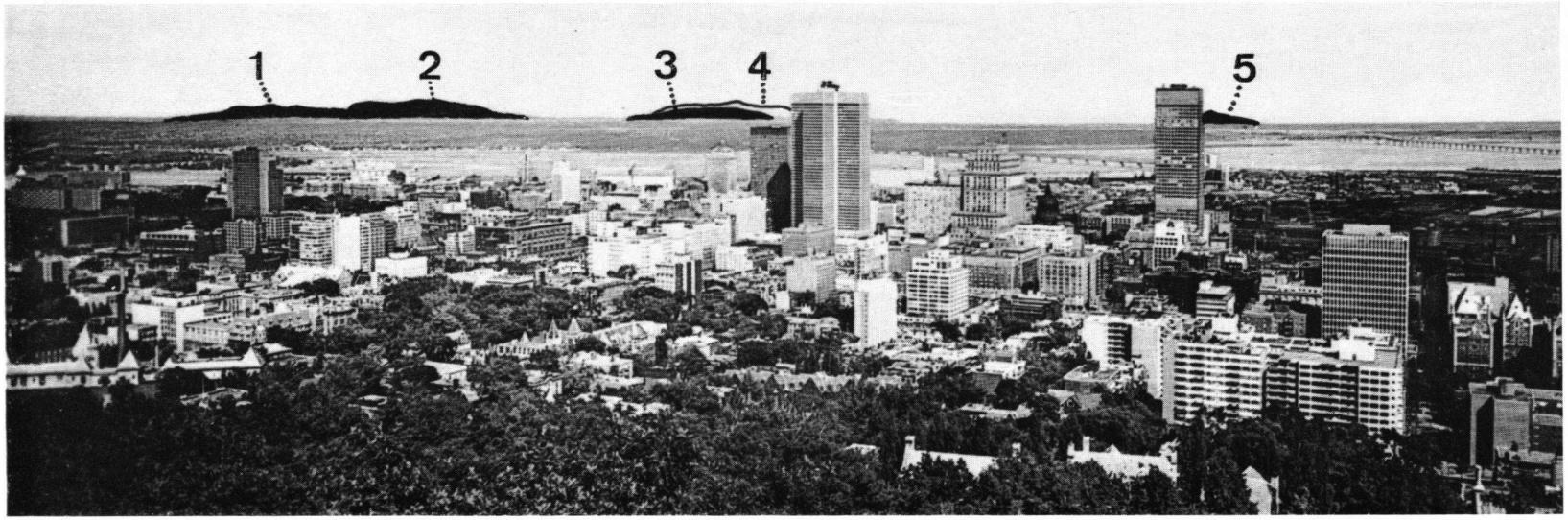
PLATES



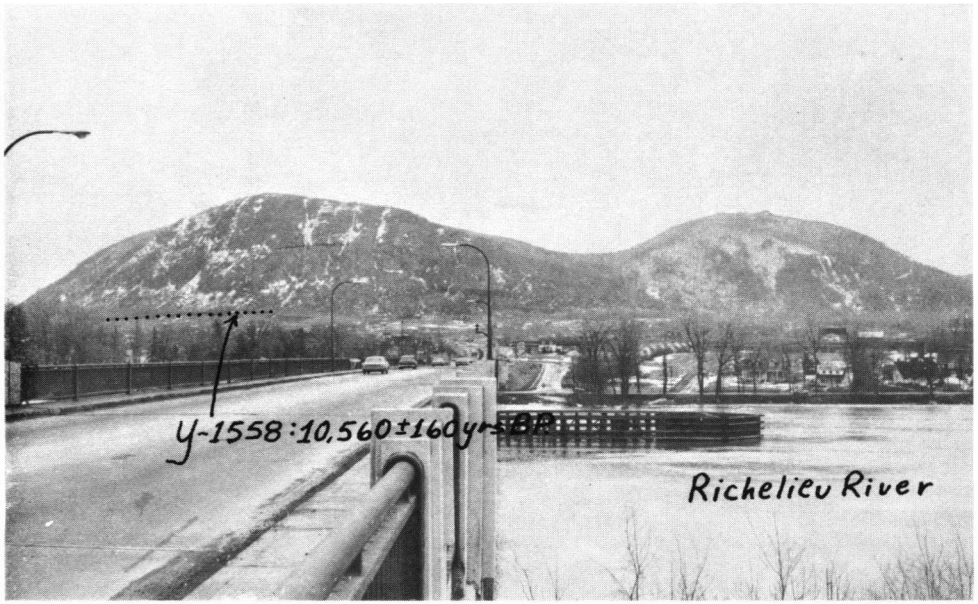


PLATE 1.

Above, oblique photograph taken from the Mount Royal, looking east, and showing the Lowlands and the other Monteregian Hills:

1. St. Bruno,
2. St. Hilaire,
3. Rougemont,
4. Yamaska,
5. Johnson. Apparent distance between 1 and 5 is 14 miles or 23 kilometers.

Left, Mount St. Hilaire, as seen from the Richelieu River, looking east; C^{14}-dated site and marine terrace (not marine limit) shown.

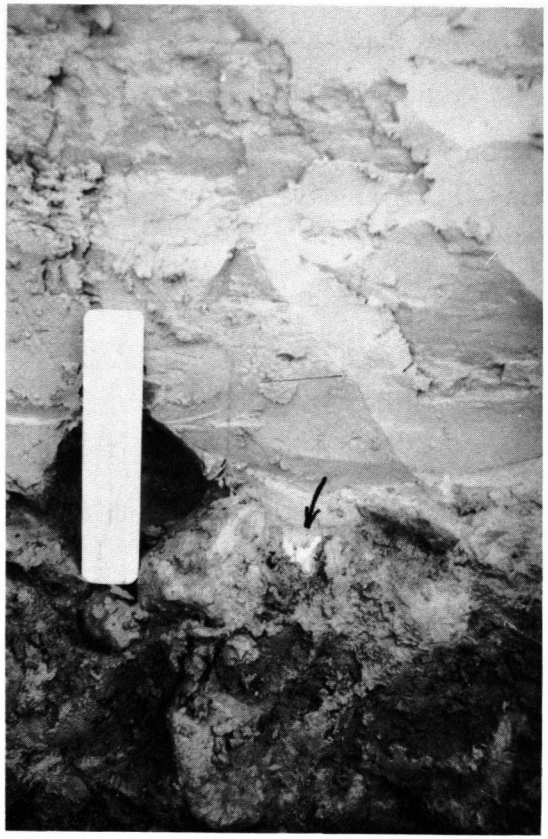


PLATE 2

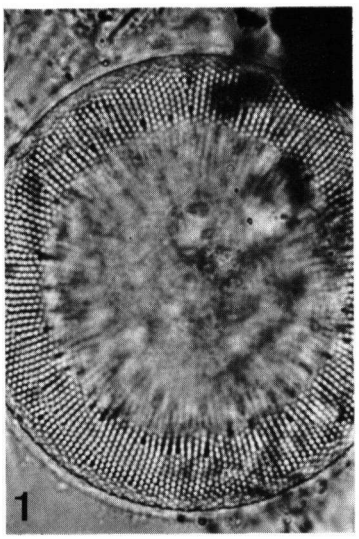
1. contact between marine clays and underlying till; shell of *Mya truncata* appears to be incorporated into reworked till, Varennes Quarry, Beloeil area (Lasalle and Elson, 1962).
2. basal part of barnacles and a shell of *Hiatella arctica* in living position, Mount St. Bruno; bedrock is essexite; elevation: ca. 150 meters or 450 feet.
3. scarp along „anastomosing" channels of the early St. Lawrence River, north of St. Bruno.

PLATE 3.

1. stereoscopic photograph showing Lake Hertel under the snow and ice cover; the distance to the other side of the lake is approximately 1700 feet or 500 meters.
2. folded clay layers interlayered with sand, south east of Lake Hertel, at the periphery of St. Hilaire mountain (scale given by pencil).

PLATE 4

1, 2. *Coscinodiscus* sp., St. Antoine core, 700 ×.
3. idem, 380 ×.
4, 5, 6, 7, 8, 9. *Glaux maritima*, probably variety *obtusifolia*, 2900 ×.
4. shows apparent thickening of ektexine in the polar area.
5. shows the *Rhizophora* aspect of the polar area of *Glaux*.
6, 7, 8, 9. show the costae aequatoriales (Iversen, 1964, p. 23).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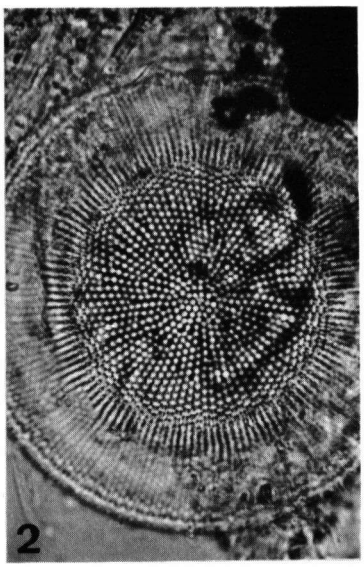
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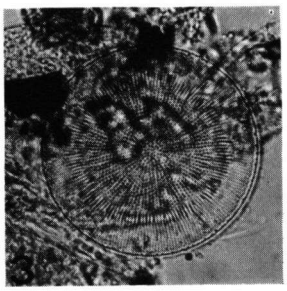

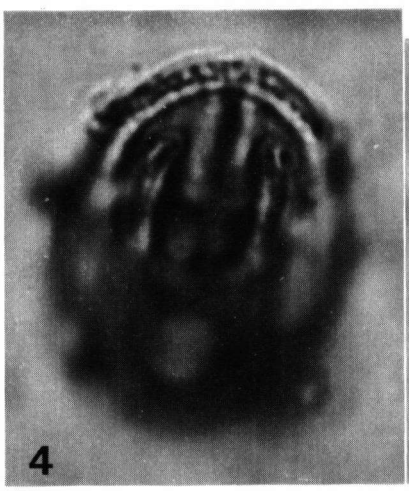
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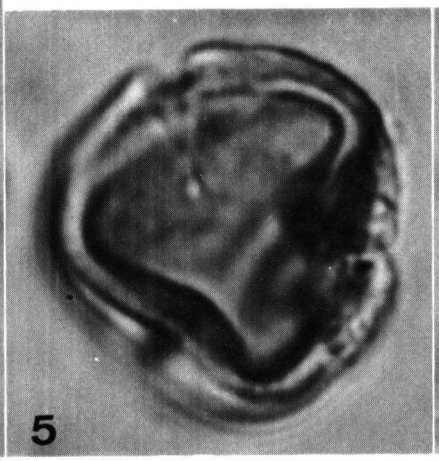
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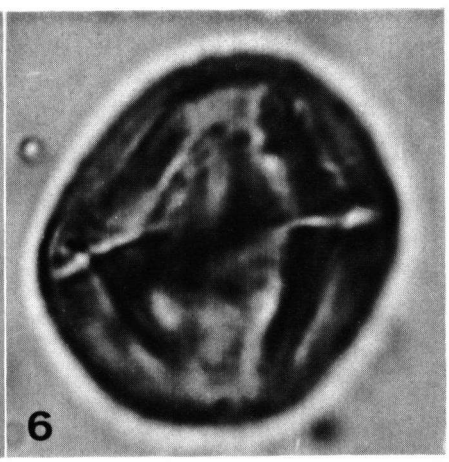
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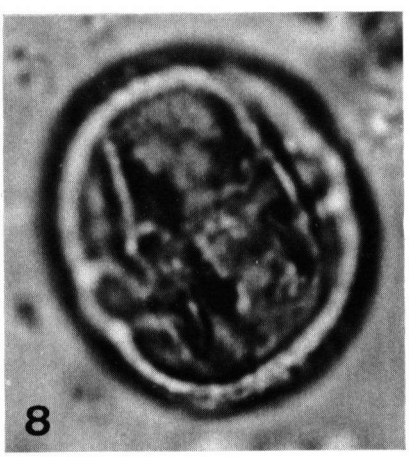
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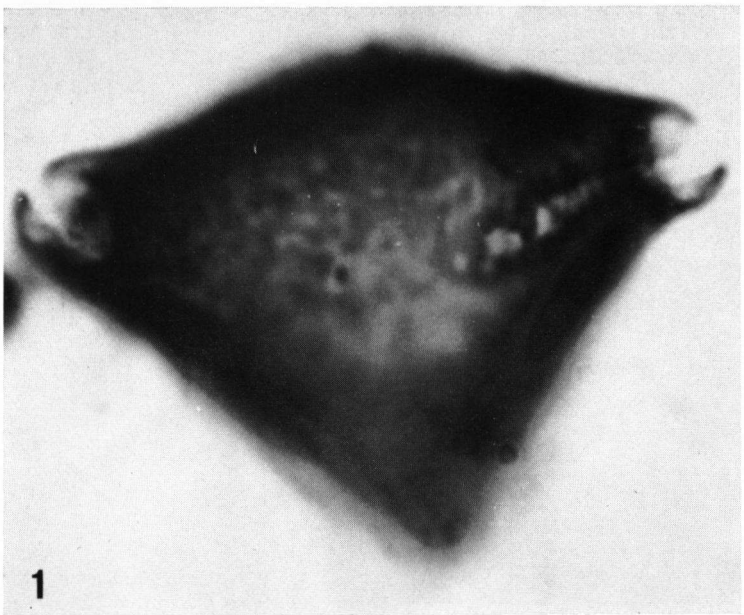
9

PLATE 5

1, 2, 3, 4. *Elaeagnus commutata*, St. Hilaire bog, 870—875 cms., 2300 ×.
5. *Betula* sp., 350 ×.
6, 7. *Juglans* sp., 350 ×.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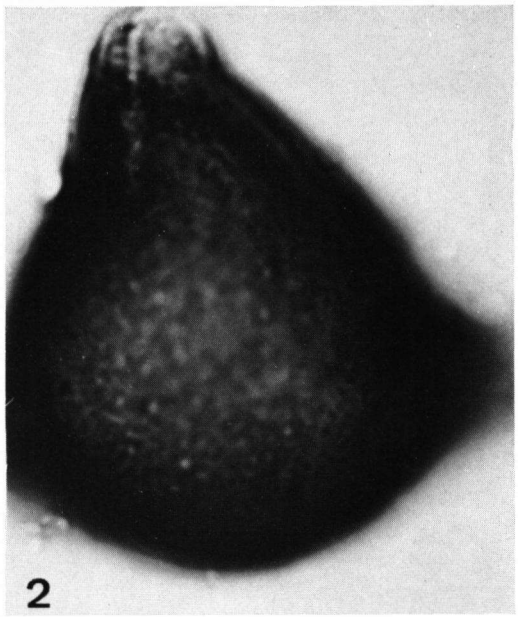
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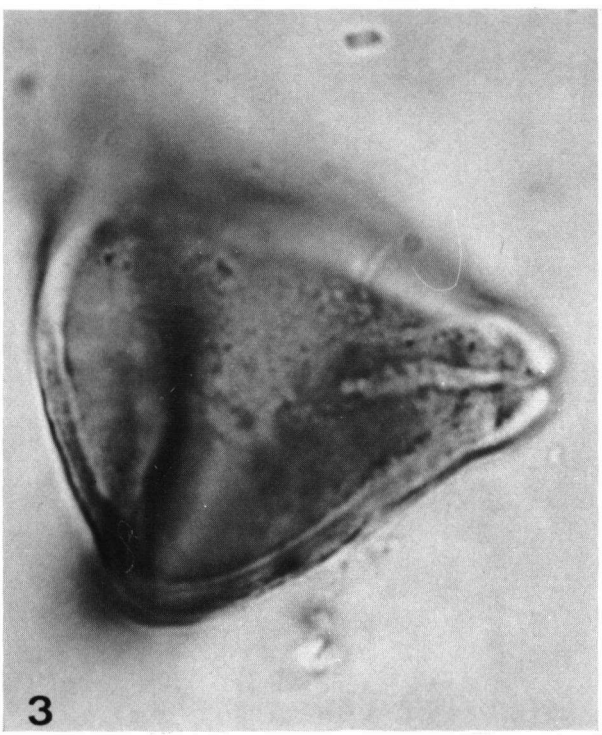
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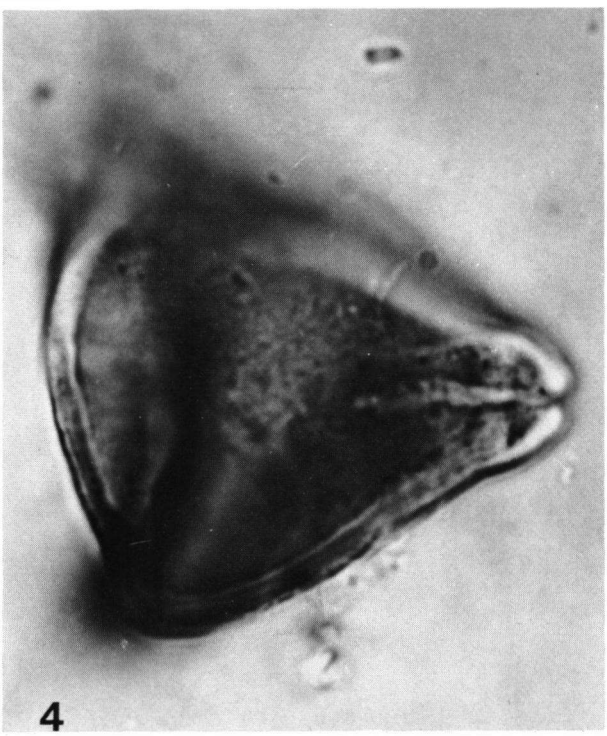
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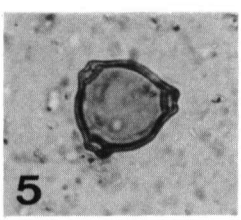
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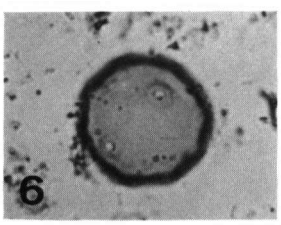
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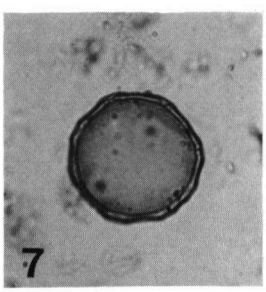
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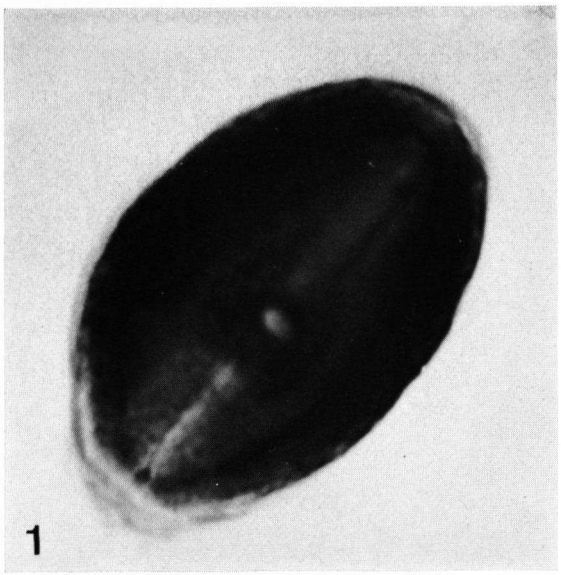
PLATE 6

