COPENHAGEN RADIOCARBON DATES X

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The following list comprises a selected number of measurements made on archaeologic samples from 1959 to December 1971. Measurements of geologic samples will be given in a later list. A survey of the radiocarbon chronology for the Danish Mesolithic and Neolithic, ensuing from these and previously published dates from the laboratory, has recently been compiled (Taubør, 1972).

Age calculations are based on a contemporary value equal to 0.95 times the activity of the NBS oxalic acid standard (this also applies to shell dates), and on a half-life for C\textsuperscript{14} of 5570 years. Results are reported in years before 1950, and in the a.d./b.c. scale. Errors quoted include standard deviations of the count rates for the unknown sample, contemporary value, and background. Because possible errors arising from isotopic fractionation, or from fluctuations in the atmospheric C\textsuperscript{14} activity, are not included, calculated errors smaller than 100 years were increased by rounding to that figure as a minimum.

Sample descriptions were prepared in collaboration with collectors and submitters of samples.

ACKNOWLEDGMENTS

Samples were selected by a committee of archaeologists and geologists consisting of H. Norling-Christensen*, Helge Larsen, J. Troels-Smith, and M. Ørsnaes, Natl. Mus., Copenhagen, and Sigurd Hansen and Johs. Iverson*, Geol. Survey of Denmark. Xylotomic determinations were made by E. Tellerup*, P. Wagner, and T. Bartholin, Natl. Mus., Copenhagen. Chemicals were prepared by Karen Skov Jensen and Birgit Rönne.

ARCHAEOLOGIC SAMPLES

A. Denmark

Draved Mose, Mesolithic dwelling place

Charcoal from Mesolithic dwelling place, No. 604 S, from shore of prehistoric "Draved Lake" in bog Draved Mose (55° 1’ N Lat, 8° 57’ E Long), S Jutland. Dwelling place was on former sand dunes, now covered by peat. Flint implements from Early Mesolithic culture (Kapel, 1964; Andersen, 1966), Coll. 1968 and 1969 by H. Kapel and E. Brinch Petersen; subm. by H. Kapel and A. Andersen, Geol. Survey Denmark. Comment: samples from Early Mesolithic dwelling places in Draved were previously dated (R., 1962, v. 4, p. 27-34; 1966, v. 8, p. 213-234; 1968, v. 10, p. 295-327). Dates agree well with oldest group of previous dates.

* Deceased.
K-1466. Draved Mose, D.G.U. 384
Charcoal of pine and deciduous species from gyttja layer together with worked flint. Layer pollen dated to time before immigration of hazel. Date is average of 2 measurements: 9330 ± 150 and 9460 ± 150.

K-1465. Draved Mose, D.G.U. 383
Charcoal of pine and deciduous species from gyttja layer with worked flint. Layer pollen dated to time shortly before immigration of hazel.

Charcoal of pine and deciduous species from cultural layer, Field C/15, with flint implements.

K-1794. Draved Mose, D.G.U. 461 a+b
Charcoal of pine from cultural layer, Field C/16 and D/16, together with flint implements.

Barmosen, Mesolithic dwelling place
Charcoal and peat from Mesolithic dwelling place, B I, in bog Barmosen (55° 3’ N Lat, 11° 54’ E Long), S Zealand, from 5 to 10 cm thick cultural layer with Early Mesolithic flint implements (Johansson, 1970), and from 30 to 40 cm thick peat cover. Coll. 1967 to 1968 and subm. by A. Johansson, Sydsjaellands Mus., Vordingborg and J. Troels-Smith, Natl. Mus., Copenhagen. Comment: cultural layer may have been uncovered for some time in antiquity (cp. K-1427 and K-1773); some mixing of cultural remains and organic matter may therefore have occurred, as dates suggest.

K-1359. Barmosen, B I, 2
Charcoal (Betula sp.) from 11 small finds from area 2 × 2 m in cultural layer.

K-1775. Barmosen, B I, 733
Charcoal (Populus sp.) from cultural layer. Date is average of 2 measurements: 8660 ± 140 and 8490 ± 140.

K-1774. Barmosen, B I, 621
Charcoal (Populus sp. or Salix sp.) from Pit A in cultural layer. Date is average of 3 measurements: 8300 ± 140, 8430 ± 140, and 8250 ± 140.
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K-1773. Barmosen, B I, Hg 10969
Highly humified peat from 0 to 2 cm above upper part of cultural layer. A few flint pieces found in peat. 4470 ± 100

K-1427. Barmosen, B I, Pd 7052
Highly humified peat from 4 to 6 cm above upper part of cultural layer. 3690 ± 110

Klosterlund, Mesolithic dwelling place

Samples from profile just S of classic Klosterlund dwelling place (56° 11′ N Lat, 9° 22′ E Long), Jutland. Lowest in profile was sand, covered by 15 to 20 cm gyttja. Over gyttja was 5 to 6 cm brown peat with flint flakes of Klosterlund culture, covered by black peat. Samples were in or just below brown peat (cultural layer). Pollen dated to end of Zone IV, just before immigration of hazel. Coll. 1967 and subm. by A. Andersen, Geol. Survey Denmark.

Bark (Pinus sp.) from upper part of brown peat. Presumably contemporary with Klosterlund dwelling place. 8920 ± 140

K-1316. Klosterlund, D.G.U. 341
Outer year rings of wood (Pinus sp.) from lower part of brown peat. Probably just below cultural layer. 9140 ± 150

K-1317. Klosterlund, D.G.U. 342
Charred branch (Pinus sp.) from lowermost part of brown peat. Probably just below cultural layer. 9230 ± 150

Outer year rings of branch (Pinus sp.) from lowermost part of brown peat. 9200 ± 140

Mullerup, Maglemose culture, type locality


K-1609. Mullerup, A 18269/1
A single, large piece of charcoal (Corylus avel.) from lower part of cultural layer, Field I, H 1. Date is average of 2 measurements: 8720 ± 140 and 8610 ± 140. 8660 ± 120
K-1610. Mullerup, A 18269/2
Rolls of bark (Betula sp.) from lower part of cultural layer, Field III, B 5 and III, C 5.

K-1611. Mullerup, A 18269/3
Rolls of bark (Betula sp.) from lower part of cultural layer, Field IV, J 2.

K-1612. Mullerup, A 18269/4
Hazelnut shells from cultural layer. Date is average of 3 measurements: 8230 ± 140, 8440 ± 140, 8310 ± 140.

Ulkestrup, Maglemose culture

K-1507. Ulkestrup II, 16122, 16191
Rolls of bark (Betula sp.) from hut proper on a bark layer that formed floor of hut, covered by clay. Date is average of 2 measurements: 8320 ± 140 and 8030 ± 140.

K-1508. Ulkestrup II, 16351
Charcoal (Pinus sp.) 3 m from hut in refuse layer, 21 cm thick. Single piece of cleaved wood charred at one end.

K-1509. Ulkestrup II, 13885
Tinder, ca. 2.5 m from hut in refuse layer.

