

DANMARKS GEOLOGISKE UNDERSØGELSE

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Early Postglacial in Aamosen

Geological and Pollen-Analytical Investigations of Maglemosian Settlements in the West-Zealand Bog Aamosen

by

Svend Jørgensen

Vol. II

Description of Sections and Pollen-Analyses. — A
Presentation of the Bog-Geological Material

With 9 Tables

I kommission hos

C. A. REITZELS FORLAG (JØRGEN SANDAL)

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ABSTRACT

The present paper presents sediment descriptions and pollen-analyses from 8 points of investigation inside the same basin (Aamosen, West-Zealand), partly from localities near the shore, partly from the central part of the basin. The investigation covers the Pre-boreal, Boreal, and the beginning of the Atlantic periods.

The results of the pollen-analyses are given in tabular form, with the numerical values of the individual occurrences of the species.

A discussion and interpretation of the results of the investigation are given in Vol. I of this paper.

I. INTRODUCTION

The geological and pollen-analytical material here presented comes from the West-Zealand bog Aamosen, which lies between the towns of Holbæk, Sorø, and Slagelse (see Vol. I, Fig. 1). The area is drained by the Hallebyaa. A geological description of the bog and the surrounding country is given in V. MILTHER's paper: "Nordvestsjælland's Geologi" (1943, p. 74 ff.). In THERKEL MATHIASSEN's publications: "Stenalderbopladser i Aamosen" (1943) and "Nordvestsjælland's Oldtidsbebyggelse" (1959) a full account of the topography and history of the area has been given.

The field work which is the basis of this presentation of the material took place between 1943 and 1951. With each section in the following it is stated when and by whom the field work was done. The laboratory work was done by the author between 1945 and 1960.

A discussion and interpretation of the geological and pollen-botanical facts are given in Vol. I of this paper.

The archaeological material from the settlement Verup 5 has been presented by KNUD ANDERSEN ("Verupbopladsen" 1961).

II. METHODS AND FORMS OF PRESENTATION

The pollen samples were taken partly in open sections, partly with a "Hiller peat-borer". Details of the method are given by TROELS-SMITH (1955 b, p. 14). With each series of samples a description of the layers is given. For the Niløse and Verup sections this description is rather summary, but for the sections Aamosen; N.1.000; Ø.2.840, and Ul.Ø.; S.13.00; V.6.25, it was made according to the principles introduced by TROELS-SMITH (1955 a). Full measurements of the sections only exist for Ul.Ø. The deficiencies in the field work which strike one today are understandable when the date of the Verup investigation (1943–44) is taken into consideration, as the requirements for the measurement of sections and the description of sediments have since been made much more stringent. On the basis of the original notes, and aided by the observations made in the laboratory on the physical and chemical character of the samples, as well as on their contents of macrofossils and traces of culture, a more detailed description of the sections in agreement with the principles in the above mentioned sediment-system has been worked out. The system of symbols in the section drawings here presented are also according to TROELS-SMITH's system (see Vol. I, Pl. I).

All vertical measurement is from "DANSK NORMAL NUL" (average sea surface), except in the section for the large flint pick.

The method of treatment of the samples in the laboratory is a modification of Erdtman's Method (G. ERDTMAN, 1936), and both the treatment and the preparation of the slides has been fully described by TROELS-SMITH (1955 b, p. 15). In certain cases, however, there are some small changes. The orthodox treatment by boiling with hydrofluoric acid (HF) (ASSARSON & GRANLUND 1924) – in the few cases where HF-treatment was necessary on account of the heavy clay content – has thus not been used. Instead the KOH-treated material was left standing with cold HF for one or several days, until the clay had dissolved, as with this more gentle treatment the pollen does not shrivel up so much. (cf. WELTEN, 1958, p. 256). In the last few years KOH-treated material has not been used for counting, as the fear formerly felt that the Erdtman Method would destroy particularly thin or tender pollen exines, as well as *Pediastrum*, were proved to be unfounded. Thus a greater part of the original sample can be kept in reserve for possible later investigations.

For each sample, record was kept of all observations, both before and during

the treatment, as well as of the course of the treatment itself during its different phases. This can be a great help when determining the sediments. It must here be stressed that the chemical treatment and the making of the slides are very important steps in the laboratory work, and the time spent on making the best possible slides is recovered many times during the microscope work proper, which is not only made easier, but also more reliable.

The laboratory work was done during the years 1945–60. For the main part of the work (over 90%) a binocular Leitz Ortholux microscope with built-in lamp was used (condenser: numerical aperture 0,95). The rest of the optical equipment is as follows:

- I. Winkel-Zeiss objective, 7 mm apochromatic; numerical aperture 0,65; $22\times$ magnification.
- II. Leitz fluorite objective, 7 FL.; numerical aperture 0,85; $58\times$ magnification.
- III. Leitz objective, oil immersion 2 mm apochromatic; numerical aperture 1,32; $90\times$ magnification.
 - A. Leitz periplane ocular; $8\times$ magnification.
 - M. Leitz periplane ocular; $8\times$ magnification, with calibrated scale.
 - St. Leitz periplane ocular; $6\times$ magnification, with calibrated scale.

For the analyses carried out in 1960–61 a pair of Leitz eye pieces; $6,3\times$ magnification made for use with spectacles were also used by way of experiment.

The following combinations were used:

For the counting: Combination I – A; magnification about $220\times$.

For determination and description: Combination III – A; magnification about $900\times$.

For ordinary size measurement: Combination II – M; division of scale $2,38\mu$.

For determination and description – measuring of details:

Combination III – M; (division of scale $1,5\mu$) and combination III – St. (division of scale $0,75\mu$).

A Leitz oil-immersion objective 2 mm apochromatic; numerical aperture 1,40; $90\times$ magnification, and in connection with this an oil-immersion condenser, numerical aperture 1,40, was at the disposal of the laboratory, and also a Leitz phase contrast fitment with xenon lamp in combination with the ortholux microscope.

For the analytical work carried out in 1945–46 (Verup 5, P.33, Analyses 11–31) various other optical apparatus was used, but as this material was revised, first in 1954, and again in 1959, together with all the rest of the material, it seems reasonable to consider the determinations as made under the same optical conditions.

As the standard of the method as well as the personal efficiency of the investigator naturally improved during these years, the analyses made in 1945–46 differ in some details from the rest of the material. Thus *Cladium Mariscus* was not at that time separated from the rest of the *Cyperaceae*, and though we have measurements of all the *Cyperaceae* from these analyses, I have refrained from calculating a curve for *Cladium* based solely on the size of the pollen grains. The same is the case with *Glyceria*. Nor has the green algae *Botryococcus* or charcoal dust been recorded in this part of the diagram.

All the analyses (except Verup 5; P.33, Nos. 11–31) have been made on acetolysed and stained slides, while the material counted in Verup 5; P.33, Nos. 11–13 was partly KOH-treated stained material, partly acetolysed unstained material, as a certain reservation, as mentioned before, was felt at that time about the effects of the Erdtman-treatment.

In the four diagrams for Verup 5 and the diagrams for the large flint pick and Ul.Ø. at least 1000 pollen grains from forest trees (excluding *Corylus*) were counted in each analysis, while in the diagram for Aamosen; N.1.000; Ø.2.840 and the Niløse diagram 2000 (excl. *Corylus*) was the minimum¹⁾. All pollen and spores found in the counting were noted, also *Pediastrum* and *Botryococcus* colonies, as well as a number of unidentified micro-organisms. The presence of charcoal dust was also registered, and notes were made of plant-hairs, pieces of wood, etc. Pollen specimens which could not be directly identified were measured, and their position noted, and if, by a later revision, they could still not be identified, a description was made according to the IVERSEN & TROELS-SMITH pollen-morphological system (1950), and the specimen was photographed or a drawing was made of it. Rare specimens of pollen, as well as pollen whose occurrence seemed irregular were likewise measured and their position noted. In all the samples pollen of *Gramineae*, *Typha* and *Tilia* were systematically measured. (In Verup 5, P.33, Nos. 11–31, however, *Tilia* and *Typha* were not measured, but here all the *Cyperaceae* were measured). *Corylus* pollen was finally measured in all the analyses as a basis for comparison of size. 100 *Corylus* pollen per analysis were measured, and only if there were not enough in a suitable condition for measurement was the number smaller.

In the repeated revisions by far most of the unidentified pollen looked for was found in the position specified. 24 pollen grains in all out of a total of 672 could, however, not be recovered. Of these 22 are from the Verup-diagrams, chiefly from the KOH-treated material. The older slides from Verup were in several cases partly dried-out, which made recovery of recorded pollen difficult or impossible, while all the later slides, where centrifugation

¹⁾ An error in the addition was found during the revision in Analysis No. 20 for Aamosen; N.1.000; Ø.2.840. The total should here be only 1997,5. The same is the case with Analyses No. 5 and No. 11 from the large flint pick. After revision the totals are here found to be resp. 955,5 and 996,5.

in warm water-free glycerine was used, were in first-class condition, and the pollen grains showed hardly any change in size (cf. SVEND TH. ANDERSEN, 1960). All the recovered pollen was identified and referred to family, genus or species.

To discuss the criteria for the individual determinations, and to give descriptions and pictures of all exceptional specimens can not be done within the framework of this paper, nor is publication of the measurements possible. But notebooks as well as original samples, all the slides, records, measurements, notes, drawings, and photographs are filed at the Department of Natural Sciences of the National Museum, where they are available.

The result of the pollen analyses are presented in Tables I–IX. Each table refers to one diagram, and gives the numerical values of the occurrence of the different species of pollen and spores.

In the tables the phanerogams (*Spermatophyta*) come first, arranged alphabetically according to family. Inside the family the pollen which I have not yet been able to determine as to genus and species is put first. Pollen classified under genus or species is then arranged alphabetically so that pollen only classified by genus is put before the species of the same genus.

After this comes pollen identified as such, but which it has not been possible to specify more accurately because of corrosion (a.i.d.), being folded up (a.i.p.) or being concealed (a.i.l.)¹.

The next section in the tables comprises the vascular cryptogams (*Pteridophyta*) arranged according to family in the same way as the *Spermatophyta*, irrespective of their class².

Mosses (*Bryophyta*) are represented only by *Sphagnum* species, while the following section, collected under the heading *Thallophyta* is more heterogeneous, comprising green algae (*Chlorophyceae*), characean plants (*Characeae*) and *Fungi*, so that the numbers here refer respectively to the number of colonies of *Botryococcus* and *Pediastrum*³, Oospores of *Characeae* found macroscopically, and to spores of *Tilletia sphagni*.

After this comes a new group comprising “*Hystrix*” and a series of unidentified microorganisms, given under their temporary “nicknames”. Finally the charcoal dust found microscopically is given.

- ¹) a.i.d. = ad indeterminabile destructum
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.

²) In Table VIII, the Niløse diagram, only spores of ferns belonging to *Polypodiaceae* sp. have been counted to a number corresponding to 500 pollen grains of forest trees (excl. *Corylus*). The number of actually counted specimens is put in parenthesis under the number found by extrapolation. The same is the case for analyses 18 and 23 from Verup, P. 20 (Table IV), as well as those from Ul.Ø. (Table VII).

³) In cases where there has been mass-occurrence of *Pediastrum* and/or *Botryococcus*, recording of these has only been done for the part of the analysis which corresponds to at least 500 pollen-grains of forest trees (excl. *Corylus*). In the table this is indicated by the real number being added in parenthesis below the number found by calculation.

As for the vascular plants, the nomenclature and system is according to HYLANDER (1941). *Ephedra* cf. *distachya* L. and *Rubus fruticosus* L. are however exceptions. For these see WELTEN (1957) and RAUNKJÆR (1934) respectively. For the lower plants the arrangement and names are according to ENGLER UND PRANTL (1888–1915).

In the tables the term “cfr.” (abbreviation for “confer”) is used in the sense “in agreement with” in morphological respect. For example “*Ranunculus* cfr. *Lingua* L.” is to be understood to mean that the pollen given this designation is from a plant of the genus *Ranunculus*, and that it is identical with pollen from *Ranunculus Lingua* L. in every respect, but as the scale of variation for pollen from *Ranunculaceae* is considerable, the possibility of it belonging to other species can not be altogether excluded. Similarly “cfr. *Lycopus europaeus* L.” means that the pollen in question is morphologically identical with *Lycopus europaeus* L., but the possibility that it may be another plant of the *Labiata* family can not as yet be entirely excluded.

Presentation of pollen-analytical material in the form of tables is not unknown, but as a rule it is done as a supplement to diagrams and given with values in percentages (BRORSON CHRISTENSEN 1949; A. ANDERSEN 1954; H. KROG 1954; V. MIKKELSEN 1954). I have here chosen to present the whole material in tabular form with the numerical values given, in order to make the material more easily accessible¹⁾.

