



EESTI NSV TEADUSTE AKADEEMIA
ZOOLOOGIA JA BOTAANIKA INSTITUUT

V. Kõvask

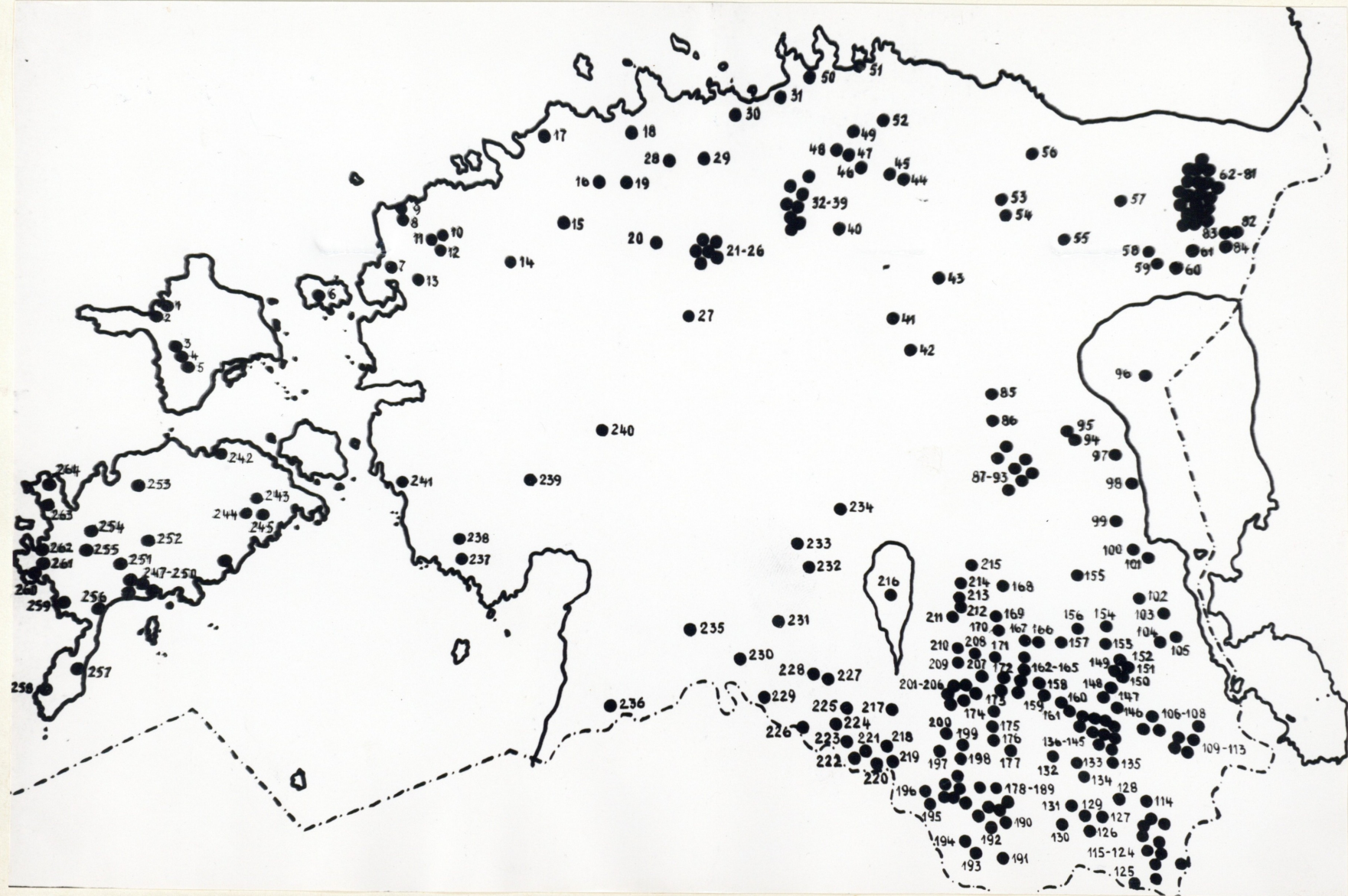
Tartu Riikliku Ülikooli
Taimestustemaatika ja geobotaanika
kateedri
RAAMATUKOGU
Nr. 44

EESTI NSV IKKESVETIKAD
(Conjugatophytina)