Kongemosen, Early Coastal culture
Samples from Mesolithic dwelling place at Kongemosen (55° 35' N Lat, 11° 30' E Long), in bog Amosen, W Zealand. Cultural layer consisted of habitation layer, with many flint implements, on shore of former lake, and refuse layer of refuse from dwelling place embedded in gyttja off shore. Artifact assemblage characterized by rhombic arrowheads and large flint picks; represents Kongemose phase of Early Coastal culture (Jørgensen, 1956, 1961). Cultural layer presumably belongs to Pollen Zone VI (ex Svend Jørgensen). Coll. 1955 and subm. by Svend Jørgensen, Natl. Mus., Copenhagen. Comment: 2 pieces of wood from refuse layer were previously dated to 8830 ± 110 and 8400 ± 150 (R., 1966, v. 8, p. 213-234), i.e., considerably older than these dates from habitation layer. Previous samples, therefore, can hardly originate from dwell-
ing place, but represent pieces of wood washed out from older deposits and later embedded in refuse layer.

K-1526. Kongemosen, II 20169
Swamp peat from immediately below habitation layer. Older than dwelling place.

K-1528. Kongemosen, XVIIa 20184
Hazelnut shells from habitation layer. Date is average of 2 measurements: 7840 ± 140 and 7630 ± 140.

K-1588. Kongemosen, XVIIb 20184
Bark (Alnus sp.) from habitation layer at dwelling place.

K-1589. Kongemosen, XI 20178
Bark (Alnus sp.) from refuse layer. Date is average of 2 measurements: 7380 ± 150 and 7320 ± 150.

K-1527. Kongemosen, XVI 20183
Swamp peat from immediately above cultural layer. Younger than dwelling place. Date is average of 2 measurements: 6800 ± 140 and 6850 ± 140.

Villingebaek, Early Coastal culture

K-1368. Villingebaek, J, 18
Charred wood (Corylus sp.) from habitation layer on dwelling place. Layer was resting on sand and covered by clay deposited during following transgression.

K-1369. Villingebaek, C, 22
Charcoal (Pinus sp.) from habitation layer at land.

K-1486. Villingebaek, V, 12-4610a
Twigs from fish trap from upper part of cultural layer, Fields H 13-14 and I 13-14.
K-1334. Villingebaek, 388
Outer 4 cm of tree trunk embedded in refuse layer, ca. 8 to 9 m outside old coast line.

7200 ± 120
5270 B.C.

K-1370. Villingebaek, 186
Charred branch (Pinus sp.) from refuse layer, ca. 5 to 6 m outside old coast line.

7070 ± 120
5120 B.C.

K-1371. Villingebaek, 345
Partly charred piece of branch (Pinus sp.) embedded in refuse layer, ca. 6 to 7 m from old coast line.

7090 ± 120
5140 B.C.

K-1372. Villingebaek, 387
Charred wood (Pinus sp.) from refuse layer, ca. 8 to 9 m from old coast line.

7120 ± 120
5170 B.C.

Månedalen, Early Coastal culture
Charcoal from dwelling place ca. 500 m S of previously mentioned dwelling place at Villingebaek (56° 6' N Lat, 12° 30' E Long), N Zealand. Artifacts represent Kongemose phase of Early Coastal culture and appear broadly contemporary to, or slightly older than, those from nearby Villingebaek dwelling place. Coll. 1969 to 1970 and subm. by H. Kapel. Comment: dates suggest dwelling places at Månedalen and Villingebaek are almost contemporary.

K-1826. Månedalen, F 17
Charcoal (Ulmus sp.) from cultural layer, Field F 17.

7150 ± 130
5200 B.C.

K-1825. Månedalen, B 12
Charcoal (Pinus sp.) from cultural layer, Field B 12.

7040 ± 120
5090 B.C.

K-1827. Månedalen, CDE 17
Charcoal (Corylus sp.) from pit below cultural layer, Fields CDE 17.

7530 ± 130
5580 B.C.

K-1303. Vedbaek, Early Coastal culture
Wood (Cornus sp.) from dwelling place at Vedbaek Boldbane (55° 51' N Lat, 12° 34' E Long), Vedbaek, N Zealand. Part of wooden hafting sleeve, A 41666, from Field III C 2 at dwelling place, with artifacts characterized by core axes and dominance of rhombic arrowheads over transverse arrows (Mathiassen, 1946). Coll. 1946 by Th. Mathiassen; subm. by H. Norling-Christensen, Natl. Mus., Copenhagen. Comment: sample was treated with alum. Preservatives were extracted before dating.
Brovst, Early Coastal culture and Ertebølle culture

Shells and charcoal from former coastal dwelling place at Bratskov (57° 6' N Lat, 9° 30' E Long), Brovst, N Jutland. Dwelling place contained 2 cultural layers separated by marine sand, presumably deposited during a transgression. Lower cultural layer, representing phase of Early Coastal culture, consisted of clay and shells mixed with charcoal, bones, and flint tools, e.g., rhombic arrowheads. It contained no ceramics. Upper cultural layer consisted mainly of minor isolated heaps of shells, with flake axes, transverse arrowheads and thick-walled, pointed-base ceramics from early phase of Ertebølle culture. Both layers were subdivided into a sequence (Andersen, 1970). Coll. 1969 to 1970 and subm. by O. Marseen and Søren H. Andersen, Forhist. Mus., Århus.

K-1661. Brovst, Pd 7567
Charcoal (Quercus sp.) from lower cultural layer, Field A 12, Layer 11. 6680 ± 150

K-1614. Brovst, SHg 902, 903
Shells (Ostrea edulis) from lower cultural layer at junction of Fields A 9, A 10, and E 1. 6590 ± 130

K-1660. Brovst, Pd 7569, 7570
Charcoal (Ulmus sp.) from lower cultural layer, Field A 22, Layer 2. 6420 ± 130

K-1860. Brovst, CYV
Shells (Ostrea edulis) from lower cultural layer, Field 75/45, Layer 11(9). 6560 ± 120

K-1858. Brovst, CYM
Shells (Ostrea edulis) from lower cultural layer, Field 58/39, Layer 11. 6450 ± 120

K-1862. Brovst, CZS
Shells (Ostrea edulis) from lower cultural layer, Field 80/45, Layer 11(9). 6160 ± 110

K-1613. Brovst, SHg 900, 901
Shells (Ostrea edulis) from upper cultural layer at junction of Fields A 9, A 10, and E 1. Date is average of 2 measurements: 5680 ± 120 and 5550 ± 120. 5610 ± 100