1) Sv. TH. ANDERSEN (1961) has used the same method of presentation.

III. DESCRIPTION OF SECTIONS

1. Localities from the Shore Zone of the Aamose Lake

A. The Verup-Kompleks; Verup 5

The complex of settlements and small isolated sites with flint debris designated Verup 5 was exposed when the bog was being harrowed in order to obtain peat for fuel in the summer of 1943. It has been registered in Department I of the National Museum, and given the number A.41935. Its location can be seen on the map, Vol. I, Fig. 1 (No. 4). Investigations of the area were made by the National Museum in 1943 and 1944 by C. L. VEBÆK, and a report on the archaeological excavation exists (J. No. 108/46). J. TROELS-SMITH, with the assistance of ALFRED ANDERSEN and LIS FRYD, carried out the geological investigation from 20/7 to 26/8, 1943. Fig. 2 in Vol. I shows a plan of the excavation. In the trial ditch, running approximately north-south, several series of pollen samples were taken from the west wall – on the plan indicated by P.5, P.10, P.15, P.20, P.25, P.28,30, and P.33. For each of these series there is a description of the layers. In the trial ditch from P.5 to P.15 no artefacts or traces of culture were found in the excavation, and no analyses from these series were therefore made, except a few from P.10 and P.15 for the purpose of orientation.

The small type in the following descriptions of deposits refers to observations made in the laboratory during the treatment of the samples and during the counting.

P.33 (Table I and Vol. I: Fig. 2 and Pls. II–III).

Kote: (Height above sea-level)	Layer No.:	
25,06–24,75 m	12	Peat, fragmented, highly decomposed. lim.sup.4. color: brownish black. Estimated composition: Tl ⁴⁴ .
24,75–24,47 m	11	Swamp peat. lim.sup.1. Swamp peat, dark, containing gyttja. color: blackish brown. Estimated composition: Th ²² , D1 +, Dh +, Dg 1, Ld ²¹ , anthrax (+).

Kote:	Layer No.:	
24,47–24,36 m	10	Swamp peat – lighter in colour. lim.sup.1. Swamp peat, containing gyttja. color: brown. Estimated composition: Th ¹ 2, D1 +, Dh +, Dg 1, Ld ² 1, anthrax(+).
24,36–24,215 m	9	Swamp peat, dark in colour – many intertwined rootlets and rhizomes; remains of culture. lim.sup.1. Swamp peat containing gyttja and drift. color: dark brown. Estimated composition: Th ² 1, D1 +, Dh 1, Dg 1, Ld ² 1, rud.cult.1, anthrax ++.
24,215–24,115 m	8	Calcareous mud and swamp peat; spotted, uneven transition, as the swamp peat has filled small craks and hollows in the calcareous mud. lim.sup.2. color: greyish brown. Estimated composition: Th ¹ 1, Dh +, Dg +, Ld ¹ 1, Lc 2, part. test. (moll.) (+).
24,115–23,38 m	7–2	Calcareous mud, greyish white, greenish. lim.sup.2.
24,115–23,955 m	7	All samples calcareous; in the lowest sample (No. 9) many spores of <i>Chara</i> sp. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3.
23,955–23,905 m	6	Calcareous, some sand and many <i>characeae</i> ; clay and charcoal dust found microscopically. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3, Ga +, As (+), anthrax (+).
23,905–23,855 m	5	Calcareous, a single spore of <i>Chara</i> sp. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3.
23,855–23,78 m	4	Calcareous with fine sand, no <i>Characeae</i> . lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3, Ga +.
23,78–23,41 m	3	Calcareous with fine sand and clay, few <i>Characeae</i> . lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3, Ga +, (Ag + As) +.
23,41–23,38 m	2	Calcareous with fine sand, many spores of <i>Chara</i> sp. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3, Ga +.
23,38–? m	1	Sand. lim.sup.2. Estimated composition: (Ga + Gs) 4.

In all the calcareous samples the pollen material was in a good state of preservation, while the upper layers of swamp peat showed increasing pollen

destruction, until, in sample No. 31, it was so great that it would be futile to count the samples found higher up.

Analyses Nos. 10–31 were carried out in 1945–46, and they have been published before in “Studies in Vegetational History in Honour of Knud Jessen 29th November 1954” (SVEND JØRGENSEN 1954); analyses 1–9 were carried out in 1956–57¹⁾. The conditions connected with preparation of slides and analytical work were mentioned in the section on Methods. It should be added that the occurrence of *Populus* in analyses 10–31 must be treated with reserve, as it was while analysing these samples that the difference in the construction of the exine of the *Populus* pollen and the *Cyperacé* pollen first became clear to me, and I began to separate *Populus* from *Cyperaceae*.

P.28.30 (Table II and Vol. I: Fig. 2 and Pls. IV–V).

Kote:	Layer No.:	
24,895–24,395 m	14–10	Swamp peat. lim.sump.4.
24,895–24,825 m	14	The samples contained heavily decomposed rootfelt. Corrosion of pollen was great (up to 33 %); in No. 35 there was much charcoal dust, in No. 36 only a little. Estimated composition: Th ³ 2, D1 (+), Dh +, Dg 1, Ld ³ 1, anthrax (+).
24,825–24,755 m	13	Swamp peat, hardly as decomposed as in layer 14. lim.sup.1. Pollen corrosion small (2–3 %). Charcoal dust in all samples; in Nos. 33 and 34 macroscopic charcoal as well. Estimated composition: Th ² 2, D1 (+), Dh +, Dg 1, Ld ² 1, anthrax ++.
24,755–24,485 m	12	Swamp peat, as in layer 13. lim.sup.1. Pollen corrosion here, however, greater (10–20 %). Charcoal dust in all samples, and in the lowermost (No. 22) macroscopic charcoal as well. Estimated composition: Th ^{2–3} 2, D1 (+), Dh +, Dg 1, Ld ³ 1, anthrax (+).
24,485–24,42 m	11	Drift gyttja, containing swamp peat. lim.sup.1. Rather decomposed rootfelt present in samples 20 and 21. All samples contained fine sand and fragments of charcoal, as well as great quantities of charcoal dust, in No. 19 bits of wood as well. Pollen corrosion from 5–15 %, increasing going upwards. Traces of chalk in No. 19. Estimated composition: Th ² 1, D1 +, Dh 1, Dg 1, Ld ² 1, Ga +, rud.cult.1, anthrax 1.

¹⁾ The small deviations which occur between the description of some layers in the section from 1954 and the above description are due to observations made during the examination of the remainder of the material in 1956–57.

Kote:	Layer No.:	
24,42–24,395 m	10	Calcareous mud with swamp peat. lim.sup.2. Chalk, fine sand and fragments of charcoal found in sample No. 18. A seed of <i>Urtica dioeca</i> L. was found, as well as spores of <i>Chara</i> sp. and a cocoon of <i>Piscicola geometra</i> L. Fine clay and quantities of charcoal dust found microscopically. Pollen corrosion considerable (13 %). Estimated composition: Th ² 1, Dh +, Dg +, Ld ² 1, Lc 2, Ga +, As (+), rud.cult. +, anthrax ++.
24,395–23,48 m	9–4	Calcareous mud.
24,395–24,36 m	9	The sample very calcareous, it contained sand and a small amount of charcoal as well as spores of <i>Chara</i> sp. Charcoal dust was observed. Pollen corrosion practically nil. lim.sup.2. Estimated composition: Th ¹ +, Ld ¹ 1, Lc 3, Ga +, anthrax +.
24,36–24,19 m	8	All samples highly calcareous, spores of <i>Chara</i> sp. common; in the lowest sample (No. 14) fine clay was found microscopically. Pollen corrosion remarkably great (20–30 %). lim.sup.1. Estimated composition: Th ¹ +, Ld ³ 1, Lc 3, lowermost in the layer also As (+).
24,19–24,09 m	7	Both samples highly calcareous. Many fragments of shells of molluscs as well as operculi of <i>Bithynia</i> sp. A single spore of <i>Chara</i> sp. In sample 13 sand and fragments of charcoal occurred, and in both samples fine clay and charcoal dust was found. Pollen corrosion rather small (2–3 %). lim.sup.1. Estimated composition: Th ¹ +, Ld ¹ 1, Lc 3, As (+), (test. (moll.) + part. test. (moll.)) +, anthrax (+), uppermost in the layer Ga + and anthrax + as well.
24,09–23,99 m	6	Lowermost in the layer (Sample No. 10) fine sand and clay as well as a single piece of charcoal were recorded. No spores of <i>Chara</i> . No corrosion. lim.sup.1. Estimated composition: Th ¹ +, Ld ¹ 1, Lc 3, As (+), (test. (moll.) + part. test. (moll.)) +, lowermost in the layer also Ga +, (Ag + As) +, anthrax +.
23,99–23,63 m	5	All samples calcareous. A little fine sand was present in sample 8. Many spores of <i>Chara</i> sp. in sample 5, but otherwise none. No corrosion. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3, (in sample 8 also Ga +).
23,63–23,48 m	4	All samples were highly calcareous and contained fine sand. Spores of <i>Chara</i> sp. frequent (lacking, though, in sample 4).

Kote:	Layer No.:	
		lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 3, Ga +.
23,48–23,46 m	3	Sand. The sample contained a small amount of chalk and gyttja. Spores of <i>Chara</i> sp. were found; about $\frac{4}{5}$ of sample was sand. lim.sup.2. Estimated composition: (Ga + Gs) 3, Ld ⁰ 0,5, Lc 0,5.
23,46–23,415 m	2	Calcareous mud. Sample highly calcareous; it contained fine sand (about $\frac{1}{4}$); Spores of <i>Chara</i> sp. were found. lim.sup.2. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc 2, Ga 1.
23,415–? m	1	Sand. lim.sup.2. Composition: (Ga + Gs) 4.

From this section, which extends from the layer of sand to the surface of the bog in 1943, the uppermost pollen sample in the series could unfortunately not be analyzed because of almost total destruction of the pollen.

The greater part of the analytical work was done in 1954–55; however, a few supplementary analyses were done in 1957.

P.25 (Table III and Vol. I: Fig. 2 and Pls. VI–VII).

Kote:	Layer No.:	
24,845–24,675 m	12–10	Culture-layer I (= Upper culture-layer) in slightly humified swamp peat.
24,845–24,79 m	12	The layer heterogeneous, with sand, flint, and fragments of charcoal. Pollen corrosion considerable, about 10%. lim.sup.4. Estimated composition: Th ² 2, D1 +, Dh +, Dg 1, Ld ² 1, Ga +, rud.cult. 1, anthrax 1.
24,79–24,73 m	11	The samples contained sand and macroscopic charcoal, except sample 24, where charcoal was present only as dust. The layer was gyttja-like and homogeneous. Pollen corrosion moderate (2–4%). lim.sup.1. Estimated composition: Th ² 1, D1 +, Dh +, Dg 1, Ld ² 2, Ga +, rud.cult. +, anthrax +.
24,73–24,675 m	10	The layer was heterogeneous; it contained sand and charcoal fragments. Corrosion considerable (14% in sample 22). lim.sup.1. Estimated composition: Th ^{2–3} 3, D1 +, Dh +, Dg 0,5, Ld ³ 0,5, Ga +, rud.cult. 1, anthrax +.
24,675–24,575 m	9–8	Swamp peat with seeds of <i>Nymphaea alba</i> , rhizomes of <i>Phragmites</i> , and rootfelt.

Kote:	Layer No.	
24,675–24,625 m	9	The samples contained rootfelt which was only slightly decomposed, and microscopic charcoal dust in moderate quantities. The corrosion was slight < 1%. lim.sup.1. Estimated composition: Th ¹³ , Dh +, Dg 0,5, Ld ^{20,5} , anthrax (+).
24,625–24,575 m	8	The samples contained a considerable quantity of gyttja. Sand was present in sample 19. Only microscopic charcoal. Corrosion moderate (5–6%). lim.sup.1. Estimated composition: Th ² +, Dh +, Dg 2, Ld ²² , (in sample 19 also Ga +), anthrax (+).
24,575–24,50 m	7	Lower culture-layer with pebbles (pigeon-egg size) and flint chips; slightly sandy. A few seeds of <i>Nuphar luteum</i> . lim.sup.2. All samples in this layer contained sand and fragments of charcoal. Pollen corrosion considerable (5–26%, increasing upwards). Estimated composition: Th ² +, Dl 1, Dh 1, Dg 1, Ld ²¹ , Ga +, Gg (maj. & min.) +, rud.cult. 1, anthrax 1.
24,50–23,775 m	6–2	Calcareous mud.
24,50–24,425 m	6	All samples highly calcareous, with spores of <i>Chara</i> sp. In sample 12 macroscopic charcoal was found, in Nos. 11 and 13 only charcoal dust. Pollen corrosion big, considering the type of sediment. lim.sup.2. Estimated composition: Th ¹ +, Ld ²¹ , Lc 3; in sample 11 part. test. (moll.) +, anthrax (+); in sample 12, however, anthrax +.
24,425–24,30 m	5	All samples were highly calcareous, and showed exceptionally great pollen corrosion (up to 26%). Spores of <i>Chara</i> sp. were found. lim.sup.1. Estimated composition: Th ¹ +, Ld ³¹ , Lc 3.
24,30–24,20 m	4	Samples highly calcareous. Spores of <i>Chara</i> sp. present. Pollen corrosion considerable (up to 11%). Fine clay and charcoal were found microscopically. lim.sup.1. Estimated composition: Th ¹ +, Ld ²¹ , Lc 3, As (+), and in sample 7 anthrax (+).
24,20–24,125 m	3	Sample is highly calcareous, but no spores of <i>Chara</i> sp. were found. No pollen corrosion. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰¹ , Lc 3.
24,125–23,775 m	2	All the samples were highly calcareous and contained spores of <i>Chara</i> sp. They all contained some fine sand. No pollen corrosion. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰¹ , Lc 3, Ga +.

