.6	–0.4	0
Eastern Baltic	Zvidze	Inland	Narva	ZVID 765-W	Whole sherd	–28.6	–28.8	–0.1	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 765-F	Interior foodcrust	–32.0	–34.3	–2.3	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 768-W	Whole sherd	–37.3	–35.6	1.7	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 768-F	Interior foodcrust	–32.5	–33.0	–0.5	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 773-W	Whole sherd	–34.2	–34.7	–0.5	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 773-F	Interior foodcrust	–32.6	–33.5	–0.9	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 774-W	Whole sherd	–35.0	–34.4	0.6	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 774-F	Interior foodcrust	–33.9	–34.0	–0.1	1
Eastern Baltic	Zvidze	Inland	Narva	ZVID 796-W	Whole sherd	–35.6	–36.3	–0.7	1
Stone lamps									
North America	Adlavik Harbour	Coastal	Late Aleutian	SL-1	Interior foodcrust	–21.3	–22.9	–1.6	1
North America	Amaknak Island	Coastal	Late Aleutian	ARI-1	Interior foodcrust	–25.1	–24.9	0.2	1
North America	Atka Island	Coastal	Late Aleutian	AI-1	Interior foodcrust	–23.0	–23.9	–0.8	1
North America	Atka Island	Coastal	Late Aleutian	AI-2	Interior foodcrust	–23.0	–23.0	0.0	1
North America	Nunivak Island	Coastal	Late Aleutian	NI-1	Interior foodcrust	–21.7	–22.5	–0.8	1
North America	Nunivak Island	Coastal	Late Aleutian	NI-2	Interior foodcrust	–21.7	–21.6	0.2	1
North America	Uyak Bay	Coastal	Late Aleutian	UB-1	Interior foodcrust	–23.8	–24.0	–0.3	1
North America	Uyak Bay	Coastal	Late Aleutian	UB-2	Interior foodcrust	–25.4	–25.9	–0.5	1

Key: 1. aquatic biomarkers present; 0. aquatic biomarkers absent; n/a, aquatic biomarkers unknown

TABLE S8: PUBLISHED CARBON ($\delta^{13}C$) STABLE ISOTOPE VALUES OF INDIVIDUAL MID-CHAIN FATTY ACIDS (PALMITIC, $C_{16:0}$ & STEARIC, $C_{18:0}$) OBTAINED FROM OVAL BOWLS THROUGHOUT THE CIRCUM-BALTIC & STONE LAMPS FROM NORTH AMERICA

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C_{16:0}$ (‰)*	*$\delta^{13}C_{18:0}$ (‰)*	*$\Delta^{13}C$*	*Aquatic biomarkers*	*Reference*
				Ceramic oval bowls						
Western Baltic	Åkonge	Inland	Ertebølle	KML 49.5/75.5:20f	Interior foodcrust	–30.7	–34.4	–3.7	0	Craig *et al*. 2011
Western Baltic	Åkonge	Inland	Ertebølle	KML 49.5/75.5:20i	Interior sherd powder	–30.4	–33.1	–2.7	0	Heron *et al*. 2013
Western Baltic	Åkonge	Inland	Ertebølle	KML 50.0/78.5:2i	Interior sherd powder	–29.8	–32.4	–2.6	0	Craig *et al*. 2011
Eastern Baltic	Kääpa	Inland	Narva	EO34	Interior sherd powder	–32.9	–33.7	–0.8	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO36	Exterior sooted deposit	–32.4	–31.9	0.5	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO37	Interior sherd powder	–34.2	–34.3	–0.1	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO44	Interior sherd powder	–33.3	–32.3	1.0	0	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO46	Interior sherd powder	–34.2	–32.2	2.0	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO51	Interior foodcrust	–30.1	–31.4	–1.3	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO52	Interior sherd powder	–30.5	–32.2	–1.7	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO53	Interior foodcrust	–32.2	–32.6	–0.4	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO54	Interior sherd powder	–32.5	–32.8	–0.3	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO56	Exterior sooted deposit	–33.7	–32.4	1.3	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO57	Interior sherd powder	–35.1	–34.8	0.3	1	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO58	Interior sherd powder	–32.6	–33.2	–0.6	0	Oras *et al*. 2017
Eastern Baltic	Kääpa	Inland	Narva	EO06	Interior sherd powder	–29.9	–31.1	–1.2	1	Oras *et al*. 2017

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ[13]C16:0 (‰)*	*δ[13]C18:0 (‰)*	*Δ[13]C*	*Aquatic biomarkers*	*Reference*
Eastern Baltic	Narva Joaorg	Estuarine/ Lagoonal	Narva	EO11	Interior sherd powder	–31.3	–31.1	0.2	0	Oras *et al*. 2017
Eastern Baltic	Narva Joaorg	Estuarine/ Lagoonal	Narva	EO69	Interior sherd powder	–31.7	–31.1	0.6	0	Oras *et al*. 2017
Western Baltic	Neustadt LA 156	Coastal	Ertebølle	N1009i	Interior sherd powder	–20.3	–21.6	–1.3	0	Heron *et al*. 2013
Western Baltic	Neustadt LA 156	Coastal	Ertebølle	N1009s	Exterior sooted deposit	–23.3	–24.5	–1.2	1	Craig *et al*. 2011; Heron *et al*. 2013
Western Baltic	Neustadt LA 156	Coastal	Ertebølle	N1682i	Interior sherd powder	–23.6	–23.3	0.3	0	Heron *et al*. 2013
Western Baltic	Neustadt LA 156	Coastal	Ertebølle	N2285f	Interior foodcrust	–22.5	–22.2	0.3	0	Craig *et al*. 2011; Heron *et al*. 2013
Western Baltic	Neustadt LA 156	Coastal	Ertebølle	N2285i	Interior sherd powder	–21.4	–22.2	–0.8	1	Heron *et al*. 2013
Western Baltic	Neustadt LA 156	Coastal	Ertebølle	N338i	Interior sherd powder	–22.9	–22.9	0.0	0	Heron *et al*. 2013
Eastern Baltic	Nida	Estuarine/ Lagoonal	Rzucewo Ware	L12i	Interior sherd powder	–32.2	–32.3	–0.1	1	Heron *et al*. 2015
Eastern Baltic	Nida	Estuarine/ Lagoonal	Rzucewo Ware	L25i	Interior sherd powder	–32.1	–33.1	–1.0	0	Heron *et al*. 2015
Western Baltic	Soldattorpet	Coastal	Ertebølle	SHM08; 11461:622, Ci	Interior sherd powder	–28.1	–26.9	1.2	0	Papakosta *et al*. 2019
Western Baltic	Soldattorpet	Coastal	Ertebølle	SHM28; 11882:142, Ci	Interior sherd powder	–25.7	–27.4	–1.7	0	Papakosta *et al*. 2019
Western Baltic	Teglgård-Helligkilde	Coastal	Ertebølle	TH1f	Interior sherd powder	–15.7	–15.1	0.6	1	Craig *et al*. 2011; Heron *et al*. 2013
Western Baltic	Teglgård-Helligkilde	Coastal	Ertebølle	TH1i	Interior sherd powder	–18.1	–18.5	–0.4	1	Craig *et al*. 2011
Western Baltic	Teglgård-Helligkilde	Coastal	Ertebølle	TH1i	Interior sherd powder	–17.3	–17.2	0.1	1	Heron *et al*. 2013
Western Baltic	Tybrind Vig	Coastal	Ertebølle	2033 EI	Interior foodcrust	–28.3	–30.2	–1.9	0	Craig *et al*. 2011
				Stone lamps						
North America	Tanaxtaxak (UNL-55)	Coastal	Margaret Bay phase	UNL55-42	Interior foodcrust	–23.9	–23.5	0.4	1	Admiraal *et al*. 2018

Key: 1. aquatic biomarkers present; 0. aquatic biomarkers absent; n/a, aquatic biomarkers unknown

TABLE S9: PUBLISHED CARBON ($\delta^{13}C$) STABLE ISOTOPE VALUES OF INDIVIDUAL MID-CHAIN FATTY ACIDS (PALMITIC, C_{16}:0 & STEARIC, C_{18}:0) OBTAINED FROM CONTEMPORANEOUS COOKING VESSELS THROUGHOUT THE CIRCUM-BALTIC