K-1856. Brovst, CYJ
Shells (Ostrea edulis) from upper cultural layer, Field 59/42, Layer 8. Date is average of 2 measurements: 5380 ± 110 and 5620 ± 110. 5500 ± 100
<table>
<thead>
<tr>
<th>Date Code</th>
<th>Location</th>
<th>Radiocarbon Dates</th>
<th>Comments</th>
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<tr>
<td>K-1864. Brøvst, DAB</td>
<td>5420 ± 100</td>
<td>3470 B.C.</td>
<td>Shells (Ostrea edulis) from upper cultural layer, Field 68/47, Layer 4. Date is average of 2 measurements: 5370 ± 110 and 5460 ± 110.</td>
</tr>
<tr>
<td>K-1855. Brøvst, CYC</td>
<td>5410 ± 100</td>
<td>3460 B.C.</td>
<td>Shells (Ostrea edulis) from upper cultural layer, Field 57/42, Layer 4. Date is average of 2 measurements: 5290 ± 110 and 5520 ± 110.</td>
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**Henriksholm, Early Coastal culture**
Charcoal from dwelling place at Henriksholm, Bøgebakken (55° 51' N Lat, 12° 33' E Long), N Zealand. Early coastal dwelling place with artifacts dominated by transverse arrowheads and core axes that suggest younger age than Vedbaek (this date list) and older than ceramic Ertebølle culture. Coll. 1924 by G. Hatt; subm. by E. Brinch Petersen, Univ. Copenhagen.

<table>
<thead>
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<tbody>
<tr>
<td>K-1829. Henriksholm, A 33003-3</td>
<td>6170 ± 120</td>
<td>4220 B.C.</td>
<td>Charcoal (Quercus sp.) from hearth in Fields Aj 1, Aj 2, Ba 1, and Ba 2 in lower part of cultural layer.</td>
</tr>
<tr>
<td>K-1828. Henriksholm, A 33003-2</td>
<td>6050 ± 120</td>
<td>4100 B.C.</td>
<td>Charcoal (Corylus avel.) from lower part of cultural layer in Fields Ag 1 and Ah 1, under small irregular stone packing.</td>
</tr>
<tr>
<td>K-1844. Henriksholm, A 33003-1</td>
<td>5910 ± 120</td>
<td>3960 B.C.</td>
<td>Charcoal (Corylus avel. and Tilia sp.) from stone-lined hearth in lower part of cultural layer, Field Aj 2.</td>
</tr>
</tbody>
</table>

**Ertebølle, Ertebølle culture, type locality**
Shells (Ostrea edulis) from kitchen midden at Ertebølle (56° 48' N Lat, 9° 11' E Long), N Jutland. A column of shells, 1 x 1 m and...
1.33 m high, from center of Ertebølle midden, Field E 9, was transferred for exhibition in Natl. Mus., Copenhagen, at excavation in 1895. Samples from this column was taken at intervals of 20 cm. In levels of 22 to 101 cm above base, thick-walled ceramics of Ertebølle-type were found in adjacent fields in midden (Brinch Petersen, 1971). Topmost of dated samples may represent layer with later admixtures. Coll. 1895 by G. Sarauw; subm. by H. Tauber and E. Thorvildsen, Natl. Mus., Copenhagen.

**K-1529. Ertebølle, Eb 1**
Shells, 5 to 7 cm above base of column. Date is average of 2 measurements: 5810 ± 120 and 5710 ± 120.

**K-1530. Ertebølle, Eb 2**
Shells 22 to 23 cm above base.

**K-1531. Ertebølle, Eb 3**
Shells 44 to 45 cm above base.

**K-1532. Ertebølle, Eb 4**
Shells 67 to 68 cm above base.

**K-1533. Ertebølle, Eb 5**
Shells 84 to 85 cm above base.

**K-1534. Ertebølle, Eb 6**
Shells 102 to 104 cm above base.

**K-1535. Ertebølle, Eb 7**
Shells 125 to 127 cm above base. Date is average of 2 measurements: 5180 ± 110 and 5030 ± 110.

**K-1612. Haldrup Strand, Ertebølle culture**
Fragment of wooden shaft (*Fraxinus* sp.) of paddle or spade from submarine dwelling place at Haldrup Strand (55° 52' N Lat, 9° 58' E Long), Jutland. Cultural layer consisted of cardium gyttja and contained charcoal, flint, bones, and thick-walled ceramics, representing an early phase of Ertebølle culture. Coll. 1969 and subm. by Søren H. Andersen.

**Ringkloster, Ertebølle culture and Early funnel beaker culture (A,B)**
Charcoal and wood from inland dwelling place at former fresh water lake at Ringkloster (56° 1' N Lat, 9° 57' E Long), Jutland. Cultural layer consisted of refuse from dwelling place with assemblage of
flint, bone, antler, wood and ceramics; among bones were several of fur animals. Lower and middle cultural layer represents various phases of Ertebølle culture, upper part represents Early Neolithic funnel beaker culture. Coll. 1969 to 1970 and subm. by Søren H. Andersen.

**K-1652. Ringkloster, Hg 11362**

Charcoal (Tilia sp.) from lower part of cultural layer with thick-walled ceramics; in direct contact with old-type stag antler axe with shaft hole near burr.

**K-1765. Ringkloster, ABRK**

Wood (Quercus sp.) from outer 14 year-rings of tree trunk from lower part of cultural layer.

**K-1653. Ringkloster, Hg 11363**

Charcoal (Quercus sp.) from middle of cultural layer with thick-walled ceramics; in direct contact with T-shaped stag antler axe. Archaeologically contemporaneous with Dyrholmen II phase. Date is average of 2 measurements: 5550 ± 110 and 5430 ± 110.

**K-1654. Ringkloster, Pd 8459**

Charcoal (Fraxinus sp.) from upper part of cultural layer with thin-walled sherds of A and B funnel beakers. Date is average of 2 measurements: 5390 ± 110 and 5250 ± 110.

**Sølager, Ertebølle culture and Early funnel beaker culture (B,C)**

Charcoal from old excavation of kitchen midden at Sølager (55° 56' N Lat, 11° 54' E Long), N Zealand. Midden contained several separate layers with different assemblages of artifacts. Lowest layer, I, represents a classic Ertebølle culture, Layer II, Early Neolithic Funnel Beaker culture, Phase B/C, and Layer IV, Middle Neolithic Funnel Beaker culture, Period II, with small admixture of artifacts belonging to Pitted Ware culture. Coll. 1901; subm. by J. Skårup, Univ. Copenhagen.

**K-1723. Sølager, A 19733, R 6, 11 + U 7, 11, 12**

Charcoal (Quercus sp.) from Layer I. Classic Ertebølle culture.

**K-1724. Sølager, A 19733, S 7, 6 + T 7, 7**

Charcoal (Quercus sp. and Betula sp.) from Layer II, Early Neolithic Funnel Beaker culture, Phase B/C. Date is average of 2 measurements: 4660 ± 110 and 4630 ± 110.

**K-1725. Sølager, A 19733, P 6, 1 + S 7, 2**

Charcoal (Quercus sp.) from Layer IV. Date is average of 2 measurements: 4030 ± 110.
ments: 4050 ± 100 and 4020 ± 100. Comment: date is incompatible with other dates for Middle Neolithic Funnel Beaker culture (R., 1964, v. 6, p. 215-225; 1966, v. 8, p. 213-234; and this list) and suggests that charcoal originates from Pitted Ware culture or later admixture.