Kote:	Layer No.:	
23,775-? m	1	Sand. lim.sup.2. Composition: (Ga + Gs) 4.

The pollen series P.25 comprises all the deposits from the layer of sand to the surface of the bog in 1943. The analyses were carried out in 1955, with the exception of samples 1-6, which were analyzed in 1957.

P.20 (Table IV and Vol. I: Fig. 2 and Pls. IX-X).

Kote:	Layer No.:	
25,055-24,945 m	15	Culture-layer ("Upper culture-layer") peat-like and sandy. lim.sup.4. Very heavy pollen corrosion (over 70%). Estimated composition: Sh4, Ga +, rud.cult.1, anthrax 1.
24,945-24,615 m	14-9	Swamp peat, somewhat humified at the top, downwards with very dense rootfelt and some rhizomes of <i>Phragmites</i> . From the culture-layer downwards <i>Salix</i> - and <i>Alnus</i> roots.
24,945-24,92 m	14	The sample contained a small quantity of fine sand. Great pollen corrosion (40%). lim.sup.1. Estimated composition: Th ³ 3, Dh +, Dg0,5, Ld ³ 0,5, Ga(+); ① 1.
24,92-24,86 m	13	Like layer 14, but containing no sand. Considerable corrosion (about 30%). lim.sup.1. Estimated composition: Th ³ 3, Dh +, Dg0,5, Ld ³ 0,5; ① 1.
24,86-24,77 m	12	Swamp peat, highly decomposed. Structure homogeneous gyttja or dy-like. Charcoal dust was present in samples 19 and 18. The pollen corrosion was great, rising when going upwards to 51%. lim.sup.1. Estimated composition: Th ³ 2, Sh2, ① 1, in samples 19 and 18 anthrax (+).
24,77-24,705 m	11	Swamp peat, highly decomposed, some rootfelt however present. Charcoal dust in both samples. Pollen corrosion great (25-35%). lim.sup.1. Estimated composition: Th ³ 4, Dh +, Dg +, Ld ³ +, ① 1, anthrax(+).
24,705-24,645 m	10	Swamp peat, rather decomposed. Charcoal dust found in both samples. Pollen corrosion relatively small (5-10%). lim.sup.1 Estimated composition: Th ² 4, Dh +, Dg +, Ld ² +, ① 1, anthrax(+).

Kote	Layer No.:	
24,645–24,615 m	9	Swamp-peat, as in layer 10, but also containing sand, charcoal fragments, shells and fragments of shells. Corrosion <1 %. lim.sup.1. Estimated composition: Th ² 4, Dh+, Dg+, Ld ² +, Ga+, (test. (moll.) + part test. (moll.)) +, ① 1, anthrax +.
24,615–24,565 m	8	Transition layer to the whitish yellow calcareous mud. lim.sup.2. Sample calcareous, many spores of <i>Chara sp.</i> Charcoal dust was found. No corrosion. Estimated composition: Th ¹ 1, Dh+, Dg+, Ld ¹ 1, Lc2, anthrax(+).
24,565–23,905 m	7–3	Calcareous mud.
24,565–24,47 m	7	Samples highly calcareous, but only few spores of <i>Characeae</i> were found. One particle of charcoal dust in sample 11. No corrosion. lim.sup.2. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc3; in sample 11 also anthrax(+).
24,47–24,345 m	6	Samples highly calcareous. Many spores of <i>Chara sp.</i> Charcoal dust in both samples. No corrosion. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc3, anthrax(+).
24,345–24,245 m	5	The sample highly calcareous. Many <i>Characeae</i> . For the rest like layer 6, though without charcoal. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc3.
24,245–24,145 m	4	Like layer 5, but no spores of <i>Chara sp.</i> Fine clay found microscopically. lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc3, As(+).
24,145–23,905 m	3	Like layer 4, but fine sand found in all the samples. In the lowermost sample (2) also clay and some shells and fragments of shells. Spores of <i>Chara sp.</i> in all samples (especially many in sample 4). lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc3, Ga+, (test. (moll.) + part. test. (moll.)) +; in sample 2 (Ag+As) + as well.
23,905–23,875 m	2	Sand, containing a little gyttja. lim.sup.2. No spores of <i>Chara sp.</i> A few shell fragments. About $\frac{9}{10}$ of the sample was sand. Estimated composition: (Ga + Gs) 3,5, Ld ⁰ 0,5, part. test. (moll.) (+).
23,875–? m	1	Sand, grey, with many vertically running rhizomes. lim.sup.2. Estimated composition: Th ¹ +, (Ga + Gs) 4.

Series P.20 comprises samples from all strata, from the layer of sand to the surface in 1943. Laboratory work was carried out in 1956–57. On account of pollen destruction the uppermost sample fit to be analyzed was sample 23, Kote 24,935 m.

P.15 (Vol. I: Fig. 2 and Pl. XIX).

At this point of the section neither the “Upper” nor “Lower culture-layer” is met with – no traces at all of culture were found in the excavation. But as the section forms part of a constructed profile which spans from P.15 to P.33, a description of it will be given. This is based in general on field records, and only as far as the uppermost layer (layer 5) is concerned do investigations in the laboratory enter into the description. In the field no notes were made of the composition of the individual layers, and the estimated composition of the layers is thus based on judgment. This I have arrived at by comparing the series of samples from P.15 with the samples from P.20.

Kote:	Layer No.:	
24,895–24,775 m	5	Alder fen peat, homogeneous, slightly humified, with some rootfelt. lim.sup.4. Estimated composition: Tl ³ 3, Th ³ 1, ① 1. At the top of the layer also Ga(+), anthrax(+). At the top of the layer some grains of sand and a little fine charcoal powder, as well as some highly decomposed rootfelt was observed.
24,775–24,655 m	4	Swamp peat, moist <i>Phragmites</i> peat, distinct stratification, and a good deal of rootfelt. lim.sup.1. Estimated composition: Th ² 4, Dh +, Dg +, Ld ² +, ① 1.
24,655–24,635 m	3	Transition layer, lighter in colour. lim.sup.2. Estimated composition: Th ¹ 1, Dh +, Dg +, Ld ¹ 1, Lc2, ① 1.
24,635–23,925 m	2	Calcareous mud, with molluscs in spots. <i>Bithynia tentaculata</i> , <i>Valvata cristata</i> , <i>Sphaerium corneum</i> . Stratification fairly distinct. Some vertically running yellow rhizomes. Here and there vertical roots of <i>Alnus</i> and <i>Salix</i> . lim.sup.1. Estimated composition: Th ¹ +, Ld ⁰ 1, Lc3, (test. (moll.) + part. test. (moll.)) (+), ① +.
23,925–? m	1	Sand, grey and coarse. lim.sup.2. Composition: (Ga + Gs) 4.

The laboratory work was done from 11th to 15th January, 1960.

From Verup 5 we also have measurements of sections and series of pollen samples from section points P.5 and P.10. As these are of no consequence for the dating of the settlement, and as it was thought that they could give no further information about the geological conditions, they were not taken into consideration.

Beyond the analyzed pollen series from Sections P.33, P.28,30, P.25, and P.20, the results of which are presented in Tables I–IV, a few individual samples (6) from finds of archaeological importance have been analyzed. The results of these analyses are collected in Table V.

B. The Niløse-Kompleks; Brovad Grøft (Large Flint Pick)¹⁾

(Table VI and Vol. I: Fig. 1, No. 3 and Pls. XI–XII).

The large flint pick was found by KNUD ANDERSEN in July 1951, and on 3rd August 1951 TROELS-SMITH and the author made a bog-geological investigation of the place where it was found. This was about 20–25 m west of Verup 5 (Vol. I, Fig. 1, No. 4) in the western wall of Brovad Grøft, which runs towards the Aamoseaa in a south-north direction.

A vertical section wall was cleared where the large flint pick was found, a description of the sediments was made, and a series of pollen samples taken. On account of the water level in the ditch and the very slanting sides, the height of the section could only be about 0,5 m, and the designation "surface" does not refer to the surface of the bog, but to the surface at a point in the section, which is the arbitrarily chosen 0-point for the survey. No kote-designations are given.

The sequence of layers from the surface downwards was:

Depth:	Layer No.:	
0,00–0,21 m	5	Swamp peat. nig.3, strf.2, elas.2–3, sicc.2, lim.sup.4. color: blackish brown. struc.: felted. Composition: Th ¹ 2, Dl +, Dh +, Dgl, Ld ² 1. Th: Rootfelt and herbaceous roots. Dl: Twigs of <i>Alnus</i> . Dh: Leaves of <i>Salix sp.</i> , fragment of rhizome of <i>Nymphaea alba</i> . fos.sveg.: Fruits of <i>Scirpus sp.</i> In Sample 14 a piece of a twig of <i>Alnus</i> and a fruit of <i>Betula sp.</i> was found when preparing the slides.

¹⁾ The find has been described by KNUD ANDERSEN (see SVEND JØRGENSEN 1954, p. 160.

Depth:	Layer No.:	
0,21–0,28 m	4	Swamp peat, containing slight amount of calcareous mud. nig.3, strf.+, elas.2–3, sicc.2, lim.sup.1. color: blackish brown. struc.: highly felted. Composition: Th ¹ 2, D1+, Dg1, Ld ² 1, Lc+, part. test. (moll.) (+). Th: Rootfelt, vertical yellow herbaceous roots. D1: A few small sticks. The chalk occurred in small spots in horizontal layers, and a few fragments of mollusc shells were found in these.
0,28–0,325 m	3	Calcareous mud with swamp peat. nig.2–3, strf.1–2, elas.1–2, sicc.2, lim.sup.1. color: blackish brown. struc.: felted. Composition: Th ¹ 2, Dh+, Ld ⁰ +, Lc2, part. test. (moll.) (+). Th: Rootfelt, a few thin, yellow herbaceous roots, a single rhizome of <i>Phragmites</i> . Dh: Fragments of leaf-stalks of <i>Thelypteris palustris</i> .
0,325–0,39 m	2	Calcareous mud with numerous smears from the layer above. lim.sup.1. color: brownish, speckled with grey. Composition: For the calcareous mud (about half of the layer) see layer 1, for the rest of the layer see layer 3.
0,39–? m	1	Calcareous mud. nig.+, strf.2, elas.+, sicc.2, lim.sup.2. color: greyish white, in places with a faint greenish tinge. struc.: gritty. Composition: Th ⁰ +, Ld ⁰ 1, Lc3, test. (moll.) (+), in sample 1 (Ag + As) + as well. Th: Very small amount of rootfelt, a few vertical, yellow herbaceous roots; foss. anim.: Shells of <i>Bithynia tentaculata</i> as well as operculi of the same. In sample 1 a good deal of clay was found during the preparation and the analyses of the slides.

The position of the large flint pick was 0,02–0,07 m below the surface. In the diagram the level where it was found is marked in the sediment columns

by a black rectangle on the right side. The horizontal dot-and-dash signatures on the left side of the sediment columns indicate the presence of charcoal dust.

The analyses were carried out around New Year 1952–53, with the exception of the samples 4, 5, 7, 9, and 10, which were done in December 1953 and January 1954. A revision of the material was made in January 1961, and on the basis of this Table VI was drawn up.

C. The Kildegård-Kompleks; Ulkestrup Mose
(Ul.Ø.; S.13,00; V.6,25)1).

(Table VII and Vol. I: Fig. 1, No. 6 and Pls. XIII–XIV).

The settlement, which has been given the designation Ul.Ø., consists of two hut floors from the Maglemosian.

The archaeological excavations took place during the years 1947–50, and were led by KNUD ANDERSEN, who published a preliminary report on the find (KNUD ANDERSEN, 1951). In this report the two hut floors are named Ulkestrup Øst (East) I and Ulkestrup Øst (East) II.