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C_{16}$:0 (‰)*	*$\delta^{13}C_{18}$:0 (‰)*	*$\Delta^{13}C$*	*Aquatic biomarkers*	*Ref.*
E. Baltic	Akali	Inland	Narva	EO59	Interior sherd powder	–31.2	–31.3	–0.2	0	1
			Narva	EO61	Interior sherd powder	–30.2	–29.1	1.1	1	1
			Narva	EO63	Interior foodcrust	–33.3	–33.6	–0.3	1	1
			Narva	EO64	Interior sherd powder	–33.3	–33.3	0.1	1	1
			Narva	EO66	Interior sherd powder	–30.8	–30.6	0.2	0	1
W. Baltic	Åkonge	Inland	Ertebølle	KML 50.0/75.5:8i	Interior sherd powder	–30.4	–33.7	–3.3	n/a	2
			Ertebølle	KML 49.5/77.0:113i	Interior sherd powder	–29.8	–32.5	–2.7	n/a	2
			Ertebølle	KML 49.5/77.0:113f	Interior foodcrust	–31.0	–32.3	–1.3	n/a	3
			Ertebølle	KML 49.5/78.0:49i	Interior sherd powder	–29.5	–33.3	–3.8	1	2
			Ertebølle	KML 49.5/78.0:49f1+2	Interior foodcrust	–29.3	–32.4	–3.1	n/a	3
			Ertebølle	KML 50.0/75.5:84i	Interior sherd powder	–30.9	–33.0	–2.1	0	2
			Ertebølle	KML 50.0/75.5:84f	Interior foodcrust	–30.5	–34.3	–3.8	n/a	3
			Ertebølle	KML 50.0/77.0:155i	Interior sherd powder	–29.9	–33.6	–3.7	n/a	3
E. Baltic	Asaviec IV	Inland	Narva	BEL 480-W	Whole sherd	–27.1	–27.9	–0.8	0	4
			Narva	BEL 481-W	Whole sherd	–27.4	–28.5	–1.1	0	4
			Narva	BEL 482-W	Whole sherd	–27.5	–29.7	–2.3	0	4
E. Baltic	Berescha 4	Inland	Narva	BEL 476-W	Whole sherd	–21.3	–26.6	–5.2	0	4
			Narva	BEL 477-W	Whole sherd	–28.1	–27.7	0.4	0	4
			Narva	BEL 478-W	Whole sherd	–28.2	–29.0	–0.7	0	4
			Narva	BEL 479-W	Whole sherd	–27.0	–27.9	–0.9	0	4
W. Baltic	Dąbki 9	Inland	Late Mesolithic	Dą.1i	Interior foodcrust	–28.5	–31.9	–3.4	0	4
			Late Mesolithic	D9_EBK_03a_I	Interior foodcrust	–31.2	–34.3	–3.1	1	4
			Late Mesolithic	D9_EBK_04_I	Interior foodcrust	–30.7	–31.1	–0.4	1	4
			Late Mesolithic	D9_EBK_05_I	Interior foodcrust	–30.9	–34.0	–3.0	1	4
			Late Mesolithic	D9_EBK_06_I	Interior foodcrust	–32.8	–32.2	0.6	1	4
			Late Mesolithic	D9_EBK_07_I	Interior foodcrust	–33.5	–31.9	1.6	0	4
			Late Mesolithic	D9_EBK_08_I	Interior foodcrust	–30.0	–32.8	–2.9	1	4
			Late Mesolithic	D9_EBK_09_I	Interior foodcrust	–33.7	–32.4	1.3	0	4
			Late Mesolithic	D9_EBK_10_I	Interior foodcrust	–30.6	–29.8	0.8	1	4
			Late Mesolithic	D9_EBK_12_S	Whole sherd	–30.4	–29.9	0.5	1	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C_{16:0}$ (‰)*	*$\delta^{13}C_{18:0}$ (‰)*	*$\Delta^{13}C$*	*Aquatic biomarkers*	*Ref.*
			Late Mesolithic	D9_EBK_13_I	Interior foodcrust	–32.5	–32.7	–0.2	1	4
			Late Mesolithic	D9_EBK_14_I	Interior foodcrust	–31.7	–32.8	–1.1	1	4
			Late Mesolithic	D9_EBK_15_I	Interior foodcrust	–29.6	–31.7	–2.0	1	4
			Late Mesolithic	D9_EBK_16_I	Interior foodcrust	–31.1	–31.4	–0.2	1	4
			Late Mesolithic	D9_EBK_17_I	Interior foodcrust	–30.9	–30.3	0.6	1	4
			Late Mesolithic	D9_EBK_18_S	Whole sherd	–29.3	–30.8	–1.5	0	4
			Late Mesolithic	D9_EBK_19_S	Whole sherd	–28.9	–32.3	–3.4	1	4
			Late Mesolithic	D9_EBK_20_I	Interior foodcrust	–29.2	–29.9	–0.7	0	4
			Late Mesolithic	D9_EBK_21_I	Interior foodcrust	–30.4	–32.7	–2.3	1	4
			Late Mesolithic	D9_EBK_22_I	Interior foodcrust	–31.1	–28.4	2.7	1	4
			Late Mesolithic	D9_EBK_23_I	Interior foodcrust	–32.3	–29.1	3.2	0	4
			Late Mesolithic	D9_EBK_24_Ia	Interior foodcrust	–31.4	–33.0	–1.6	1	4
			Late Mesolithic	D9_EBK_25_I	Interior foodcrust	–32.5	–34.1	–1.5	1	4
			Late Mesolithic	D9_EBK_26_S	Whole sherd	–32.2	–30.7	1.5	1	4
			Late Mesolithic	D9_EBK_27_I	Interior foodcrust	–33.7	–31.9	1.8	1	4
			Late Mesolithic	D9_EBK_28_I	Interior foodcrust	–31.9	–32.2	–0.3	1	4
			Late Mesolithic	D9_EBK_29_I	Interior foodcrust	–30.0	–29.5	0.4	1	4
W. Baltic	Dąbki 9	Inland	Late Mesolithic	D9_EBK_30_I	Interior foodcrust	–30.0	–30.0	0.0	1	4
			Late Mesolithic	D9_EBK_32_I	Interior foodcrust	–32.0	–31.9	0.1	1	4
			Late Mesolithic	D9_EBK_33_I	Interior foodcrust	–31.1	–30.5	0.6	1	4
			Late Mesolithic	D9_EBK_34_I	Interior foodcrust	–28.2	–28.3	–0.1	0	4
			Late Mesolithic	D9_EBK_35_I	Interior foodcrust	–29.4	–32.3	–3.0	1	4
			Late Mesolithic	D9_EBK_36_I	Interior foodcrust	–31.4	–31.2	0.2	0	4
			Late Mesolithic	D9_EBK_37_I	Interior foodcrust	–28.9	–28.9	0.0	0	4
			Late Mesolithic	D9_02_I	Interior foodcrust	–32.5	–35.1	–2.6	0	4
			Late Mesolithic	D9_03_I	Interior foodcrust	–33.2	–32.5	0.8	1	4
			Late Mesolithic	D9_04_I	Interior foodcrust	–31.8	–31.4	0.4	1	4
			Late Mesolithic	D9_05_I	Interior foodcrust	–31.7	–31.0	0.8	1	4
			Late Mesolithic	D9_06_I	Interior foodcrust	–30.8	–32.9	–2.1	1	4
			Late Mesolithic	D9_12_S	Whole sherd	–28.0	–28.8	–0.8	1	4
			Late Mesolithic	D9_13_S	Whole sherd	–29.9	–29.7	0.2	1	4
			Late Mesolithic	D9_18_S	Whole sherd	–30.0	–28.9	1.1	1	4
			Late Mesolithic	D9_19_S	Whole sherd	–28.6	–28.4	0.2	1	4
			Late Mesolithic	D9_31_S	Whole sherd	–31.5	–31.6	–0.1	1	4
			Late Mesolithic	D9_33_S	Whole sherd	–31.8	–31.8	0.0	1	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
W. Baltic	Dąbki 9	Inland	Late Mesolithic	D9_45_S	Whole sherd	–30.5	–31.1	–0.5	0	4
			Late Mesolithic	D9_54_S	Whole sherd	–27.3	–27.4	0.0	1	4
			Late Mesolithic	D9_56_S	Whole sherd	–32.2	–33.1	–0.9	1	4
E. Baltic	Daktariškė 5	Inland	Narva	DAK 945.F	Interior foodcrust	–31.7	–31.5	0.2	1	4
			Narva	DAK 946.F	Interior foodcrust	–32.5	–33.8	–1.3	1	4
			Narva	DAK 947.F	Interior foodcrust	–32.5	–32.6	–0.1	1	4
			Narva	DAK 948.F	Interior foodcrust	–30.2	–29.7	0.5	0	4
			Narva	DAK 949.F	Interior foodcrust	–30.7	–31.0	–0.3	0	4
W. Baltic	Frederiksodde	Coastal	Ertebølle	1734 NJN	Interior sherd powder	–20.7	–23.6	–2.9	n/a	2
W. Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	GR_EBK_I (Rosenhof 1970; II/90)	Interior foodcrust	–21.5	–20.4	1.0	1	4
			Ertebølle	ROS8.42A-F	Interior foodcrust	–26.6	–26.6	0.0	1	4
			Ertebølle	ROS8.42A-I	Interior sherd powder	–25.0	–28.2	–3.2	1	4
			Ertebølle	ROS8.42B-S	Exterior sooted deposit	–25.6	–28.6	–3.0	1	4
			Ertebølle	ROS8.42B-I	Interior sherd powder	–25.0	–28.0	–3.1	1	4
			Ertebølle	ROS 836-I	Interior sherd powder	–28.8	–29.6	–0.8	0	4
			Ertebølle	ROS 837-I	Interior sherd powder	–22.2	–24.4	–2.2	1	4
			Ertebølle	ROS 838-I	Interior sherd powder	–28.7	–31.7	–3.0	0	4
			Ertebølle	ROS 839-I	Interior sherd powder	–28.8	–32.9	–4.0	0	4
			Ertebølle	ROS 841-I	Interior sherd powder	–26.0	–25.0	1.1	1	4
			Ertebølle	ROS 841-S	Exterior sooted deposit	–26.1	–26.3	–0.2	1	4
			Ertebølle	ROS 842-I	Interior sherd powder	–27.7	–30.0	–2.3	0	4
			Ertebølle	ROS 842-S	Exterior sooted deposit	–24.8	–27.2	–2.4	1	4
			Ertebølle	ROS 843-I	Interior sherd powder	–24.8	–25.8	–1.0	1	4
			Ertebølle	ROS 844-I	Interior sherd powder	–28.2	–32.0	–3.7	0	4
			Ertebølle	ROS 844-F	Interior foodcrust	–26.3	–29.9	–3.6	0	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C16:0 (‰)*	*δ¹³C18:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
W. Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS 844-S	Exterior sooted deposit	–29.0	–33.3	–4.3	0	4
			Ertebølle	ROS 845-I	Interior sherd powder	–26.3	–28.1	–1.8	0	4
			Ertebølle	ROS 846-I	Interior sherd powder	–24.0	–23.1	0.9	0	4
			Ertebølle	ROS 847-I	Interior sherd powder	–28.4	–32.9	–4.5	0	4
			Ertebølle	ROS 849-I	Interior sherd powder	–26.2	–30.2	–3.9	0	4
			Ertebølle	ROS 849-F	Interior foodcrust	–27.4	–30.5	–3.0	0	4
			Ertebølle	ROS 850-I	Interior sherd powder	–22.8	–22.5	0.3	1	4
			Ertebølle	ROS 851-I	Interior sherd powder	–23.1	–25.7	–2.6	1	4
			Ertebølle	ROS 853-I	Interior sherd powder	–26.9	–27.1	–0.1	0	4
			Ertebølle	ROS 854-F	Interior foodcrust	–26.1	–27.9	–1.8	1	4
			Ertebølle	ROS 855-I	Interior sherd powder	–24.1	–21.0	3.1	1	4
			Ertebølle	ROS 855-F	Interior foodcrust	–24.6	–22.4	2.2	1	4
			Ertebølle	ROS 856-I	Interior sherd powder	–27.5	–30.1	–2.6	0	4
			Ertebølle	ROS 858-I	Interior sherd powder	–21.4	–22.6	–1.2	0	4
			Ertebølle	ROS 859-I	Interior sherd powder	–21.9	–21.4	0.5	1	4
			Ertebølle	ROS 860-I	Interior sherd powder	–20.5	–19.2	1.3	1	4
			Ertebølle	ROS 860-F	Interior foodcrust	–22.5	–25.2	–2.7	1	4
			Ertebølle	ROS 861-I	Interior sherd powder	–26.9	–29.2	–2.3	0	4
			Ertebølle	ROS 862-I	Interior sherd powder	–27.1	–27.7	–0.6	0	4
			Ertebølle	ROS 863-I	Interior sherd powder	–26.8	–27.8	–1.0	0	4
			Ertebølle	ROS 864-I	Interior sherd powder	–26.8	–28.3	–1.5	1	4
			Ertebølle	ROS 864-F	Interior foodcrust	–22.6	–22.2	0.4	1	4
			Ertebølle	ROS 865-I	Interior sherd powder	–27.3	–28.7	–1.3	n/a	4
			Ertebølle	ROS 865a-I	Interior sherd powder	–29.6	–30.3	–0.6	0	4
			Ertebølle	ROS 866-I	Interior sherd powder	–28.1	–28.9	–0.8	0	4
			Ertebølle	ROS 867-I	Interior sherd powder	–26.9	–27.3	–0.4	0	4
			Ertebølle	ROS 868-I	Interior sherd powder	–27.3	–29.0	–1.6	0	4
			Ertebølle	ROS 869-I	Interior sherd powder	–26.4	–25.9	0.4	0	4
			Ertebølle	ROS 870-I	Interior sherd powder	–30.4	–33.9	–3.6	0	4
			Ertebølle	ROS 872-I	Interior sherd powder	–21.3	–23.6	–2.3	0	4
			Ertebølle	ROS 870-F	Interior foodcrust	–28.8	–33.0	–4.2	0	4
			Ertebølle	ROS8.15-F	Interior foodcrust	–23.0	–23.4	–0.5	1	4
			Ertebølle	ROS8.15-I	Interior sherd powder	–22.9	–22.5	0.4	1	4
			Ertebølle	ROS8.17-F	Interior foodcrust	–29.7	–33.0	–3.3	0	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ13C16:0 (‰)*	*δ13C18:0 (‰)*	*Δ13C*	*Aquatic biomarkers*	*Ref.*
			Ertebølle	ROS8.17-I	Interior sherd powder	–30.2	–33.6	–3.4	0	4
			Ertebølle	ROS8.18-I	Interior sherd powder	–26.6	–27.4	–0.8	0	4
			Ertebølle	ROS8.19-F	Interior foodcrust	–29.9	–30.3	–0.4	1	4
			Ertebølle	ROS8.19-I	Interior sherd powder	–24.1	–24.8	–0.8	0	4
			Ertebølle	ROS8.25-F	Interior foodcrust	–24.6	–24.0	0.7	1	4
			Ertebølle	ROS8.25-I	Interior sherd powder	–23.8	–22.2	1.5	1	4
			Ertebølle	ROS8.26-F	Interior foodcrust	–30.1	–33.1	–3.0	0	4
			Ertebølle	ROS8.26-I	Interior sherd powder	–26.2	–28.2	–2.1	0	4
			Ertebølle	ROS8.27-I	Interior sherd powder	–27.8	–28.4	–0.6	0	4
			Ertebølle	ROS8.28-F	Interior sherd powder	–25.2	–24.7	0.4	1	4
			Ertebølle	ROS8.28-I	Interior foodcrust	–25.0	–23.7	1.3	1	4
			Ertebølle	ROS8.29-S	Exterior sooted deposit	–25.8	–27.2	–1.4	0	4
			Ertebølle	ROS8.29-I	Interior sherd powder	–27.7	–30.6	–2.9	0	4
			Ertebølle	ROS8.30-I	Interior sherd powder	–26.1	–24.8	1.4	0	4
			Ertebølle	ROS8.31A-F	Interior foodcrust	–26.1	–27.1	–1.0	1	4
			Ertebølle	ROS8.31B-F	Interior foodcrust	–22.2	–21.3	1.0	1	4
W. Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.31C-F	Interior foodcrust	–26.9	–28.0	–1.1	1	4
			Ertebølle	ROS8.31-I	Interior sherd powder	–29.2	–27.2	2.1	1	4
			Ertebølle	ROS8.32-I	Interior sherd powder	–21.5	–22.4	–0.9	1	4
			Ertebølle	ROS8.33-F	Interior foodcrust	–25.9	–27.3	–1.4	1	4
			Ertebølle	ROS8.33-S	Exterior sooted deposit	–25.5	–26.7	–1.2	1	4
			Ertebølle	ROS8.33-I	Interior sherd powder	–24.1	–24.9	–0.8	1	4
			Ertebølle	ROS8.34-F	Interior foodcrust	–26.5	–25.7	0.8	1	4
			Ertebølle	ROS8.34-I	Interior sherd powder	–26.4	–26.3	0.1	1	4
			Ertebølle	ROS8.35-F	Interior foodcrust	–25.4	–25.1	0.3	1	4
			Ertebølle	ROS8.35-I	Interior sherd powder	–24.6	–24.8	–0.2	1	4
			Ertebølle	ROS8.36-F	Interior foodcrust	–22.0	–23.5	–1.5	1	4
			Ertebølle	ROS8.36-I	Interior sherd powder	–23.6	–24.3	–0.7	1	4
			Ertebølle	ROS8.37-F	Interior foodcrust	–26.6	–27.5	–0.9	1	4
			Ertebølle	ROS8.37-I	Interior sherd powder	–25.1	–27.0	–1.9	1	4
			Ertebølle	ROS8.38-F	Interior foodcrust	–24.0	–23.8	0.2	1	4
			Ertebølle	ROS8.38-I	Interior sherd powder	–26.4	–26.5	–0.1	1	4
			Ertebølle	ROS8.39A-F	Interior foodcrust	–23.2	–22.8	0.5	1	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
W. Baltic	Grube-Rosenhof LA 58	Coastal	Ertebølle	ROS8.39A-I	Interior sherd powder	–28.0	–28.8	–0.8	1	4
			Ertebølle	ROS8.40A-F	Interior foodcrust	–30.0	–33.6	–3.6	1	4
			Ertebølle	ROS8.40B-F	Interior foodcrust	–30.4	–34.1	–3.7	1	4
			Ertebølle	ROS8.40B-I	Interior sherd powder	–29.3	–32.0	–2.7	1	4
			Ertebølle	ROS8.41C-F	Interior foodcrust	–26.6	–24.4	2.1	1	4
			Ertebølle	ROS8.41C-I	Interior sherd powder	–22.0	–21.8	0.2	1	4
			Ertebølle	ROS8.43-I	Interior sherd powder	–20.1	–20.8	–0.7	0	4
			Ertebølle	ROS8.45-I	Interior sherd powder	–23.2	–24.1	–0.9	1	4
			Ertebølle	ROS8.46-I	Interior sherd powder	–26.8	–30.5	–3.7	0	4
W. Baltic	Havnø	Coastal	Ertebølle	4014_DAO	Interior sherd powder	–24.4	–28.0	–3.6	1	3; 4
			Ertebølle	4014_DGX	Interior sherd powder	–24.7	–25.7	–1.0	1	3; 4
			Ertebølle	4014_FAJ	Interior sherd powder	–26.2	–28.2	–2.0	0	3; 4
			Ertebølle	4014_HXZ	Interior sherd powder	–27.0	–29.6	–2.6	0	3; 4
			Ertebølle	4014_TEW	Interior sherd powder	–30.0	–28.5	1.5	0	3; 4
			Ertebølle	4014_PCE	Interior sherd powder	–22.6	–27.3	–4.7	1	3; 4
			Ertebølle	H-1-I (196)	Interior foodcrust	–19.9	–22.8	–2.8	1	4
			Ertebølle	H-2-I (399)	Interior foodcrust	–19.3	–19.0	0.4	1	4
			Ertebølle	H-3-I (402)	Interior foodcrust	–20.2	–17.7	2.5	1	4
E. Baltic	Iča	Inland	Narva	ICA 800-W	Whole sherd	–35.6	–34.5	1.0	1	4
			Narva	ICA 800-F	Interior foodcrust	–32.1	–31.6	0.5	1	4
			Narva	ICA 801-W	Whole sherd	–30.9	–31.6	–0.7	0	4
			Narva	ICA 802-W	Whole sherd	–34.9	–35.4	–0.5	1	4
			Narva	ICA 803-W	Whole sherd	–34.2	–30.7	3.5	1	4
E. Baltic	Kääpa	Inland	Narva	EO01	Interior sherd powder	–33.4	–32.0	1.3	0	1
			Narva	EO27	Exterior sooted deposit	–33.5	–33.9	–0.4	1	1
			Narva	EO28	Interior sherd powder	–34.1	–33.4	0.7	0	1
			Narva	EO29	Interior sherd powder	–35.0	–33.5	1.5	1	1
			Narva	EO32	Interior sherd powder	–33.6	–32.1	1.6	0	1
			Narva	EO38	Interior foodcrust	–36.2	–34.6	1.6	1	1
			Narva	EO40	Interior foodcrust	–35.5	–35.3	0.1	1	1
			Narva	EO41	Interior sherd powder	–34.3	–32.9	1.4	1	1
			Narva	EO42	Interior foodcrust	–35.1	–35.2	0.0	1	1