**K-1450. Flynderhage, 1564 RG, Ertebølle culture** 3280 B.C.

Piece of worked branch (*Corylus* sp.) from kitchen midden at Flynderhage (56° 1’ N Lat, 10° 14’ E Long), Jutland. From refuse layer at midden, with artifacts of Dyreholm II-type and thick-walled ceramics (Andersen, 1970). Coll. 1968 and subm. by Søren H. Andersen.

**K-1659. Lindebjerg, Early Funnel Beaker culture (B)**

Charcoal (*Quercus* sp.) from long barrow of hitherto unknown type from Lindebjerg (55° 42’ N Lat, 11° 11’ E Long), NW Zealand. Sample was part of wooden flake, 30 × 30 cm, standing edgewise in Pit C, which also contained 5 Type B funnel beakers, considered a primary feature of barrow. Coll. 1969 and subm. by G. D. Liversage, Natl. Mus., Copenhagen.

**Praestelyngen, dug-out and Early Funnel Beaker culture (A or C)**

Wood and moss samples from dug-out boat, embedded in gyttja, from Praestelyngen (55° 35’ N Lat, 11° 35’ E Long) in bog Amosen, W Zealand. Boat was 6 m long, of square-stern type, with rounded stem, and fixed in position by pointed sticks along sides. Clay plate with remains of a fire in stem. Stern was formed by bark flake supported by moss and clay. Resting on clay were 3 thick pointed sticks and many potsherds, presumably of funnel beaker, Type A or C. Coll. 1968 to 1969 and subm. by C. Christensen, Natl. Mus., Copenhagen.

**K-1473. Praestelyngen, B II, 1**

Wood (*Tilia* sp.) from stem of dug-out. Date is average of 2 measurements: 5020 ± 120 and 4990 ± 120.

**K-1650. Praestelyngen, B II, 128**

Wood (*Salix* sp.) from long, pointed stick, used for fixing boat in position.

**K-1651. Praestelyngen, B II, 421, 428, 447**

Moss from stern of dug-out.

**Vroue, Middle Neolithic Funnel Beaker culture, Per. I to V**

Charcoal from megalithic graves and stone packing graves at Vroue (56° 25’ N Lat, 9° 4’ E Long), Jutland. Represents time from transition between Early Neolithic and Middle Neolithic Funnel Beaker cul-

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**K-1566. Vroue, Sb. 89, No. 42**
Charcoal (Quercus sp.) immediately below stone pavement in ruin of dolmen. Represents 1st megalithic habitation at site, transition between Early Neolithic and Middle Neolithic, Per. Ia. Date is average of 2 measurements: 4530 ± 110 and 4600 ± 110.

**K-1568. Vroue, Sb 21, XI**
Charcoal (Quercus sp.) from original vegetation surface below barrow with passage grave, 1.5 m outside chamber. Represents time of construction of passage grave, Middle Neolithic, Per. Ib.

**K-1567. Vroue, Sb. 21, III**
Charcoal (Alnus sp.) from same passage grave as K-1568. From below barrow, just inside circle of edge stones. Represents time of construction of passage grave, Middle Neolithic, Per. Ib.

**K-1569. Vroue, Sb. 21, XIII**
Charcoal (Quercus sp.) from same passage grave as K-1568. From top of red-burnt sand on floor of chamber, containing artifacts belonging to Upper Grave period of Single Grave culture. Comment: date suggests charcoal is a remain from Single Grave people.

**K-1570. Vroue, Sb. 115, IV, No. 5**
Charcoal (Quercus sp.) from post hole between funeral House C and Grave D in stone packing grave complex from Middle Neolithic Funnel Beaker culture, Per. IV or V. Date is average of 2 measurements: 5070 ± 110 and 4900 ± 110. Comment: post hole was assumed contemporary with stone packing graves. Date suggests charcoal originates from earlier construction at site.

**K-1571. Vroue, Sb. 117, I, No. 3**
Charcoal (Quercus sp.) from under stone paving in funeral House C in stone packing grave complex from Middle Neolithic Funnel Beaker culture, Per. IV or V.

**K-1572. Vroue, Sb. 117, II, No. 2**
Charcoal (Quercus sp.) from under stone paving in funeral House C in stone packing grave complex from Middle Neolithic Funnel Beaker culture, Per. IV or V.
K-1573. **Vroue, Sh. 112, VII, No. 5**
Charcoal (*Quercus* sp.) from under stones in Graves A and B in stone packing graves from Middle Neolithic Funnel Beaker culture, Per. V. Date is average of 2 measurements: 4260 ± 100 and 4280 ± 100.

4270 ± 100
2320 B.C.

K-1574. **Vroue, Sh. 112, VII, No. 6**
Charcoal (*Quercus* sp.) from under stone paving in funeral House C in stone packing grave complex from Middle Neolithic Funnel Beaker culture, Per. V. Date is average of 2 measurements: 4240 ± 100 and 4180 ± 100.

4210 ± 100
2260 B.C.

**Fovlum, Middle Neolithic Funnel Beaker culture, Per. I**

4540 ± 110
2590 B.C.

K-1601. **Fovlum, 185 B 76**
Charcoal (*Quercus* sp.) from supposed floor level in cult building; originates presumably from fallen wall planks. **Comment:** paraffin was poured over charcoal pieces, extracted before dating.

4530 ± 100
2580 B.C.

K-1602. **Fovlum, 185 B 26**
Charcoal and charred bark (*Quercus* sp.) from floor level, supposed remains of fallen roof of building. Date is average of 2 measurements: 4560 ± 110 and 4500 ± 110.

**Herrup, Middle Neolithic Funnel Beaker culture, Per. I**
Charcoal and bark from cult building from Herrup (56° 24' N Lat, 8° 56' E Long), W Jutland. Cult building belonged to Middle Neolithic Funnel Beaker culture, Per. I, same type as previously dated cult buildings at Tustrup and Ferslev (R., 1964, v. 6, p. 215-225) (Becker. 1969). Coll. 1967 and subm. by C. J. Becker, Univ. Copenhagen. **Comment:** dates agree well with dates for Tustrup and Ferslev, except for K-1770 which, as suspected by excavator, does not belong to Neolithic construction.

4650 ± 100
2700 B.C.

K-1766. **Herrup, XXVI, 67**
Charcoal (*Quercus* sp.) from wall post in E wall of building.

4530 ± 100
2580 B.C.

K-1768. **Herrup, XXVI, 74**
Charcoal (*Quercus* sp.) from layer below stones in building.
**K-1769. Herrup, XXVI, 69**  
Charred bark from layer below stones, but above potsherds lying on floor. Assumed part of previous roof cover. Date is average of 2 measurements: 4610 ± 100 and 4450 ± 100.