1, 2, 3, 4. *Shepherdia canadensis*, St. Hilaire bog, 840—845 cms., 1800 ×.
5, 6. *Myrica* sp., St. Bruno bog, 660—665 cms, 1750 ×.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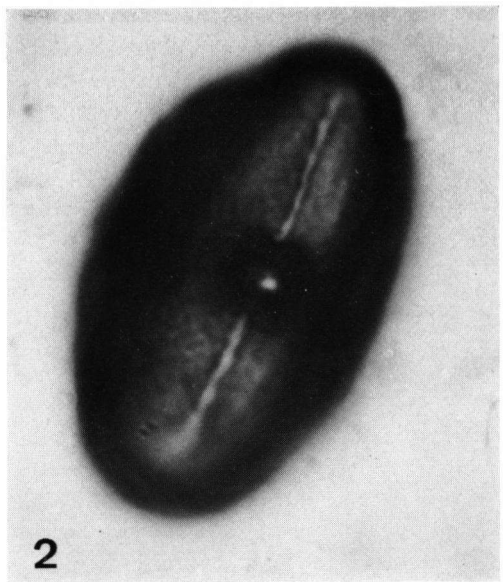
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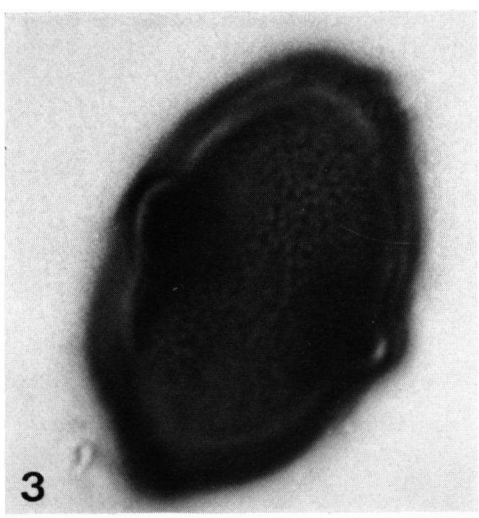
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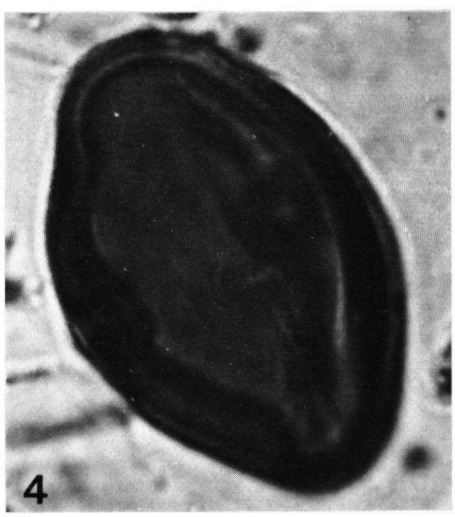
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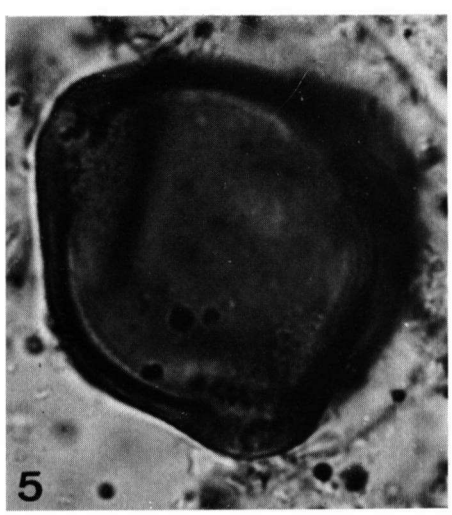
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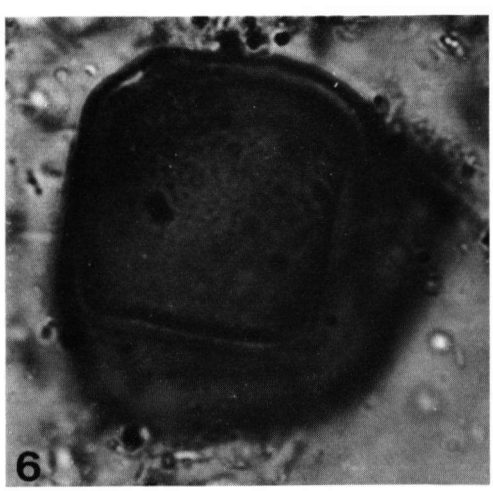
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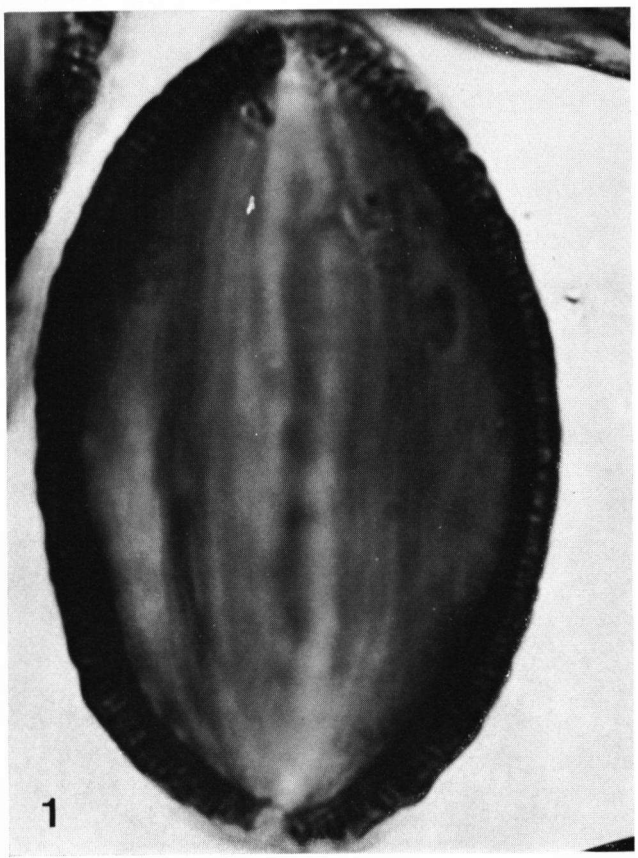
PLATE 7

1. *Acer* type, St. Hilaire bog, 835—840 cms., 2300 ×.
2, 3. idem, 1700 ×.
4. idem, 2300 ×.
5, 6. *Artemisia* sp., St. Hilaire bog, 840—845 cms., 2300 ×.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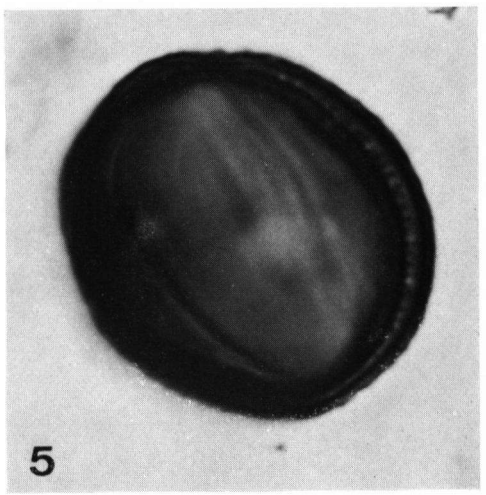
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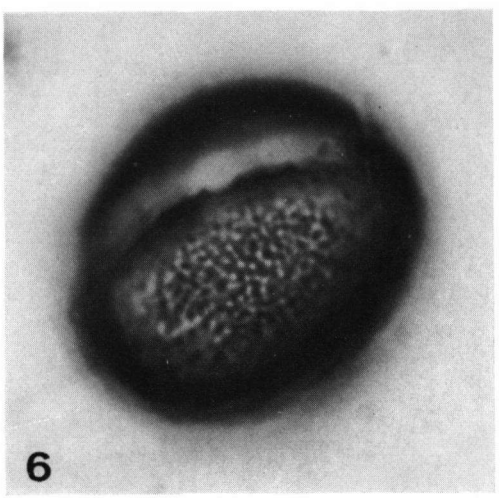
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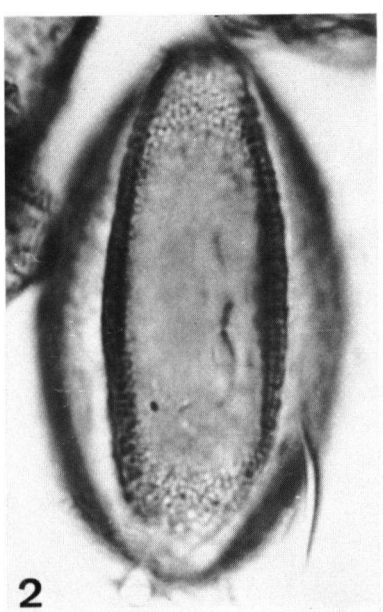
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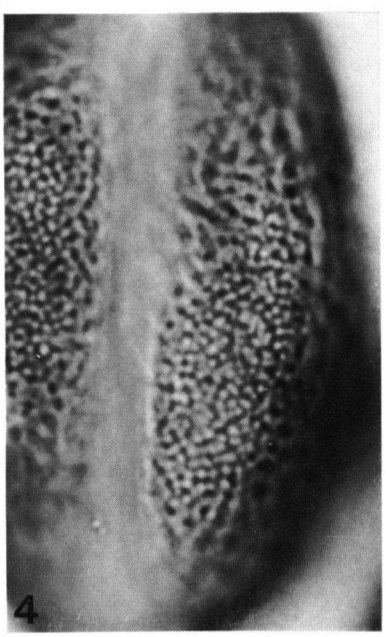
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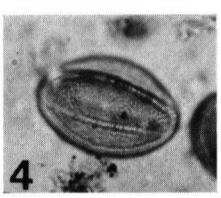
PLATE 8

1, 2. *Acer* type, St. Hilaire bog, 840—845 cms., 2300 ×.
3. idem, 1100 ×.
4. idem, Lake Hertel, 525 ×.
5, 6. *Salix* sp., St. Hilaire bog, 840—845 cms., 2300 ×.


1


2


3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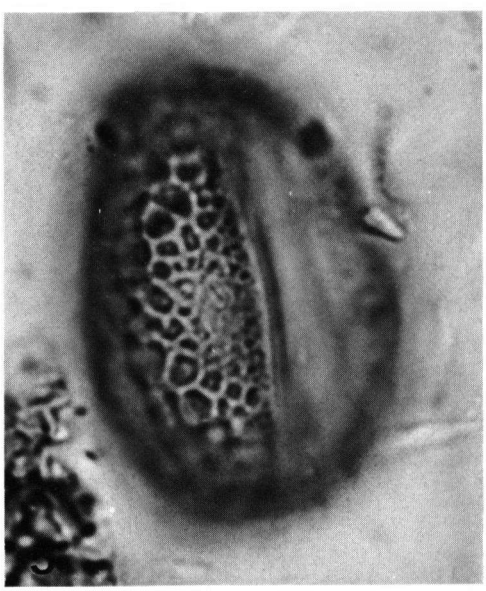
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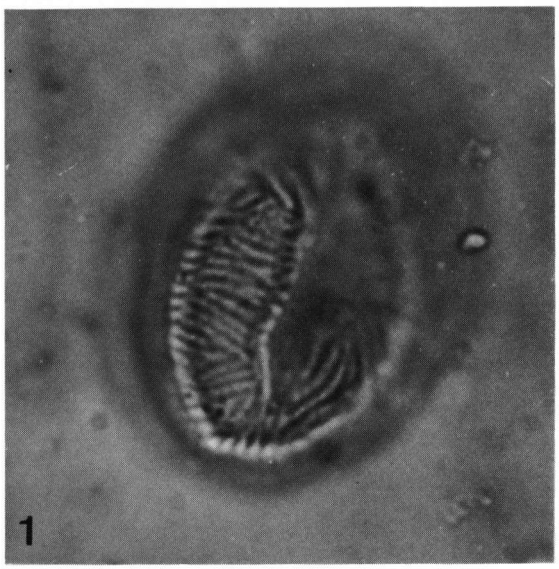
6