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C16:0 (‰)*	*δ¹³C18:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
E. Baltic	Kääpa	Inland	Narva	EO43	Interior sherd powder	–33.8	–33.0	0.8	1	1
			Narva	EO47	Interior foodcrust	–34.4	–33.5	1.0	1	1
			Narva	EO48	Interior sherd powder	–28.5	–26.8	1.7	1	1
			Narva	EO100	Exterior sooted deposit	–33.8	–31.9	1.9	1	1
W. Baltic	Kaldus 3	Inland	Narva	POL-267	Whole sherd	–30.4	–35.5	–5.1	0	4
W. Baltic	Kesemölla	Coastal	Ertebølle	SHM23	Interior sherd powder	–25.3	–25.6	–0.3	0	5
			Ertebølle	SHM24	Interior sherd powder	–24.6	–26.2	–1.6	0	5
E. Baltic	Kõnnu	Coastal	Narva	EO18	Interior sherd powder	–25.6	–23.3	2.3	0	1
			Narva	EO88	Interior sherd powder	–26.0	–25.1	0.9	0	1
			Narva	EO89	Interior sherd powder	–24.8	–23.7	1.1	0	1
			Narva	EO90	Interior sherd powder	–25.4	–24.3	1.1	1	1
E. Baltic	Kretuonas 1	Inland	Narva	KRET-958.W	Whole sherd	–33.0	–34.5	–1.5	0	4
			Narva	KRET-959.W	Whole sherd	–27.9	–28.8	–0.9	0	4
			Narva	KRET-965.I	Interior sherd powder	–29.5	–30.9	–1.4	0	4
E. Baltic	Kroodi	Coastal	Narva	EO87	Interior sherd powder	–25.0	–26.0	–1.0	0	1
W. Baltic	Löddesborg	Coastal	Ertebølle	LB04	Interior sherd powder	–28.4	–29.2	–0.8	0	5
			Ertebølle	LB08	Interior sherd powder	–27.4	–27.9	–0.5	0	5
			Ertebølle	LB10	Interior sherd powder	–25.2	–25.1	0.1	0	5
			Ertebølle	LB13	Interior sherd powder	–26.6	–27.7	–1.1	0	5
			Ertebølle	LB16	Interior sherd powder	–28.1	–29.2	–1.1	0	5
			Ertebølle	LB17	Interior sherd powder	–26.8	–27.1	–0.3	0	5
			Ertebølle	LB23	Interior sherd powder	–27.2	–27.9	–0.7	0	5
			Ertebølle	LB27	Interior sherd powder	–27.0	–28.0	–1.0	1	5
E. Baltic	Lommi III	Estuary	Narva	EO08	Interior sherd powder	–27.9	–29.7	–1.8	0	1
			Narva	EO81	Interior sherd powder	–27.1	–25.6	1.6	0	1
E. Baltic	Narva Joaorg	Estuary	Narva	EO67	Interior sherd powder	–30.7	–29.7	1.0	0	1
			Narva	EO68	Interior sherd powder	–30.8	–29.5	1.4	0	1
			Narva	EO70	Interior sherd powder	–31.9	–31.7	0.2	1	1
			Narva	EO72	Interior sherd powder	–29.5	–27.2	2.3	0	1
			Narva	EO74	Interior sherd powder	–28.3	–28.7	–0.3	0	1