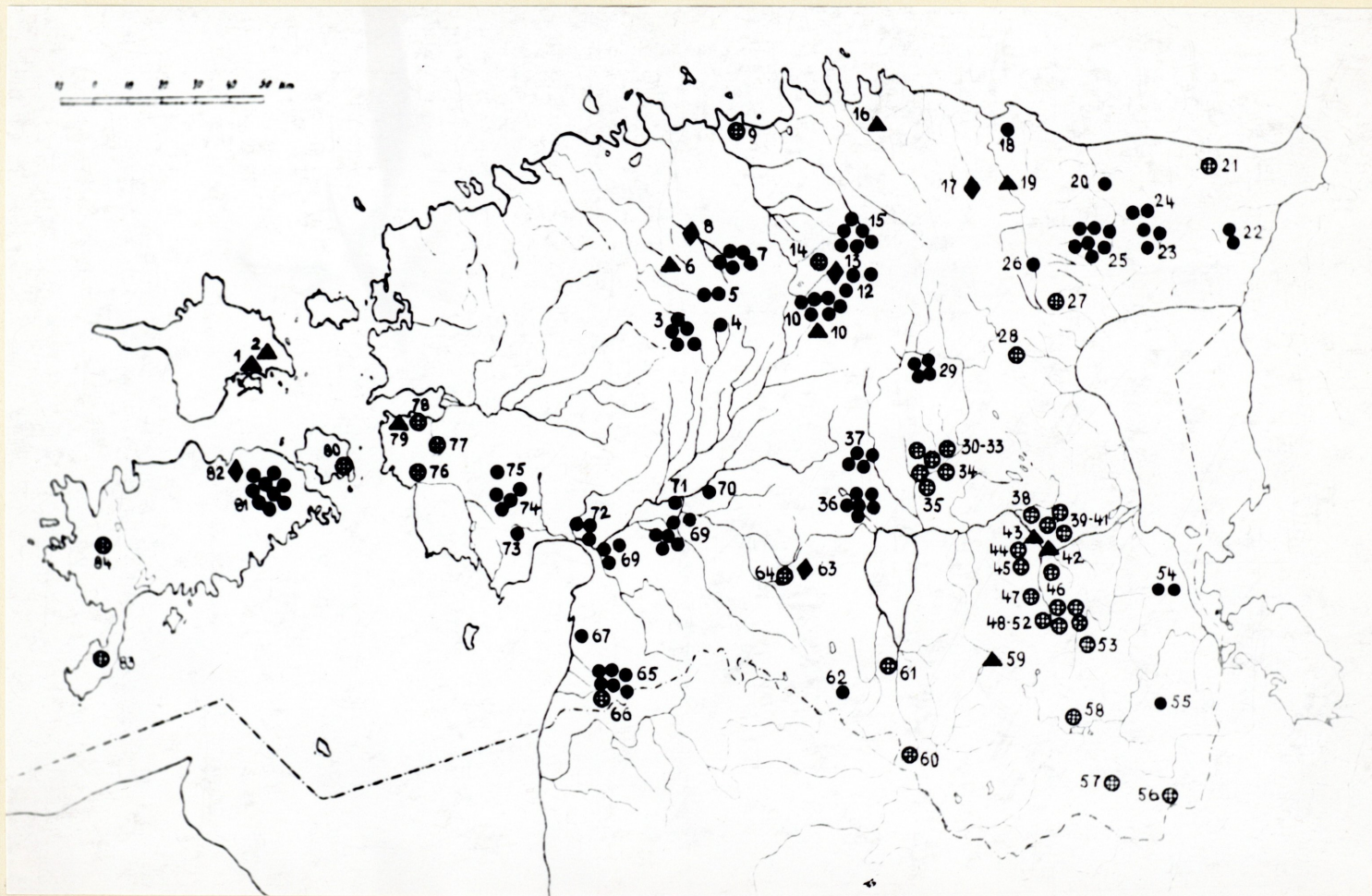
Joonised

Teaduslik juhendaja:
bioloogiadoktor ENSV TA akadeemik A. Vaga

Tartu 1965

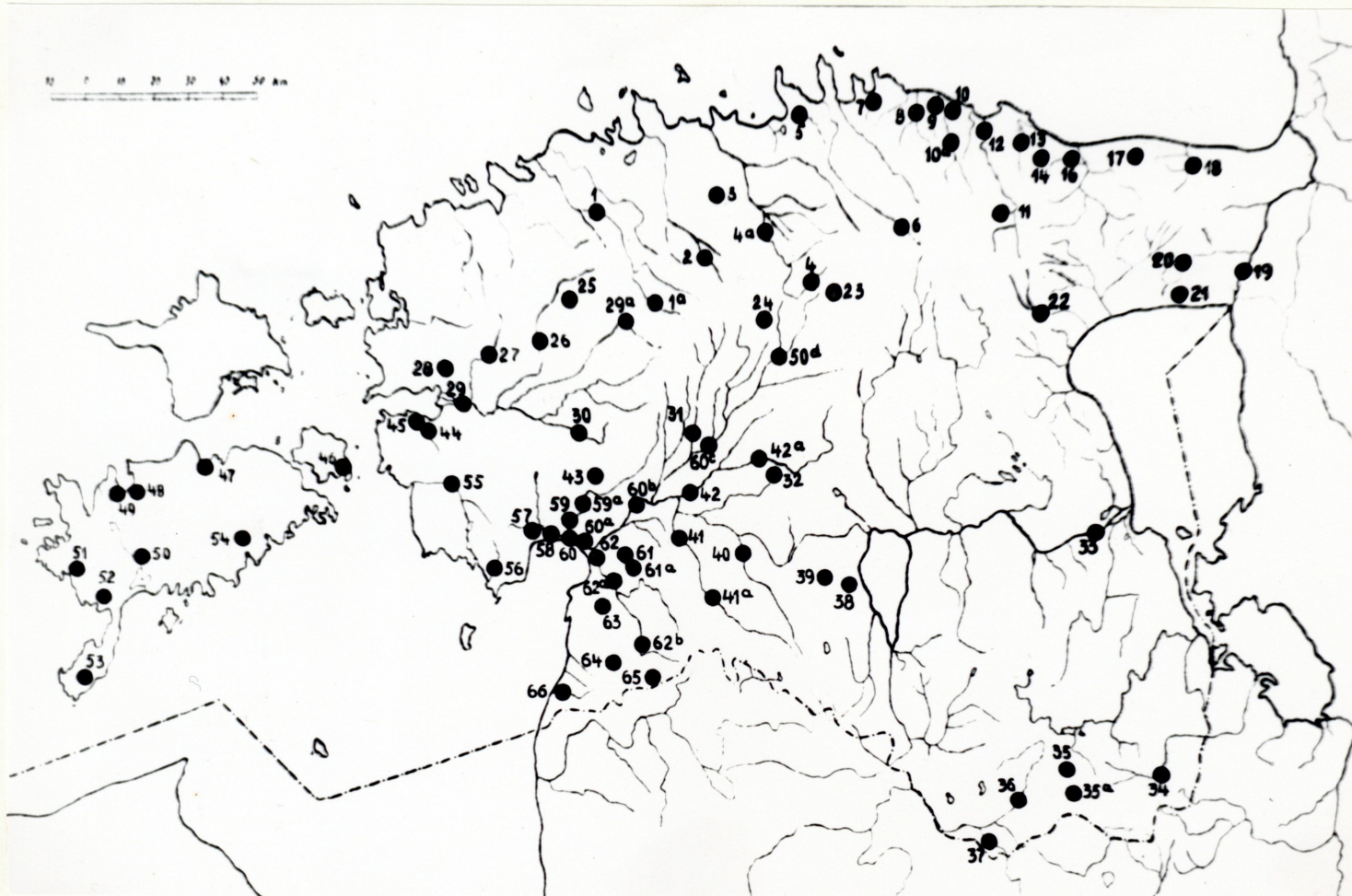


Joon. 1. Uuritud järvede asukohad.

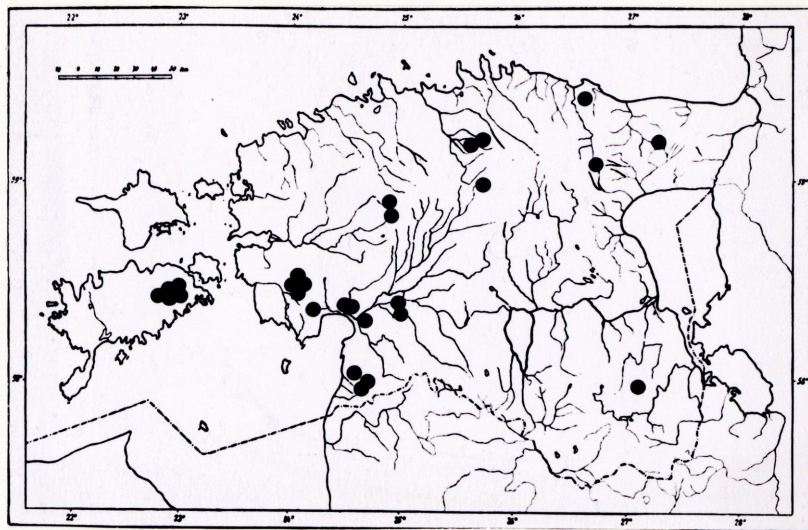


Joon. 2. Uuritud väikeveekogude asukohad.

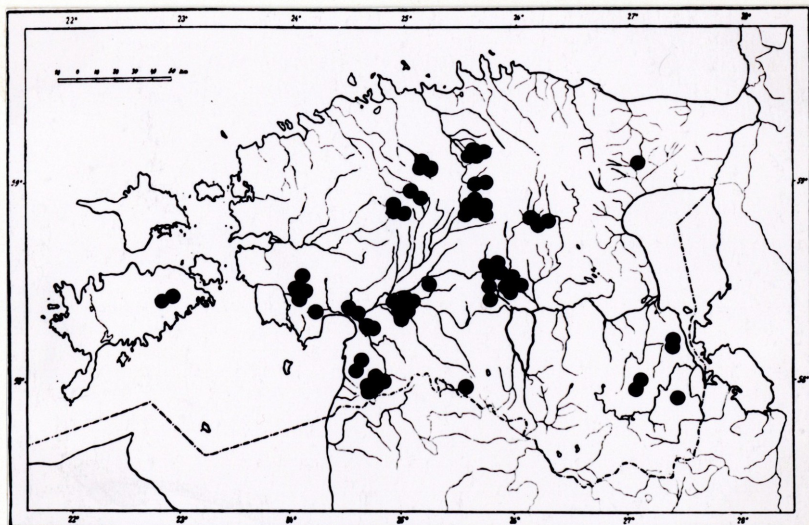
- | | |
|--------------------|------------------|
| ● rabaveekogud | ▲ tiigid |
| ⊗ lombid ja loigud | ◆ allikaveekogud |



Joon. 3. Uuritud jõgede asukohad.