The bog-geological investigation took place at the same time as the excavation, and was mainly done by the author. For the section here examined, the field work took place from 31/7 to 17/8, 1948. The measurement of the section was done by MARTTI SALMI, Helsinki, and the collection of the sample series and the description of the layers was done by SALMI, TROELS-SMITH and the author. The sample series in S.13,00; V.6,25 taken close by Hut I was chosen for pollen-analytical examination because the measurements of the section had indicated that the series passed through a “floating island”, and it would be of interest to date the formation of this “floating island” by pollen statistics for comparison with the same phenomenon at Verup.

The sequence of layers in the section was as follows, from below going upwards:

Kote:	Layer No.:	
?–24,295 m	1	Chalk-gyttja with swamp peat. nig.2, strf.2, elas.1, sicc.2, lim.sup.2. color: greyish white, yellowish; in dry state chalk-white. struc.: granular, not very coherent, flakes rather easily. Composition: Th ¹ 1, Dg +, Ld ⁰ 1,5, Lc1,5, test. (moll.) +, part. test. (moll.) +, anthrax((+)); in samples 1 and 2 also (Ag + As)(+), and in samples 4 and 5 also Ga +.

¹⁾ The co-ordinates do not refer to the main co-ordinate system for Aamosen (see Vol. I Fig. 1), but to an arbitrary co-ordinate system for the Ulkestrup excavation.

Kote:	Layer No.:	
		<p>Some rootfelt and rhizomes of <i>Phragmites</i>, a little <i>Amblystegium</i>, shells of <i>Bithynia tentaculata</i> and operculi of the same, <i>Limnaea ovata</i>, <i>Pisidium sp.</i> and fragments of mollusc shells.</p> <p>All the samples were highly calcareous and spores of <i>Chara sp.</i> were found in all of them (52 specimens in sample 3). Fine sand was found in samples 4 and 5. Silt and clay was found macroscopically in sample 1 and microscopically in sample 2. In samples 2 and 3 crystals of pyrites (FeS_2) were also found. Small quantities of charcoal dust was found in all samples. No pollen corrosion.</p>
24,295–24,325 m	2	<p>Swamp peat.</p> <p>nig.3, strf.+, elas.1, sicc.2, lim.sup.2.</p> <p>color: blackish brown, yellowish; after oxidation dark blackish brown.</p> <p>struc.: heavily felted, rather coherent.</p> <p>Composition: Th^{14}, Ld^0+, $\text{Lc}(+)$, $\text{Ga}+$, part. test. (moll.) +, anthrax(+).</p> <p>Much rootfelt and many rhizomes and a little <i>Amblystegium</i>. Quite a few seeds of <i>Scirpus lacustris</i> and <i>Potamogeton sp.</i>, operculi of <i>Bithynia sp.</i></p> <p>A good deal of fine sand was found. No pollen destruction.</p>
24,325–24,515 m	3	<p><i>Cyanophycé</i> gyttja.</p> <p>nig.2, strf.2, elas.2, sicc.2, lim.sup.3.</p> <p>color: brownish yellow with a faintly greenish tinge. Numerous vertical darker streaks due to oxydation along roots. After a short time under the influence of the air the colour turns dark olive green, after a longer time blackish green. When dried up the layer turns grey-white.</p> <p>struc.: finely lamellated, highly coherent and elastic.</p> <p>Composition: Th^{11}, Ld^{13}, $\text{Dh}+$, $\text{Dg}+$, $\text{① } 0,5$, anthrax(+), part. test. (moll.) (+); in sample 7 also $\text{Ga}+$ and $(\text{Ag} + \text{As})(+)$; in sample 8 $\text{Ga}(+)$ and anthrax+, in sample 10, 11 and 12 also $(\text{Ag} + \text{As})(+)$. Some fine rootfelt, which often occurs in spots; a few rather narrow, but thick rhizomes, and some vertical yellow herbaceous roots. A few bits of leaf-stalks of</p>

Kote:

Layer No.:

Dryopteris, a seed of *Nymphaea alba*, a seed of *Cladium*, and a seed of *Scirpus lacustris*. In the lowermost 5 cm of the layer apparently some more swamp-peat and fine drift; a single leaf of *Salix sp.* was found here. Determinable molluscs: only one operculum of *Bithynia sp.*

Sample 7 contained some fine sand, and clay was found in the course of the counting. Sample 8 contained a small amount of fine sand and a little charcoal dust. In samples 10, 11, and 12 clay was found microscopically. In all samples charcoal dust was present in rather small quantities, chiefly in the uppermost samples. No pollen corrosion.

24,515–24,625 m

4

Drift gyttja.

nig.2–3, strf.+, elas.1, sicc.2, lim.sup.3.

color: in some fresh parts the colour is reddish yellow with a faint greenish tinge, but as a whole the layer is blackish brown, which is presumably due to intense oxydation in spots, aided by the loose, incoherent structure of the layer.

struc.: The layer is fragmented and heterogeneous, in spots more gyttja-like, or containing swamp peat or drift.

Composition: Th¹¹, Ld²¹, Dg¹, Dh¹, Dl++, Ga+, anthrax+; in sample 13 also (Ag + As) (+), in sample 16 there is no Ga, and anthrax is here (+). Small lumps of rootfelt in isolated spots, giving the impression of being drift. In places narrow, leather-like rhizomes and a fair number of herbaceous roots, bits of leaf-stalks of *ferns*, a single *salix* leaf, and a few pieces of stems. A seed of *Nuphar luteum* and one of *Scirpus sp.* Small sticks, scraps of bark, fish-scales, an upper wing of a beetle (H.11732), a number of charcoal fragments.

Sand and pieces of charcoal were found in samples 13–15, clay (microscopically) as well in sample 13. Charcoal dust was present in great quantities in all samples. Pollen corrosion up to 3,2%.

24,625–24,725 m

5

Cyanophycé-gyttja.

nig.2, strf.+, elas.1, sicc.2, lim.sup.2.

color & struc.: as in layer 3.

Composition: Th¹¹, Ld¹³, Dh+, Dg+, an-

Kote:	Layer No.:	
		<p>thrax((+)); in sample 19 (Ag + As) + as well. The layer is in all essentials identical with layer 3, perhaps with a shade less swamp peat. Seed of <i>Potamogeton</i> sp. and fruit of <i>Carex</i> sp. (cf. H.11733), leaves of <i>Thelypteris palustris</i> (cf. H.11735).</p> <p>In sample 19 fine clay and a little charcoal dust was found microscopically. No pollen destruction.</p>
24,725–24,78 m	6	<p>Swamp peat.</p> <p>nig.2, strf.1, elas.1, sicc.2, lim.sup.1.</p> <p>color: yellowish brown.</p> <p>struc.: Fibrous and felted, very coherent, splits however rather easily up into layers along horizontal rhizomes.</p> <p>Composition: Th¹⁴, Ld² +, in sample 21 also (Ag + As) +.</p> <p>The layer is altogether characterized by rootfelt, though some broad rhizomes of <i>Phragmites</i> and a few narrow leatherlike rhizomes and herbaceous roots occur. Many seeds of <i>Nymphaea alba</i> (cf. H.11746).</p> <p>In sample 20 a minute piece of flint (diam. 2 mm) was found, and in sample 21 fine clay was observed microscopically. No pollen corrosion.</p>
24,78–24,84 m	7	<p>Swamp peat, slightly decomposed.</p> <p>nig.2–3, strf.1, elas. +, sicc.2, lim.sup.1.</p> <p>color: yellowish brown with a faintly reddish tinge.</p> <p>struc.: compact and coherent, but slightly less felted than layer 6.</p> <p>Composition: Th²⁴, in sample 23 also Ga + + and anthrax +.</p> <p>Chiefly rootfelt, a few rhizomes and stalk-bases, a single seed of <i>Nymphaea alba</i>, a considerable number of <i>Scirpus lacustris</i>.</p> <p>In sample 23 some coarse sand and charcoal dust. No pollen corrosion.</p>
24,84–24,915 m	8	<p>Alder fen peat.</p> <p>nig.4, strf.0, elas.0, sics.3, lim.sup.1.</p> <p>color: blackish brown.</p> <p>struc.: fragmented and crumbling.</p> <p>Composition: Tl⁴⁴, ⊕ 0,5; in sample 24 also</p>

Kote:

Layer No.:

Ga +; in sample 25 Ga + and (Ag + As)(+); in sample 24 anthrax ((+)), increasing to (+) in sample 26. A few pieces of almost decomposed wood, some small roots of *Alnus*, and some recent yellow herbaceous roots.

In sample 24 there was a little fine sand, and in sample 25 fine sand and some clay (microscopically). Charcoal dust was present in all samples, sparsely in sample 24, frequently in sample 25, and in enormous quantities in sample 26. In sample 24 commencing pollen corrosion (0,18%), rising in samples 25 and 26 to respectively 54% and 57%.

24,915–25,105 m

9

Alder fen peat.

nig.3–4, strf.0, elas.0, sicc.3–4, lim.sup.4.

color: dark brown, lighter brown than layer 8.

struc.: crumbling.

Composition: Tl⁴⁴, ① 0,5; anthrax + in samples 27 and 29, (+) in sample 28, and ((+)) in samples 30 and 31.

In samples 27 and 29 fragments of charcoal was present. Charcoal dust was found in all samples, with mass occurrence in samples 27 and 28, frequent occurrence in sample 29, but was only rather moderately present in samples 30 and 31 (2–4%). The pollen destruction was very severe, up to 68%, apparently a little less in the two uppermost samples (44% and 56%).

The laboratory work was carried out from 22/8 to 12/11 1960. The pollen material was in a good state of preservation with the exception of the samples from layers 8 and 9 (the alder fen peat), where, in contrast, the destruction was extraordinarily severe.

The black rectangles on the left side of the sediment column indicate the two levels on which artefacts were found.

2. Localities from the Central Part of the Aamose Lake

A. The Niløse-Kompleks; Baad (Boat) I.

(Table VIII and Vol. I: Fig. 1, No. 2 and Pls. XV–XVI).

In the spring of 1944 a dug-out canoe was found in Niløse bog during peat cutting, and close by an earthen vessel. The find was excavated for the National Museum by Troels-Smith. On the 22nd May 1944 a series of pollen samples was taken, and a description of the deposits was made by TROELS-SMITH, with the assistance of LIS FRYD. Down to a depth of 1,5 m below the surface (Kote

23,105 m) the section was open. The rest of the sample series is from a boring. A detailed sediment description will be given here only of the part of the section which is of interest in this connection.

Small type print refers to observations made in the laboratory.

Kote:	Layer No.:	
24,605–23,515 m	10 ¹⁾	Peat. Layers of varying composition. lim.sup.4.
23,515–22,805 m	9 ¹⁾	Coarse detritus gyttja. Layers of varying composition. lim.sup.1.
22,805–22,505 m	8	Detritus gyttja, yellowish grey with very few shells. lim.sup.2. Estimated composition: Th ¹ +, Dh +, Dg1, Ld ¹ 3, test. (moll.) (+).
22,505–21,805 m	7	Gyttja, greenish brown, without shells, slightly increasing content of clay going downwards. lim.sup.1. Clay particles found microscopically from 22,405 m downwards; from the same level a small content of chalk. Estimated composition: Th ¹ +, Dg1, Ld ⁰ 3, and from 22,405 m downwards (Ag + As)(+) and Lc(+) as well.
21,805–21,425 m	6	Gyttja, greyish yellow, argillaceous. lim.sup.1. All samples contained chalk, and from 21,615 m downwards also fine sand. Samples 5, 6, and 9 contained a few spores of <i>Chara sp.</i> Estimated composition: Th ¹ +, Dg1, Ld ⁰ 3, Lc +, (Ag + As) +, from 21,615 m downwards also Ga +.
21,425–21,4247 m	5	Layer with many operculi of <i>Bithynia</i> , whitish grey. lim.sup.2. Estimated composition: Th ¹ +, Dg1, Ld ⁰ 3, Lc +, Ga +, (Ag + As) +, (test. (moll.) + part. test. (moll.))1.
21,4247–21,29 m	4	Detritus gyttja, greyish brown to greenish brown, with great content of clay and fine sand, faintly laminated horizontally. lim.sup.2. In sample 4 much chalk and many spores of <i>Chara sp.</i> Estimated composition: Th ¹ +, Dg1, Ld ⁰ 2, Lc(+), (Ag + As)0,5, Ga0,5 – in sample 4, though, Lc1.
21,29–21,16 m	3	Gyttja layer, greyish yellow, very sandy and silty.

¹⁾ The layers 10 and 9 have not been analyzed, and are not included in the diagrams.