**K-1767. Herrup, XXVI, 107**  
Charcoal (*Quercus* sp.) from roof post in building.

**K-1770. Herrup, XXVI, 103**  
Charcoal from pit in cult building.

**K-1771. Lánum, Middle Neolithic, Per. I-II**  
Charcoal (*Sorbus* sp.) from funeral house in stone packing grave complex from Lánum II (56° 27' N Lat, 9° 6' E Long), Jutland. Found scattered in N ditch in funeral house, in which was narrow flint axe of thin butted type. Coll. 1970 and subm. by Ole Faber, Univ. Copenhagen.

**K-1649. Praestelyngen, dug-out, B II 378**  
Wood from outer year rings of dug-out boat from Praestelyngen (55° 35' N Lat, 11° 35' E Long), in bog Amosen, W Zealand. From same excavation as dug-out K-1473 (this list), but placed clearly higher in series of layers and therefore younger. Coll. 1969 and subm. by C. Christensen.

**K-1789. Øster Ristofte, Middle Neolithic, Per. V**  
Charcoal (*Quercus* sp.) from stone paving in stone packing grave complex at Øster Ristofte (56° 11' N Lat, 8° 26' E Long), W Jutland. Found with sherds of pot from Middle Neolithic Funnel Beaker culture, Per V. Sample XIV, K. Coll. 1966 and subm. by C. J. Becker.

**K-1582. Vester Nebel, Single Grave culture**  

**K-1843. Gabøl, Single Grave culture**  
Charcoal (*Quercus* sp.) from bottom layer in Single Grave, 45 cm below ancient surface at Gabøl (55° 15’ N Lat, 9° 9’ E Long), S Jutland.
In grave was battle axe of Glob type B (Glob, 1945), i.e., from Early Under Grave period during Single Grave culture. Charcoal is supposedly from wooden coffin. Coll. 1970 and subm. by E. Jørgensen, Haderslev Mus., Haderslev.

K-1451. Gammelstrup, Single Grave culture  
4000 ± 100

Shells (Ostrea edulis) from stone cist at Gammelstrup (56° 30’ N Lat, 9° 13’ E Long), Jutland. In grave was straight-walled beaker ornamented with groups of vertical engraved lines, dating grave to transition between Younger Ground Grave and Upper Grave periods during Single Grave culture. Shells were covered by 60 to 70 cm thick sand that leaked into cist. Grave also contained bones of lower part of left leg of child, 7 to 10 yr old. Coll. 1968 and subm. by P. Seeberg.

K-1367. Kobberup, Single Grave culture  
4110 ± 100

Charcoal (Quercus sp.) from post in wooden fore-court to stone cist from Kobberup (56° 31’ N Lat, 9° 10’ E Long), Jutland. Post belonged to row of wooden post in S side of forecourt. Wooden coffin in stone cist contained several well-preserved wooden objects and a Glob type I battle axe (Glob, 1945). Coll. 1966 and subm. by P. Kjærum, Forhist. Mus., Aarhus. Date is average of 2 measurements: 4110 ± 100 and 4120 ± 100. Comment: 1 to 2 yr old hazel twigs from under wooden coffin in stone cist previously dated to 3900 ± 120 (K-1284, R., 1968, v. 10, p. 295-327). Sample is more likely to date time of entombment, than oak post with several year rings.

K-1831. Hald, Single Grave culture  
3910 ± 100

Charcoal (Quercus sp.) from grave (B) in tumulus from late Single Grave culture at Hald (56° 36’ N Lat, 9° 18’ E Long), Jutland. Tumulus contained several entombments. Among artifacts in Grave B were 2 battle axes of Glob Type H and I. Coll. 1970 and subm. by P. Kjærum, Forhist. Mus., Aarhus.

K-1529. Vestensø, aurochs  
4170 ± 100


K-1301. Hvorslev, crook-ard  
3440 ± 100

Wood (Fraxinus sp.) from Hvorslev-ard (Glob, 1951, p. 14), a 1-piece ard from bog in Hvorslev (56° 22’ N Lat, 9° 47’ E Long), Jutland. Coll. 1942; subm. by A. Steensberg, Univ. Copenhagen. Date is average of 2 measurements: 3460 ± 100 and 3420 ± 100. Comment: ard was
treated with alun before dating. Preservatives were extracted and lignin fraction was isolated and dated.

3470 ± 100

K-1339. Lundergaards Mose
Wood (Quercus sp.) from tree trunk with carving of ship from bog Lundergaards Mose (57° 12' N Lat, 9° 37' E Long), N Jutland. Remains of a whole forest were found in bog. Trees were killed, and stumps preserved due to swamping. Tree trunk contained ca. 150 yr rings. Rings 1 to 40 from center were used; sample therefore ca. 130 yr older than time when tree was killed. Coll. 1966 and subm. by Palle Friis, Vendsyssel Mus., Hjørring. Comment: sample treated with preservatives, which were extracted, and lignin and cellulose were isolated and dated separately: lignin-fraction 3510 ± 100, cellulose fraction 3400 ± 100. Date is average of measurements. Sample from outer rings of another trunk in bog previously dated (R., 1966, v. 8, p. 213-234).

3170 ± 100

Stenmark, Early Bronze age, Per. II
Charcoal from Bronze age house and pit from Stenmark (57° 14' N Lat, 9° 38' E Long), N Jutland. Flint sickle and potsherds were found in post hole in house. The latter were of Early Bronze age type, presumably Per. II. No covering cultural layer found. Coll. 1967 and subm. by O. Marseen, Aalborg Mus., Aalborg.

3070 ± 100

3080 ± 100

K-1375. Stenmark, 49
Charcoal (Alnus sp., Betula sp., Quercus sp., and Ulmus sp.) in scattered positions in pit slightly E of house. Pit also contained a flint sickle and potsherds.

2890 ± 120

K-853. Else Made, holy spring
Wood (Quercus sp.) from hollowed out trunk inserted in well or holy spring at beach at Else Made (55° 50' N Lat, 10° 32' E Long), Samsø. Coll. 1963 and subm. by O. Bertelsen, Samsø Mus., Samsø.

2860 ± 100

K-1495. Vebbestrup, crook-ard
Wood (Alnus sp.) from Vebbestrup-ard (Glob, 1951, p. 16) from bog Kirketerp Mose (56° 43' N Lat, 9° 49' E Long), Vebbestrup, Jutland. Coll. 1928; subm. by A. Steensberg, Univ. Copenhagen. Comment:
sample treated with preservatives. These were extracted and lignin fraction was isolated and dated.

**Jyderup Skov, Late Bronze age**

Charcoal from ca. 8 m long, oblong pits below habitation layer at dwelling place in forest Jyderup Skov (55° 51' N Lat, 11° 31' E Long), NW Zealand. Layer contained bronze and ceramics from middle of Late Bronze age, Per. V (Thrane, 1971). Dates time when pits were used, and antedates habitation layer. Coll. 1970 and subm. by H. Thrane, Natl. Mus., Copenhagen.