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
W. Baltic	Neustadt LA 156	Coastal	Ertebølle	N1193f	Interior foodcrust	–19.9	–20.1	–0.2	1	2
			Ertebølle	N1193i	Interior sherd powder	–19.3	–19.8	–0.5	0	2
			Ertebølle	N1317f	Interior foodcrust	–28.4	–27.3	1.1	1	2; 3
			Ertebølle	N16i	Interior sherd powder	–26.5	–27.2	–0.7	0	2
			Ertebølle	N1919i	Interior sherd powder	–28.0	–28.1	–0.1	0	2
			Ertebølle	N2367i	Interior sherd powder	–29.2	–30.4	–1.2	0	2
			Ertebølle	N2756s	Exterior sooted deposit	–25.8	–26.5	–0.7	0	2
			Ertebølle	N2772i	Interior sherd powder	–29.2	–31.7	–2.5	1	2
			Ertebølle	N3020i	Interior sherd powder	–28.3	–30.7	–2.4	0	2
			Ertebølle	N3020s	Exterior sooted deposit	–24.4	–27.4	–3.0	0	2; 3
			Ertebølle	N3148i	Interior sherd powder	–28.2	–27.9	0.3	0	2
			Ertebølle	N3305i	Interior sherd powder	–27.5	–27.8	–0.3	0	2
			Ertebølle	N629i	Interior sherd powder	–22.9	–22.7	0.2	0	2; 6
			Ertebølle	N1446i	Interior sherd powder	–29.8	–32.3	–2.5	0	2
			Ertebølle	N2648i	Interior sherd powder	–25.1	–25.2	–0.1	0	2
			Ertebølle	N2648f	Interior foodcrust	–30.5	–34.4	–3.9	n/a	3
			Ertebølle	N1910i	Interior sherd powder	–28.8	–33.6	–4.8	0	3
			Ertebølle	N262i	Interior sherd powder	–31.7	–35.9	–4.2	0	3
			Ertebølle	N2756i	Interior sherd powder	–31.9	–36.0	–4.1	0	3
			Ertebølle	N173i	Interior sherd powder	–29.6	–33.2	–3.6	0	3
			Ertebølle	N1191i	Interior foodcrust	–28.1	–33.1	–5.0	0	3
E. Baltic	Nida	Estuarine/ Lagoonal	Rzucewo Ware	L2i	Interior sherd powder	–32.0	–32.5	–0.5	0	7
			Rzucewo Ware	L3i	Interior sherd powder	–28.5	–32.6	–4.1	0	7
			Rzucewo Ware	L4i	Interior sherd powder	–31.4	–31.3	0.1	1	7
			Rzucewo Ware	L5i	Interior sherd powder	–31.2	–31.3	–0.1	1	7
			Rzucewo Ware	L6i	Interior sherd powder	–30.9	–31.7	–0.8	0	7
			Rzucewo Ware	L7i	Interior sherd powder	–30.1	–30.8	–0.7	1	7
			Rzucewo Ware	L8iA	Interior sherd powder	–32.2	–32.6	–0.4	0	7
			Rzucewo Ware	L8iB	Interior sherd powder	–31.1	–31.3	–0.2	1	7
			Rzucewo Ware	L9i	Interior sherd powder	–31.9	–32.6	–0.7	1	7
			Rzucewo Ware	L10i	Interior sherd powder	–29.9	–30.6	–0.7	1	7
			Rzucewo Ware	L11i	Interior sherd powder	–25.8	–28.3	–2.5	1	7
			Rzucewo Ware	L12i	Interior sherd powder	–32.2	–32.3	–0.1	1	7