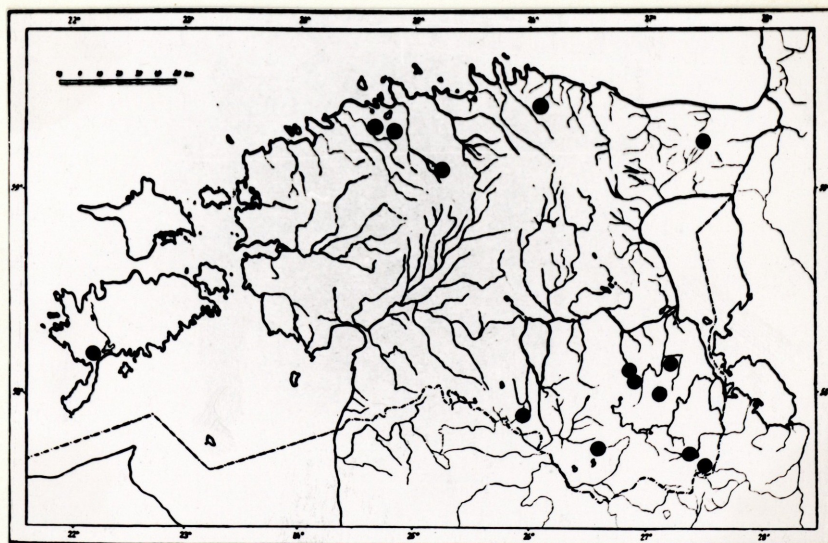
Joon. 4. *Penium silvae-nigrae* var. *silvae-nigrae* leiukohad Eestis.



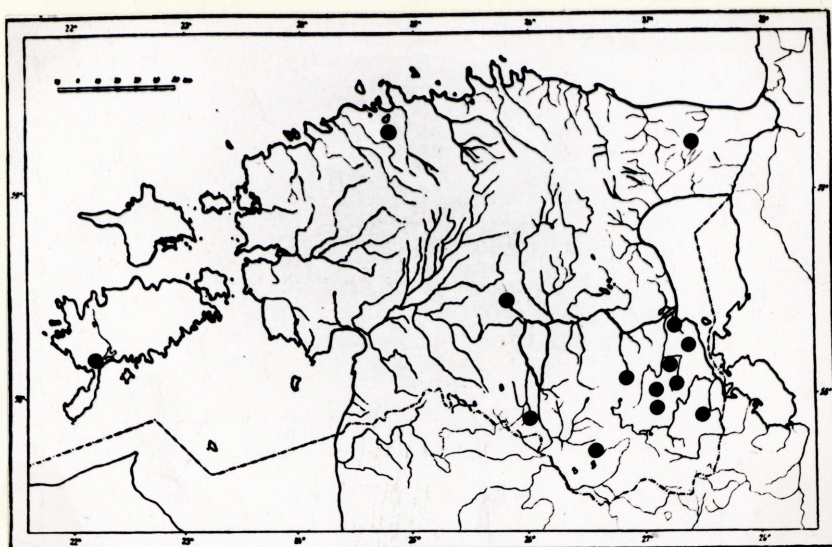
Joon. 5. *Penium silvae-nigrae* var. *parallelum'i* leiukohad Eestis.



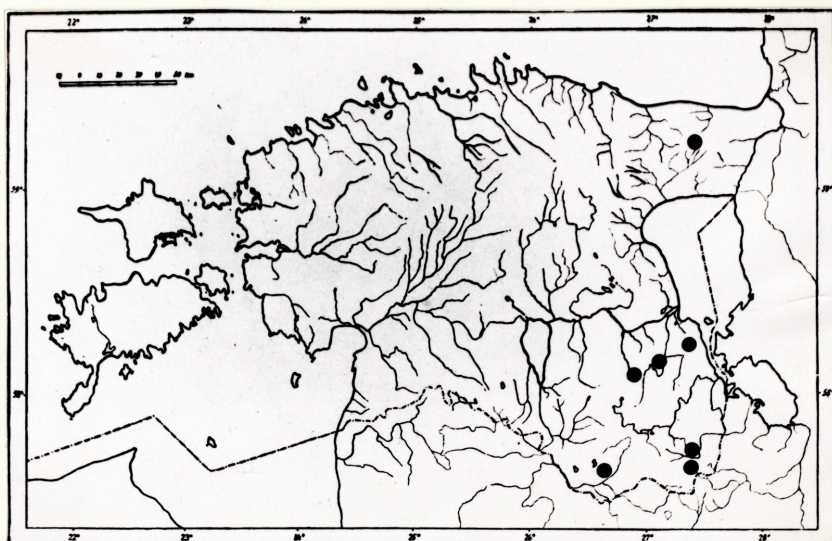
Joon. 6. *Closterium aciculare* var. *aciculare*
leiukohad Eestis.



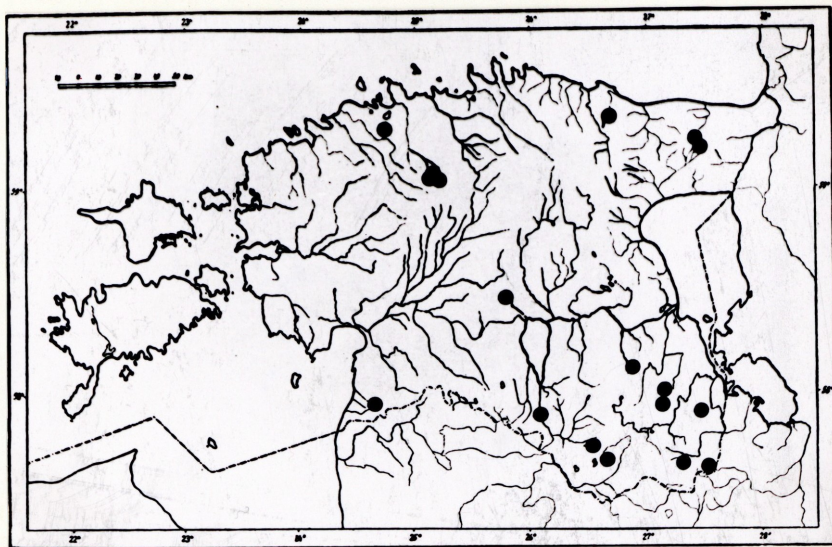
Joon. 7. *Closterium Baillyanum* var. *Baillyanum*'i
leiukohad Eestis.