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<tr>
<th>Sample No.</th>
<th>Description</th>
<th>Date (B.C.)</th>
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<tbody>
<tr>
<td>K-1694</td>
<td>Jyderup Skov, XXXI, 29 cm</td>
<td>2990 ± 100</td>
</tr>
<tr>
<td>K-1693</td>
<td>Jyderup Skov, XXXI, 29 cm</td>
<td>2740 ± 100</td>
</tr>
<tr>
<td>K-1691</td>
<td>Jyderup Skov, II, 6q</td>
<td>2800 ± 100</td>
</tr>
<tr>
<td>K-1690</td>
<td>Jyderup Skov, II, 6p</td>
<td>2790 ± 100</td>
</tr>
<tr>
<td>K-1692</td>
<td>Jyderup Skov, XXIX, 16 ab</td>
<td>2750 ± 100</td>
</tr>
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</table>

**Bjergagergård, Late Bronze age, Per. VI**

Charcoal (Alnus sp., Quercus sp., Sorbus sp., and Betula sp.) from pit below level field at Bjergagergård (55° 50’ N Lat, 9° 39’ E Long), Havrum, Jutland. Pit contained small circular stone with rock carving and potsherds from Late Bronze age, Per. VI (Glob, 1969). Coll. 1956 and subm. by P. V. Glob, Natl. Mus., Copenhagen.

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<tr>
<th>Sample No.</th>
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<th>Date (B.C.)</th>
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<tr>
<td>K-575</td>
<td>Bjergagergård, Late Bronze age, Per. VI</td>
<td>2580 ± 100</td>
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**Døstrup, bow-ard**

Wood (Alnus sp.) from Døstrup-ard (Glob, 1951, p. 36) from bog at Døstrup (56° 42’ N Lat, 9° 45’ E Long) N Jutland. Ard is with detachable, arrow-shaped share. Coll. 1884; subm. by A. Steensberg.

**Grøntoft, Pre-Roman Iron age villages**

Charcoal from complex of Iron age villages at Grøntoft (56° 10’ N Lat, 8° 35’ E Long), W Jutland. Several stages (named A, B, etc.)
of development of Iron age village were separated. Village and houses had been removed between different stages; 100 to 200 m between early stages and only very slightly between later stages. During later stages, village was surrounded by enclosures of varying extent, which helped separate different stages. Village consisted of 12 to 20 houses of which only post holes and wall furrows were left. Potsherds dated stages to various periods during Pre-Roman Iron age (Becker, 1965, 1968). Coll. 1961 to 1967 and subm. by C. J. Becker, Univ. Copenhagen.

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<tr>
<td>Charcoal (Quercus sp.) from Post Hole 61b in House XVIII, Village E. Pre-Roman Iron age, Per. I/II.</td>
<td>530 B.C.</td>
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</table>

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<thead>
<tr>
<th>K-1591. Grøntoft, E XII, 75</th>
<th>2470 ± 100 K-1591. Grøntoft, E XII, 75</th>
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<tbody>
<tr>
<td>Charcoal (Alnus sp.) from Post Hole 75 in House XII, Village E. Pre-Roman Iron age, Per. I/II.</td>
<td>520 B.C.</td>
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<tr>
<td>Charcoal (Quercus sp.) from Pit 108 (a+b) in House XII, Village E. Pre-Roman Iron age, Per. I/II.</td>
<td>500 B.C.</td>
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<tr>
<th>K-1625. Grøntoft, E V, 74b</th>
<th>2390 ± 100 K-1625. Grøntoft, E V, 74b</th>
</tr>
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<tbody>
<tr>
<td>Charcoal (Quercus sp.) from floor in House V, Village E. Pre-Roman Iron age, Per. I/II.</td>
<td>440 B.C.</td>
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<tr>
<td>Charcoal (Quercus sp.) from N wall furrow in House VII, Village E. Pre-Roman Iron age, Per I/II.</td>
<td>350 B.C.</td>
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<tr>
<td>Charcoal (Quercus sp.) from NE corner of House XXVI, Village E. Pre-Roman Iron age, Per. I/II.</td>
<td>320 B.C.</td>
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<tr>
<th>K-1027. Grøntoft, B III (1)</th>
<th>2210 ± 100 K-1027. Grøntoft, B III (1)</th>
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<tr>
<td>Charcoal (Corylus avel.) from post hole in House III, Village B. Pre-Roman Iron age I.</td>
<td>260 B.C.</td>
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</table>

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<tr>
<th>K-1026. Grøntoft, B III (2)</th>
<th>2160 ± 100 K-1026. Grøntoft, B III (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charcoal (Alnus sp.) from wall furrow in House III, Village B. Pre-Roman Iron age I.</td>
<td>210 B.C.</td>
</tr>
</tbody>
</table>
K-1130. Grøntoft, A II, I
Charcoal (Quercus sp.) from Post Hole 1 in House II, Village A. Pre-Roman Iron age, Per. II. Date is average of 2 measurements: 2320 ± 100 and 2180 ± 100.

K-1132. Grøntoft, A III, W
Charcoal (Quercus sp.) from hearth in W part of House III, Village A. Pre-Roman Iron age, Per. II.

K-1129. Grøntoft, A I, 22
Charcoal (Quercus sp.) from Post Hole 22 in House I, Village A. Pre-Roman age, Per. II.

K-1131. Grøntoft, A III, h
Charcoal (Quercus sp.) from hearth in House III, Village A. Pre-Roman Iron age, Per. II.

K-1133. Grøntoft, A
Charcoal (Quercus sp.) from Pit B 37 with potsherds in Village A. Pre-Roman Iron age, Per. II.

K-1185. Grøntoft, 338
Charcoal (Quercus sp.) from Pit 338 assoc. with 6-fold row of posts crossing a grave field. Pit older than posts.

K-1186. Grøntoft, 292a
Charcoal (Quercus sp.) from Pit. 292a assoc. with 6-fold row of posts. Older than posts.

K-1184. Grøntoft, 438
Charcoal (Quercus sp.) from Pit 438 assoc. with 6-fold row of posts. Younger than posts.

K-1187. Grøntoft, 453
Charcoal (Quercus sp.) from Pit 453 assoc. with 6-fold row of posts. Younger than posts.

K-1628. Gammel Nugdlit, Group I
Bone (probably rib) of whale from house ruin on Pale-o-Eskimo dwelling place “Gammel Nugdlit” at Nugdlit (76° 38' N Lat, 70° 36' W Long), Thule Dist., N Greenland. Oldest house ruins (Group I) are at ca. +11 m; a younger group of houses (Group II) ca. +8 m. Sample
from stone-lined ash pit in house ruin No. 13, Group I. Artifacts which include burins had similarities to those from Denbigh Flint Complex, but cannot be equated with any known Paleo-Eskimo culture. Coll. 1966 and subm. by E. Knuth, Natl. Mus., Copenhagen.