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
E. Baltic	Nida	Estuarine/ Lagoonal	Rzucewo Ware	L19i	Interior sherd powder	–30.7	–32.2	–1.5	1	7
			Rzucewo Ware	L21i	Interior sherd powder	–28.0	–33.4	–5.4	0	7
			Rzucewo Ware	L25i	Interior sherd powder	–32.1	–33.1	–1.0	0	7
			Rzucewo Ware	N75_I/9av	Interior sherd powder	–31.5	–31.4	0.1	0	10
			Rzucewo Ware	N75_I/22b	Interior sherd powder	–30.5	–33.5	–2.9	0	10
E. Baltic	Osa	Inland	Narva	OSA 804-W	Whole sherd	–35.7	–34.6	1.1	0	4
			Narva	OSA 805-W	Whole sherd	–34.6	–34.8	–0.2	1	4
			Narva	OSA 806-W	Whole sherd	–25.1	–26.6	–1.5	0	4
			Narva	OSA 809-W	Whole sherd	–28.1	–27.1	1.0	0	4
			Narva	OSA 810-W	Whole sherd	–32.6	–32.2	0.4	1	4
			Narva	OSA 811-F	Interior foodcrust	–36.8	–37.1	–0.4	1	4
			Narva	OSA 812-F	Interior foodcrust	–32.9	–33.4	–0.5	1	4
			Narva	OSA 813-F	Interior foodcrust	–33.0	–34.2	–1.2	1	4
			Narva	OSA 814-F	Interior foodcrust	–38.3	–38.6	–0.3	1	4
			Narva	OSA 815-F	Interior foodcrust	–35.0	–34.6	0.4	1	4
			Narva	OSA 816-F	Interior foodcrust	–33.1	–32.9	0.3	0	4
			Narva	OSA 819-W	Whole sherd	–35.3	–34.7	0.6	1	4
			Narva	OSA 819-F	Interior foodcrust	–34.4	–33.9	0.6	1	4
			Narva	OSA 820-W	Whole sherd	–30.2	–28.8	1.3	1	4
			Narva	OSA 820-F	Interior foodcrust	–27.3	–27.5	–0.3	1	4
			Narva	OSA 822-W	Whole sherd	–35.9	–33.2	2.7	1	4
			Narva	OSA 822-F	Interior foodcrust	–34.1	–33.7	0.4	0	4
			Narva	OSA 823-W	Whole sherd	–30.6	–31.0	–0.4	0	4
			Narva	OSA 824-W	Whole sherd	–29.7	–32.7	–3.0	0	4
			Narva	OSA 826-F	Interior foodcrust	–31.4	–30.8	0.6	1	4
			Narva	OSA 828-W	Whole sherd	–29.6	–31.2	–1.6	0	4
			Narva	OSA 828-F	Interior foodcrust	–34.8	–34.7	0.1	1	4
			Narva	OSA 829-W	Whole sherd	–31.6	–31.1	0.5	1	4
			Narva	OSA 829-F	Interior foodcrust	–29.7	–29.6	0.2	1	4
			Narva	OSA 830-W	Whole sherd	–34.9	–34.1	0.8	1	4
			Narva	OSA 830-F	Interior foodcrust	–35.7	–35.3	0.4	1	4
			Narva	OSA 831-W	Whole sherd	–34.6	–31.4	3.2	0	4
			Narva	OSA 831-F	Interior foodcrust	–31.7	–30.8	1.0	1	4
			Narva	OSA 832-W	Whole sherd	–36.4	–33.9	2.5	1	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*$\delta^{13}C_{16:0}$ (‰)*	*$\delta^{13}C_{18:0}$ (‰)*	*$\Delta^{13}C$*	*Aquatic biomarkers*	*Ref.*
E. Baltic	Osa	Inland	Narva	OSA 832-F	Interior foodcrust	–33.8	–33.6	0.2	1	4
			Narva	OSA 833-W	Whole sherd	–34.9	–33.4	1.5	1	4
			Narva	OSA 833-F	Interior foodcrust	–31.5	–31.9	–0.4	0	4
			Narva	OSA 834-W	Whole sherd	–35.2	–33.3	1.9	1	4
			Narva	OSA 834-F	Interior foodcrust	–36.3	–35.4	0.9	1	4
W. Baltic	Ringkloster	Inland	Ertebølle	1592 ARSBW	Interior sherd powder	–27.1	–26.4	0.8	n/a	4
			Ertebølle	1592 ACETIM	Interior sherd powder	–31.7	–31.7	0.0	n/a	4
			Ertebølle	1592 CJBIM	Interior sherd powder	–29.5	–30.1	–0.6	n/a	4
			Ertebølle	1592 VGIM	Interior sherd powder	–27.4	–29.2	–1.8	n/a	4
			Ertebølle	1592 ACFEIM	Interior sherd powder	–26.1	–28.8	–2.7	n/a	4
			Ertebølle	1592 ACCSIM	Interior sherd powder	–25.5	–25.3	0.2	n/a	4
			Ertebølle	1592_AAALA	Interior sherd powder	–29.2	–31.5	–2.3	0	4
			Ertebølle	1592_AACAV	Interior sherd powder	–29.4	–29.7	–0.3	1	4
			Ertebølle	1592_AADNV	Interior sherd powder	–30.1	–29.3	0.8	1	4
			Ertebølle	1592_AADRY	Interior sherd powder	–27.5	–27.2	0.3	1	4
			Ertebølle	1592_AADSY	Interior sherd powder	–28.0	–28.6	–0.7	1	4
			Ertebølle	1592_AADYS	Interior sherd powder	–22.9	–23.2	–0.2	1	4
			Ertebølle	1592_AAEEV	Interior sherd powder	–30.7	–33.7	–3.0	0	4
			Ertebølle	1592_AAOYQ	Interior sherd powder	–30.6	–31.3	–0.7	1	4
W. Baltic	Ronæs Skov	Coastal	Ertebølle	3705_ABE_A	Interior foodcrust	–26.9	–22.9	3.9	1	4
			Ertebølle	3705_AWJ_2	Interior foodcrust	–24.8	–21.7	3.1	0	4
E. Baltic	Ruhnu II	Coastal	Narva	EO91	Interior sherd powder	–25.3	–24.6	0.7	1	1
W. Baltic	Rzucewo	Coastal	Rzucewo Ware	RZ-1 002366	Interior sherd powder	–28.4	–28.7	–0.3	1	9
			Rzucewo Ware	RZ-3 002364	Interior sherd powder	–25.2	–26.9	–1.7	1	9
			Rzucewo Ware	RZ-4 002365	Interior sherd powder	–27.8	–28.3	–0.5	1	9
			Rzucewo Ware	RZ-6 002361	Interior sherd powder	–26.9	–27.1	–0.2	1	9
			Rzucewo Ware	RZ-9 002362	Interior sherd powder	–30.0	–30.5	–0.5	0	9
			Rzucewo Ware	RZ-10 002363	Interior sherd powder	–28.1	–28.5	–0.4	1	9
			Rzucewo Ware	RZ-11 002360	Interior sherd powder	–27.7	–28.3	–0.6	1	9
			Rzucewo Ware	RZ-12B 002359	Interior sherd powder	–29.8	–30.1	–0.3	1	9
			Rzucewo Ware	RZ-13 002354	Interior sherd powder	–28.2	–28.9	–0.7	0	9
			Rzucewo Ware	RZ-14 002357	Interior sherd powder	–26.1	–25.1	1.0	1	9

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
W. Baltic	Soldattorpet	Coastal	Ertebølle	SHM01	Interior sherd powder	–28.9	–28.4	0.3	0	5
			Ertebølle	SHM02	Interior sherd powder	–25.9	–25.4	0.5	0	5
			Ertebølle	SHM09	Interior sherd powder	–28.5	–30.4	–2.0	0	5
			Ertebølle	SHM10	Interior sherd powder	–27.7	–28.8	–1.1	0	5
			Ertebølle	SHM11	Interior sherd powder	–28.8	–29.5	–0.7	0	5
			Ertebølle	SHM27	Interior sherd powder	–26.3	–25.3	1.0	0	5
W. Baltic	Stenø	Inland	Ertebølle	ST_X087_007i	Interior sherd powder	–28.3	–28.5	–0.2	n/a	3
			Ertebølle	ST_X095_039i	Interior sherd powder	–26.6	–31.3	–4.7	n/a	3
W. Baltic	Syltholm II	Coastal	Ertebølle	MLF906-1X8352 P253	Interior foodcrust	–19.6	–23.3	–3.7	0	4
W. Baltic	Syltholm'	Coastal	Ertebølle	X1318	Interior sherd powder	–22.4	–28.1	–5.7	1	5
			Ertebølle	X1659	Interior sherd powder	–28.6	–29.3	–0.7	0	5
			Ertebølle	X2315	Interior sherd powder	–24.6	–26.5	1.3	0	5
			Ertebølle	X3311	Interior sherd powder	–18.5	–19.6	–1.1	0	5
			Ertebølle	X4531	Interior sherd powder	–19.2	–19.7	–0.5	1	5
			Ertebølle	X4602	Interior sherd powder	–19.1	–21.0	–1.9	1	5
			Ertebølle	X5018	Interior sherd powder	–23.8	–23.4	0.4	0	5
			Ertebølle	X8482	Interior sherd powder	–25.9	–31.2	–5.3	1	5
			Ertebølle	X9877	Interior sherd powder	–20.0	–22.0	–2.0	0	5
W. Baltic	Tybrind Vig	Coastal	Ertebølle	2033 AAXM	Interior sherd powder	–25.0	–28.6	–3.6	n/a	3
			Ertebølle	2033 BOFa	Interior foodcrust	–24.2	–27.7	–3.5	n/a	8; 2011; 3
			Ertebølle	2033 CAD	Interior sherd powder	–25.4	–25.9	–0.5	1	8; 2011
			Ertebølle	2033 FJL	Interior sherd powder	–23.1	–23.5	–0.4	n/a	2
			Ertebølle	2033 LGKM	Interior sherd powder	–24.0	–29.4	–5.4	0	2
			Ertebølle	2033 OB	Interior sherd powder	–27.4	–30.9	–3.5	n/a	2
			Ertebølle	2033 PHBM	Interior sherd powder	–19.9	–23.9	–4.0	n/a	2
			Ertebølle	2033 PST	Interior sherd powder	–22.4	–24.2	–1.8	n/a	8; 2011
			Ertebølle	2033 QME	Interior foodcrust	–21.5	–24.1	–2.6	n/a	2; 3
			Ertebølle	2033 RAG	Interior foodcrust	–26.9	–30.4	–3.5	1	8; 2011; 3
			Ertebølle	2033 RBD	Interior foodcrust	–23.9	–24.3	–0.4	1	8; 2011; 3
			Ertebølle	2033 RCF	Interior foodcrust	–25.1	–24.9	0.2	n/a	2; 3
			Ertebølle	2033 SCJ	Interior sherd powder	–17.6	–18.9	–1.3	n/a	2
			Ertebølle	2033 SGB	Interior foodcrust	–24.4	–26.2	–1.8	1	8; 2011; 3
			Ertebølle	2033 BQYIM	Interior sherd powder	–17.2	–16.2	1.0	n/a	2