PLATE 9

1, 2, 3. *Saxifraga oppositifolia*, St. Hilaire bog, 940—945 cms., 2100 ×.
4, 5, 6. unknown type, St. Hilaire bog, 840—845 cms., 1600 ×.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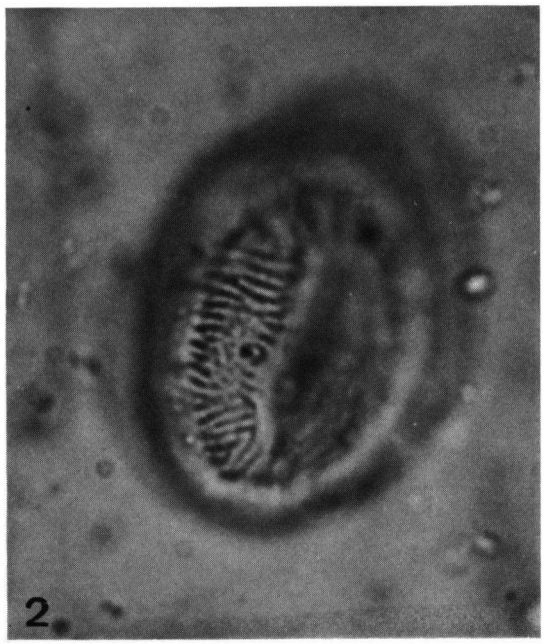
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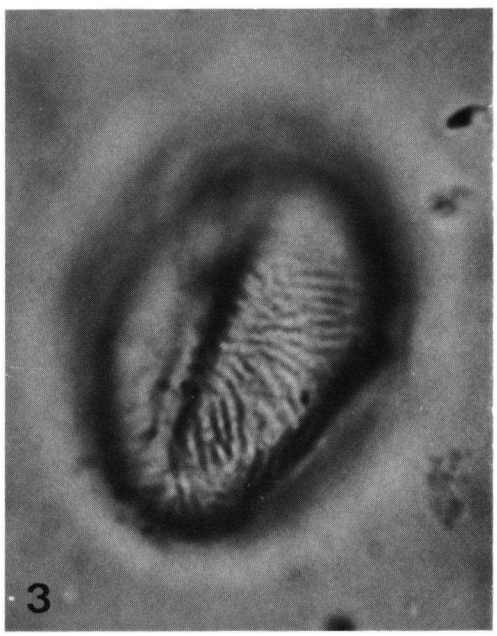
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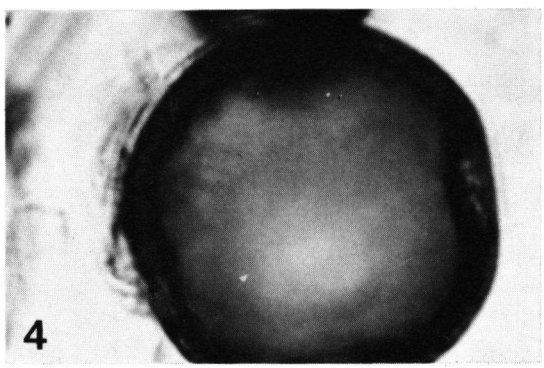
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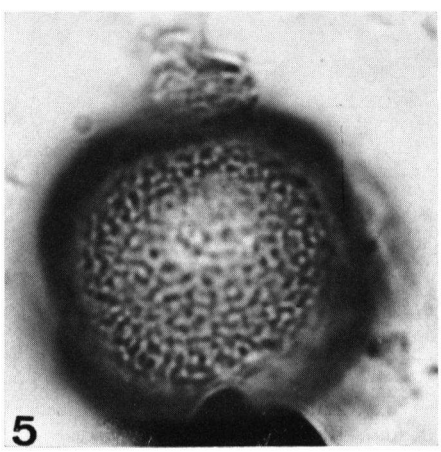
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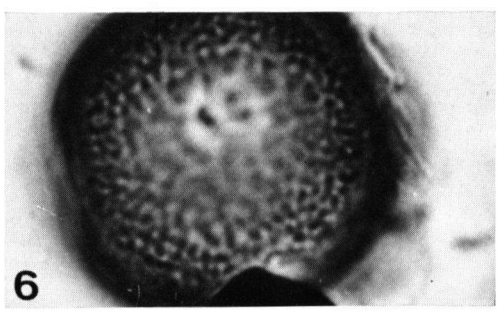
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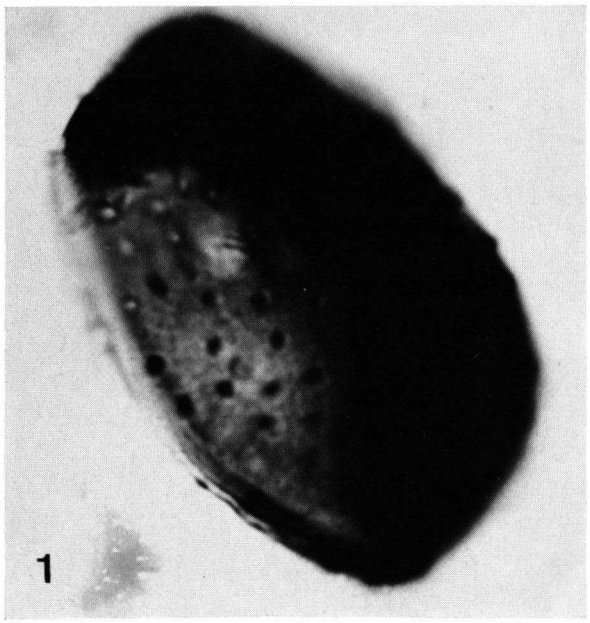
PLATE 10

1, 2. unknown type, St. Hilaire bog, 840—845 cms., 2500 ×.
3. Graminae, St. Hilaire bog, 840—845 cms., 2200 ×.
4. unknown sp., St. Hilaire bog, 835—840 cms., 2200 ×.
5. *Epilobium* sp., St. Hilaire bog, 840—845 cms., 1000 ×.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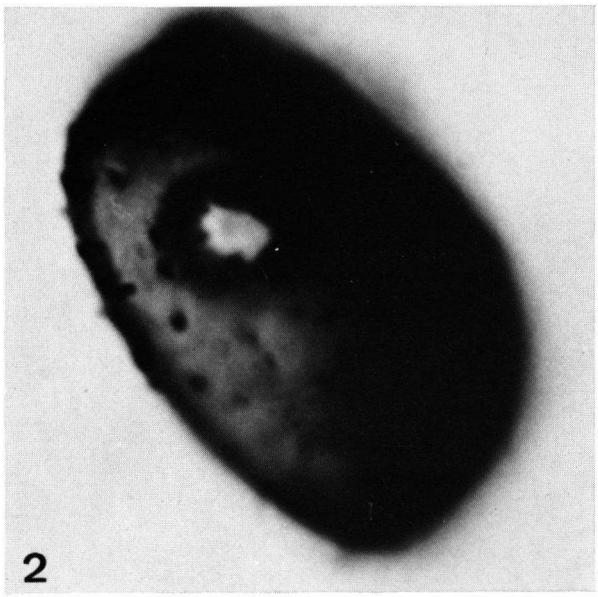
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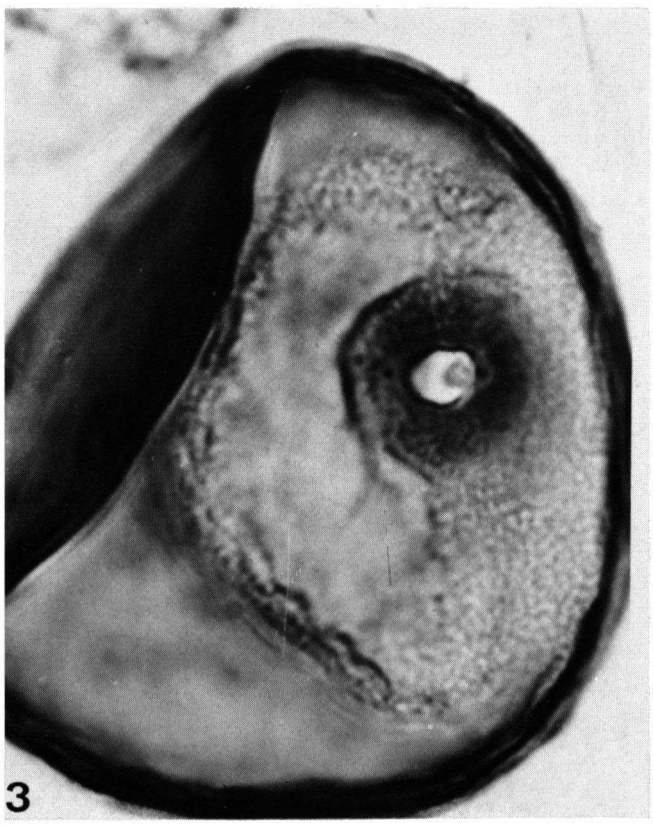
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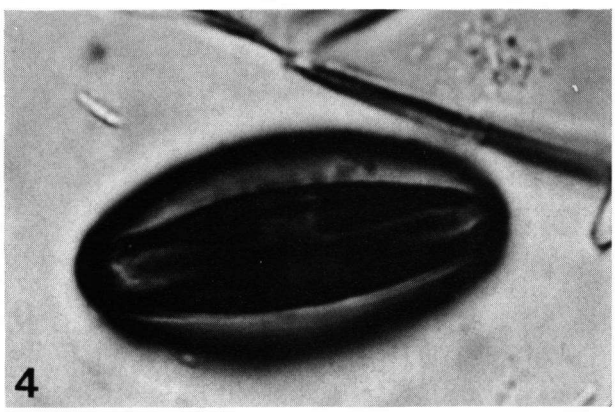
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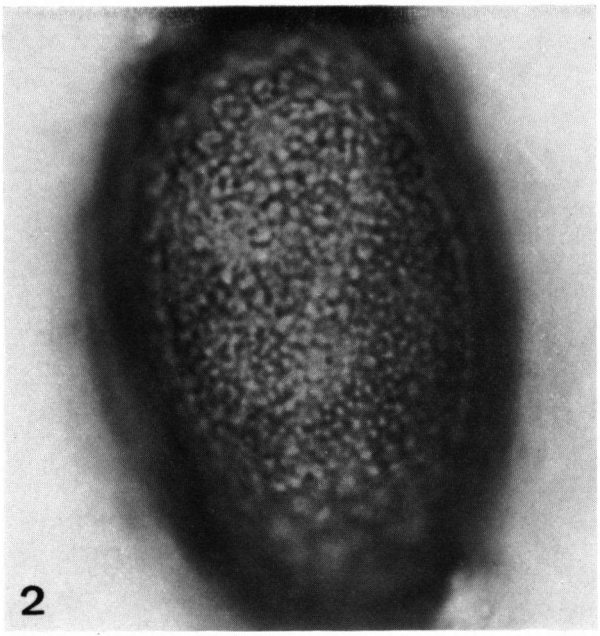
5

PLATE 11

1, 2. *Quercus* sp., St. Hilaire bog, 840—845 cms., 2200 ×.
3, 4, 5, 6. unknown type (*Lonicera*?), St. Hilaire bog, 835—840 cms., 2300 ×.


1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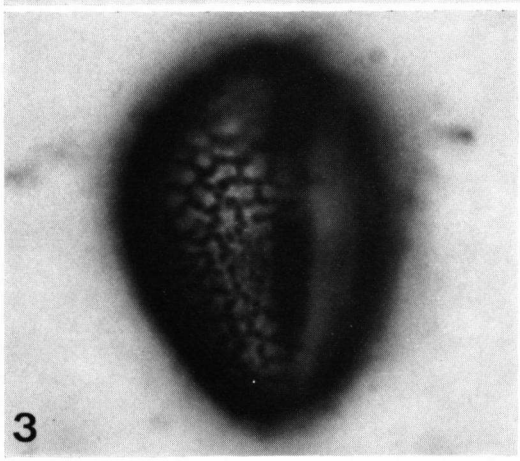
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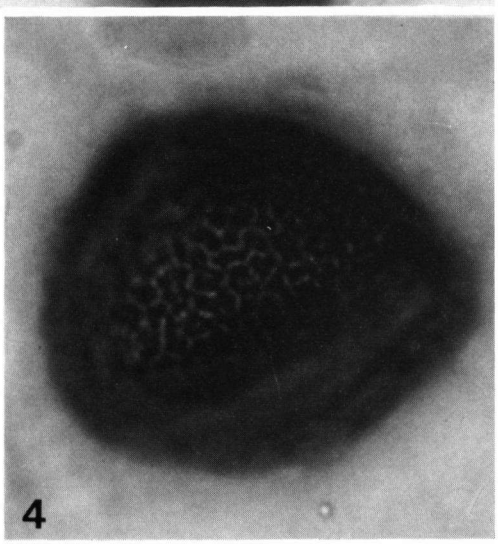
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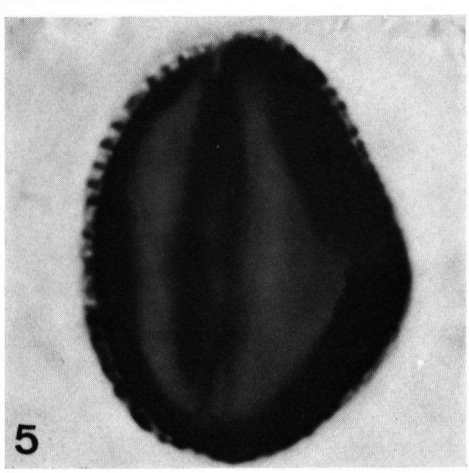
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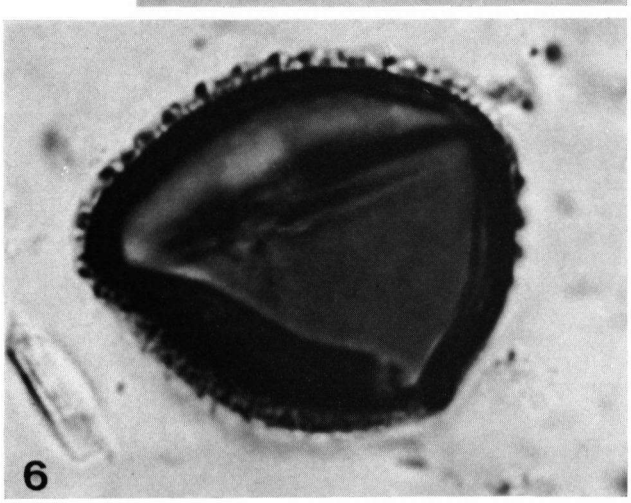
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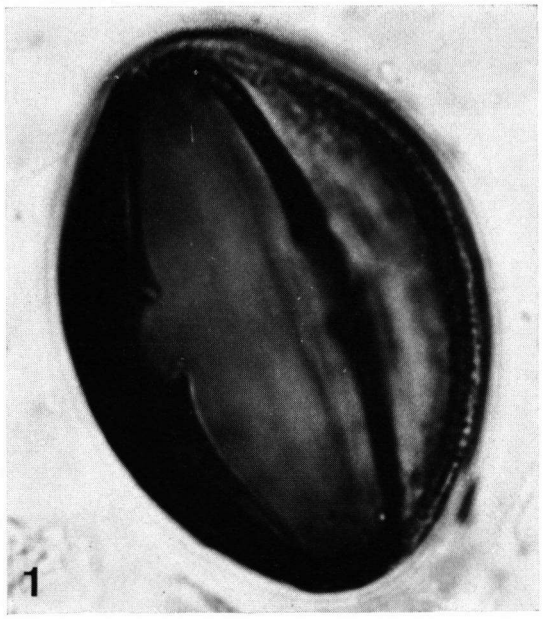
PLATE 12

1, 2, 3. unknown type, St Hilaire bog, 835—840 cms., 2400 ×.
4. unknown type, St. Bruno bog, 625—630 cms., 2100 ×.
5. *Tsuga* sp., 325 ×.
6. *Pinus* sp., 325 ×.
7. *Abies* sp., 325 ×.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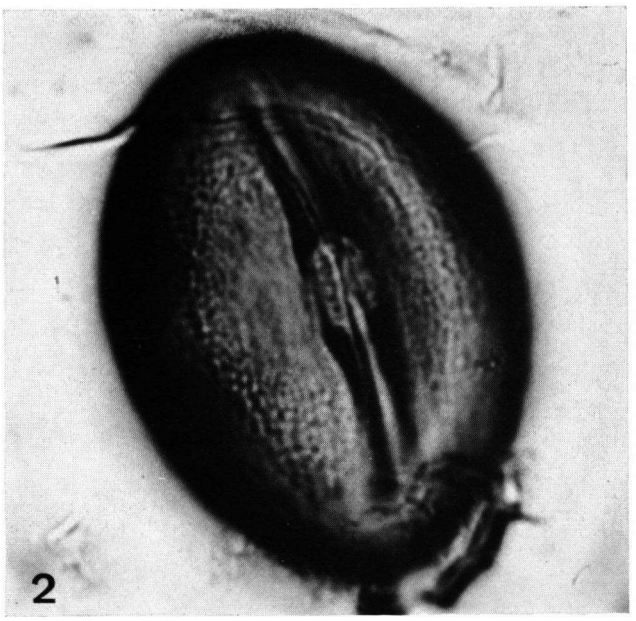
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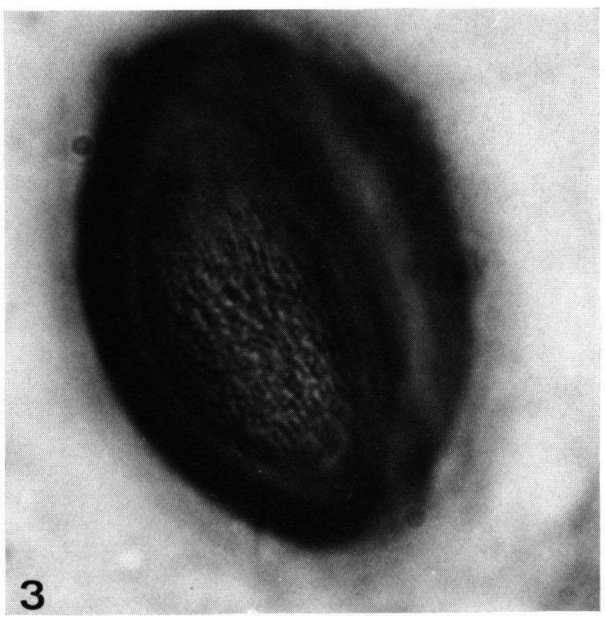
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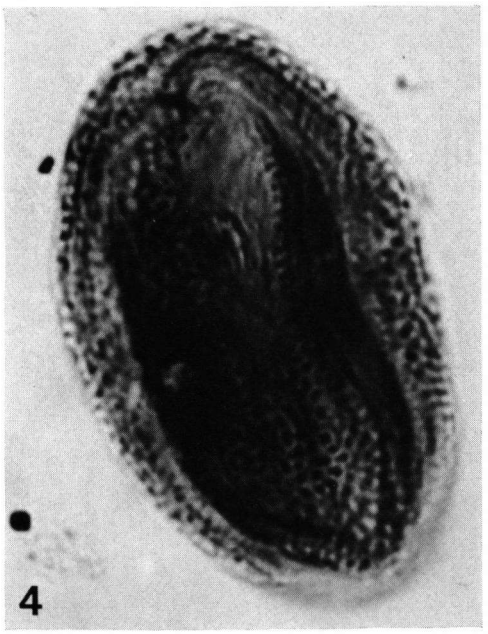
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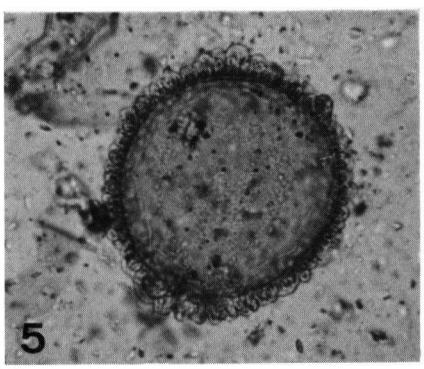
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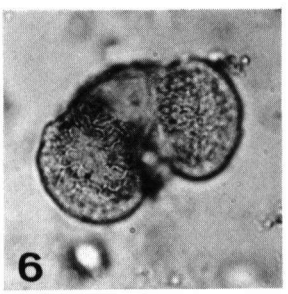
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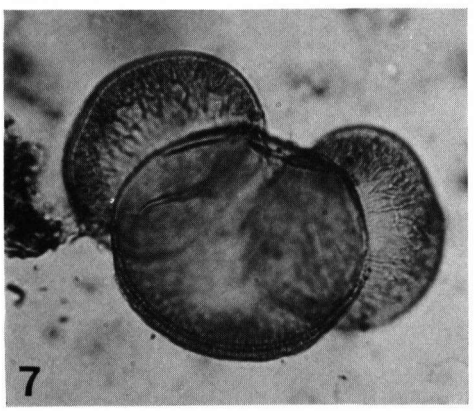
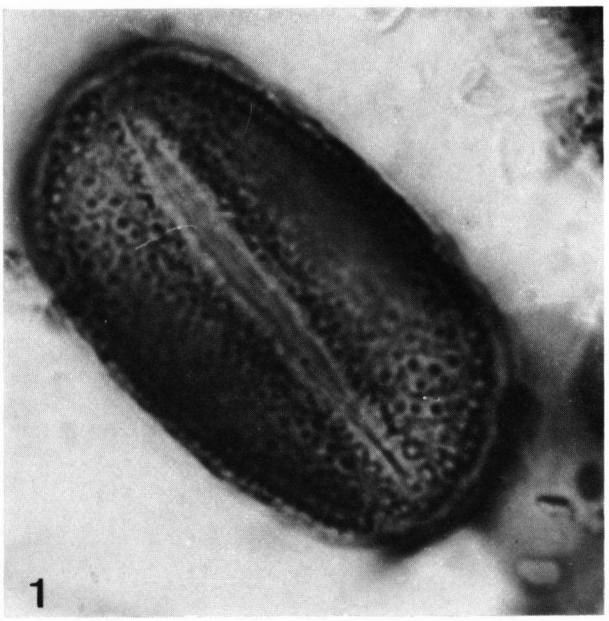