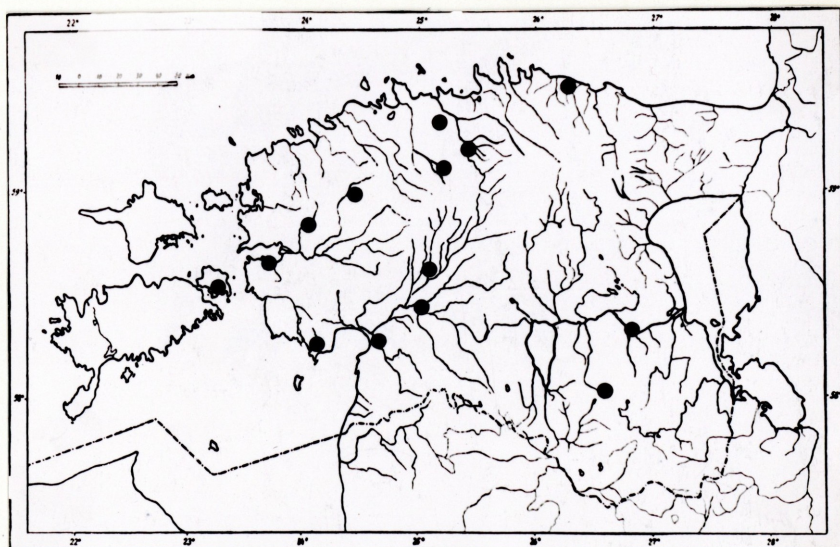
Joon. 8. *Closterium intermedium*'i leiukohad Eestis.



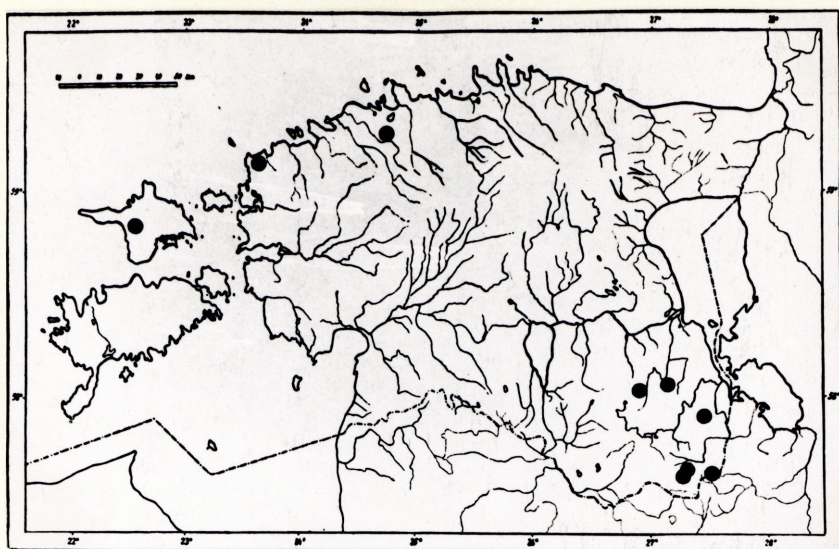
Joon. 9. *Closterium libellula* var. *libellula* f. *libellula* leiukohad Eestis.



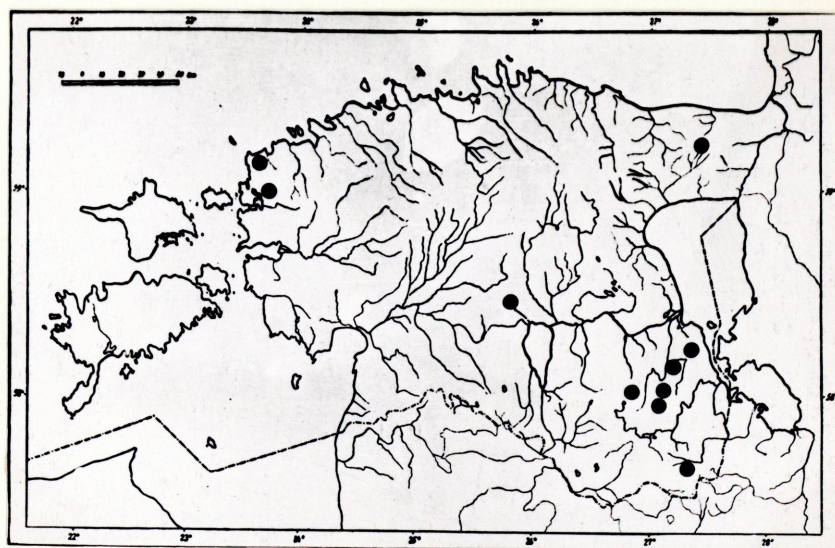
Joon. 10. *Closterium lunula* leiukohad
Eestis.



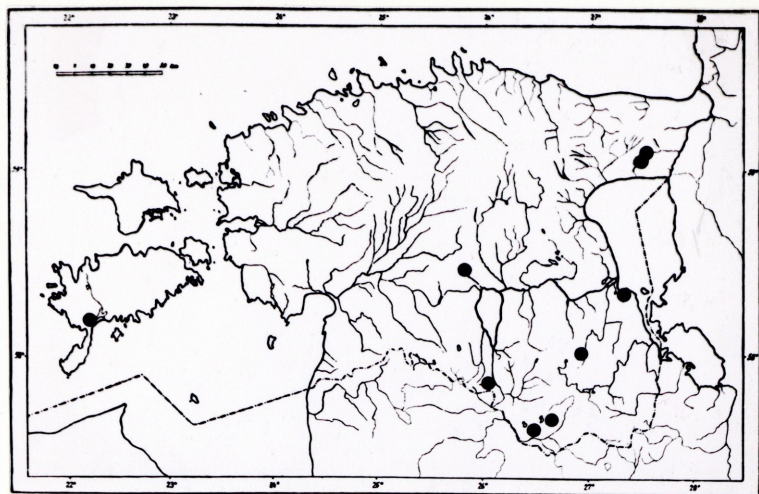
Joon. 11. *Closterium peracerosum*'i leiukohad
Eestis.



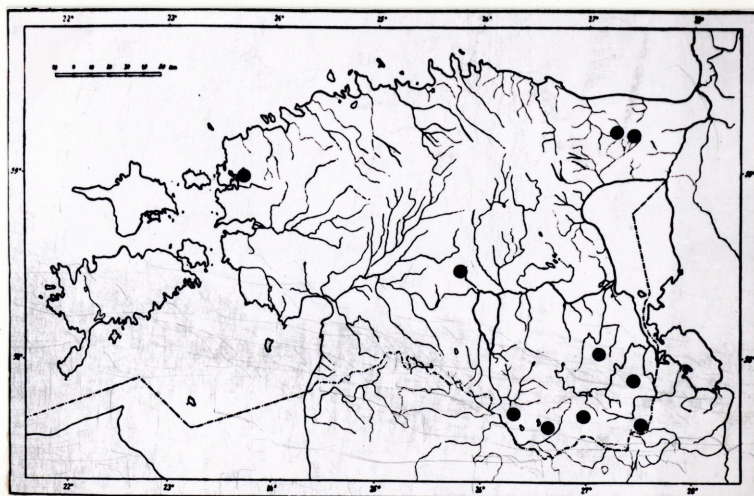
Joon. 12. *Closterium Ralfsii* var. *hybridum*'i
leiukohad Eestis.



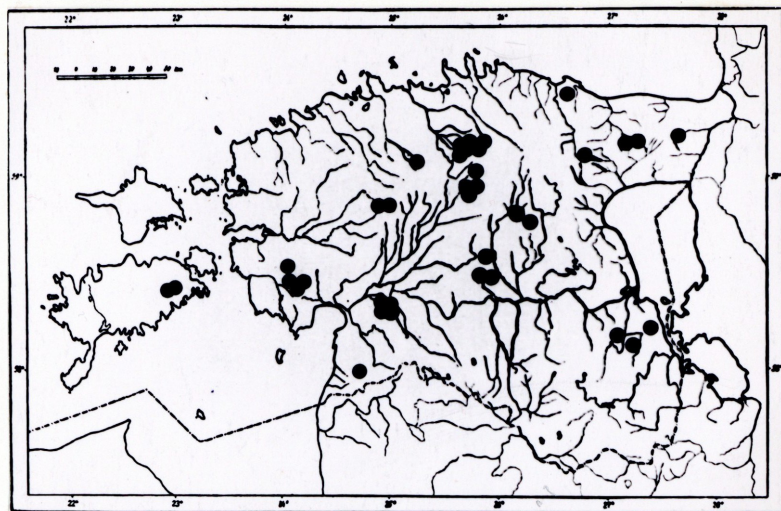
Joon. 13. *Closterium setaceum*'i leiukohad
Eestis.