Kote:	Layer No.:	
		lim.sup.1. Treatment with HF essential. The sample also contained chalk. Estimated composition: Th ¹ +, Dg ¹ , Ld ¹ 2, Lc(+), Ga +, (Ag + As) 1.
21,16–21,155 m	2	Sand, rather coarse, with pebbles. lim.sup.2. Estimated composition: (Ga + Gs) 3, Gg (maj. & min.) 1.
21,155–? m	1	Clay, varved, with “diurnal”-varves. lim.sup.2. Estimated composition: (Ag + As) 4, Ga +.

The laboratory work was in the main carried out during the years 1957–58, only a few preliminary analyses being done in 1954 and 1956. Samples 2 and 4 were treated with HF. The pollen was extremely well preserved and without signs of corrosion.

B. Aamosen; N.1.000; Ø.2.840; Bp Ib.

(Table IX and Vol. I: Fig. 1, No. 11 and Pls. XVII–XVIII).

The field work, which took place from 7/8 to 15/9, 1950, was done by TROELCH-SMITH, with the assistance of KIRSTEN KASSOW (MATHIASSEN) and the author. Samples and description of the sediments are derived partly from an open section, partly from borings. Two sample series were taken through the whole sequence of layers. The material from the part of the section between Kote 23,53 and 22,145 m has been published by TROELS-SMITH (1960), and only the part which is of interest here will be described in detail.

Kote:	Layer No.:	
24,97–23,58 m		Peat. Layers of varying composition.
23,58–23,00 m		Coarse detritus gyttja. Layers of varying composition.
23,00–22,04 m		Detritus gyttja, calcareous. Layers of varying composition.
22,04–21,82 m	12	Gyttja, greyish yellow, faintly greenish. nig.1–2, lim.sup.1. Composition: Ld ¹ 3, Lc ¹ .
21,82–21,36 m	11	Gyttja, as in the previous layer, slightly darker greyish yellow-olive greenish. nig.2, lim.sup.1. Composition: Ld ¹ 4, Lc +, (Ag + As)(+). The clay found microscopically.

Kote:	Layer No.:	
21,36–21,32 m	10	Gyttja, slightly argillaceous, blackish grey, greenish. nig.3, lim.sup.1. Composition: Ld^{04} , $Lc +$, $(Ag + As) +$.
21,32–21,23 m	9	Gyttja, as in layer 11, but lighter in colour and more clayey. nig.2, lim.sup.1. Composition: Ld^{04} , $Lc +$, $(Ag + As) +$.
21,23–20,92 m	8	Gyttja, as in layer 10. nig.3, lim.sup.1. Composition: Ld^{04} , $Lc +$, $(Ag + As) +$; from 21,02 m downwards also $Ga(+)$.
20,92–20,70 m	7	Gyttja, as in layer 9, but more clayey, and with some fine sand. nig.2, lim.sup.1. Composition: Ld^{03} , $Lc +$, $(Ag + As)1$, $Ga +$.
20,70–20,63 m	6	Gyttja, as in layer 8, but somewhat more clayey and sandy. nig.3, lim.sup.1. Composition: Ld^{03} , $Lc +$, $(Ag + As)1$, $Ga +$.
20,63–20,575 m	5	Gyttja, as in layer 7. nig.2, lim.sup.1. Composition: Ld^{03} , $Lc +$, $(Ag + As)1$, $Ga +$.
20,575–20,54 m	4	Gyttja, as in layer 6. nig.3, lim.sup.1. Composition: Ld^{03} , $Lc +$, $(Ag + As)1$, $Ga +$.
20,54–20,52 m	3	Sand, slightly mixed with clay, greyish black. nig.2, lim.sup.2. Uppermost in the layer fragments of <i>Unio</i> - or <i>Anodonta</i> shells. Composition: $(Ga + Gs) 3$, $(Ag + As)1$, part. test. (moll.) +.
20,52–16,705 m	2	Clay, bluish grey, going downwards lighter pearl grey, and with varve (Late-glacial clay). nig.1, lim.sup.2. Composition: $(Ag + As) 2$, $Lc2$, $Ga +$, part. test. (moll.) +.
16,705–? m	1	Clay, sandy, with pebbles; very solid, so boring had to be given up (boulder clay?).

The laboratory work was carried out in the course of 1959, with the exception of sample 16, which was prepared, and of which a single slide (about 600 AP.) was analyzed in 1952 in another connection.

This sample is the only one in the diagram which has been treated with HF, and the treatment was carried out according to ASSARSON & GRANLUND (1924). When the sample was counted up to 2.000 AP. in 1959, it showed that there were only two pollen grains of *Populus*. This seemed extraordinary when compared with the neighbouring analyses, and as this was the only anomaly, it occurred to us that the exine of the *Populus* pollen might not be absolutely resistant to treatment with HF. A new preparation with the before mentioned modified HF treatment (p. 6) was therefore made, and exceptionally thin slides were prepared. Analyses of these slides showed complete agreement with the former analyses of the same sample, but with a *Populus* occurrence in agreement with the neighbouring analyses. The percentage of *Populus* is therefore calculated on the basis of the last analyses (see Table IX, sample 16). That *Populus* did not occur, or was hardly observed, in the first prepared slides must in this case be attributed to shrinking or conglomeration on account of the rough treatment when being boiled with HF.

The pollen grains were in an excellent state of preservation, and there was no corrosion.

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Denne bog er sat med Monotype Times og trykt i 1700 eksemplarer
i Andelsbogtrykkeriet i Odense.

Papir: Ekstraglittet 605, 125 g, fra a/s De forenede Papirfabrikker.

TABLE I.

Verup-Komplekset. V 5.

P. 33

The figures indicate numbers of pollen grains on grasses

NM VIII J.Nr. A 4219.

The sample number in the diagram	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
The store number of the sample	H 3104	H 3105	H 3107	H 3109	H 3111	H 3113	H 3114	H 3115	H 3116	H 3117	H 3118	H 3119	H 3120	H 3121	H 3122	H 3123	H 3124	H 3125	H 3126	H 3127	H 3128	H 3129	H 3130	H 3131	H 3132	H 3133	H 3134	H 3135	H 3136	H 3137	H 3138
SPERMATOPHYTA																															
Araliaceae																															
Helix Helix L. 5																															
Betulaceae																															
Alnus cfr. glutinosa (L.) Gaertn. 4																															
Betula spp. 820																															
Campanulaceae																															
Campanula sp. 1																															
Cannabaceae																															
Humulus Lupulus L. 1																															
Caprifoliaceae																															
Viburnum Opulus L. 2																															
Caryophyllaceae																															
Caryophyllus cfr. holosteoides Fr.; Hyl. 1																															
Stellaria cfr. aquatica (L.) Scop. 2																															
Chenopodiaceae																															
Chenopodiaceae spp. 1																															
Cistaceae																															
Helianthemum cfr. nummularium (L.) Mill.; Dun. 1																															
Compositae																															
Liguliflorae																															
Liguliflorae spp. 1																															
Tubuliflorae																															
Tubuliflorae spp. 2																															
Artemisia spp. 2																															
Corylaceae																															
Corylus Avellana L. 2																															
Cruciferae																															
Cruciferae spp. 1																															
Cupressaceae																															
Juniperus communis L. 3																															
Cyperaceae																															
Cyperaceae spp. 10																															
Elaeagnaceae																															
Hippophae Rhamnoides L. 1																															
Empetraceae																															
Empetrum nigrum L. 1																															
Ericaceae																															
Calluna vulgaris (L.) Hull 1																															
Euphorbiaceae																															
Mercurialis perennis L. 1																															
Fagaceae																															
Quercus spp. 1																															
Gramineae																															
Gramineae spp. 33																															
Haloragaceae																															
Myricophyllum alterniflorum L. 1																															
Labiatae																															
Mentha cfr. aquatica L. 1																															
Lemnaceae																															
Lemna spp. 1																															
Liliaceae																															
Lilium cfr. Gagea sp. 1																															
Loranthaceae																															
Vincum album L. 1																															
Menyanthaceae																															
Menyanthes trifoliata L. 1																															
Nymphaeaceae																															
Nymphaea cfr. luteum (L.) Sm. 1																															
Nymphaea cfr. alba L. 1																															
Oleaceae																															
Fraxinus excelsior L. 1																															
Pinaceae																															
Pinus silvestris L. 275																															
Polygonaceae																															
Rumex Acetosa L. vel acetosella L. 1																															
Rumex thyrisiflorus Fingerh. 1																															
Rumex hydrolapathum L. 1																															
Potamogetonaceae																															
Potamogeton spp. 3																															
Primulaceae																															
Lythamachia sp. 1																															
Lythamachia vulgaris L. 1																															
Ranunculaceae																															
Caltha palustris L. 1																															
Ranunculus cfr. Flammula L. spp. 1																															
Ranunculus (L.) Syme. 1																															
Thalictrum cfr. flavum L. 1																															
Rhamnaceae																															
Rhamnus Frangula L. 1																															
Rosaceae																															
Rosaceae spp. 1																															
Rosa cfr. Uimaria (L.) Maxim. 6																															
Potentilla cfr. palustris (L.) Scop. 1																															
Rosa cfr. Badia L. 1																															
Sorbus cfr. aucuparia L. 1																															
Rubiaceae																															
Galium spp. 1																															
Salicaceae																															
Populus tremula L. 58																															
Salix spp. 18																															
Saxifragaceae																															
Saxifraga cfr. aizoides L. 1																															
Scrophulariaceae																															
Scrophulariaceae spp. 1																															
Solanaceae																															
Solanum Dulcamara L. 1																															
Tiliaceae																															
Tilia cfr. cordata Mill. 1																															
Typhaceae																															
Typha angustifolia L. 1																															
Typha latifolia L. 0,25																															
Ulmaceae																															
Ulmus spp. 3																															
Umbelliferae																															
Umbelliferae spp. 2																															
Urticaceae																															
Urtica dioica L. 4																															
a.i.d. (ubstemmelige p.gr.a. destruction) 1																															
a.i.p. (ubstemmelige p.gr.a. Volöding) 1																															
a.i.l. (ubstemmelige p.gr.a. okült Beliggenhed) 2																															
E Spermatophyta																															
1232 1392,25 1114,5 1226,25 1218,75 1471,75 1296,75 1732 2306 1677,5 2217,5 2405,25 2771 2599,5 3170,75 2479,5 2035,25 1899,5 2050,75 1818,5 1860,25 2277 1824,5 1739,25 1936,25 2012,25 1587,25 1886 1701 1979 2181,75																															
PTERIDOPHYTA																															
Equisetaceae																															
Equisetum spp. 2																															
Lycopodiaceae																															
Lycopodium spp. 2																															
Polypodiaceae																															
Polypodiaceae spp. 26																															
Pteridium aquilinum (L.) Kuhn 6																															
Pteridium cfr. Thelypteris Dryopteris (L.) Gleason 1																															
E Pteridophyta																															
34 34 21 21 49 32 25 27 26 8 19 11 15 21 75 100 274 386 515 641 466 505 324 285 255 125 90 219 414 435 763																															
BRYOPHYTA																															
Sphagnaceae																															
Sphagnum spp. 4																															
E Bryophyta																															
4 3 1 6 3 1 1 3 2 1 2 3 1 2 3 1 2 1 2 1 2 2 2 8 6 4 2																															
THALLOPHYTA																															
Potrivococcaceae																															
Potrivococcus Braunii Kützling. 26																															
Characeae																															
Characeae spp. (Characeae) 37																															
Hydrodictyaceae																															
Hydrodictyon spp. 42																															
Tilletiaceae																															
Tilletia sphagni 1																															
E Thallophyta																															
105 161 59 111 80 102 63 204 175 6 17 11 8 4 7 15 26 24 81 90 332 1032 660 1074 3060 3607 15																															

1) a.i.d. = ad indeterminabile destructum
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.

[illegible]

1) a.i.d. = ad indeterminabile destructum
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.

TABLE III.
Vorup-Komplekset. V 5. NM VIII J.Nr. A 4219.
P. 25
The figures indicate numbers of pollen grains
or spores.