7

PLATE 13

1, 2. unknown type, St. Hilaire bog, 835—840 cms., 2300 ×.
3, 4. unknown type, St. Bruno bog, 635—640 cms., 2500 ×.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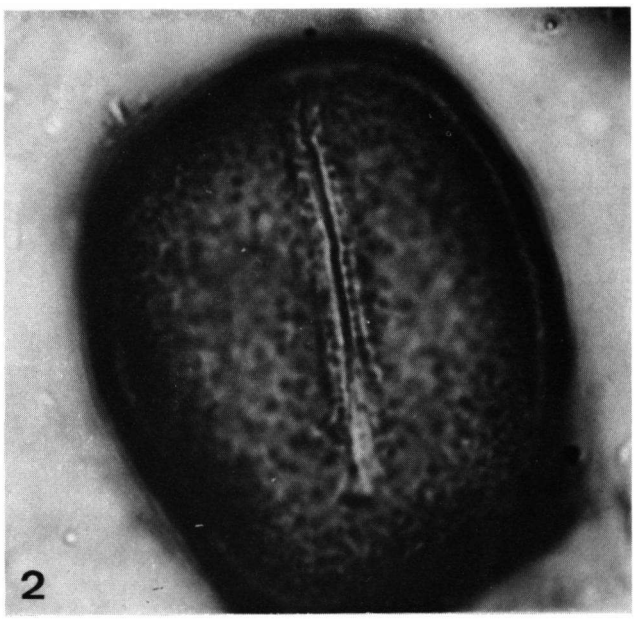
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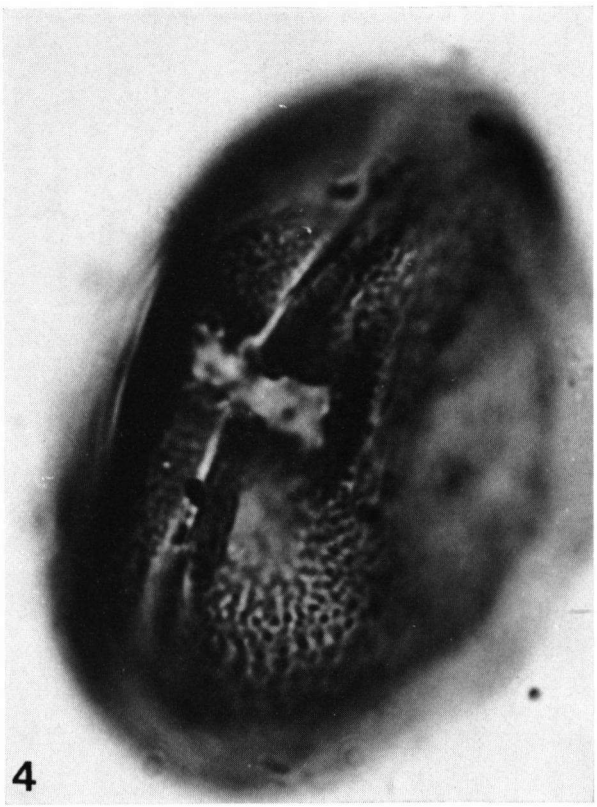
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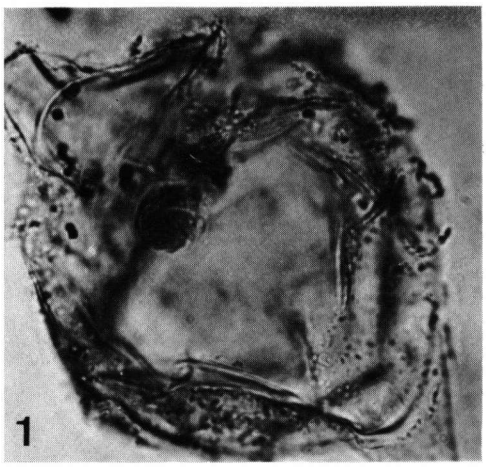
PLATE 14

1. Dinoflagellates (?), percentage expressed as a fraction of total sum in Lake Hertel diagram, but they have not been included in the sum, 1000 ×.
2, 3. idem, 325 ×.
4. acritarch (?) 325 ×.
5, 6. „Hystrix", Lake Hertel, 1000 ×.
7. idem, 325 ×.
8. acritarch (?), 325 ×.
9. *Staurastrum* sp. (Desmidiales), St. Bruno bog, 660—665 cms., 1600 ×.
10. *Pediastrum*, sp. Lake Hertel, 325 ×.
11. *Terahedron* sp. (Desmidiales,) St. Bruno bog, 660—665 cms., 3500 ×.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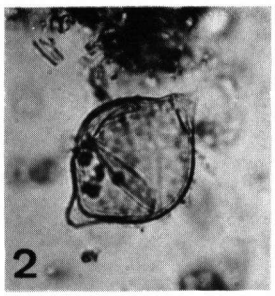
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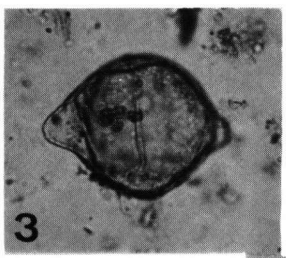
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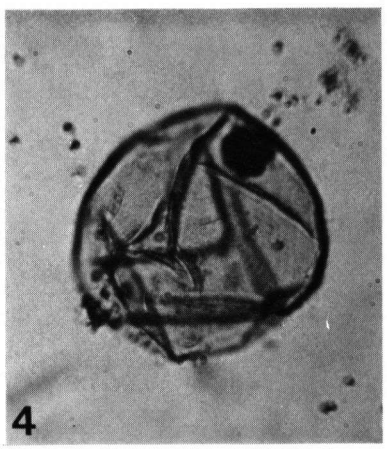
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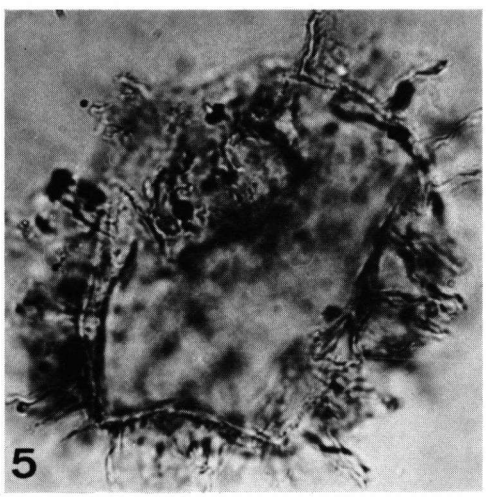
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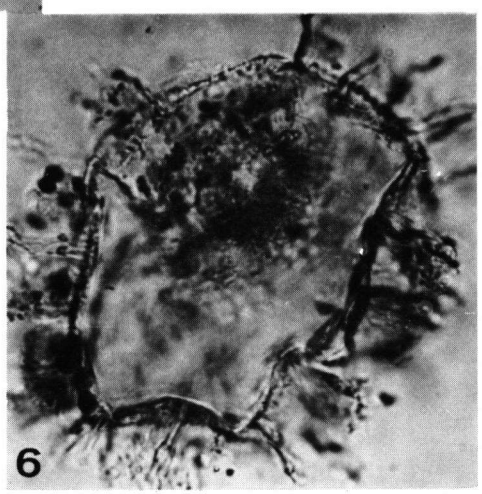
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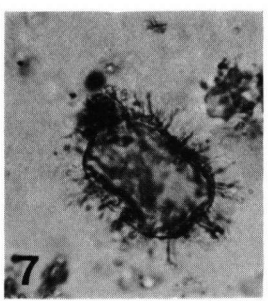
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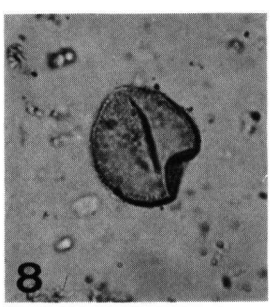
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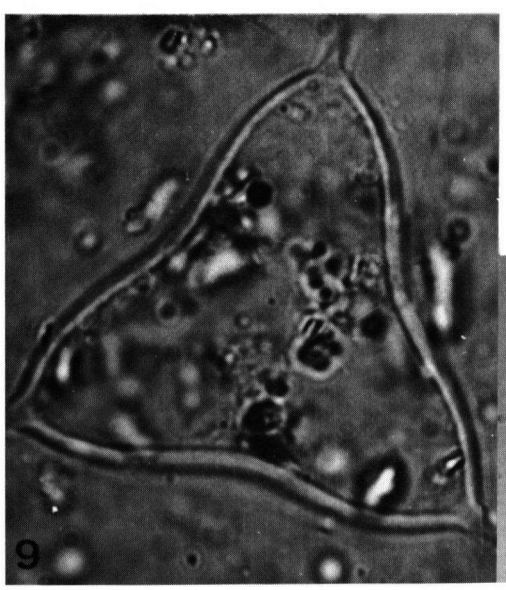
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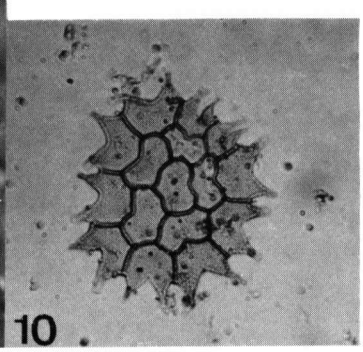
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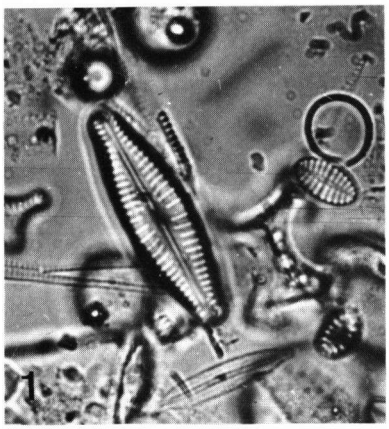
11

PLATE 15

1, 2. *Cymbella similis*, 1250 ×.
3. *Eunotia diodon*, 1000 ×.
4. *Cymbella ehrenbergi*, 1100 ×.
5, 6. *Amphiprora ornata*, 1300 ×.
7. *Navicula laterostrata*, 1200 ×.
8. *Mastogloia smithii* var. *lacustris*, 1300 ×
9. *Gomphonema acuminatum*, 1200 ×.
10, 11, 12. *Diploneis interrupta*, 1200 ×.
13. *Epithemia sorex*, 1300 ×.
14. *Navicula graciloides*, 1300 ×.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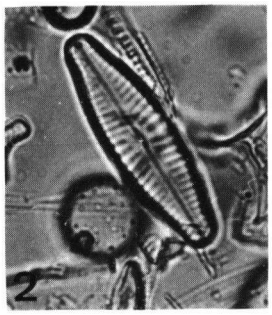
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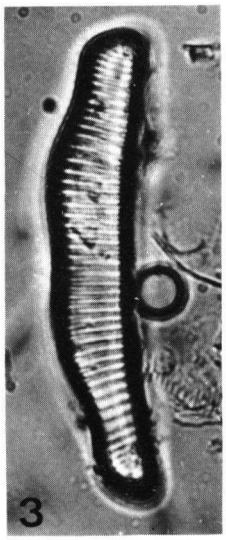
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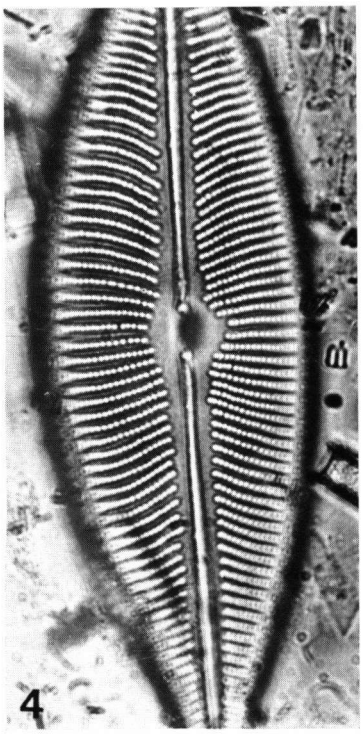
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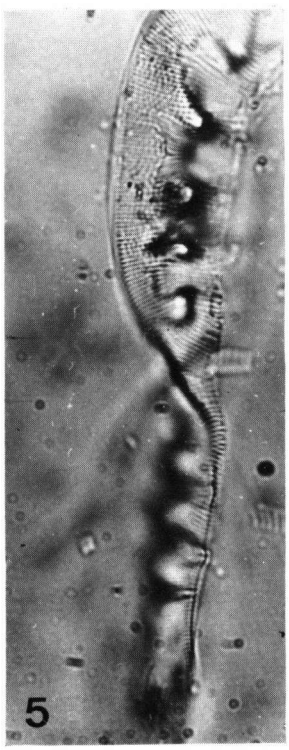
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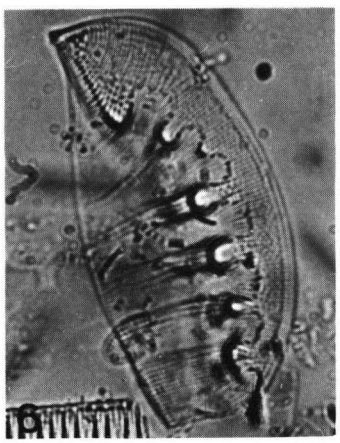
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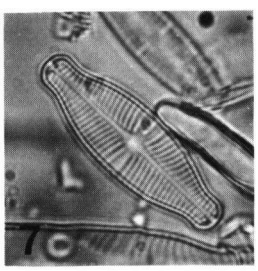
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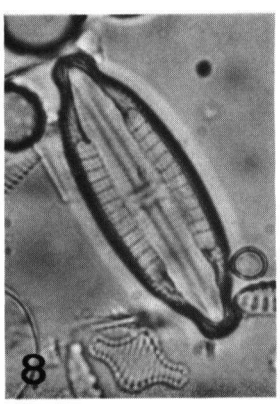
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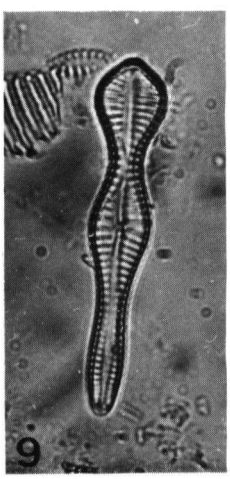
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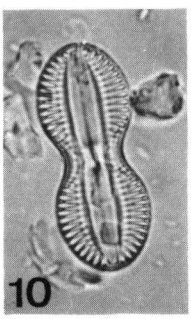
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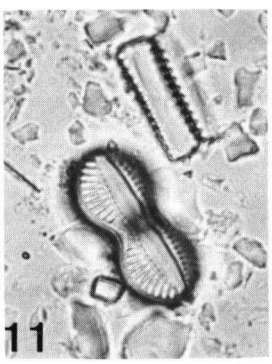
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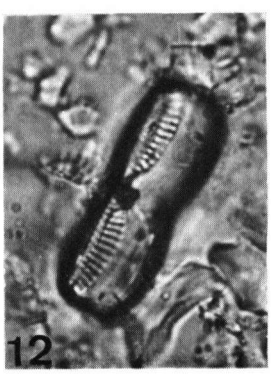
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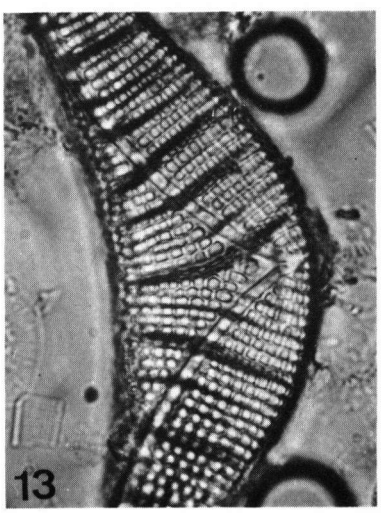
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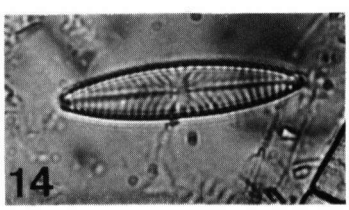
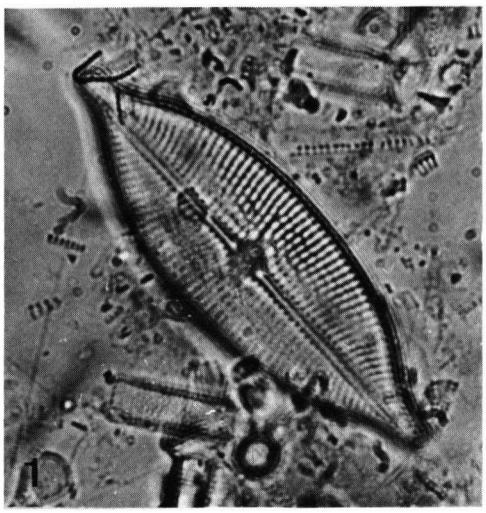