K-1537. Tuapagssuit, Sarqaq culture
Charcoal (Betula sp. and Salix sp.) from fireplace on beach terrace (No. 4) +4 m at Paleo-Eskimo camp site at Tuapagssuit (64° 32' N Lat, 51° 5' W Long), Godthåb Dist., W Greenland. Campsite contained artifacts of Sarqaq culture. Fireplace was under 5 cm thick vegetational cover. Coll. 1968 and subm. by H. C. Gulløv, Natl. Mus., Copenhagen. Date is average of 2 measurements: 3600 ± 120 and 3640 ± 120.

Engnaes, Independence II culture
Samples of local plant material from Paleo-Eskimo ruins at Engnaes (82° 16' N Lat, 35° 43' W Long) at W end of Lakes Midsommer Søerne, Peary Land, N Greenland. Ruins contained artifacts of Independence II culture (Knuth, 1968). Coll. 1968 and subm. by E. Knuth. Comment: date for K-1522 agrees well with previous date for Independence II culture (K-1059, R., 1968, v. 10, p. 295-327), also made on local plant material.

K-1544. Engnaes, Ruin 1
Charcoal (Salix sp.) coll. in and around central hearth in Ruin 1. Date is average of 2 measurements: 3060 ± 100 and 3100 ± 100.

K-1522. Engnaes, Ruin 5
Charcoal (Salix sp.) coll. in and around hearth in open air cooking place, Ruin 5. Many bones of trout found in hearth.

Nugdlit, Thule culture
Samples from house ruins on large Eskimo dwelling place representing early Thule culture at Nugdlit (76° 47' N Lat, 70° 20' W Long), Thule Dist., W Greenland. Dates arrival of early Thule culture to Greenland. Finds show close connection with early Thule culture in Alaska and Canada (Holtved, 1954). Coll. 1947 by E. Holtved; subm. by J. Meldgaard, Natl. Mus., Copenhagen. Comment: dates for different materials (tusk and wood) from same house ruin agree very well. Dates are older than expected.

K-1078. Nugdlit 29(A) A.D. 910
Tusk of walrus from house ruin No. 29 on Nugdlit dwelling place. Early Thule culture.
K-1099. Nugdlit 29(B)  
Wood (Pinus sp.) from house ruin No. 29 (same ruin as K-1078) on Nugdlit dwelling place. Early Thule culture.

K-1080. Nugdlit 4(A)  
Tusk of walrus from house ruin No. 4 on Nugdlit dwelling place. Early Thule culture.

K-1100. Nugdlit 4(B)  
Wood (Salix sp.) from house ruin No. 4 (same ruin as K-1080) on Nugdlit dwelling place. Early Thule culture.

Ruin Island, Thule culture

Samples from Eskimo house ruins on Ruin I, (78° 50' N Lat, 69° 15' W Long), Thule Dist., N Greenland. Houses contained artifacts from late Nugdlit phase of Thule culture. House 6 also contained objects of Norse origin (Holtved, 1914, p. 74-78), these probably originate from later visit by Norse people. Coll. 1936 by E. Holtved; subm. by J. Meldgaard. Comment: samples of walrus tusk and wood may have been treated superficially with glycerine and phenol. Possible preservatives were extracted before dating. Eskimos tend to re-use artifacts. Dates (K-1487 and K-1488) suggest this occurrence at Ruin I.

K-1487. Ruin Island, R-1  
Tusk of walrus from quiver handle (L.3.2494) from floor in house ruin No. 4.

K-1505. Ruin Island, R-1a  
Wood (Picea sp.) from fire drill (L.3.2495), from floor in house ruin No. 4.

K-1488. Ruin Island, R-2  
Walrus tusk, fragment with perforations (L.3.2599), from floor in house ruin No. 6.

K-1506. Ruin Island, R-2a  
Wood (Picea sp.) from lamp trimmer (L.3.2583) from floor in house ruin No. 6. Date is average of 2 measurements: 850 ± 100 and 900 ± 100.

K-1489. Ruin Island, R-3  
Woolen cloth of Norse origin from floor in house ruin No. 6. Comment: not known if cloth was treated with preservatives, but it looked slightly greasy under microscope. Sample extracted several times with ether and acetone to remove possible preservatives.
K-1449.  Kølnaes, 6  

Wood (Quercus sp.) from lock piece with 3 perforations used as part of umiaq (whale hunting boat) from Kølnaes (82° 40' N Lat, 20° 65' W Long), Herlufholms Strand, Peary Land, N Greenland. The umiaq has previously been dated on baleen to 460 ± 100 (K-566, R., 1960, v. 2, p. 5-11). Oak of Norse origin found in Inglefield Land by Holtved (1911). Submitter suggested that Eskimos acquired oak here passing through Smith Sound to Peary Land. Coll. 1949 and subm. by E. Knuth. Comment: date agrees with suggestion (cf. K-1489, Ruin 1).

C. Alaska  

K-1327.  Trail Creek, Cave 9, Bison 11.120 B.C.  


K-1583.  Onion Portage, Akmak culture 7620 B.C.  


D. Poland  

K-1336.  Kesocha, Early Corded Ware culture 1930 B.C.  

Charcoal (Pinus sp.) from 0.9 m high mound at Kesocha (53° 8' N Lat, 20° 36' E Long), Warsow prov., Poland. From lower parts of grave pit in mound. Base of pit 150 cm below ancient surface. Grave contained 3 pots, with a beaker similar to Glob Type C (Glob, 1945), Early Corded Ware culture. Coll. 1969 and subm. by A. W. Kempisty, Univ. Warsaw. Date is average of 2 measurements: 3970 ± 100 and 3780 ± 100.

K-1337.  Miernow, Early Corded Ware culture 2010 B.C.  

Charcoal (Quercus sp.) from Barrow II at Miernow (50° 21' N Lat, 20° 31' E Long), Kielec prov., Poland. From various places below skeleton in lower part of grave pit No. 2 in mound. Pit contained stone axe, small cup, and bone-awl, Early Corded Ware culture. Coll. 1963 and subm. by A. W. Kempisty.
K-1838. Miernow, Bronze age
Wood (Quercus sp.) from Barrow II at Miernow (50° 21’ N Lat, 20° 31’ E Long), Kielce prov., Poland. Rotten timber from timber construction covering pit in mound. Pit contained vessel of Trziniec culture. Coll. 1963 and subm. by A. W. Kempisty.

E. Syria

Tall Sukas, Chalcolithic period to Iron age
Samples from city mound at Tall Sukas (35° 43’ N Lat, 35° 55’ E Long), Syria, excavated by Carlsberg Expedition to Phoenicia, 1958 to 1963. Samples from layers representing Chalcolithic period to Iron age. Excavation area was divided into 10 m squares; samples originate from Sq. G 11 (Riis, 1970). Coll. 1958 to 1960, subm. by P. J. Riis, Univ. Copenhagen.

K-936. Tall Sukas, 14
Charcoal (Quercus sp.) from Layer 58, Chalcolithic period. Date is average of 2 measurements: 5960 ± 120 and 5870 ± 120.