The sample number in the diagram	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
The store number of the sample	H 1094	H 1095	H 1097	H 1099	H 1101	H 1103	H 1104	H 1105	H 1106	H 1108	H 1110	H 1112	H 1111	H 1114	H 1115	H 1116	H 1118	H 1120	H 1121	H 1122	H 1124	H 1126	H 1128	H 1129	H 1130	H 1131	H 1132	H 1133	H 1134	H 1135	
SPERMATOPHYTA																															
Aceraceae																					1										
Acer cfr. platanoides L.																															
Araliaceae														2	1	3	1	1	1	1		1	2	3		1	2		3	3	
Hedera Helix L.																															
Betulaceae									1			1	1	26	97	123	169	227	188	30	43	79	149	59	39	62	74	154	225	162	
Alnus cfr. glutinosa (L.) Gaertn.																															
Betula spp.	836	748	874	661	764	567	657	674	636	366	529	463	511	339	101	159	178	190	203	338	451	193	274	327	286	303	257	181	196	164	
Callitricaceae																															
Callitriche sp.							1																								
Campanulaceae																							1								
Campanula sp.																															
Cannabaceae																															
Rumulus Lapsulus L.		1	1	1	4	2	2	1	3	2	8	13	10	9	2	3	2	2			15	9	8	9	14	5	5	5	6	1	3
Caprifoliaceae																															
Viburnum Opulus L.				1		1	1			1							1				1				1			1			
Chenopodiaceae																															
Chenopodiaceae spp.	1						1		1						1					1		1			1			2			
Compositae																															
Liguliflorae										2			1		1													1			
Liguliflorae spp.																															
Tubuliflorae																															
Tubuliflorae spp.	1				1		3					1																2			
Artemisia spp.	3	1	1	2		3	2	2	3	1			3		3	1	1	4		3		1		1	2	3	2	1	2	1	
Cirsium cfr. palustre (L.) Scop.	1																				2										
Corylaceae																															
Corylus Avellana L.	2	3	3	6	10	46	136	131	523	806	1382	1161	1408	1059	647	576	678	477	411	1519	1225	674	994	1394	1106	893	1142	573	478	516	
Cupressaceae																															
Juniperus communis L.	1		1		2	1		1	2	4	1	2	2												2						
Cyperaceae																															
Cyperaceae spp.	11	3	11	12	14	12	19	21	13	21	17	30	33	150	214	264	275	208	203	89	88	165	196	156	107	120	127	380	320	156	
Cfr. Carex hirta L.																															
Cirsium Mariscus (L.) R.Br.														10	39	24	21	24	36	14	6	43	29	37	14	33	14	16	12	8	
Ericaceae																															
Calluna vulgaris (L.) Hull	1	3	3		2	2	4	2	3	2	5	6	6	8	3	2	3	5	1	12	7	7	3	9	11	3	8	4	10	5	
Euphorbiaceae																															
Mercurialis perennis L.	1																														
Fagaceae																															
Quercus spp.	1			1		2	5	4	2		9	6	8	20	49	57	67	118	118	15	24	40	67	40	33	28	32	63	77	108	
Geraniaceae																															
Geranium cfr. palustre L.								1																							
Gramineae																															
Gramineae spp.	37	23	24	18	28	37	49	28	33	26	48	28	45	65	88	86	102	168	98	111	83	76	126	119	101	113	108	94	115	185	
Haloragaceae																															
Myriophyllum spicatum L.								1																							
Iridaceae																															
Iris Pseudacorus L.																	1														
Labiatae																															
Mentha cfr. aquatica L.																															
Stachys cfr. palustris L.																	1														
Lemnaceae																					1					1					
Lemna sp.																															
Loranthaceae																															
Viscum album L.															1	2				2		1			1		1		1		
Nymphaeaceae																															
Nuphar cfr. luteum (L.) Sm.															2	1	1	1	1	1				1	1	1					
Nymphaea cfr. alba L.													2	3	8	11	9	14	11	12	17	11	8	8	10	15	8	16	3	9	
Oleaceae																															
Fraxinus excelsior L.														2	2	3	2	2	2	2	1	1	3	3	3	1		3	3	2	
Pinaceae																															
Picea Abies (L.) Karst.															1						1										
Pinus silvestris L.	269	271,5	305	341	389	521,5	654	460,5	637	667	849	541	619	589,5	575,5	579	707,5	407	369,5	842	740	725	681	788	850	579	715,5	491,5	395,5	275,5	
Polygonaceae																															
Rumex Acetosa L. vel Acetosella L. vel																															
thyrsiflorus Fingerh.				1	1		4	3	3		1	3	2						1	1	1	1	1	1	1		1	1	1	1	
Rumex Hydrolapathum Huds.															1		2	1	2					2	1			3	1		
Potamogetonaceae																															
Potamogeton spp.		1	1	1	2	4	4		4	5	6	3	2	1	2	1	4	9	4	4	5	2	4	10	4	2	2	3	4		
Primulaceae																															
Lyssimachia thyrsiflora L.																	3														
Lyssimachia vulgaris L.																	10													1	
Ranunculaceae																															
Anemone cfr. ranunculoides L.																1															
Ranunculus cfr. repens L.																	2														
Thalictrum cfr. flavum L.								1	1	1	1	1	1	1	1	1	1				1			1		1					
Rosaceae																															
Roseaceae sp.																															
Milpendula cfr. Ulmaria (L.) Maxim.																															

1) a.i.d. = ad indeterminabile destructum
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.

TABLE IV.
Verup-Komplekset. V 5.
P. 20
The figures indicate numbers of pollen grains
or spores.

NM VIII J.Nr. A 4219.

The sample number in the diagram	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
The store number of the sample	H 1049	H 1050	H 1052	H 1054	H 1056	H 1058	H 1060	H 1062	H 1063	H 1064	H 1066	H 1068	H 1070	H 1072	H 1074	H 1076	H 1078	H 1080	H 1082	H 1084	H 1086	H 1088	H 1090
SPERMATOPHYTA																							
<u>Araliaceae</u>																							
Hedera Helix L.																							1
<u>Betulaceae</u>			1	1									2		1		1		2	2	6	6	43
Alnus cfr. glutinosa (L.) Gaertn.	790	735	723	1035	849	686	664	701	822	409	446	715	479	156	177	157	109	122	51	88	115	89	85
Betula spp.																							
<u>Campanulaceae</u>																						1	
Campanula sp.																							
<u>Cannabaceae</u>																							
Humulus Lupulus L.	1	1	1		1		3	3		3	6	9	8	4	1	1	2	1	1	4		1	1
<u>Caprifoliaceae</u>																							
Viburnum Opulus L.								1					2	2	1	1							
<u>Caryophyllaceae</u>																							
Stellaria cfr. aquatica (L.) Scop.																			1				
<u>Chenopodiaceae</u>																							
Chenopodiaceae spp.							2	1								1							
<u>Compositae</u>																							
Liguliflorae			1																				1
Liguliflorae spp.																							
Tubuliflorae						1		1		2					3	1	1		1	2	1		
Tubuliflorae spp.																							
Artemisia spp.	1	2			2	3	3	4		2	2	3	3								2		4
<u>Corylaceae</u>																							
Corylus Avellana L.	3	3	8	18	20	37	122	618	628	866	858	1676	1250	706	535	266	254	182	175	281	358	339	426
<u>Cupressaceae</u>																							
Juniperus communis L.	1	1		1				2	1	2	1					1	1			1	1	1	
<u>Cyperaceae</u>																							
Cyperaceae spp.	13	12	15	9	5	13	29	16	19	13	10	39	29	89	115	152	164	273	381	867	1130	1138	468
cfr. Carex hirta L.																							
Cladium Mariscus (L.) R.Br.														20	17	28	28	50	50	91	86	42	9
<u>Eleagnaceae</u>																							
Hippophae Rhamnoides L.						1					1												
<u>Ericaceae</u>																							
Calluna vulgaris (L.) Hull	1	2	1	1		1		2	1	3	4	5	5	7	13	1	4	1	3	2	2	2	3
<u>Fagaceae</u>																							
Fagus sylvatica L.	1																						
Quercus spp.			1		1		1	2	5	5	5	14	11	10	7	10	5	7	4	6	15	14	20
<u>Geraniaceae</u>																							
Geranium cfr. palustre L.															1								
<u>Gramineae</u>																							
Gramineae spp.	30	23	33	47	23	19	27	28	21	24	26	55	87	88	85	53	39	40	26	46	99	106	78
<u>Haloragaceae</u>																							
Myriophyllum verticillatum L.					1																		
<u>Labiatae</u>																							
cfr. Lycopus europaeus L.														1									
<u>Leguminosae</u>																							
Leguminosae spp.																	1				1		
<u>Loranthaceae</u>																							
Vincum album L.																							1
<u>Nymphaeaceae</u>																							
Nymphaea cfr. alba L.			1	2	1				7			4	13	5	4	5	4	21	1	6	5	3	2
<u>Oleaceae</u>																							
Fraxinus excelsior L.																				1	2	2	
<u>Pinaceae</u>																							
Pinus silvestris L.	331	308	345	566,5	419,5	472	490	653	459,5	619	713	925	485,5	875	805	1011	882,5	845	943,5	879	917	879	874,5
<u>Polygonaceae</u>																							
Rumex Acetosa L. vel Acetosella L. vel			2	1				1		1				1		1				1			
thyrsiflorus Fingerh.																							
Rumex Hydrolapathum Huds.																						1	
<u>Potamogetonaceae</u>																							
Potamogeton spp.			1	3	2		5	9	8	3	2	3	6	2	5	1	2			2			
<u>Primulaceae</u>																							
Lysimachia cfr. thyrsiflora L.																		5		1	1		
<u>Ranunculaceae</u>																							
Caltha palustris L.						1																	
Thalictrum cfr. flavum L.			1				3	1	1					1	1	1							
<u>Rosaceae</u>																							
Rosaceae sp.						1																	
Crataegus sp.																							
Pilipendula cfr. Ulmaria (L.) Maxim.	8	3	7	10	4	7	5	4	7	5	5	5	6	3	4	1	1	1	1	1	1	1	1
cfr. Prunus Padus L.																							
Potentilla cfr. palustris (L.) Scop.																						1	
Sorbus cfr. aucuparia L.	1				1		3					2	6	3	6	3	1				1		
Sorbus cfr. rupicola (Syme) Hedl.				1																			
<u>Rubiaceae</u>																							
Galium spp.	1									1		2		1				3	1	2	1	3	4
<u>Salicaceae</u>																							
Populus tremula L.	15	38	56	110	51	174	103	105	154	46	80	83	66	25	16	3	9	3	3	1	2	1	1
Salix spp.	7	11	22	16	11	10	13	20	22	15	10	19	17	5	5	8	6	14	1	14	12	9	3
<u>Scrophulariaceae</u>																							
Melampyrum cfr. pratense L.							1				1												1
<u>Tiliaceae</u>																							
Tilia cfr. cordata Mill.										1	1				1	4		1	1	1	5	12	26
<u>Typhaceae</u>																							
Typha latifolia L.				0,5		0,25	2,25	0,75		0,5	1	0,25	1	2,5	1,5	2,25	4	13,5	5,5	0,75	2	1,75	10,5
<u>Ulmaceae</u>																							
Ulmus spp.	2	6	4		1	4	19	7	4	12	12	15	20	9	6	13	16	6	21	25	28	21	
<u>Umbelliferae</u>																							
Umbelliferae spp.				1		2		2			3									2	9	6	1
Heracleum sp.				1																			
<u>Urticaceae</u>																							
Urtica dioeca L.		3	5	4	1	1	1	4	1	3	1	1	2		1						2	1	
a.i.d. (ubestemmelige p.Gr.a. Destruction)						1							1	3	4	9	13	46	9	26	85	17	36
a.i.p. (ubestemmelige p.Gr.a. Földning)					1	1							1	1	2	1		4		5	4	1	2
a.i.l. (ubestemmelige p.Gr.a. skjult Beliggenhed)						1	1	1					1		1			1					
E Spermatophyta	1207	1145	1229	1832	1394,5	1433,25	1483,25	2198,75	2164,5	2026,5	2188	3572,25	2495,5	2031,5	1821,5	1727,25	1545,5	1649,5	1667	2354,75	2989	2699,75	

TABLE V.
Verup-Komplekset. V 5.
Single finds.
The figures indicate numbers of pollen grains
or spores.

NM VIII J.Nr. A 4219.