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C16:0 (‰)*	*δ¹³C18:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
W. Baltic	Tybrind Vig	Coastal	Ertebølle	2033 LGAIM	Interior sherd powder	–22.2	–22.3	–0.1	n/a	2
			Ertebølle	2033_AAX-B	Interior sherd powder	–27.0	–29.0	–2.0	0	4
			Ertebølle	2033_AAX-C	Interior sherd powder	–22.8	–26.9	–4.1	1	4
			Ertebølle	2033_AAX-D	Interior sherd powder	–21.9	–23.4	–1.5	1	4
			Ertebølle	2033_AFK	Interior sherd powder	–25.1	–28.5	–3.4	1	4
			Ertebølle	2033_AKS-B	Interior sherd powder	–25.4	–27.2	–1.8	0	4
			Ertebølle	2033_AYL-B	Interior sherd powder	–24.4	–25.6	–1.2	0	4
			Ertebølle	2033_BGC-C	Interior sherd powder	–27.7	–29.6	–1.9	1	4
			Ertebølle	2033_BQL	Interior sherd powder	–30.1	–31.0	–0.9	1	4
			Ertebølle	2033_INT.I.R	Interior foodcrust	–23.8	–27.0	–3.2	1	4
			Ertebølle	2033_MDB	Interior sherd powder	–21.2	–19.8	1.5	1	4
			Ertebølle	2033_MTC (2033_MTC-A)	Interior sherd powder	–27.3	–29.3	–2.0	0	4
E. Baltic	Vihasoo III	Estuary	Narva	EO83	Interior sherd powder	–26.9	–25.6	1.2	0	1
			Narva	EO84	Interior sherd powder	–27.3	–24.8	2.5	0	1
			Narva	EO85	Interior sherd powder	–27.5	–24.5	3.0	0	1
W. Baltic	Vik	Coastal	Ertebølle	SHM26		–15.4	–16.8	–1.4	n/a	5
E. Baltic	Zacennie	Inland	Narva	BEL 475-W	Whole sherd	–29.2	–29.6	–0.4	0	4
			Narva	BEL 475-F	Interior foodcrust	–27.5	–27.9	–0.4	1	4
E. Baltic	Zvidze	Inland	Narva	ZVID 761-W	Whole sherd	–37.9	–36.7	1.2	1	4
			Narva	ZVID 761-F	Interior foodcrust	–35.8	–35.5	0.3	1	4
			Narva	ZVID 762-W	Whole sherd	–37.2	–36.3	0.9	0	4
			Narva	ZVID 762-F	Interior foodcrust	–33.8	–34.2	–0.4	1	4
			Narva	ZVID 763-W	Whole sherd	–36.1	–34.6	1.5	1	4
			Narva	ZVID 763-F	Interior foodcrust	–36.6	–36.6	0.0	1	4
			Narva	ZVID 764-W	Whole sherd	–34.0	–34.7	–0.7	0	4
			Narva	ZVID 764-F	Interior foodcrust	–31.8	–32.4	–0.6	1	4
			Narva	ZVID 766-W	Whole sherd	–34.8	–33.7	1.2	1	4
			Narva	ZVID 766-F	Interior foodcrust	–32.0	–32.1	–0.1	1	4
			Narva	ZVID 767-W	Whole sherd	–36.8	–35.8	1.0	1	4
			Narva	ZVID 769-W	Whole sherd	–30.8	–31.1	–0.2	0	4
			Narva	ZVID 769-F	Interior foodcrust	–33.8	–34.1	–0.3	1	4
			Narva	ZVID 770-W	Whole sherd	–32.9	–32.9	0.0	1	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C₁₆:0 (‰)*	*δ¹³C₁₈:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
E. Baltic	Zvidze	Inland	Narva	ZVID 770-F	Interior foodcrust	–29.9	–30.0	–0.1	1	4
			Narva	ZVID 771-W	Whole sherd	–36.7	–35.4	1.3	0	4
			Narva	ZVID 771-F	Interior foodcrust	–35.0	–34.7	0.2	1	4
			Narva	ZVID 772-W	Whole sherd	–36.3	–35.1	1.2	1	4
			Narva	ZVID 772-F	Interior foodcrust	–33.6	–32.7	0.9	1	4
			Narva	ZVID 775-W	Whole sherd	–33.0	–33.1	–0.1	0	4
			Narva	ZVID 775-F	Interior foodcrust	–33.2	–33.6	–0.4	1	4
			Narva	ZVID 776-W	Whole sherd	–34.5	–33.9	0.7	1	4
			Narva	ZVID 776-F	Interior foodcrust	–35.9	–36.0	–0.1	1	4
			Narva	ZVID 777-W	Whole sherd	–34.5	–33.4	1.1	1	4
			Narva	ZVID 777-F	Interior foodcrust	–33.6	–32.8	0.8	1	4
			Narva	ZVID 778-W	Whole sherd	–36.6	–34.5	2.1	1	4
			Narva	ZVID 778-F	Interior foodcrust	–34.6	–34.7	–0.1	1	4
			Narva	ZVID 779-W	Whole sherd	–36.0	–35.7	0.3	1	4
			Narva	ZVID 780-W	Whole sherd	–36.1	–34.9	1.1	1	4
			Narva	ZVID 780-F	Interior foodcrust	–33.1	–33.7	–0.5	1	4
			Narva	ZVID 781-W	Whole sherd	–29.3	–31.2	–1.9	1	4
			Narva	ZVID 781-F	Interior foodcrust	–28.3	–29.2	–0.9	1	4
			Narva	ZVID 782-W	Whole sherd	–33.5	–33.0	0.5	0	4
			Narva	ZVID 783-W	Whole sherd	–35.3	–34.6	0.7	0	4
			Narva	ZVID 783-F	Interior foodcrust	–35.0	–35.4	–0.4	1	4
			Narva	ZVID 784-W	Whole sherd	–29.8	–28.9	0.9	0	4
			Narva	ZVID 785-W	Whole sherd	–30.1	–28.7	1.3	0	4
			Narva	ZVID 785-F	Interior foodcrust	–27.4	–27.6	–0.2	1	4
			Narva	ZVID 786-W	Whole sherd	–33.7	–34.2	–0.6	0	4
			Narva	ZVID 786-F	Interior foodcrust	–31.3	–31.7	–0.4	1	4
			Narva	ZVID 787-W	Whole sherd	–36.2	–36.3	–0.1	0	4
			Narva	ZVID 787-F	Interior foodcrust	–35.7	–35.1	0.7	1	4
			Narva	ZVID 788-W	Whole sherd	–37.7	–37.5	0.1	0	4
			Narva	ZVID 788-F	Interior foodcrust	–33.9	–34.4	–0.5	0	4
			Narva	ZVID 789-W	Whole sherd	–40.6	–37.0	3.7	0	4
			Narva	ZVID 790-W	Whole sherd	–36.8	–36.2	0.5	1	4
			Narva	ZVID 790-F	Interior foodcrust	–33.9	–34.8	–0.9	1	4
			Narva	ZVID 791-W	Whole sherd	–30.0	–29.6	0.4	0	4
			Narva	ZVID 792-W	Whole sherd	–36.6	–34.9	1.7	1	4

Region	*Site*	*Location*	*Culture/ware*	*Sample code*	*Sample type*	*δ¹³C16:0 (‰)*	*δ¹³C18:0 (‰)*	*Δ¹³C*	*Aquatic biomarkers*	*Ref.*
E. Baltic	Zvidze	Inland	Narva	ZVID 792-F	Interior foodcrust	–35.5	–35.4	0.1	1	4
			Narva	ZVID 793-W	Whole sherd	–34.4	–34.4	0.0	0	4
			Narva	ZVID 793-F	Interior foodcrust	–31.8	–31.2	0.6	1	4
			Narva	ZVID 795-W	Whole sherd	–32.5	–32.1	0.5	1	4
			Narva	ZVID 795-F	Interior foodcrust	–33.0	–32.8	0.1	1	4
			Narva	ZVID 797-W	Whole sherd	–32.6	–33.5	–0.9	1	4
			Narva	ZVID 797-F	Interior foodcrust	–33.9	–33.5	0.4	1	4

Key: 1. Aquatic biomarkers present; 0. Aquatic biomarkers absent; n/a, aquatic biomarkers unknown

References: 1 = Oras *et al.* 2017; 2 = Craig *et al.* 2011; 3 = Robson 2015; 4 = Courel *et al.* 2020; 5 = Papakosta *et al.* 2019; 6 = Glykou 2016; 7 = Heron *et al*. 2015; 8 = Craig *et al.* 2007; 9 = Cramp *et al.* 2019; 10 = Robson *et al*. 2019