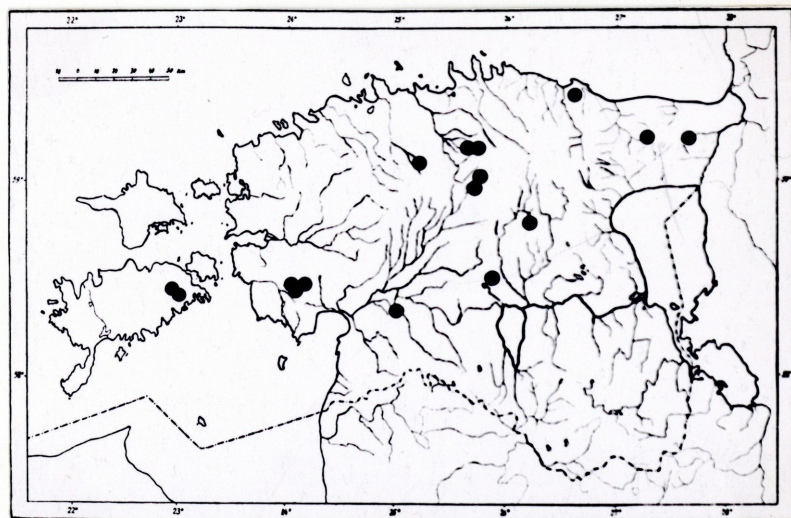
Joon. 14. *Pleurotaenium coronatum* var. *coronatum* f. *coronatum*'i leiukohad Eestis.



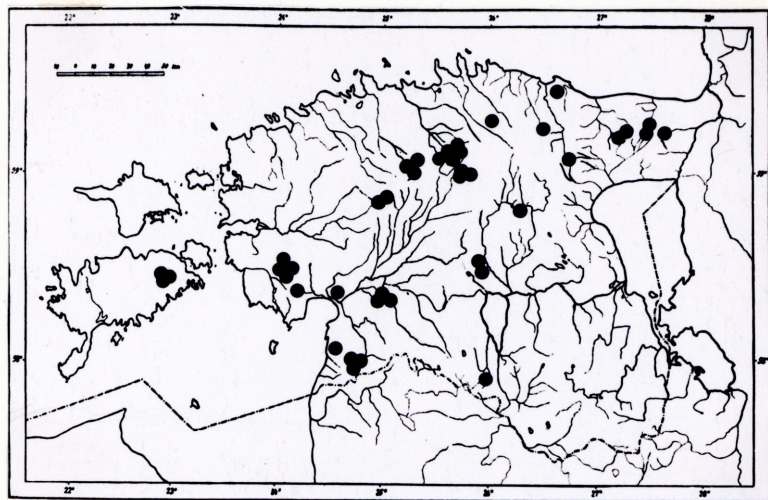
Joon. 15. *Pleurotaenium eugeneum*'i leiukohad Eestis.



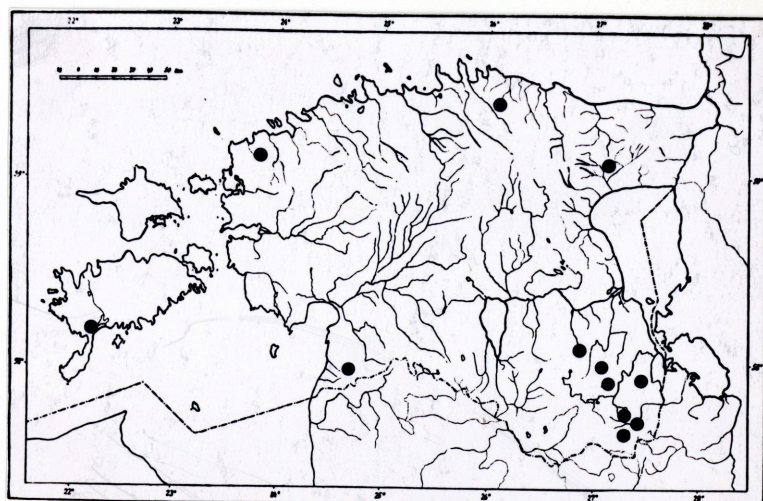
Joon. 16. *Pleurotaenium minutum* var. *minutum*
f. *minutum*'i leiukohad Eestis.



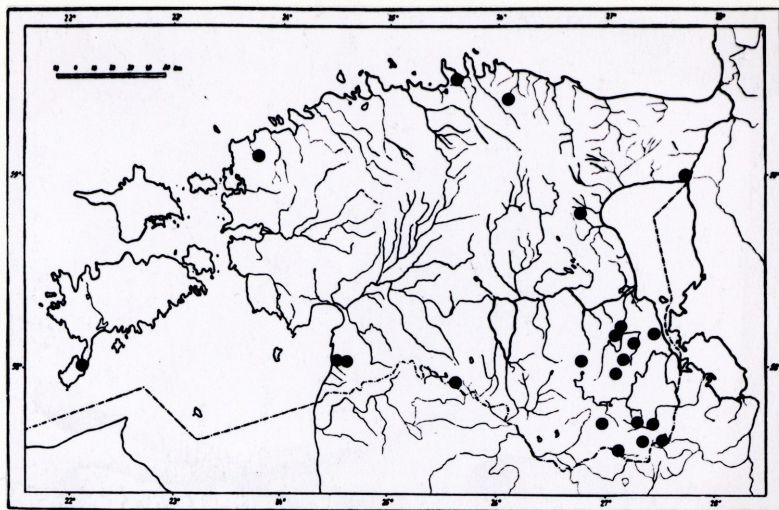
Joon. 17. *Pleurotaenium tridentulum*'i
leiukohad Eestis.



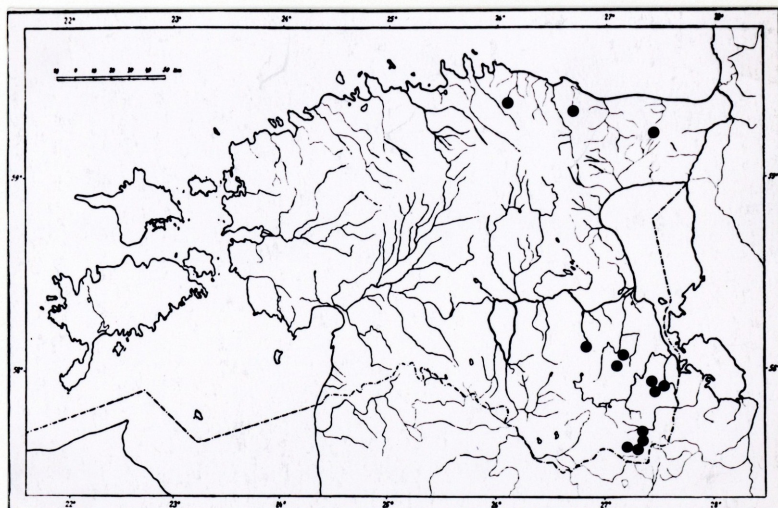
Joon. 18. *Tetmemorus Brebissonii* f. *Brebis-
sonii leucohad* Eestis.