14

PLATE 16

1. *Navicula tuscula*, 1300 ×.
2. *Gyrosigma attenuatum*, 1300 ×.
3. *Cymbella cistula*, 1300 ×.
4. *Navicula dicephala*, 1300 ×.
5. *Cymbella* sp., 1300 ×.
6. *Nitzschia sinuata*, 1300 ×.
7. *Diploneis ovalis*, 1250 ×.
8. *Achnantes lanceolata*, 1300 ×.
9. *Amphora ovalis*, var. *pediculus*, 1300 ×.
10. *Navicula* sp., unknown, 14—15 italicized long, 6—7 italicized broad, 16 striae in 10u, 1250 ×.
11. *Campylodiscus noricus*, var. hibernica, 450 ×.
12. *Cymbella* sp., 1300 ×.
13, 14. *Diploneis smithii*, 1300 ×.
15. *Navicula* cf *scutelloides*, 1300 ×.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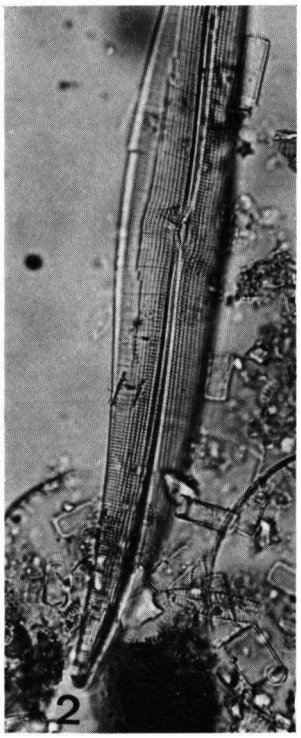
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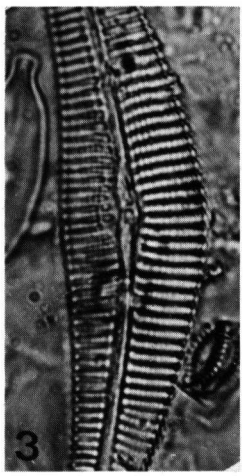
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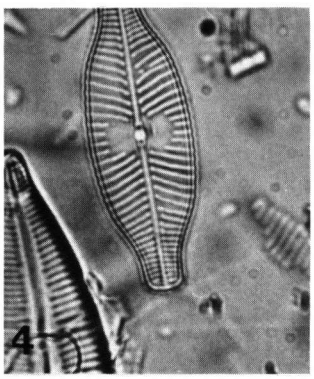
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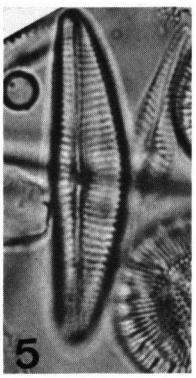
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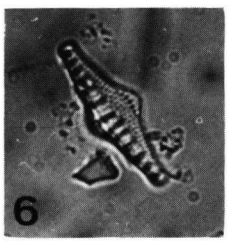
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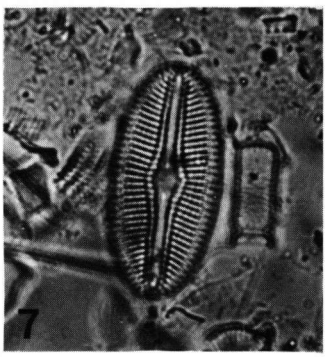
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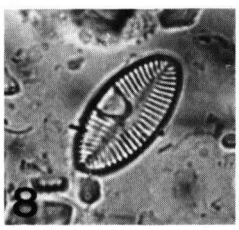
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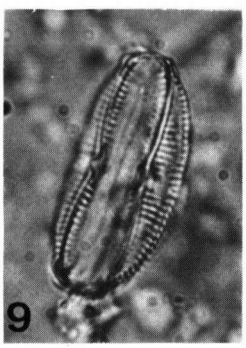
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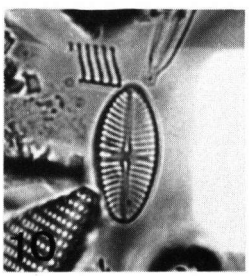
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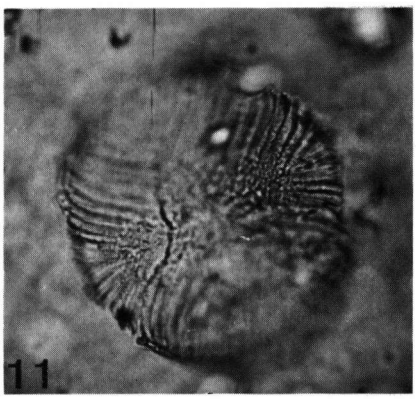
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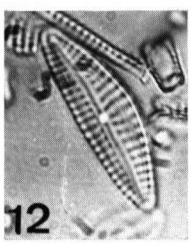
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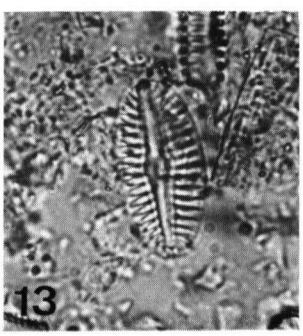
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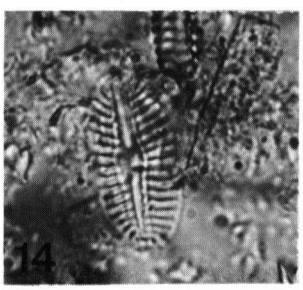
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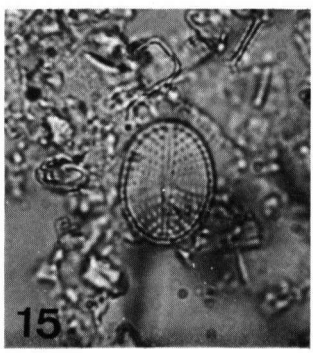
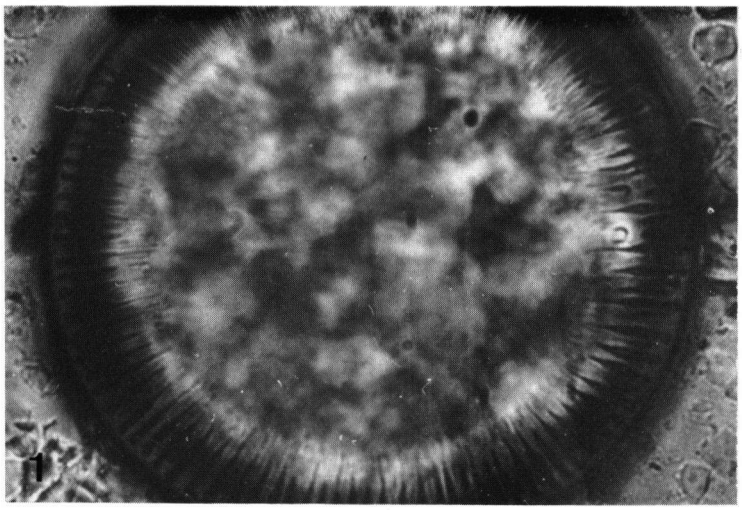

15

PLATE 17

1. *Melosira teres*, 1300 ×.
2, 3. *Mastogloia grevillei*, 1300 ×.
4. Foraminifer (sp?)., Lake Hertel, sample 81, 1200 ×
5, 6. *Mastogloia* sp., 1250 ×.
7. *Eunotia* sp., 1300 ×.
8. *Cocconeis placentula* (raphe valve) 1300 ×.
9. *Actinocyclus* sp., Lake Hertel, sample 81, 1300 ×.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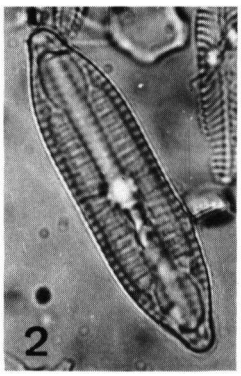
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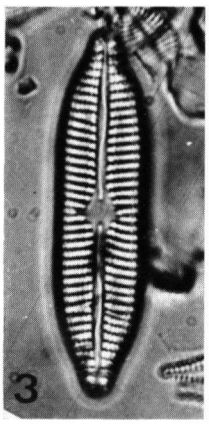
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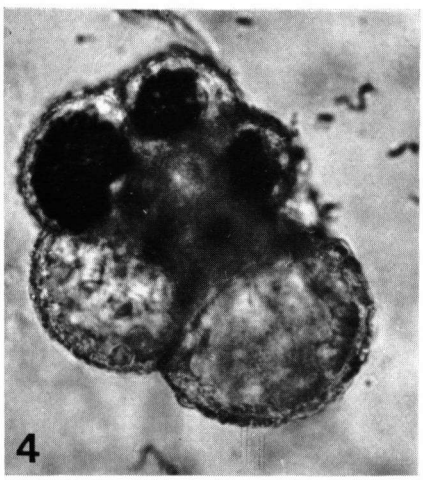
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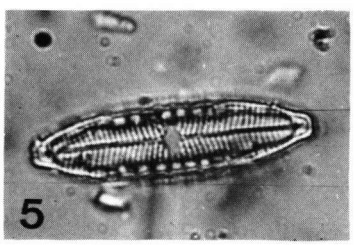
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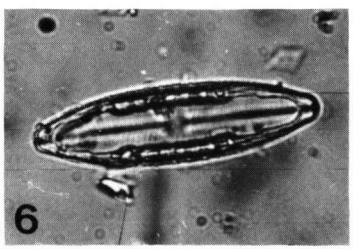
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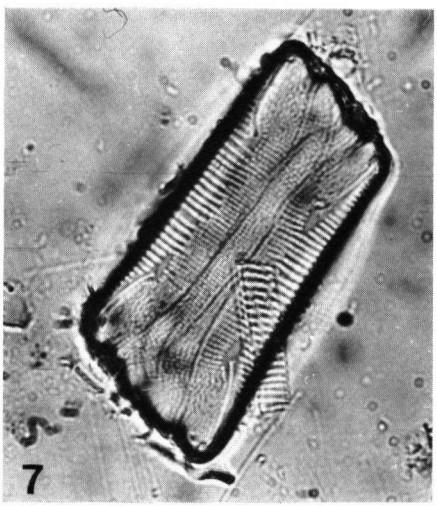
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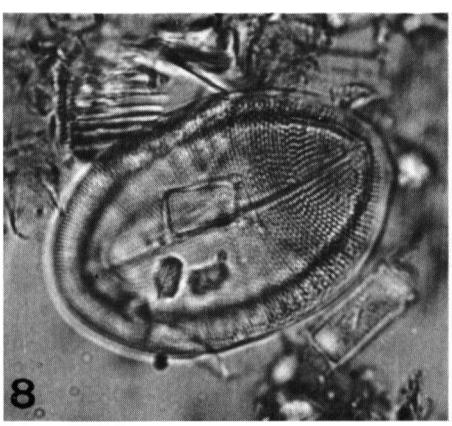
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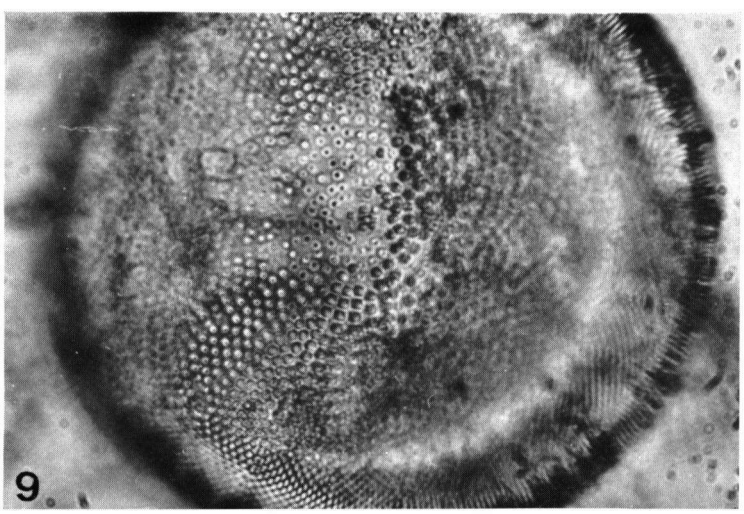
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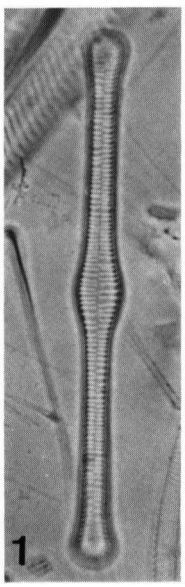
PLATE 18