TABLE S10: SUMMARY OF COMBINED MOLECULAR & ISOTOPIC DATA & INTERPRETATION (see foot of table for key)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	δ¹⁵N >8‰ (aquatic)	*δ¹⁵N <8‰ (terres trial)*	*δ¹⁵N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18}:0-C_{16}:0)$*	*$\delta^{13}C$ offset*	
Ceramic oval bowls															
Dąbki 9															
Dą.2r						37.4	Yes				67.9				Aquatic (full suite, SRR%)
Dą.2i		7.8			21.6	110.2	Yes		60.1				Ruminant	0.5	Aquatic (full suite) + ruminant (bulk, SRR%, $\Delta^{13}C$)
Dą.2e	11.0					1.0	Yes		52.9						Aquatic (bulk, full suite) + ruminant (SRR%)
D-1-S						4.5									
D-2-I	11.9			7.4		728.7	Yes		31.7				Non-ruminant	-2.5	Aquatic (bulk, full suite, $\Delta^{13}C$) + ruminant (SRR%)
D-3-S						1.5									
D-3-I	*Unreliable data*					*Analysis not performed*									
D-4-S						4.0									
D-4-I	8.0					*Analysis not performed*									Aquatic (bulk)
D-5-S						3083.1		Yes			70.2		Non-ruminant		Aquatic (partial suite, SRR%, $\Delta^{13}C$)
D-6-S						23.8		Yes	30.9				Non-ruminant		Aquatic (partial suite, $\Delta^{13}C$) + ruminant (SRR%)
D-7-I	9.5					*Analysis not performed*									Aquatic (bulk)
D-8-S						4.1									
D-9-S				9.3+		84.6		Yes	50.5				Non-ruminant	-2.4	Aquatic (partial suite, $\Delta^{13}C$) + ruminant (SRR%)
D-9-I	11.0					*Analysis not performed*									Aquatic (bulk)
D-10-S					28.3+	199.2	Yes				70.1		Non-ruminant	-0.9	Aquatic (full suite, SRR%, $\Delta^{13}C$)
D-10-I		5.8				*Analysis not performed*									Ruminant (bulk)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	$\delta^{15}N$ >8‰ (aquatic)	*$\delta^{15}N$ <8‰ (terres trial)*	*$\delta^{15}N$ <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18}:0-C_{16}:0)$*	*$\delta^{13}C$ offset*	
D-11-S						8.8	Yes		63.7						Aquatic (full suite) + ruminant (SRR%)
D-11-I	9.0					*Analysis not performed*									Aquatic (bulk)
D-12-S						2.0									
D-12-I	10.1					*Analysis not performed*									Aquatic (bulk)
D-^{13}-S					25.8+	6819.9	Yes					77.0	Non-ruminant	-0.7	Aquatic (full suite, SRR%, $\Delta^{13}C$)
D-^{13}-I	9.2					*Analysis not performed*									Aquatic (bulk)
D-14-I	8.3					*Analysis not performed*									Aquatic (bulk)
D-15-S						^{13}.2	Yes			64.3					Aquatic (full suite, SRR%)
D-15-I		7.7				*Analysis not performed*									Ruminant (bulk)
D-16-S						11.6	Yes					78.8			Aquatic (full suite, SRR%)
D-16-I	9.5					*Analysis not performed*									Aquatic (bulk)
D-17-S						*Lipids not detected*									
D-18-I	9.9					*Analysis not performed*									Aquatic (bulk)
D-19-I		7.0				*Analysis not performed*									Ruminant (bulk)
D9-EBK-45-I	9.6					*Analysis not performed*									Aquatic (bulk)
D9-EBK-45-E	8.8					*Analysis not performed*									Aquatic (bulk)
Flynderhage															
FL-1-E			0.9		16.9	3660.1			26.5				Non-ruminant	-5.0	Aquatic ($\Delta^{13}C$) + ruminant (SRR%) + plant (bulk)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	δ^{15}N >8‰ (aquatic)	*δ^{15}N <8‰ (terres trial)*	*δ^{15}N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*Δ^{13}C(C$_{18}$:0-C$_{16}$:0)*	*δ^{13}C offset*	
						Friesack 4									
FR-1-I	9.1					*Analysis not performed*									Aquatic (bulk)
FR-1-E	10.8					*Analysis not performed*									Aquatic (bulk)
FR-2-I	11.8					*Analysis not performed*									Aquatic (bulk)
FR-2-E		7.9				*Analysis not performed*									Ruminant (bulk)
FR-3-S						*Lipids not detected*									
FR-4-E	9.2					*Analysis not performed*									Aquatic (bulk)
excav. 1981; Trench C; H8; Layer 4	12.2					*Analysis not performed*									Aquatic (bulk)
						Grube-Rosenhof LA 58									
GR-1-S						36.1						84.8	Non-ruminant		Aquatic (SRR%, Δ^{13}C)
GR-2-S						23.2						82.7	Non-ruminant		Aquatic (SRR%, Δ^{13}C)
GR-3-E		4.9				*Analysis not performed*									Ruminant (bulk)
GR-4-E		6.2				277.8	Yes		8.4						Aquatic (full suite) + ruminant (bulk, SRR%)
GR-5-S					39.4+	51.2						75.1	Non-ruminant	-0.5	Aquatic (SRR%, Δ^{13}C)
GR-5-E		7.0				*Analysis not performed*									Ruminant (bulk)
GR-6-S					26.6+	1020.9	Yes					93.9	Non-ruminant	-0.7	Aquatic (full suite, SRR%, Δ^{13}C)
GR-6-E		6.9				*Analysis not performed*									Ruminant (bulk)
GR-9-E	9.2				25.3	1574.7	Yes		10.5				Non-ruminant	0.5	Aquatic (bulk, full suite, Δ^{13}C) + ruminant (SRR%)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	$\delta^{15}N$ >8‰ (aquatic)	*$\delta^{15}N$ <8‰ (terres trial)*	*$\delta^{15}N$ <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18}:0-C_{16}:0)$*	*$\delta^{13}C$ offset*	
GR-11-E		7.2			24.5	1830.4	Yes		15.4				Non-ruminant	-0.6	Aquatic (full suite, $\Delta^{13}C$) + ruminant (bulk, SRR%)
GR-12-E	8.2				17.2	1401.8	Yes		16.3				Non-ruminant	4.8	Aquatic (bulk, full suite, $\Delta^{13}C$) + ruminant (SRR%)
GR-13-E/I		7.2				*Analysis not performed*									Ruminant (bulk)
GR-14-S						38.5						83.5	Non-ruminant	1.0	Aquatic (SRR%, $\Delta^{13}C$)
GR-14-E/I		4.2			23.9	*Analysis not performed*									Ruminant (bulk)
							Hamburg Boberg 15								
HB1i (1960:6_140)						n.d	*Analysis not performed*								
HB-1-S				11.4+		57.8					65.7		Ruminant	0.4	Aquatic (SRR%) + ruminant ($\Delta^{13}C$)
HB-1-E			0.5			*Analysis not performed*									Plant (bulk)
HB-2-S						26.1			62.4				Non-ruminant		Aquatic ($\Delta^{13}C$) + ruminant (SRR%)
HB-3-S						97.0				65.3			Non-ruminant		Aquatic (SRR%, $\Delta^{13}C$)
							Hamburg Boberg 15-east								
HB22e (1959:34_3)						n.d	*Analysis not performed*						Non-ruminant		Aquatic ($\Delta^{13}C$)
HB22i (1959:34_3)						n.d	*Analysis not performed*						Non-ruminant		Aquatic ($\Delta^{13}C$)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	$\delta^{15}N$ >8‰ (aquatic)	*$\delta^{15}N$ <8‰ (terres trial)*	*$\delta^{15}N$ <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18}:0-C_{16}:0)$*	*$\delta^{13}C$ offset*	
						Iča									
ICA 798-W						352.2	Yes		56.6						Aquatic (full suite) + ruminant (SRR%)
ICA 798-F	9.8			10.6		3966.9	Yes				74.7		Non-ruminant	-1.2	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
ICA 799-W						150.4	Yes				68.4				Aquatic (full suite, SRR%)
ICA 799-F	9.6				15.0	2067.3	Yes					83.9	Non-ruminant	-2.3	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
ICA 803-W						339.4	Yes		56.3						Aquatic (full suite) + ruminant (SRR%)
ICA 803-F	8.5				15.4	1211.4	Yes				69.8		Non-ruminant	-0.9	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
						Kääpa									
EO35*	10.1					1121.1	Yes				71.1		Non-ruminant		Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
EO45*	10.5					492.4	Yes		63.3						Aquatic (bulk, full suite) + ruminant (SRR%)
EO53*	9.5				20.6	688.0	Yes				72.1		Non-ruminant	-1.3	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
EO55*	9.0					303.8	Yes		63.6						Aquatic (bulk, full suite) + ruminant (SRR%)
						Kiel-Ellerbek LA 1									
EK-1-S						146.8			52.7						Ruminant (SRR%)
EK-1-I/E	8.9					*Analysis not performed*									Aquatic (bulk)
EK-2-E			0.4			*Analysis not performed*									Plant (bulk)
						Kretuonas 1B									
KRET-961.W						239.8		Yes	59.4				Ruminant		Aquatic (partial suite) + ruminant (SRR%, $\Delta^{13}C$)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	δ^{15}N >8‰ (aquatic)	*δ^{15}N <8‰ (terrestrial)*	*δ^{15}N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concentration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (ruminant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*Δ^{13}C(C$_{18}$:0-C$_{16}$:0)*	*δ^{13}C offset*	
KRET-966.W						228.7	Yes				66.2		Non-ruminant		Aquatic (full suite, SRR%, Δ^{13}C)
Meilgaard															
ME-1-S						45.4	Yes		50.0				Ruminant		Aquatic (full suite) + ruminant (SRR%, Δ^{13}C)
Narva Joaorg															
NJ^{13}						455.5		Yes			66.9		Non-ruminant		Aquatic (partial suite, SRR%, Δ^{13}C)
NJ21						78.8	Yes				71.5		Non-ruminant		Aquatic (full suite, SRR%, Δ^{13}C)
NJ25						99.0	Yes				70.1		Non-ruminant		Aquatic (full suite, SRR%, Δ^{13}C)
NJ34						245.6	Yes		62.0				Non-ruminant		Aquatic (full suite, Δ^{13}C) + ruminant (SRR%)
Osa															
OSA 807-F	9.8			10.4		2783.6	Yes					76.0	Non-ruminant	-1.7	Aquatic (bulk, full suite, SRR%, Δ^{13}C)
OSA 807-W						433.1	Yes				71.7				Aquatic (full suite, SRR%)
OSA 821-F	9.6			11.0		3004.1	Yes					77.3	Non-ruminant	-0.7	Aquatic (bulk, full suite, SRR%, Δ^{13}C)
OSA 821-W						3156.2	Yes		49.0						Aquatic (full suite) + ruminant (SRR%)
Ringkloster															
RI-2-Ei	*Unreliable data*					204.6	Yes		21.6						Aquatic (full suite) + ruminant (SRR%)
RI-2-Eii & RI-2-Eiii		6.4				*Analysis not performed*									Ruminant (bulk)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	δ¹⁵N >8‰ (aquatic)	*δ¹⁵N <8‰ (terrestrial)*	*δ¹⁵N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concentration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (ruminant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18:0}-C_{16:0})$*	*δ¹³C offset*	
						Ronæs Skov									
RO-1-S					32.7+	187.2	Yes		50.2				Non-ruminant	0.6	Aquatic (full suite, $\Delta^{13}C$) + ruminant (SRR%)
RO-1-E			0.6			*Analysis not performed*									Plant (bulk)
RO-2-E		7.4				*Analysis not performed*									Ruminant (bulk)
RO-3-E		4.4				*Analysis not performed*									Ruminant (bulk)
RO-4-I		4.9				*Analysis not performed*									Ruminant (bulk)
RO-5-E		5.1			48.0	1557.1	Yes		11.9				Non-ruminant	0.4	Aquatic (full suite, $\Delta^{13}C$) + ruminant (bulk, SRR%)
RO-6-I		6.8				*Analysis not performed*									Ruminant (bulk)
RO-6-E		7.4			17.8	1474.3	Yes		22.1				Non-ruminant	1.1	Aquatic (full suite, $\Delta^{13}C$) + ruminant (bulk, SRR%)
RO-7-E	*Unreliable data*					*Analysis not performed*									
RO-8-S					22.5+	119.2	Yes		50.0				Non-ruminant	1.0	Aquatic (full suite, $\Delta^{13}C$) + ruminant (SRR%)
RO-8-E			3.8			*Analysis not performed*									Plant (bulk)
RO-9-S						93.4	Yes		50.0				Non-ruminant		Aquatic (full suite, $\Delta^{13}C$) + ruminant (SRR%)
RO-10-E		7.5				*Analysis not performed*									Ruminant (bulk)
RO-11-S						16.2		Yes		64.7					Aquatic (partial suite, SRR%)
RO-12-S						243.5	Yes		43.8				Non-ruminant		Aquatic (full suite, $\Delta^{13}C$) + ruminant (SRR%)
RO-13-S						254.4	Yes		43.9				Non-ruminant		Aquatic (full suite, $\Delta^{13}C$) + ruminant (SRR%)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	$\delta^{15}N$ >8‰ (aquatic)	*$\delta^{15}N$ <8‰ (terrestrial)*	*$\delta^{15}N$ <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concentration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (ruminant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C$(C_{18}:0-C_{16}:0)*	*$\delta^{13}C$ offset*	
RO-14-S						74.5	Yes		50.0				Ruminant		Aquatic (full suite) + ruminant (SRR%, $\Delta^{13}C$)
							Siggeneben Süd LA 12								
SS-1-S					32.7+	391.9	Yes					92.3	Non-ruminant	-0.1	Aquatic (full suite, SRR%, $\Delta^{13}C$)
SS-1-I			2.7			*Analysis not performed*									Plant (bulk)
SS-1-E			2.1			*Analysis not performed*									Plant (bulk)
SS-2-I			3.6			*Analysis not performed*									Plant (bulk)
SS-2-E		5.9			31.9	1524.9	Yes		11.4				Non-ruminant	-1.4	Aquatic (full suite, $\Delta^{13}C$) + ruminant (bulk, SRR%)
SS-3-S						76.8			44.8				Non-ruminant		Aquatic ($\Delta^{13}C$) + ruminant (SRR%)
SS-4-S						69.8			58.9						Ruminant (SRR%)
							Šventoji 4								
SV-1-I	9.5					*Analysis not performed*									Aquatic (bulk)
SV-1-E	9.9				27.9	1000.0	Yes		21.5				Non-ruminant	-1.3	Aquatic (bulk, full suite, $\Delta^{13}C$) + ruminant (SRR%)
SV-2-I		6.4				*Analysis not performed*									Ruminant (bulk)
							Šventoji 6								
SV-3-I	9.0					*Analysis not performed*									Aquatic (bulk)
SV-4-I	10.2					*Analysis not performed*									Aquatic (bulk)
SV-5-I	9.5					*Analysis not performed*									Aquatic (bulk)
SV-6-I		7.8				*Analysis not performed*									Ruminant (bulk)
SV-7-I	8.3				25.2	10207.0	Yes		62.1				Non-ruminant	-0.4	Aquatic (bulk, full suite, $\Delta^{13}C$) + ruminant (SRR%)