K-713. Tall Sukas, 13
Charred grains from Layer 48, Early Bronze Age I.

K-1124. Tall Sukas, 19 n
Charcoal (Olea europaea) from Layer 39, Early Bronze age.

K-1128. Tall Sukas, 33
Charcoal (Olea europaea) from Layer 39, Early Bronze age.

K-1127. Tall Sukas, 32
Charcoal (Olea europaea) from Layer 38, Early Bronze age.

K-1126. Tall Sukas, 18, 2
Charcoal (Olea europaea) from Layer 38, Early Bronze age.

K-1125. Tall Sukas, 15
Charcoal (Arbutus sp.) from Layer 35, Early Bronze age.

K-1123. Tall Sukas, 13 e
Charcoal (Quercus sp.) from Layer 33, Early Bronze age.
K-714. Tall Sukas, 7
Charcoal from Layer 27, Early Bronze age III.

K-937. Tall Sukas, 4
Charcoal (Ostrya carpinifolia) from Layer 7, Iron age. Date is average of 2 measurements: 3060 ± 110 and 3130 ± 110.

K-935. Tall Daruk, Middle Bronze age
Charcoal (Quercus sp.) from mound at Tall Daruk (35° 41’ N Lat, 35° 56’ E Long), Syria. From sounding in mound, S and center 920/925, Layer 32, Middle Bronze age. Dated for comparison with corresponding layers at Tall Sukas (Riis, 1970). Coll. 1959 and subm. by P. J. Riis.

F. Thailand

Bang site, Neolithic Ban Kao culture
Charcoal from Neolithic site at Ban Kao (13° 57’ N Lat, 99° 20’ E Long), Kanchanaburi prov., Thailand. Bang site covers ca. 8000 m² of which ca. 400 m² was excavated. Situated on river terrace between R. Kwai and tributary river. Habitation layer was without clear stratification. It contained huge amounts of stone, bone implements, and ceramics. Many burials belonging to culture were embedded in habitation layer. Graves were separated into Group I (early subphase) and Group II (late subphase) (Sørensen, 1967). Coll. 1961 to 1962 and subm. by Per Sørensen, Natl. Mus., Copenhagen.

K-838. Bang site, 1
Charcoal from base of habitation layer, Field Ea, found with Neolithic ceramics. Earliest phase at locality.

K-842. Bang site, 3
Charcoal from undisturbed part of habitation layer, found with many Neolithic artifacts.

K-1088. Bang site, 6
Charcoal (Dicotyledones) from habitation layer. Directly above graves of Group II.

K-1089. Bang site, 7
Charcoal (Dicotyledones) from habitation layer. Directly above graves of Group I.
K-1090. Bang site, 8
Charcoal (Dicotyledones) from habitation layer. Directly above graves of Group I.

K-1087. Bang site, 5
Charcoal (Dicotyledones) from habitation layer. Directly above graves of Group II.

K-1091. Bang site, 9
Charcoal (Dicotyledones) from part of habitation layer with graves of Group II.

K-1092. Bang site, 10
Charcoal (Dicotyledones) from habitation layer. Directly above graves of Group II.

K-1474. Lue Site I, Neolithic Ban Kao culture
Charcoal (Xyla dolabriformis) from Lue site (13° 57' N Lat, 99° 20' E Long), Kanchanaburi prov., Thailand. From dwelling place on small island in tributary river to R. Kwai. Habitation layer, ca. 1 m thick, contained Neolithic artifacts from a single phase which typologically is younger than late subphase at Bang site (this list). Charcoal ca. 1 m below base of habitation layer. Supposed to be the charred pointed base of post from house. Coll. 1962 and subm. by Per Sorensen. Comment: date older than expected. Suggests that sample is unrelated to cultural deposit.

Tham Ongbah, Mesolithic and Metal age
Charcoal from cultural deposits in cave at Tham Ongbah (15° 3' N Lat, 98° 54' E Long), Kanchanaburi prov., Thailand. Cave, ca. 98 m total length, had a N entrance and W entrance, and the following rooms: Hall I, Hall II, Gallery with stalactites, Hall III, and Hall IV. Layers in cave were stratified. Cultural deposits range from Mesolithic to Early Metal age. Coll. 1965 and subm. by Per Sorensen. Comment: K-1298 and K-1299 older than expected. Dates suggest apparently undisturbed layers in Hall 4 were mixed, possibly because of repeated burying in this part of cave.

K-1366. Tham Ongbah, XII, e
Charcoal from lower part of Layer III, which was resting on sterile layer, 7 to 8 m from N entrance in Hall I, Sec. B-D. Dates earliest occupation of cave.
K-1340. Tham Ongbah, XI, a
Charcoal from Layer III, 8 to 9 m from N entrance in Hall I, Sec. B-D. Layer contained bones and Mesolithic implements of Hoabinhian culture.

10.760 ± 170
3810 B.C.

K-1365. Tham Ongbah, XII, d
Charcoal from upper part of Layer III, 8 to 9 m from N entrance in Hall I, Sec. B-D.

9970 ± 150
8020 B.C.

K-1364. Tham Ongbah, XII, e
Charcoal from lower part of Layer II, separated from lowest part of Layer III by 8 cm sterile layer, 8 to 9 m from N entrance in Hall I, Sec. B-D. Layer contained Mesolithic implements of Hoabinhian culture.

10,010 ± 150
8060 B.C.

K-1363. Tham Ongbah, XII, b
Charcoal from upper part of Layer II, 8 to 9 m from N entrance in Hall I, Sec. B-D.

10,090 ± 160
8140 B.C.

K-1341. Tham Ongbah, XI, b
Charcoal from Layer II, 8 to 9 m from N entrance in Hall I, Sec. B-D.

9750 ± 150
7800 B.C.

K-1362. Tham Ongbah, XII, a
Charcoal from lower part of Layer I, separated from Layer II by sterile layer, 7 to 8 m from N entrance in Hall I. Layer contained Mesolithic implements of Hoabinhian culture.

9350 ± 140
7400 B.C.

K-1298. Tham Ongbah, I, a

4240 ± 100
2290 B.C.

K-1299. Tham Ongbah, I, c

3960 ± 100
2010 B.C.

K-1300. Tham Ongbah, X, 2
Charcoal (Dalbergia sp.) from partly burned wooden coffin under undisturbed layers in Gallery. Parallel to boat-shaped coffins from Szechwan prov. in SW China.

2180 ± 100
230 B.C.
REFERENCES


Mathiassen, T., 1946, En boplads fra ældre Stenalder ved Vedbaek Boldbauer: Søllerød Bogen.


Sørensen, P., 1967, Archaeological excavations in Thailand II, the Thai-Danish, Pre-historic expedition 1960-1962: Munksgaard, Copenhagen.


——— 1962, Copenhagen radiocarbon dates V: Radiocarbon, v. 4, p. 27-34.