1. *Tabellaria fenestrata*, 700 ×.
2, 3, 4, 5, 6. *Fragilaria* sp., 1000 ×.
7. *Achnantes flexella*, 950 ×.
8. *Gomphonema acuminatum*, var. coronata, 1200 ×
9. *Cymbella tumida*, 950 ×.
10, 11. *Pinnularia borealis*, 1000 ×.
12. *Diploneis* sp., 950 ×.
13. *Epithemia* cf *intermedia*, 900 ×.
14. *Eunotia praerupta*, 1200 ×.
15. *Diploneis puella*, 1000 ×.
16. *Navicula tuscula forma minor*, 1300 ×.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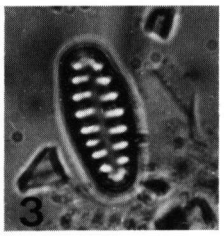
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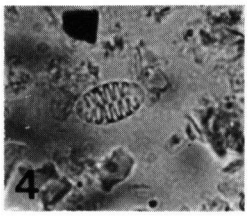
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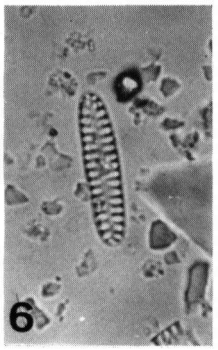
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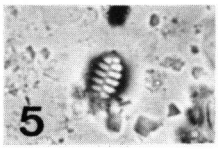
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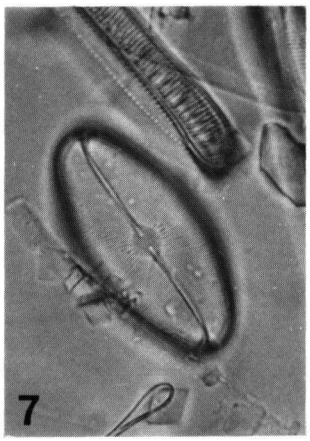
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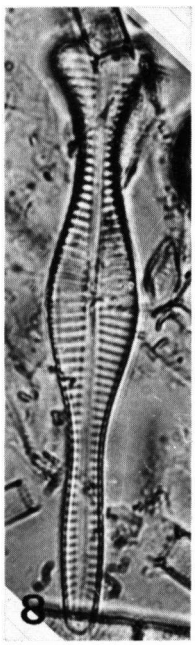
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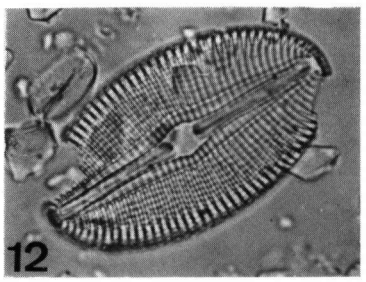
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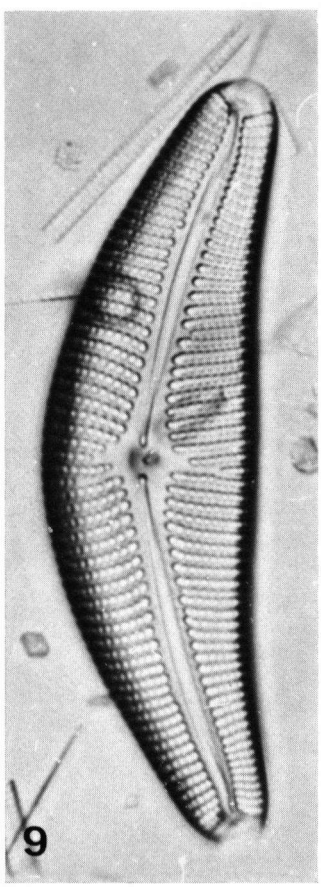
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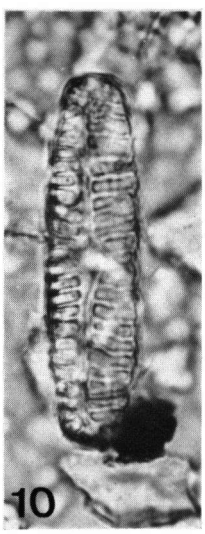
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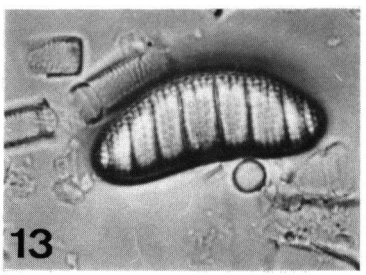
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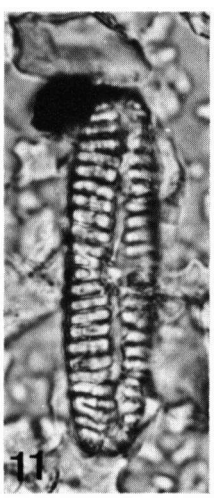
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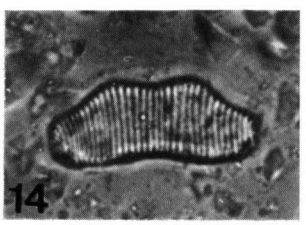
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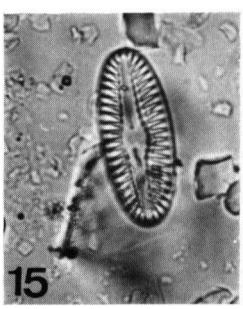
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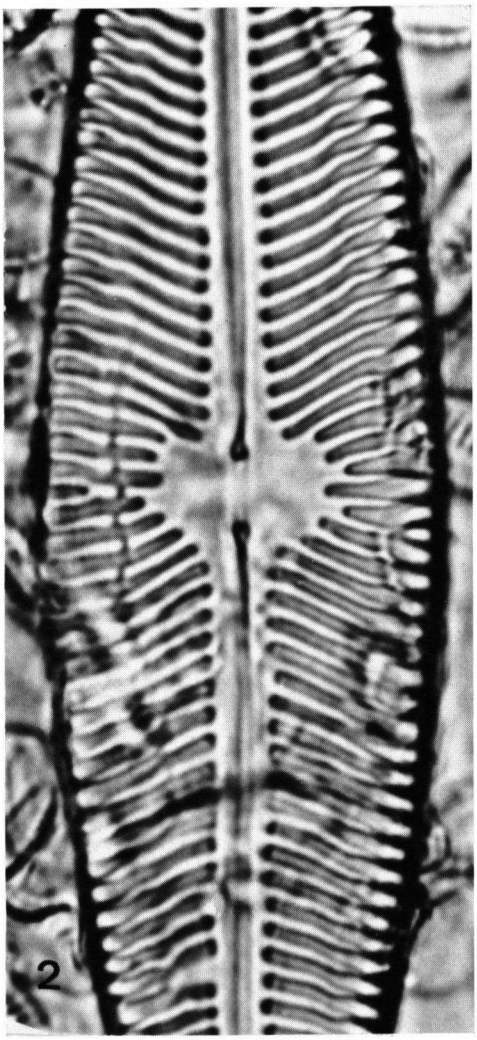
16

PLATE 19

1, 2. *Navicula aurora, Fragilaria* sp. St. Hilaire bog, 875—880 cms., 2100 ×.
3. *Navicula aurora, Stauroneis phoenicenteron, Fragilaria* sp., St. Hilaire bog, 875—880 cms., 1000 ×.
4. *Navicula aurora* with thecae of dinoflagellates, 600 ×.


1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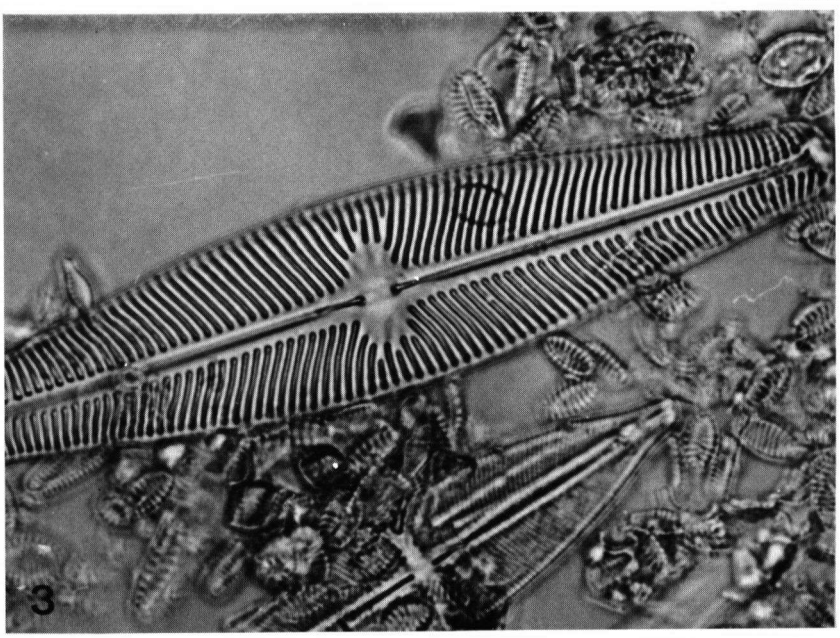
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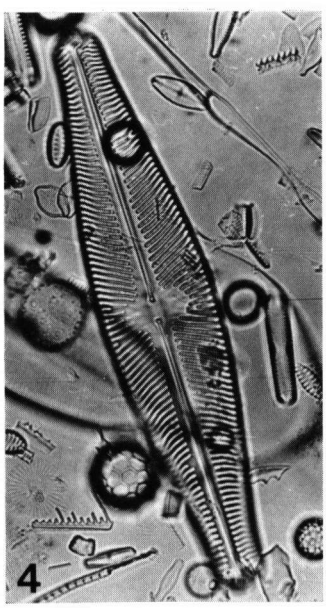
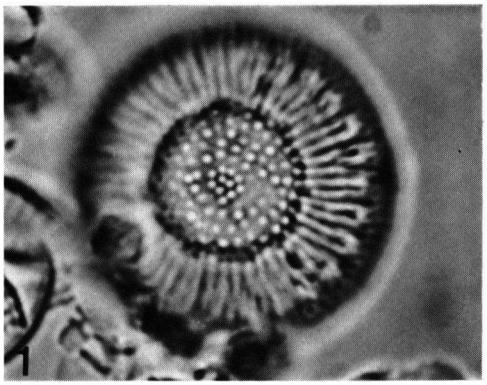

4

PLATE 20

1, 2. *Cyclotella comta*, St. Hilaire bog, 875—880 cms., 3600 ×.
3. *Navicula placenta*, *Fragilla* sp., *Tabellaria fenestrata*, *Cyclotella comta*, *Melosira italica*, Lake Hertel 40, 2300 ×.
4. General aspect, St. Hilaire bog, level 875—880 cms. *Navicula aurora* and a large abundance of Fragilaria sp. 660 ×.
5. idem, 1550 ×.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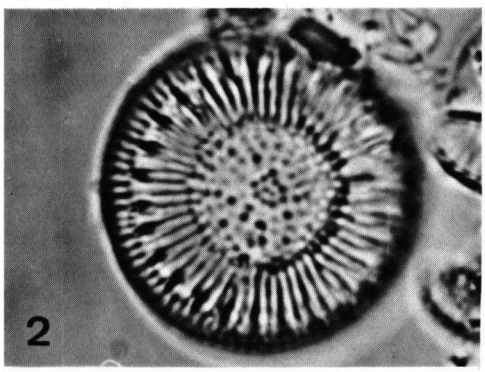
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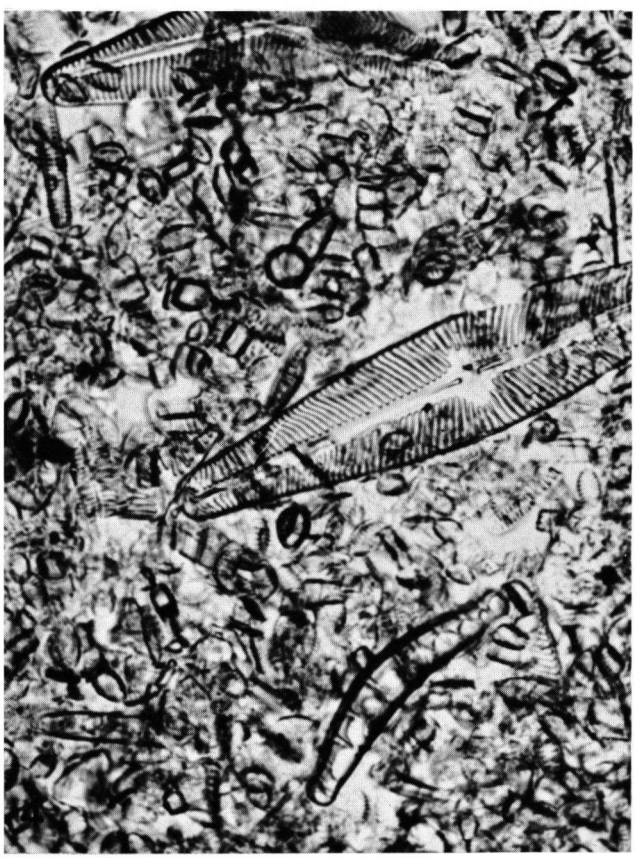

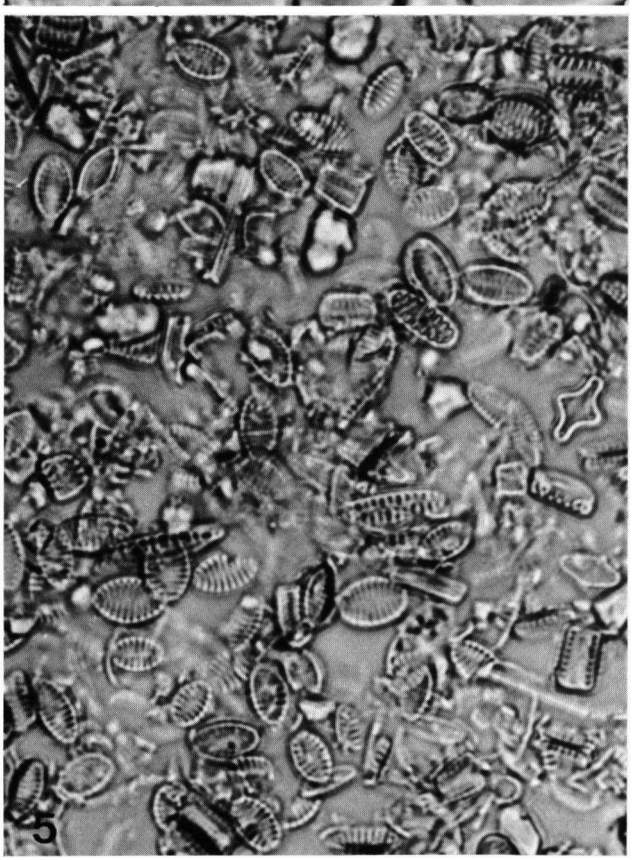
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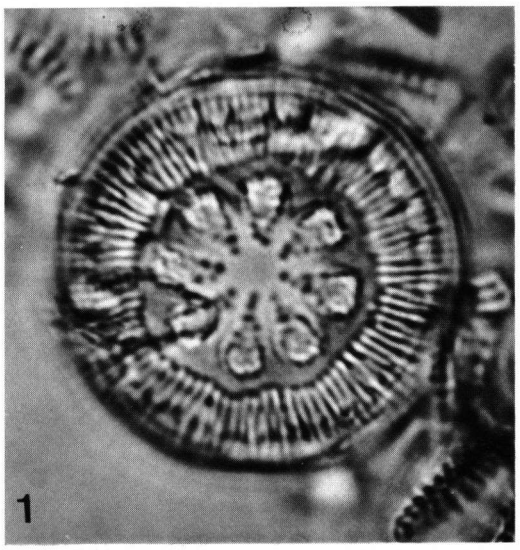
PLATE 21

1, 2, 3. *Cyclotella antiqua*, St. Hilaire bog, 875—880 cms., 2400 ×.
4. *Cyclotella stelligera*, *Synedra ulna*, *Fragilaria* sp., *Melosira italica*, Lake Hertel, level 40, 3100 ×.
5. *Navicula pupula*, *Melosira italica*, *Cyclotella stelligera*, Lake Hertel, level 40, 2100 ×.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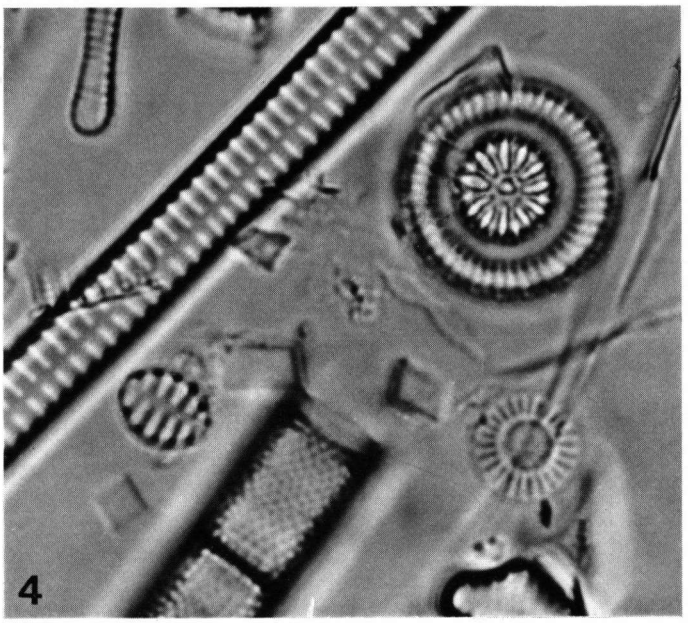
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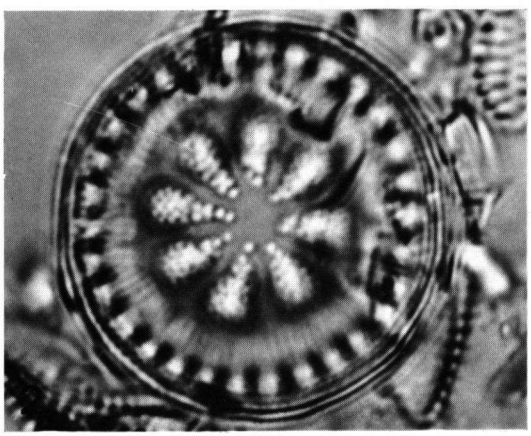