Sample code	*Stable isotope analysis*					*Organic residue analysis*								*GC-C-IRMS*		*Main lipid source*
	δ^{15}N >8‰ (aquatic)	*δ^{15}N <8‰ (terrestrial)*	*δ^{15}N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concentration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (ruminant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*Δ^{13}C(C$_{18}$:0-C$_{16}$:0)*	*δ^{13}C offset*		
Syltholm II																
MLF906-1X11033	10.6					*Analysis not performed*										Aquatic (bulk)
MLF906-1X11841 In	*Unreliable data*					*Analysis not performed*										
MLF906-1X11841 Out	*Unreliable data*					*Analysis not performed*										
MLF906-1X4^{13}2	*Unreliable data*					*Analysis not performed*										
MLF906-1X5340 P234	*Unreliable data*					*Analysis not performed*										
MLF906-1X11837 P235	*Unreliable data*					*Analysis not performed*										
MLF906-1X11837 P236	*Unreliable data*					*Analysis not performed*										
MLF906-11X4726	9.2					*Analysis not performed*										Aquatic (bulk)
MLF906-11X9044	*Unreliable data*					*Analysis not performed*										
Syltholm XIII																
MLF93 9-1X37	*Unreliable data*					*Analysis not performed*										
MLF93 9-1X37 P144		5.7				*Analysis not performed*										Ruminant (bulk)
Szczepanki 8																
S_Z_PZ _02_S						11.9	Yes		11.3				Non-ruminant			Aquatic (full suite, Δ^{13}C) + ruminant (SRR%)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	δ¹⁵N >8‰ (aquatic)	*δ¹⁵N <8‰ (terres trial)*	*δ¹⁵N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*Δ¹³C(C₁₈:0-C₁₆:0)*	*δ¹³C offset*	
							Tybrind Vig								
2033_EI_2*						40.4						76.1	Ruminant		Aquatic (SRR%) + ruminant (Δ¹³C)
							Wangels LA 505								
W-2-S						127.9						76.9	Ruminant		Aquatic (SRR%) + ruminant (Δ¹³C)
W-3-E	*Unreliable data*					^{13}27.3	Yes		14.0				Non-ruminant		Aquatic (full suite, Δ¹³C) + ruminant (SRR%)
W-4-E			0.6		42.9	15^{13}.6	Yes		^{13}.1				Ruminant	-0.1	Aquatic (full suite) + ruminant (SRR%, Δ¹³C) + plant (bulk)
W-8-I	*Unreliable data*					*Analysis not performed*									
W-8-E	*Unreliable data*					*Analysis not performed*									
W-9-I		6.4				*Analysis not performed*									Ruminant (bulk)
W-9-E		4.3				*Analysis not performed*									Ruminant (bulk)
W-10-I	*Unreliable data*					*Analysis not performed*									
W-10-E	*Unreliable data*					*Analysis not performed*									
W-11-E			3.2			*Analysis not performed*									Plant (bulk)
W-12-S					20.9+	353.2		Yes			71.6		Non-ruminant	-0.9	Aquatic (partial suite, SRR%, Δ¹³C)
W-12-E			3.0			*Analysis not performed*									Plant (bulk)
W-^{13}-S					17.5+	881.9	Yes					78.3	Ruminant	-0.6	Aquatic (full suite, SRR%) + ruminant (Δ¹³C)
W-^{13}-E		4.9				*Analysis not performed*									Ruminant (bulk)
W-14-S						542.1	Yes					77.7	Non-ruminant		Aquatic (full suite, SRR%, Δ¹³C)
W-14-I	*Unreliable data*					*Analysis not performed*									
W-14-E	*Unreliable data*					*Analysis not performed*									
W-15-S						^{13}.8						86.6	Non-ruminant		Aquatic (SRR%, Δ¹³C)
W-16-S						9.5			40.8						Ruminant (SRR%)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	δ¹⁵N >8‰ (aquatic)	*δ¹⁵N <8‰ (terres trial)*	*δ¹⁵N <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18}:0-C_{16}:0)$*	*$\delta^{13}C$ offset*	
Welcz Wielki, st. 10B															
N247						57.0			59.6				Non-ruminant		Aquatic ($\Delta^{13}C$) + ruminant (SRR%)
Zvidze															
ZVID 765-F	8.4				14.0	1437.0	Yes				69.7		Ruminant	-0.5	Aquatic (bulk, full suite, SRR%) + ruminant ($\Delta^{13}C$)
ZVID 765-W						12.2	Yes		51.1						Aquatic (full suite) + ruminant (SRR%)
ZVID 768-F	8.1			9.8		475.5	Yes				66.7		Non-ruminant	-1.3	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
ZVID 768-W						490.8	Yes		63.4						Aquatic (full suite) + ruminant (SRR%)
ZVID 773-F	8.5			7.9		819.8	Yes					75.9	Non-ruminant	-2.8	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
ZVID 773-W						361.8	Yes		56.8						Aquatic (full suite) + ruminant (SRR%)
ZVID 774-F	9.4				12.6	5168.9	Yes					75.7	Non-ruminant	-0.8	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
ZVID 774-W						177.4	Yes				72.8				Aquatic (full suite, SRR%)
ZVID 796-F	9.3			8.5		2773.1	Yes					76.8	Non-ruminant	-4.3	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
ZVID 796-W						673.5	Yes				71.5				Aquatic (full suite, SRR%)
Stone lamps															
Adlavik Harbour															
SL-1						2325.1	Yes				67.9		Ruminant		Aquatic (full suite, SRR%) + ruminant ($\Delta^{13}C$)
Amaknak Island															
ARI-1	17.3				25.8	5420.5	Yes					90.0	Non-ruminant	0.9	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)

Sample code	*Stable isotope analysis*					*Organic residue analysis*							*GC-C-IRMS*		*Main lipid source*
	$\delta^{15}N$ >8‰ (aquatic)	*$\delta^{15}N$ <8‰ (terres trial)*	*$\delta^{15}N$ <4‰ (plant)*	*C:N atomic ratio <12*	*C:N atomic ratio >12*	*Lipid concen-tration (ug/g)*	*Full suite*	*Partial suite*	*SRR <64% (rumi-nant)*	*SRR >64.1% (aquatic)*	*SRR >65.5% (aquatic)*	*SRR >75.0% (aquatic)*	*$\Delta^{13}C(C_{18}:0-C_{16}:0)$*	*$\delta^{13}C$ offset*	
								Atka Island							
AI-1	14.9				13.6	8203.5	Yes					82.3	Non-ruminant	0.4	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
AI-2	*Unreliable data*					299.1	Yes					93.9	Non-ruminant		Aquatic (full suite, SRR%, $\Delta^{13}C$)
								Nunivak Island							
NI-1						4986.4	Yes					85.6	Non-ruminant		Aquatic (full suite, SRR%, $\Delta^{13}C$)
NI-2						10709.3		Yes				87.5	Non-ruminant		Aquatic (partial suite, SRR%, $\Delta^{13}C$)
								Uyak Bay							
UB-1	16.2				34.1	7391.2	Yes					93.6	Non-ruminant	0.7	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)
UB-2	13.5				36.6	11897.7	Yes					82.1	Non-ruminant	-0.9	Aquatic (bulk, full suite, SRR%, $\Delta^{13}C$)

Key: blank cell, analysis not performed and/or no data; unreliable data (stable isotope analysis column), %C <10 and/or %N <1; +, data obtained from the corresponding carbonised surface residue; strike-through (organic residue analysis column), >5 µg g-1 for ceramic powder and >100 µg g-1 for carbonised surface deposits (Evershed *et al*. 2008); *, some data from Craig *et al.* (2011) and Oras *et al*. (2017); full suite, C_{18} and C_{20} APAAs alongside an isoprenoid fatty acid; partial suite, C_{18} APAAs alongside an isoprenoid fatty acid; SRR%, (area SRR/area SRR + area RRR)*100; $\delta^{13}C$, difference in the $\delta^{13}C$ isotope values of the individual mid-chain length fatty acids (C_{16}:0 and C_{18}:0). when the full suite of APAAs were identified, other lipid sources were not taken into consideration in the main lipid source column unless $\delta^{13}C_{16}$:0 and $\delta^{13C}{}_{18}$:0 data were present. Although plant has been listed as a potential contribution to the lipid source based on the bulk data, it is also likely contamination from the burial environment