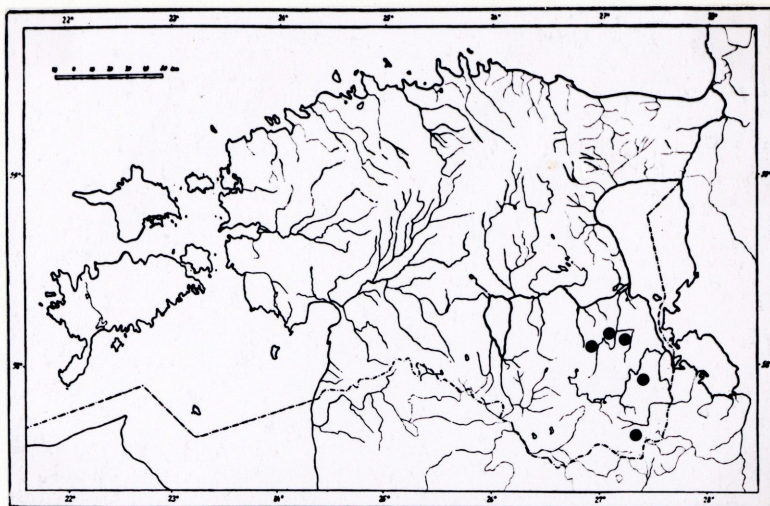
Joon. 19. *Tetmemorus granulatus'*e leucohad
Eestis.



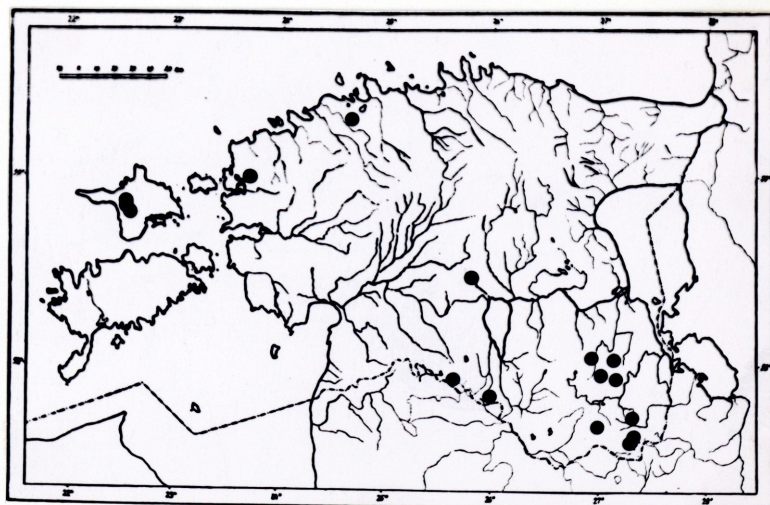
Joon. 20. *Euastrum bidentatum*'i leiukohad Eestis.



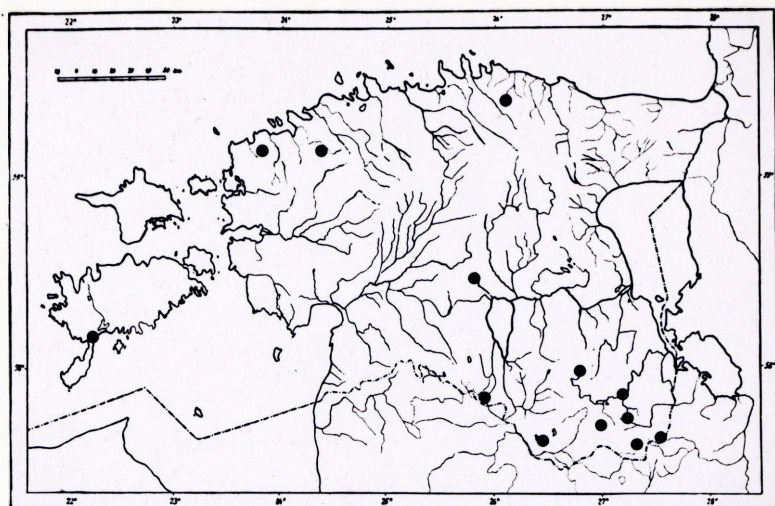
Joon. 21. *Euastrum crassum* var. *crassum*'i leiukohad Eestis.



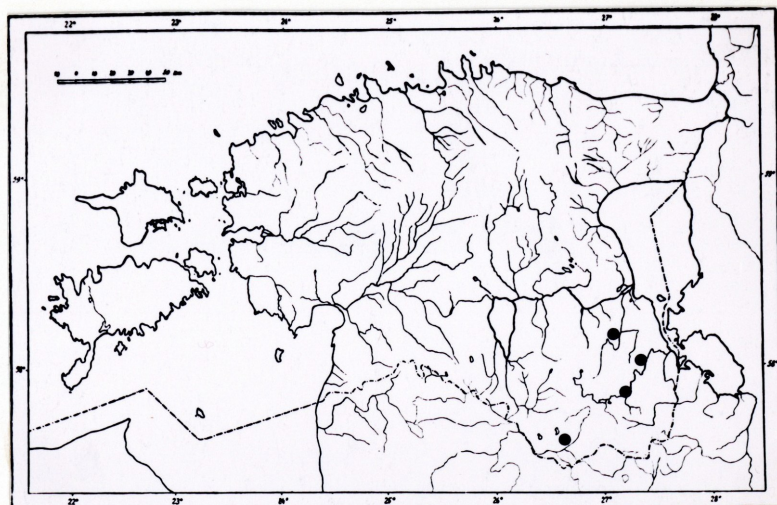
Joon. 22. *Euastrum divaricatum*'i leiukohad Eestis.



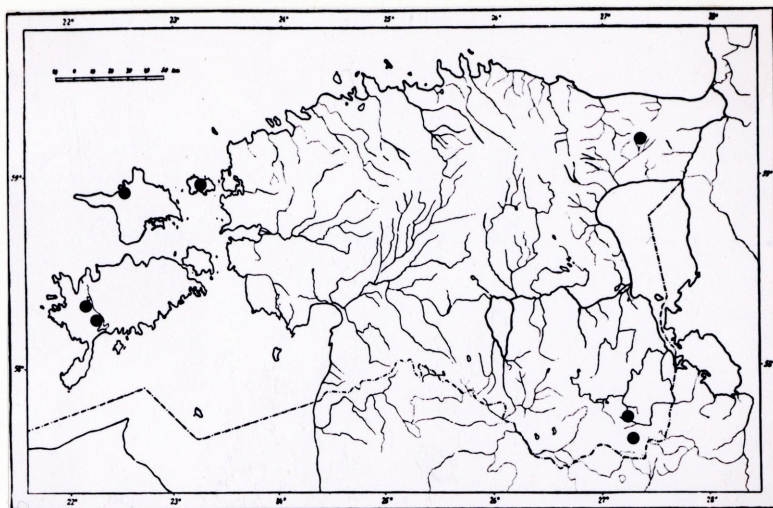
Joon. 23. *Euastrum dubium* var. *ornatum*'i leiukohad Eestis.



Joon. 24. *Euastrum elegans'*i leiukohad
Eestis.