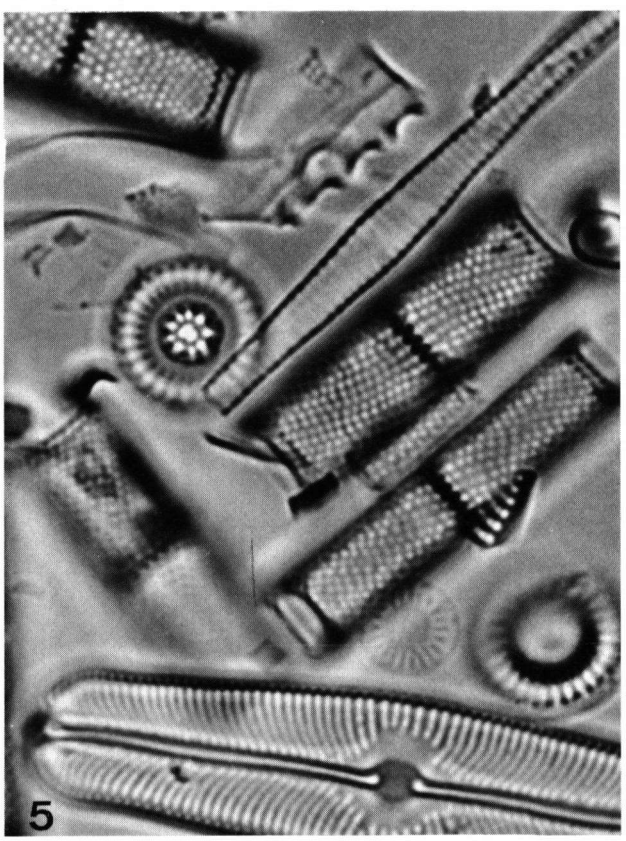
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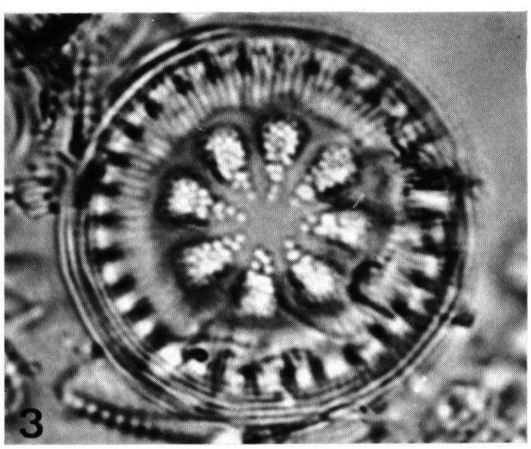
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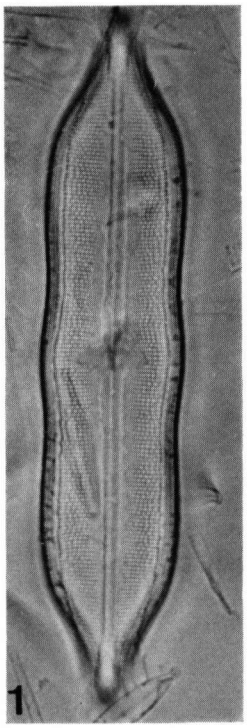
PLATE 22

1. *Neidium hitchkockii*, 950 ×.
2, 3. *Campylodiscus noricus*, var. *hibernica*, 925 ×.
4, 5. *Diploneis ovalis*, 950 ×.
6, 7. *Stephanodiscus niagarae*, 1000 ×.
8, 9. *Diploneis finnica*, 950 ×.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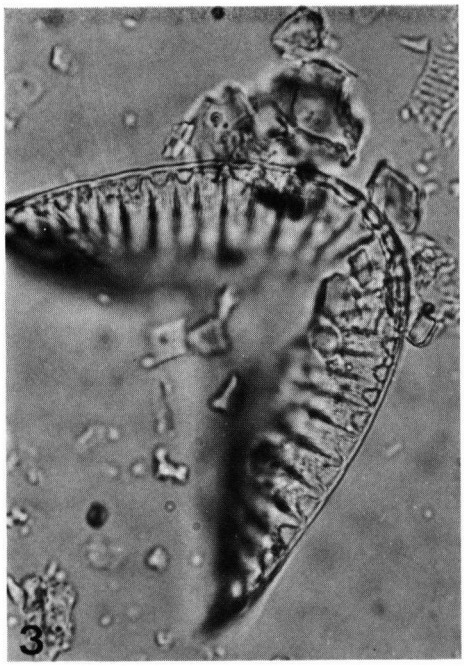
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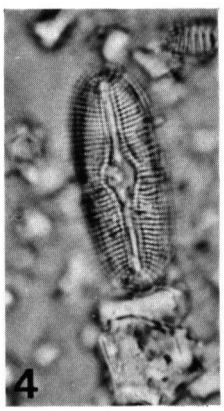
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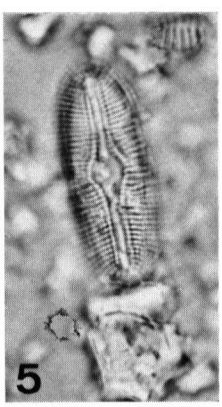
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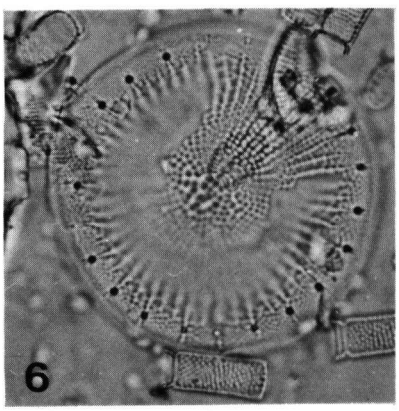
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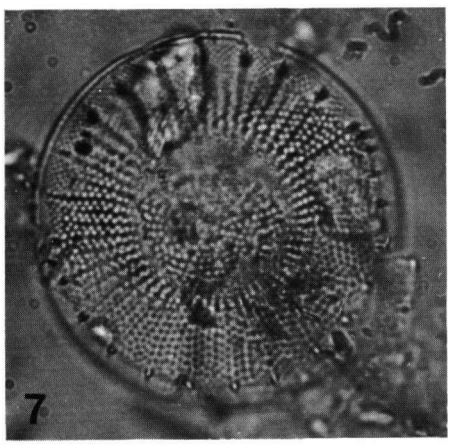
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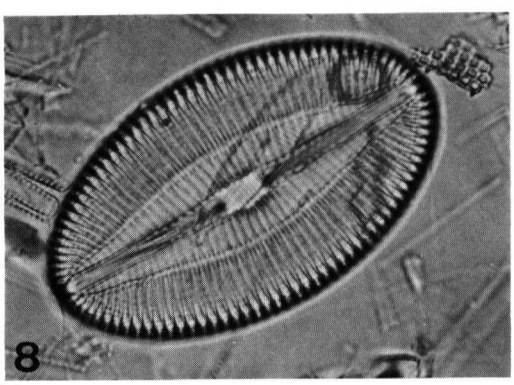
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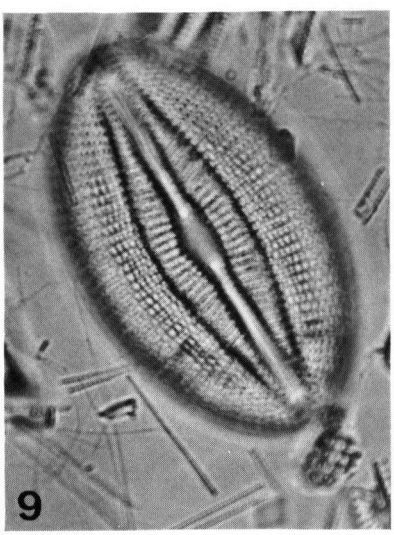
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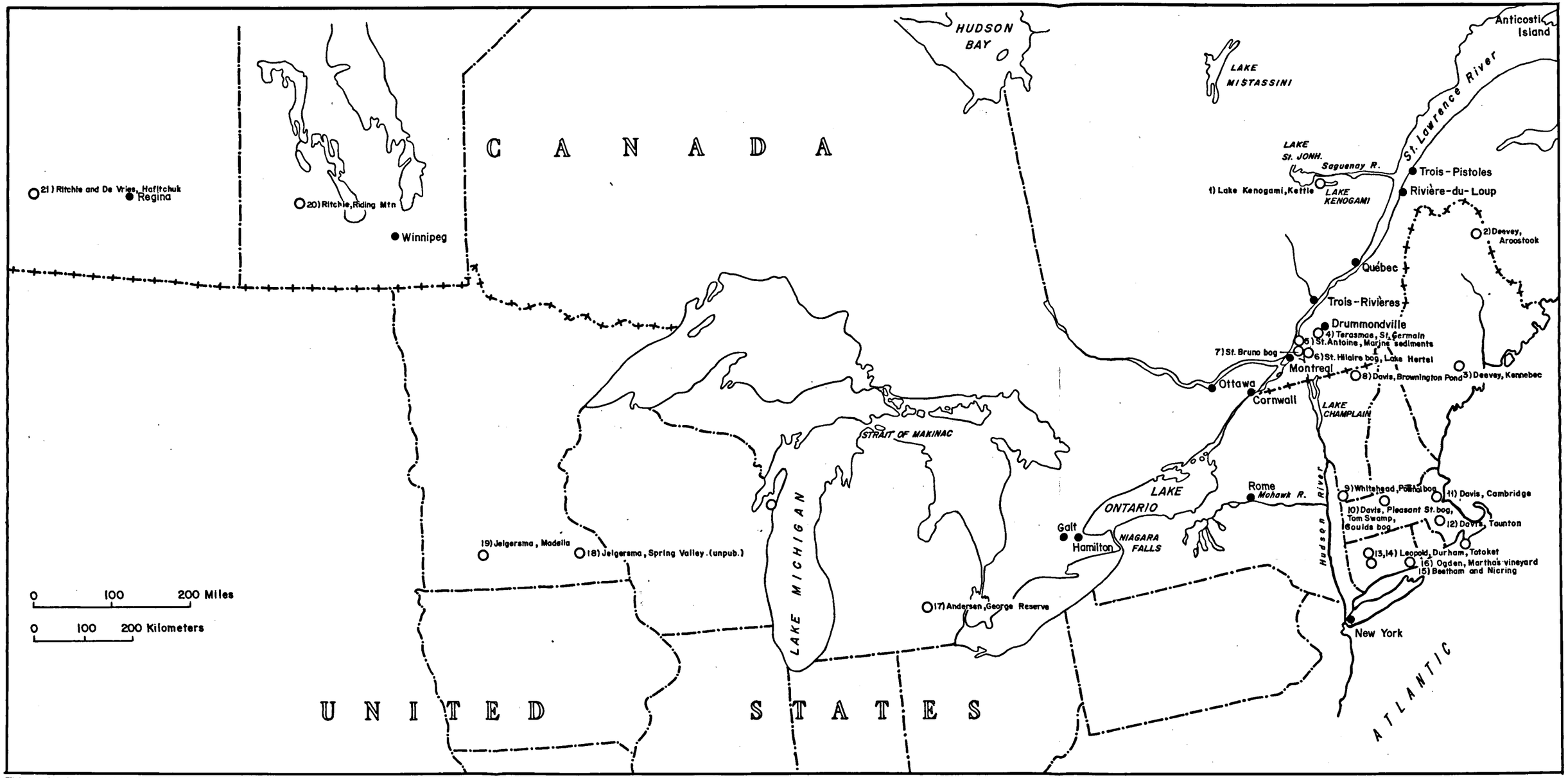
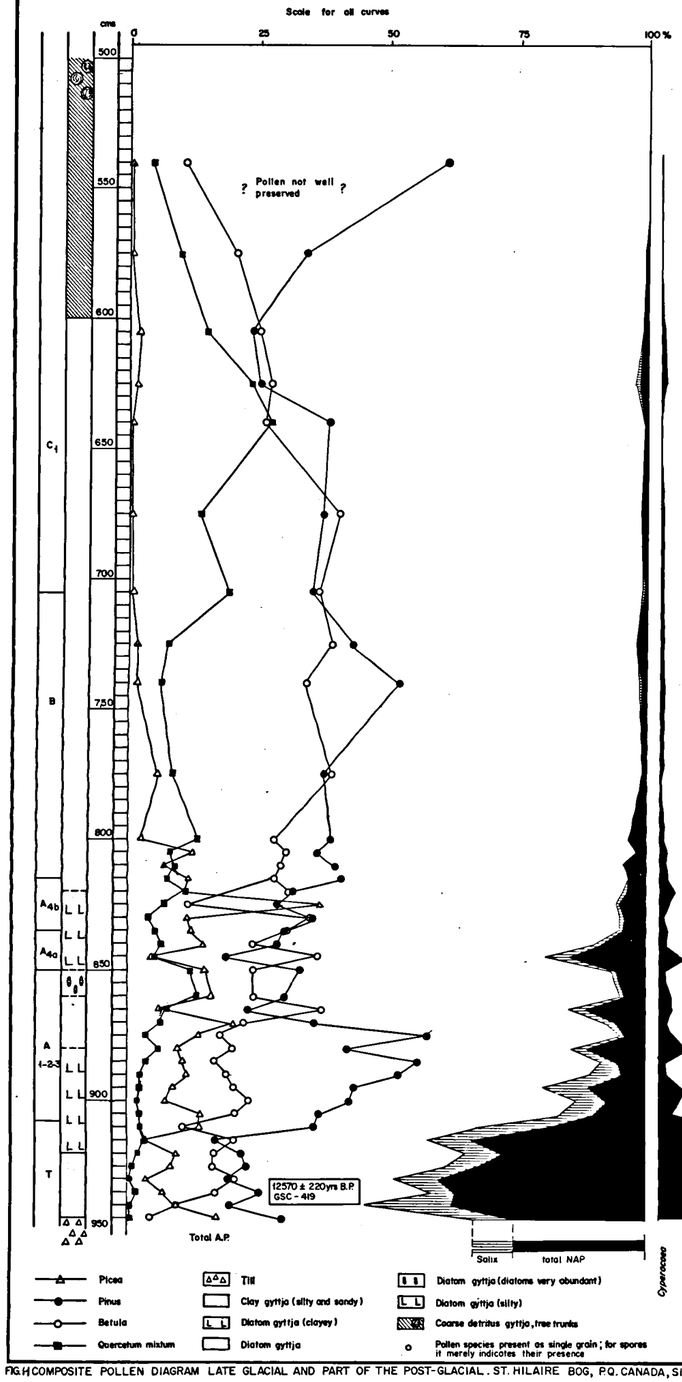


FIG. 7. MAP SHOWING LOCATION OF SITES (POLLEN DIAGRAMS) MENTIONED IN TEXT



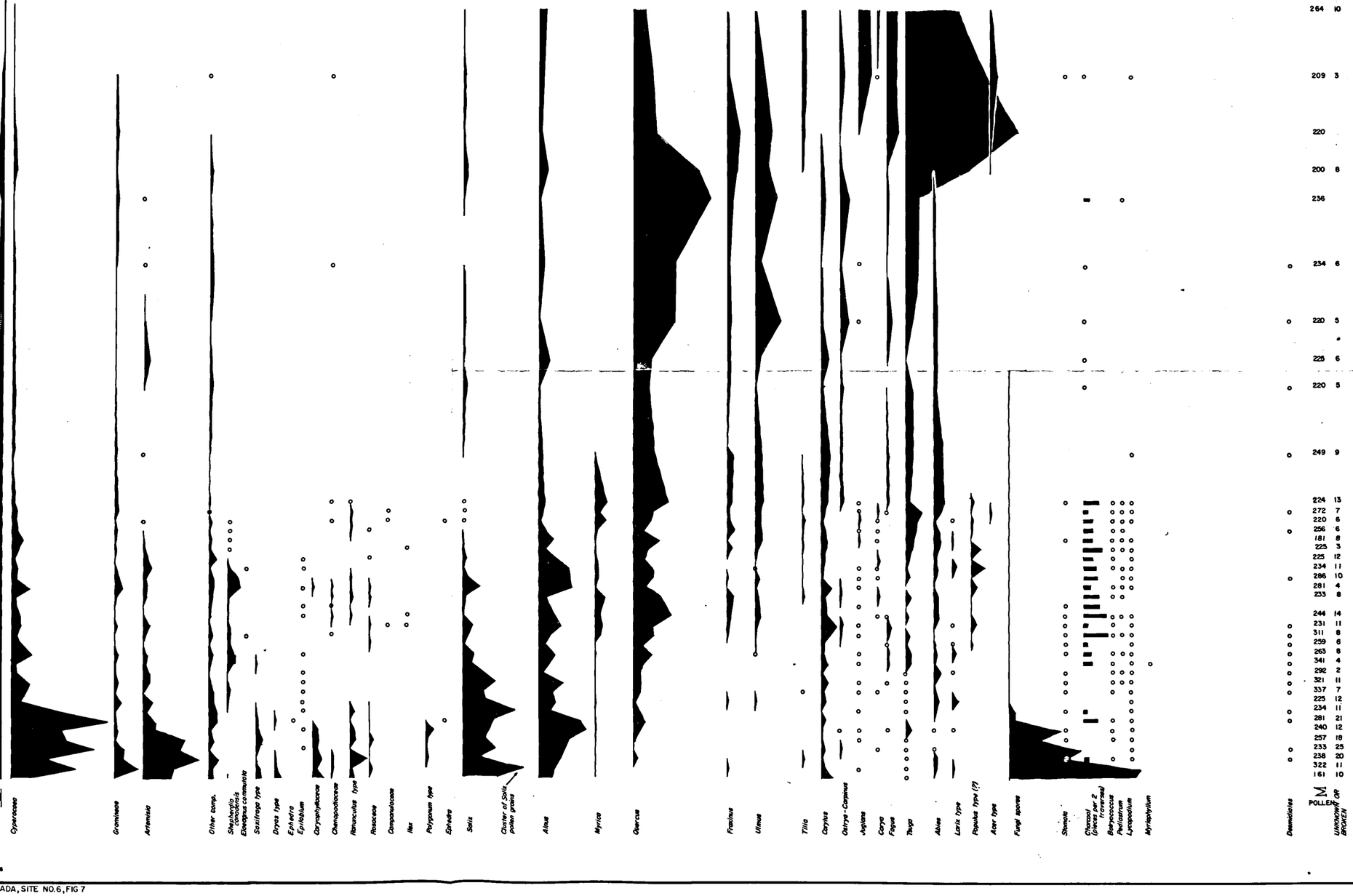


FIG. H COMPOSITE POLLEN DIAGRAM LATE GLACIAL AND PART OF THE POST-GLACIAL. ST. HILAIRE BOG, P.Q. CANADA, SITE NO. 6, FIG 7