The sample number in the diagram	P 3o I	P 25 I	P 29 I	P 33 II	P 33 III	P 33 I
The store number of the sample	H 1o46	H 1o47	H 1o48	H 31o1	H 31o2	H 31o3
SPERMATOPHYTA						
<u>Araliaceae</u> Hedera Helix L.	5	1		1		
<u>Betulaceae</u> Alnus cfr. glutinosa (L.) Gaertn. Betula spp.	73 195	129 18o		6 537	9 455	3 538
<u>Cannabaceae</u> Humulus Lupulus L.	6	6	8	7	8	9
<u>Caprifoliaceae</u> Viburnum Opulus L.			1			
<u>Chenopodiaceae</u> Chenopodiaceae sp.					2	
<u>Compositae</u> Liguliflorae Liguliflorae sp. Tubuliflorae Tubuliflorae sp. Artemisia sp.						1 1 1
<u>Corylaceae</u> Corylus Avellana L.	755	492	1155	1172	11o1	1125
<u>Cuoressaceae</u> Juniperus communis L.		1	1	2		1
<u>Cyperaceae</u> Cyperaceae spp. Cladium Mariscus (L.) R.Br.	392 1o6	283 84	24 1	64 2	59 19	3o 4
<u>Ericaceae</u> Calluna vulgaris (L.) Hull	4	4	3	2	3	1
<u>Fagaceae</u> Quercus spp.	32	59	8	1o	8	7
<u>Gramineae</u> Gramineae spp.	45	74	43	47	19	33
<u>Iridaceae</u> Iris Pseudacorus L.		1				
<u>Loranthaceae</u> Viscum album L.		1				
<u>Nymphaeaceae</u> Nymphaea cfr. alba L.	16	4		6	1	
<u>Oleaceae</u> Fraxinus excelsior L.	4	4	1			
<u>Pinaceae</u> Picea Abies (L.) Karst. Pinus silvestris L.		1 656				o,5 55o
<u>Polygonaceae</u> Rumex Acetosa L. vel Acetosella L. vel thyrsiflorus Fingerh. Rumex Hydrolapathum Huds.		1 1				
<u>Potamogetonaceae</u> Potamogeton spp.	1	4	3	2	2	5
<u>Primulaceae</u> Lysimachia cfr. thyrsiflora L.		1				
<u>Ranunculaceae</u> Ranunculus cfr. repens L. Thalictrum cfr. flavum L.		2 1	1 1			1 1
<u>Rosaceae</u> Filipendula cfr. Ulmaria (L.) Maxim. Potentilla sp. cfr. Prunus Padus L. Sorbus cfr. aucuparia L.	4		1	3	3	7 1 1 1
<u>Rubiaceae</u> Galium sp.					2	
<u>Salicaceae</u> Populus tremula L. Salix spp.	5 12	12 7	94 15	112 18	24 9	74 17
<u>Tiliaceae</u> Tilia cordata Mill.	18	2o		1	3	
<u>Typhaceae</u> Typha latifolia L.	3	4	o,75	o,75	o,75	1,75
<u>Ulmaceae</u> Ulmus spp.	5o	67	1o	15	2o	9
<u>Umbelliferae</u> Umbelliferae spp.	1		2	2	1	2
<u>Urticaceae</u> Urtica dioeca L.	1		1	2		2
a.i.d. ¹⁾ (ubestemmelige p.Gr.a. Destruktion) a.i.p. (ubestemmelige p.Gr.a. Folding) a.i.l. (ubestemmelige p.Gr.a. skjult Belliggenhed)	19 2 4	17 3 1		1 2 2	1 2 1	1 1 1
Σ Spermatophyta	2414	2oo6,5	2391,75	2634,75	23o8,75	2425,25
PTERIDOPHYTA						
<u>Equisetaceae</u> Equisetum sp.			2	1		
<u>Polypodiaceae</u> Polypodiaceae spp. Pteridium aquilinum (L.) Kuhn cfr. Thelypteris Dryopteris (L.) Slosson	759 (483) 7 2	262 (131) 9	1o 1	31 3	1o8 5	25 1
Σ Pteridophyta	768	271	13	35	113	26
BRYOPHYTA						
<u>Srhagnaceae</u> Sphagnum sp.			1			2
Σ Bryophyta			1			2
THALLOPHYTA						
<u>Botryococcaceae</u> Botryococcus Braunii Kützing.	36 (21)	61 (31)	83 (41)	82 (42)	51 (25)	47 (23)
<u>Characeae</u> Chara spp. (Oosporer)			3	32	5	4
<u>Hydrodictyaceae</u> Pediastrum spp.	25o (143)	135o (68o)	1o	14	22	15
<u>Tilletiaceae</u> Tilletia sphagni				1		
Σ Thallophyta	286	1411	96	129	78	66
Trækulstøv	cc	cc		14	34	12

1) a.i.d. = ad indeterminabile destructum
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.

TABLE VI.
Nilase-Komplekset.
Large Flint pick.
The figures indicate numbers of pollen grains
or spores.

NM VIII J.Nr. A 4316.

The sample number in the diagram	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
The store number of the sample	HP 3271	HP 3274	HP 3276	HP 3277	HP 3278	HP 3279	HP 3280	HP 3281	HP 3282	HP 3283	HP 3284	HP 3286	HP 3287	HP 3289	HP 3290	HP 3291	HP 3292
SPERMATOPHYTA																	
<u>Araliaceae</u>					1		1		1	1	1	2		1	2		4
Hedera Helix L.																	
<u>Betulaceae</u>			3	5	45	47	62	72	74	111	80	93	120	160	144	161	215
Alnus cfr. glutinosa (L.) Gaertn.	660	546	501	434	298	338	284	270	332	234	232	284	211	197	194	201	268
Betula spp.																	
<u>Cannabaceae</u>	4	4	3	6	1	3	4	8	6	3	3	4	3	3	1	2	2
Humulus Lupulus L.																	
<u>Caprifoliaceae</u>	1				1		2	1				2		1		1	
Viburnum Opulus L.																	
<u>Caryophyllaceae</u>										2							
Cerastium cfr. holosteoides Fr.; Hyl.																	
<u>Chenopodiaceae</u>	1		1		1		1		1		1						
Chenopodiaceae spp.																	
<u>Compositae</u>																	
Liguliflorae			1	1		2											
Liguliflorae spp.																	
Tubuliflorae				2	1		1			1	1	1	1		1		1
Tubuliflorae spp.																	
Artemisia spp.	2	1	1	1	4	2	2	2	2		2	3	3	1	1		4
<u>Corylaceae</u>	780	1093	1229	1147	988	879	991	910	1125	352	700	803	650	587	573	625	672
Corylus Avellana L.																	
<u>Cruciferae</u>													1				
cfr. Cardamine pratensis L.																	
<u>Cupressaceae</u>	1	1	1	1	2	1	1	1	2	2	1	2		1	1	1	
Juniperus communis L.																	
<u>Cyperaceae</u>	21	27	37	14	143	167	153	307	286	327	331	279	464	350	362	284	339
Cyperaceae spp.																	
cfr. Carex hirta L.			1												1		
Cladium Mariscus (L.) R.Br.		1	1		1	5	8	6	9	13	12	8	11	4	6	5	9
<u>Empetraceae</u>																	
Empetrum nigrum L.									1								
<u>Ericaceae</u>	1	6	5	4	4	5	4	6	6	3	3	4	2		4	4	1
Calluna vulgaris (L.) Hull																	
<u>Fagaceae</u>	5	6	7	2	21	32	36	39	46	67	59	57	64	31	93	74	108
Quercus spp.																	
<u>Gramineae</u>	41	36	42	41	45	38	47	54	92	81	112	75	99	101	106	91	147
Gramineae spp.																	
<u>Labiatae</u>																	
cfr. Lycopus europaeus L.																	1
Stachys sp.									1								
<u>Loranthaceae</u>					1	1			1						1		1
Viscum album L.																	
<u>Lythraceae</u>												1					
Lythrum Salicaria L.																	
<u>Nymphaeaceae</u>																	
Nuphar cfr. luteum (L.) Sm.						1			1								5
Nymphaea cfr. alba L.			1		5	3	5	6	6	6	7	7	7	6	10	10	15
<u>Oleaceae</u>					2	2			1	1	2	1		1	1	1	2
Fraxinus excelsior L.																	
<u>Pinaceae</u>	791,5	635	691,5	550	553,5	640,5	554,5	559,5	640,5	592,5	536,5	587	541,5	510	506,5	527,5	515
Picea Abies (L.) Karst.																	
Pinus silvestris L.																	
<u>Plantaginaceae</u>						1											
Plantago maritima L.																	
<u>Polygonaceae</u>																	
Rumex Acetosella L. vel Acetosella L.			1	2					1	1		1	2				1
vel thyrsiflorus Fingerh.									2	1			1				1
Rumex Hydrolapathum Huds.																	
<u>Potamogetonaceae</u>	3	8	11	9	7	1	3	1	2	5	8	2	12	16	6	4	10
Potamogeton spp.																	
<u>Primulaceae</u>														1		1	
Lysimachia cfr. vulgaris L.																	
<u>Ranunculaceae</u>		1										1					
Ranunculus cfr. repens L.																	
Thalictrum cfr. flavum L.		2				1	1			1							
<u>Rosaceae</u>	10	4	6	2	3	4	2	1	1	1	1	3	1			1	3
Filipendula cfr. Ulmaria (L.) Maxim.																	
Potentilla cfr. palustris (L.) Scop.																1	
Rubus sp.	1																
Sorbus cfr. aucuparia L.	2		5	3	2		1		1	3	1	1	1	1	2	1	
<u>Rubiaceae</u>		1	1			1		3	3	2	1		1	1		1	
Galium sp.																	
<u>Salicaceae</u>	44	87	78	42	51	46	46	40	39	55	24	29	26	23	27	13	24
Populus tremula L.	10	13	13	18	8	8	13	10	10	11	14	7	11	13	18	10	16
Salix spp.																	
<u>Scrophulariaceae</u>																	

TABLE VII.
Kildegaard-Komplekset; Ulkestrup Lyng Øst. (Ul.Ø.) NN VIII J.Br. A 4o58.
S. 13, oor V. 6, 25
The figures indicate numbers of pollen grains
or spores.

The sample number in the diagram	1	2	3	4	5	6	7	8	9	1o	11	12	13	14	15	16	17	18	19	2o	21	22	23	24	25	26	27	28	29	3o	31
The store number of the sample	H 11345	H 11346	H 11347	H 11348	H 11349	H 1135o	H 1o763	H 1o765	H 1o767	H 1o769	H 1o77o	H 11243	H 11244	H 11245	H 11246	H 11247	H 11249	H 1125o	H 1o7o4	H 1o7o6	H 1o7o7	H 1o7o9	H 11341	H 11381	H 11382	H 11393	H 11394	H 11385	H 11396	H 11387	H 11389
SPERMATOPHYTA																															
Acernaceae																															1
<i>Acer</i> sp.																															
Araliaceae								1	2	5	1	2	1	2	5	6	4	5	6	1						2	1	1	6		
<i>Hedera Helix</i> L.																															
Retulaceae							5	43	56	64	64	82	64	62	83	97	1o1	7o	44	47	6	2	3	4	12	19	67	88	375	643	966
<i>Alnus</i> cfr. <i>glutinosa</i> (L.) Gaertn.																															
<i>Betula</i> sp.	79o	686	616	966	7oo	961	422	416	4o8	374	375	473	393	389	468	49o	453	48o	354	42o	49o	466	433	52o	4o9	163	181	127	59	49	51
Campanulaceae				1				1													1										
<i>Campanula</i> sp.																															
<i>Jasione montana</i> L.																															
Cannabaceae			5	3	4	1	1	9	7	1o	5	4	6	7	1o	11	6	8	6	9	4	12	19	5	4	8	5	3	5		
<i>Humulus lupulus</i> L.																															
Caprifoliaceae																															
<i>Viburnum Opulus</i> L.	1	1			1	1		1		1	1					2	3			1	2	1	1	1	1	1	1				
Carvophyllaceae																												1			
<i>Stellaria</i> cfr. <i>palustris</i> (Murr.) Retz.																															
Chenopodiaceae				1								1				1	1			1	1	1	1			1	1	1	1	1	1
<i>Chenopodiaceae</i> spp.																															
Compositae																															
Liguliflorae																															
<i>Liguliflorae</i> spp.	1								1	1	1																	1			3
Tubuliflorae																															
<i>Tubuliflorae</i> spp.		3	3	2		3	2		1	5	3	2	31	9	16	17		2	2	2	2	2	2	1	2	2	3	3	1	6	
<i>Artemisia</i> sp.	3	4	5	3	1	3	2	2	2	1	2	1	2	2			2	3	8	2	4	2	3	3	8	8	8	8	8	8	8
Corylaceae																															
<i>Corylus Avellana</i> L.	546	36o	385	698	427	673	1418	1731	172o	175o	1666	2295	161o	1459	2234	1996	23o4	2366	1931	1927	1475	2464	1739	16o7	19o1	7o3	547	522	155	1o2	193
Crasculaceae																												1			
<i>Sedum</i> sp.																															
Cruciferae																															
<i>Cruciferae</i> spp.																															
Cupressaceae			2	2	1	1		1																						1	1
<i>Juniperus communis</i> L.																															
Cyperaceae																															
<i>Cyperaceae</i> spp.	15	29	15	29	15	61	39	86	62	63	78	1o9	94	98	163	142	96	75	85	9o	43	44	33	41	76	924	666	292	12o	218	194
<i>Cyperus hirtus</i> L.																															
<i>Cylindrum Karstaeus</i> (L.) R.Br.				1		1		4	3	3	2	3	1	2	6	2	4	4	6	4	1	2	2	2	1	7	2	10	1	4	
Eriaceae																															
<i>Calluna vulgaris</i> (L.) Hull	3	5	7	3	2	2	9	12	6	15	4	17	13	11	11	12	13	11	1o	5	12	7	6	5	9	6	7	1	3	2	
<i>cfr. Pyrola minor</i> L.																															
Fagaceae																															
<i>Quercus</i> spp.		6	5	3	2	4	9	38	31	38	46	55	5o	44	51	68	54	44	42	26	18	18	14	14	35	4o	37	41	33	47	44
Gramineae																															
<i>Gramineae</i> spp.	18	22	26	46	2o	2o	54	47	66	64	83	92	63	81	72	82	76	69	63	53	69	69	37	47	66	48	5o	51	37	8	35
<i>Glyceria</i> cfr. <i>cluitans</i> (L.) R.Br.								2																							
Labiales																															
<i>Monarda</i> cfr. <i>aquatica</i> L.																					1										
Lemnaceae																													1		
<i>Lemna</i> sp.																															
Liliaceae																															
<i>Lilium</i> sp.																															
Loranthaceae																															
<i>Viscum album</i> L.										1	1					1			1						1	1	1	1	2		
Lythraceae																															
<i>Lythrum Salicaria</i> L.																													1		
Menyanthaceae																														1	
<i>Menyanthes trifoliata</i> L.																															
Nymphaeaceae																															
<i>Nymphaea</i> cfr. <i>lutea</i> (L.) Sm.								2	1		1		1			1	1	1	1	2		3		1							
<i>Nymphaea</i> cfr. <i>alba</i> L.		2				4	31	57	53	3o	51	57	39	48	65	6o	64	6o	51	48	59	71	71	48	78	14	6	4			
Oleaceae																															
<i>Fraxinus excelsior</i> L.					1					1	4	1	3	3	2	3	1		3	2		1	3	2	7	2	6	2		5	14
Pinaceae																															
<i>Picea Abies</i> (L.) Karst.	1,5																														
<i>Pinus silvestris</i> (L.) Karst.	412,5	555	435,5	517,5	439,5	437	524	4o9,5	416,5	436	433,5	519	39o,5	4o5	515	532,5	537,5	552,5	442	46o	584	626,5	455	463,5	447	7o4,5	639,5	695	582,5	327,5	3,5
Plantaginaceae																															
<i>Plantago lanceolata</i> L.																															3
Polygonaceae																															
<i>Rumex Acetosella</i> L. vel <i>Acetosella</i> L. vel																															
<i>Rumex crispus</i> L.	1										2		1				1				2										2
<i>Rumex Hydrophilanthus</i> Huds.																															