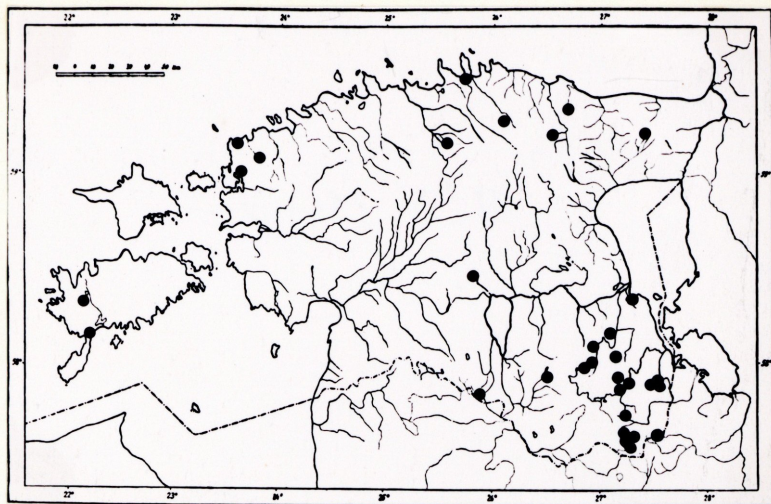
Joon. 25. *Euastrum Gayanum'*i leiukohad
Eestis.



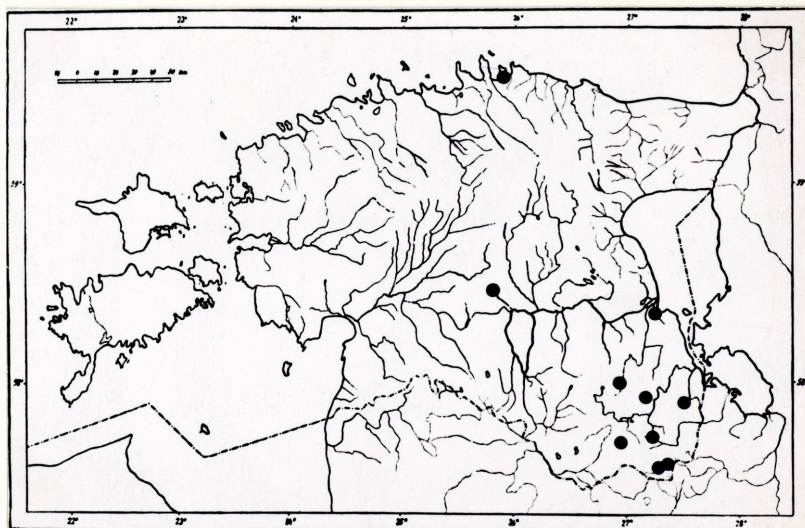
Joon. 26. *Euastrum germanicum*'i leiukohad
Eestis.



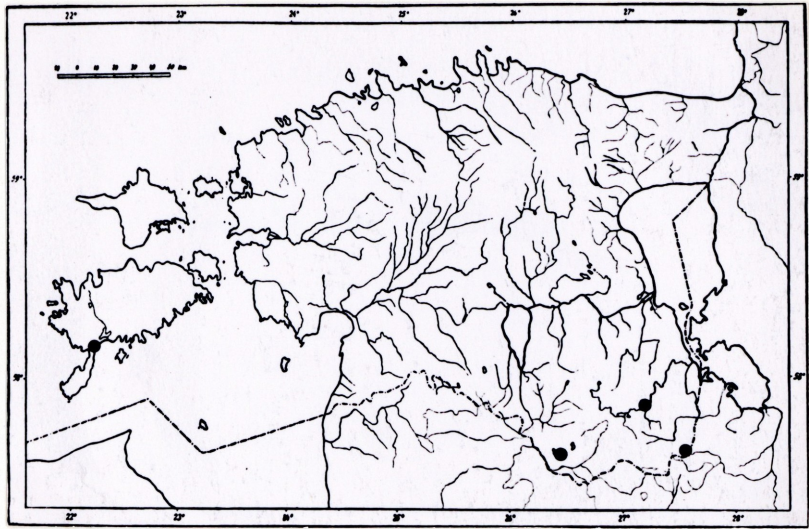
Joon. 27. *Euastrum insulare* leiukohad
Eestis.



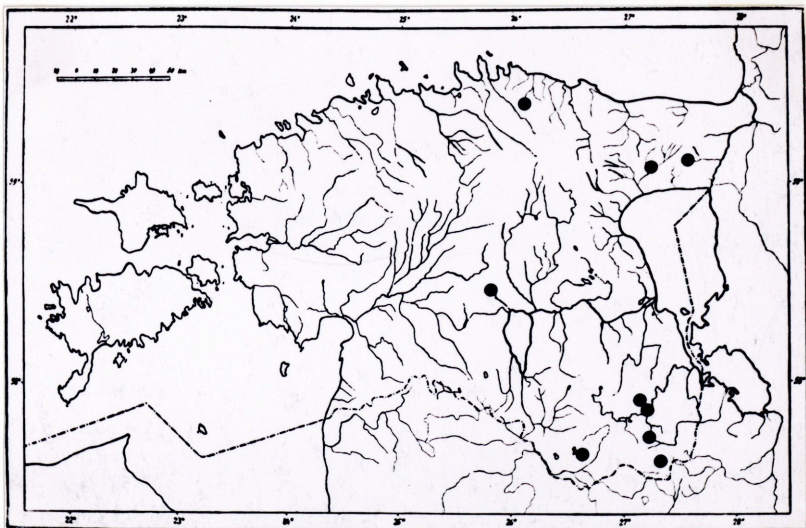
Joon. 28. *Euastrum oblongum*'i leiukohad
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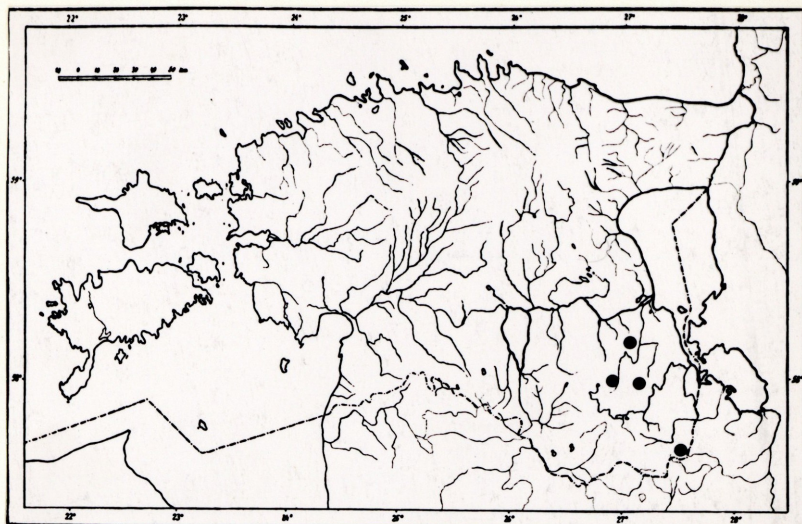
Joon. 29. *Micrasterias americana* leiukohad
Eestis.