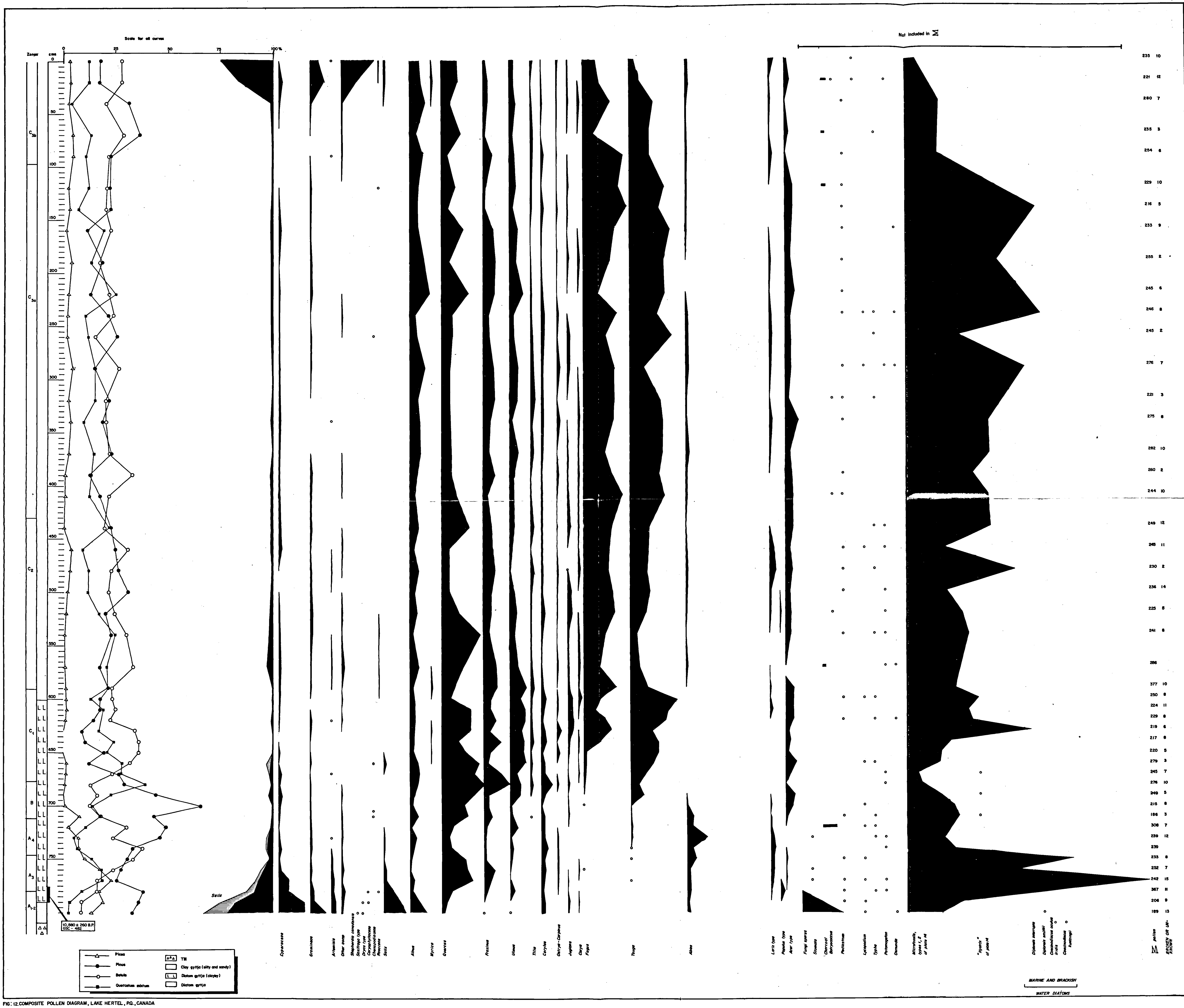


FIG. 12 COMPOSITE POLLEN DIAGRAM, LAKE HERTEL, P.Q., CANADA

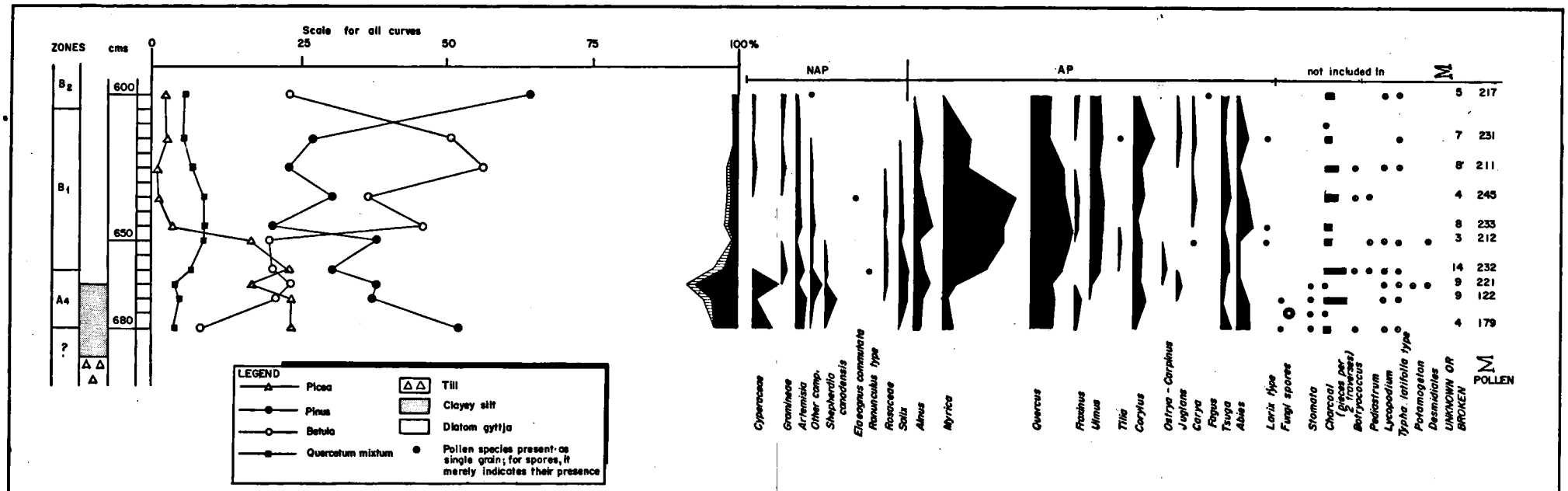


FIG. 13 COMPOSITE POLLEN DIAGRAM, LATE-GLACIAL (?) AND PART OF THE POST-GLACIAL, ST. BRUNO BOG, P.Q. CANADA. SITE 7 IN FIG 7

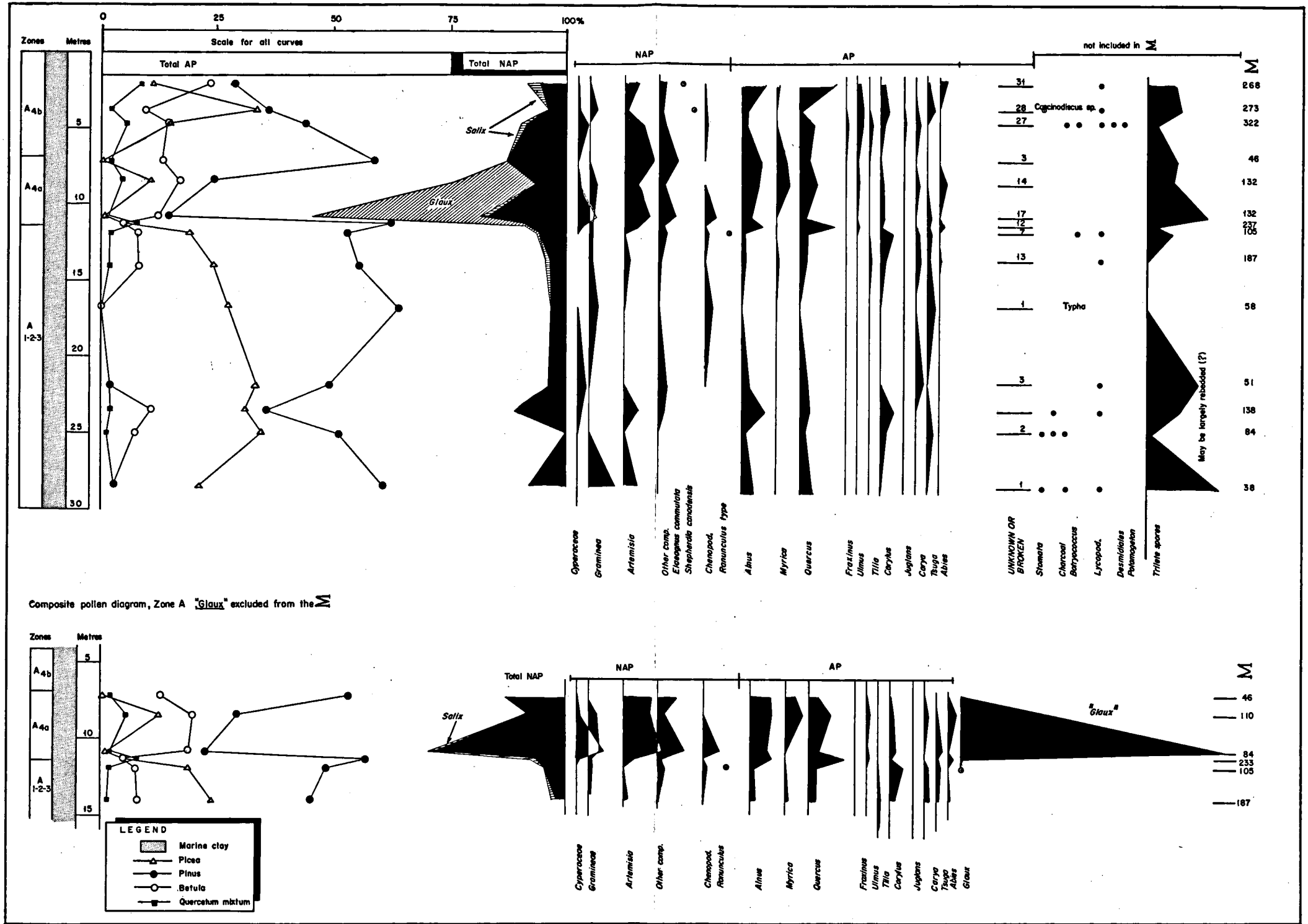


FIG.14 COMPOSITE POLLEN DIAGRAM, ST. ANTOINE CORE (MARINE SEDIMENTS) SITE NO. 5 IN FIG. 7

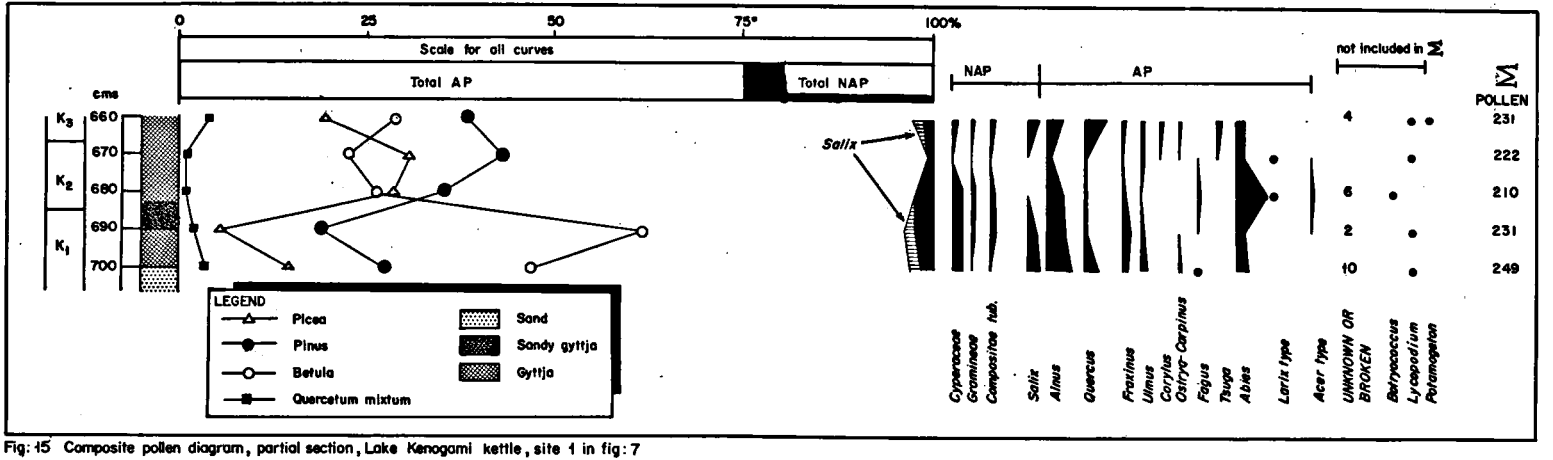


Fig: 15 Composite pollen diagram, partial section, Lake Kenogami kettle, site 1 in fig: 7

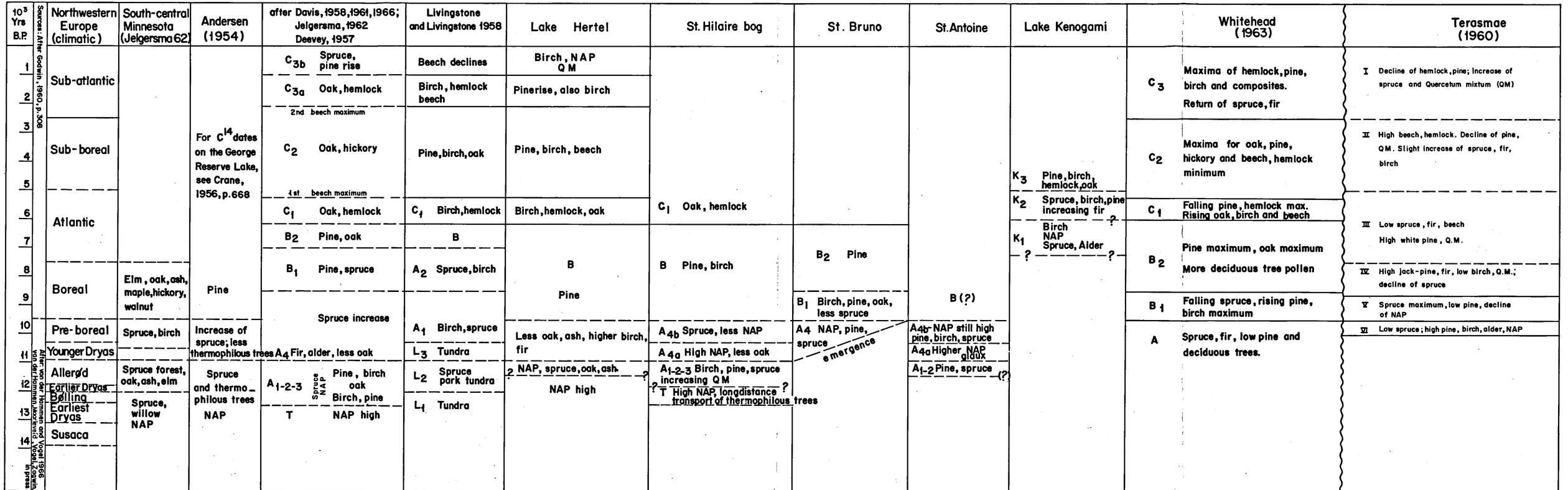


FIG. 16. PROPOSED POSSIBLE TENTATIVE CORRELATION