TABLE VIII.

Niløse-Komplekset. Baad I (Boat I).

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The figures indicate numbers of pollen grains or spores.

The sample number in the diagram	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
The store number of the sample	H 2242	H 2242	H 2420	H 2419	H 2418	H 2417	H 2416	H 2415	H 2414	H 2412	H 2410	H 2408	H 2406	H 2405	H 2404	H 2403	H 2402	H 2401	H 2400	H 2399	H 2398	H 2397	H 2396	H 2395	H 2394	H 2393	H 2392	H 2391
SPERMATOPHYTA																												
Aceraceae Acer cfr. platanoides L.																										1		
Aquifoliaceae Ilex Aquifolium L.																										1		
Araliaceae Hedera Helix L.							7	12		6	15	8	10	4	10	7	8	2	7		7	18	10	6	7	9	8	9
Betulaceae Alnus cfr. glutinosa (L.) Gaertn. Betula spp.	1 1536	2 1847	2 1547	2 1261	6 1050	21 1083	28 925	175 967	370 608	436 560	664 648	598 627	624 428	707 421	693 370	671 417	718 366	698 429	1045 388	740 550	665 439	799 274	749 198	907 239	1152 189	1009 186	947 145	1311 181
Cannabaceae Rumulus Lupulus L.			7	35	27	14	10	11	3	6	4	7	5	2	4		1		2	1		1		1		1		
Caprifoliaceae Viburnum Opulus L.				3	3	1				2	2	1	3	1														
Chenopodiaceae Chenopodiaceae spp.		1			1			1				1		1					1		1		1	2	3	1	2	1
Cistaceae Helianthemum cfr. nummularium (L.) Mill., Dun	2																											
Compositae Liguliflorae Tubuliflorae							1		2	1	2	1		1		1	2		1			1		1		1	2	
Artemisia spp. Cirsium spp. Cirsium cfr. palustre (L.) Scop.	9 1	3	4	1	4	4	8	1	3	3	3	1		2		1	2	2	5	4	1	4	1	2	1	3	5	
Cornaceae Cornus sanguinea L.								1																				
Corylaceae Corylus Avellana L.	3	19	66	1759	4156	4240	3664	3321	2850	2281	2611	2174	1808	1525	1842	1417	1447	1432	1408	836	700	911	980	919	963	988	981	1072
Crasulaceae Sedum sp.						1																						
Cruasiferae Cruciferae sp.												1																
Cyprenaceae Juniperus communis L.	4	1			1								2													1	1	1
Cyperaceae Cyperaceae spp. Cladium Mariscus (L.) R.Br.	60 1	30	20	25 2	32	59 9	63 5	59 5	53 11	74 6	106 9	101 6	63 6	52 1	40 2	55 3	63 3	73 2	81 1	87 2	102	76 1	68 1	80 2	93 8	88 6	60 2	89 4
Elaeagnaceae Hippophas Rhamnoides L.	3																											
Ericaceae Calluna vulgaris (L.) Hull	10	1	4	5	9	9	14	13	22	14	11	10	6	15	4	9	10	13	15	5	9	7	7	8	6	4	6	16
Fagaceae Fagus sylvatica L. Quercus spp.			8	12	20	25	39	77	126	182	280	318	282	263	313	296	252	232	264	245	263	474	436	408	366	357	350	365
Geraniaceae Geranium cfr. palustre L.																			1									
Gramineae Gramineae spp. Glyceria cfr. filutana (L.) R.Br. Glyceria cfr. maxima (Hartm.) Holmberg cfr. Phalaris arundinacea L.	186 125 55 74 72 87 56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	125 55 74 72 87 56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	55 74 72 87 56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	74 72 87 56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	72 87 56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	87 56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	56 81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	81 100 79 122 118 91 94 89 114 110 135 1 1 1 1	100 79 122 118 91 94 89 114 110 135 1 1 1 1	79 122 118 91 94 89 114 110 135 1 1 1 1	122 118 91 94 89 114 110 135 1 1 1 1	118 91 94 89 114 110 135 1 1 1 1	91 94 89 114 110 135 1 1 1 1	94 89 114 110 135 1 1 1 1	89 114 110 135 1 1 1 1	114 110 135 1 1 1 1	110 135 1 1 1 1	135 1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	
Haloragaceae Myriophyllum verticillatum L.			1								1	3	3				1											
Labiatae cfr. Lycopus europaeus L. Mentha cfr. aquatica L. Stachys cfr. palustris L.																				1						1		
Liliaceae Allium ursinum L.																										1		
Loraneae Viburnum album L.									1	2	2	1	2	2		2	1	2	1	1	1	1		3	1	5	2	2
Nymphaeaceae Nuphar cfr. luteum (L.) Sm. Nymphaea cfr. alba L.	1 1	2	1	2	5	3	10	21	29	40	57	50	39	26	18	27	30	23	25	16	15	21	20	15	33	14	17	30
Oleaceae Fraxinus excelsior L.						1		1	1	3	2	1	1	1	2	3	4	5	2	3	5	13	6	11	14	17	13	12
Pinaceae Pinus Abies (L.) Karst. Pinus silvestris L.	1,5 464	392	575	920	1045	769	803	719	992	557	739,5	616	468,5	445,5	445,5	285	353	373,5	364,5	349,5	372	222,5	197,5	175	150	172,5	146,5	192,5
Plantaginaceae Plantago lanceolata L. Plantago maritima L.											1														1			
Polygonaceae Rumex Acetosella L. vel thyrsiflorus Fingerh. Rumex Hydrolapathum Huds.	1 1	1	1	5	3	1	1	1					1			2	1				1			1	1	2	1	1
Potamogetonaceae Potamogeton spp.		2	4	7	6	4	4	1	5	3	8	2	1	2	1	2		5								2	2	2
Ranunculaceae Caltha cfr. palustris L. Ranunculus sp. Ranunculus cfr. lingua L. Ranunculus cfr. repens L. Thalictrum cfr. flavum L.																												
Rosaceae Rosaceae spp. C. rubra sp. Filipendula cfr. Umaria (L.) Maxim. Geum sp. cfr. Rubus fruticosus L. cfr. Rubus idaeus L. cfr. Rubus cuneifolius L. Sorbus cfr. aucuparia L.																												
Rubiaceneae Rubium spp.		2																										
Salicaceae Populus tremula L. Salix spp.	26 33	110 24	105 17	59 20	124 25	156 39	84 21	32 20	12 7	6 9	20 18	11 9	4 11	12 2	5 1	13 9	6 5	14 2	6 4	12 4	11 4	7 4	5 2	6 2	1 1	3 1	4 1	4 1
Scrophulariaceae Melampyrum cfr. pratense L.																												
Tiliaceae Tilia cfr. cordata Mill.						8	5	46	49	64	68	103	56	98	104	101	110	127	81	84	118	153	124	138	171	175	191	212
Typhaceae Typha latifolia L.	1	0,25	1,5	1,75	2,5	2,25	1,75	0,75	1,5	0,5	4,25	1,75	1,5	4,25	3,25	5,5	4,5	3,5	7,75	4,25	5,25	5	5,75	5,5	5	5	4	10,5
Ulmaceae Ulmus spp.	3	7	6	26	52	165	193	209	249	233	311	327	226	228	295	242	290	312	262	250	275	321	301	271	244	233	225	267
Umbelliferaceae Umbelliferaceae spp.		1	2	2	2	1	3		1		2	1		1		1		3		2	2	5	4	5	3	2	7	
Urticaceae Urtica dioica L.		10	2	2		2	2	2	1	3	6	2	1			1		2	2	1		2	2	2	1			
Valerianaceae Valeriana cfr. sambucifolia Mikan fil.																										1		
a.i.d. ³⁾ (ubestemmelige p.Gra. Destraktion) a.i.p. (ubestemmelige p.Gra. Faldning) a.i.l. (ubestemmelige p.Gra. skjult Belliggenhed)	1 1 7	1 1 25	2 4 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25	2 1 25
E Spermatophyta	2409,5	2611,25	2429,5	4244,75	6661,5	6736,25	5968,75	5723,75	5125,5	4580	5736,75	5012,75	4143	3925,75	4251,75	3692	3793,5	3901	4118,75	3345,75	3163,25	3502	3241,25	3343,5	3559	3428,5	3200	3888
PTERIDOPHYTA																												
Equisetaceae Equisetum spp.	1	2	1																									
Lycopodiaceae Lycopodium sp. Lycopodium cfr. complanatum L.						1					1							1	2									
Polypodiaceae Polypodiaceae spp. Polypodium vulgare L. Polypodium aquilinum (L.) Kuhn cfr. Thelypteris Dryopteris (L.) Slosson	86 (45) 1 3	85 (43) 1 2	82 (42) 1 4	56 (32) 1 2	51 (26) 1 1	74 (40) 1 1	40 (22) 1 1	84 (45) 1 1	92 (57) 1 2	82 (41) 1 2	124 (82) 1 2	140 (74) 1 2	113 (57) 1 2	120 (64) 1 2	98 (52) 1 2	101 (62) 1 2	134 (74) 1 2	262 (156) 1 2	241 (120) 1 2	120 (67) 1 2	131 (62) 1 2	111 (55) 1 2	109 (55) 1 2	171 (73) 1 2	202 (103) 1 2	140 (67) 1 2	222 (121) 1 2	254 (132) 1 2
E Pteridophyta	91	89	88	60	54	86	47	109	117	100	150	155	127	141	122	126	142	278	260	127	142	130	121	187	216	151	225	264
BRYOPHYTA																												
Sphagnaceae Sphagnum spp.	3	5	2	2	4	1		1			3	2		2		1		1	1			1		1	5	1		2
E Bryophyta	3	5	2	2	4	1		1			3	2		2		1		1	1			1		1	5	1		2
THALLOPHYTA																												
Botryococcaceae Botryococcus Braunii Kützting.	347 (101)	193 (60)	108 (32)	247 (136)	178 (90)	144 (78)	147 (55)	140 (34)	280 (177)	157 (78)	328 (195)	230 (122)	231 (60)	203 (75)	222 (53)	2												

2) a.i.d. = ad indeterminabile destructum
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.

TABLE IX.

Amounts; N. 1,000; O. 2.940

Sp. 1 b.

The figures indicate numbers of pollen grains or spores.

NN VIII J.Nr. A 4203.

[illegible]

1) a.i.d. = ad indeterminabile destructu
a.i.p. = ad indeterminabile plicatum
a.i.l. = ad indeterminabile latitans.