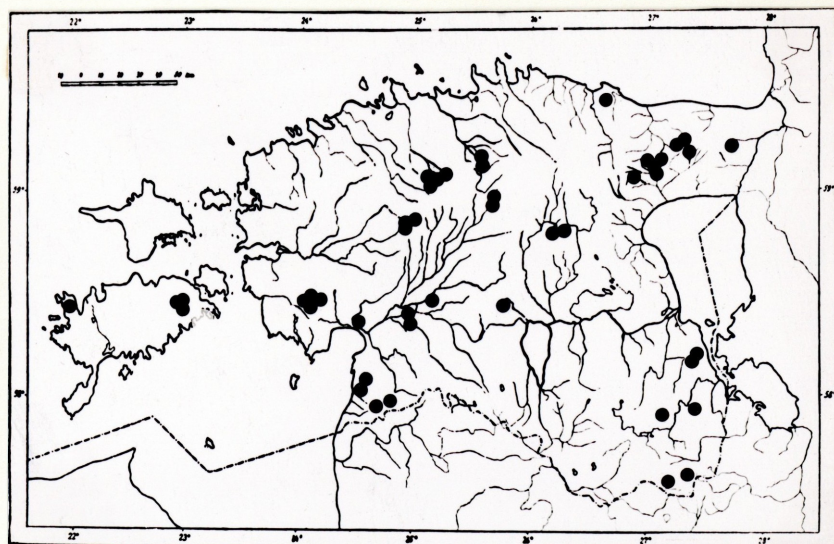
Joon. 30. *Micrasterias brachyptera leiukohad*
Eestis.



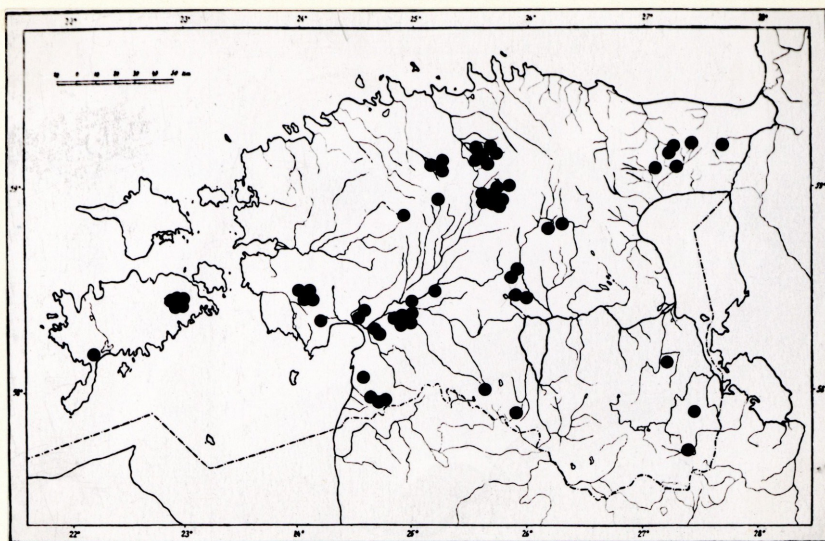
Joon. 31. *Micrasterias fimbriata f. fimbriata*
leiukohad Eestis.



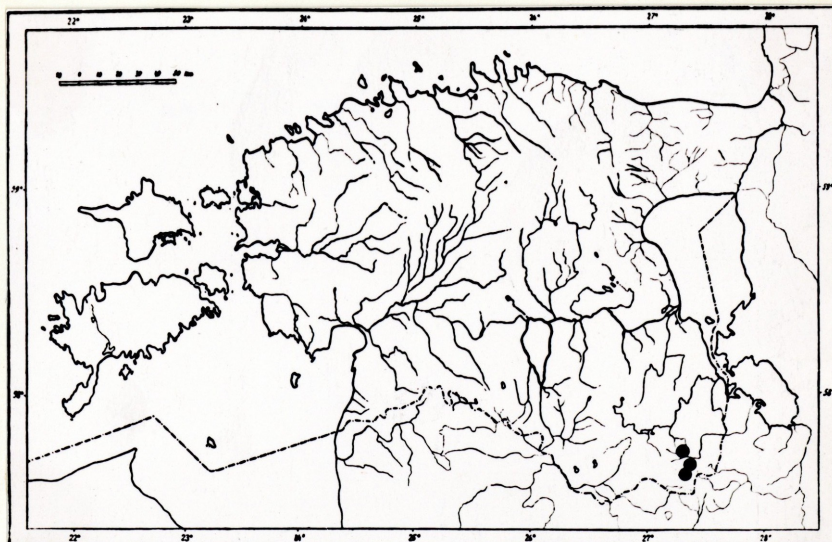
Joon. 32. *Micrasterias truncata* var.
bahusiensis'e leiukohad Eestis.



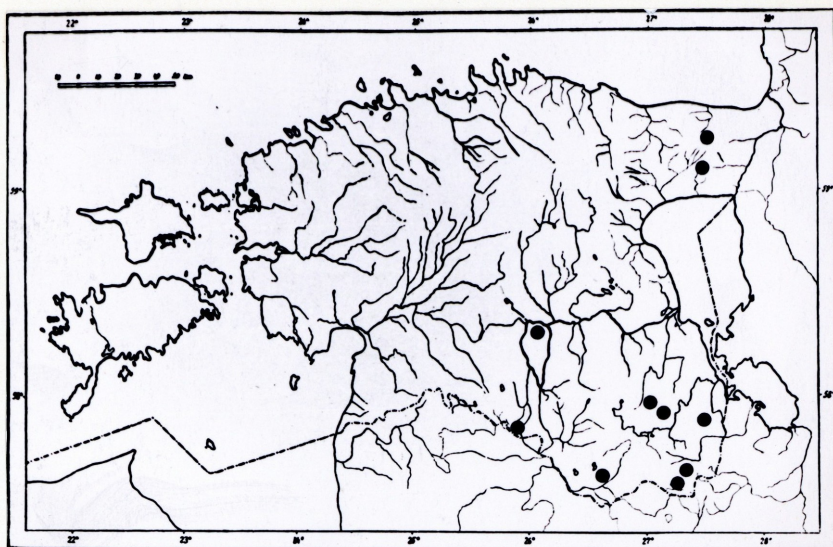
Joon. 33. *Actinotaenium cucurbita* var.
cucurbita f. *cucurbita* leiukohad
Eestis.



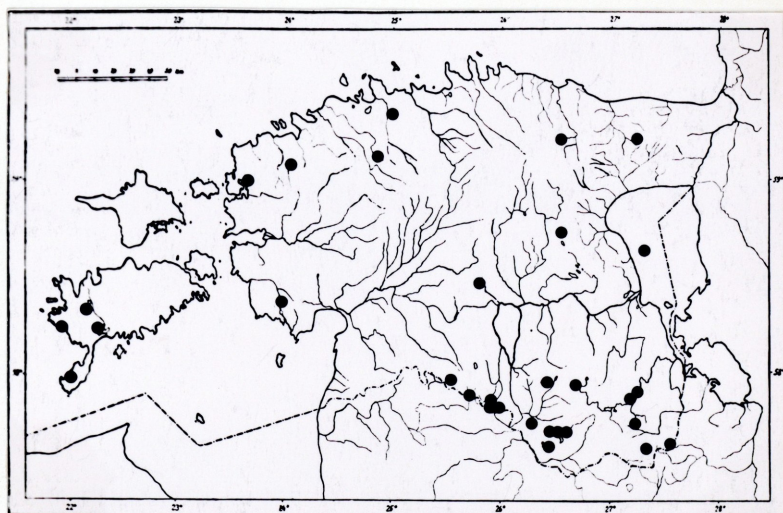
Joon. 34. *Actinotaenium palangula* leiukohad Eestis.



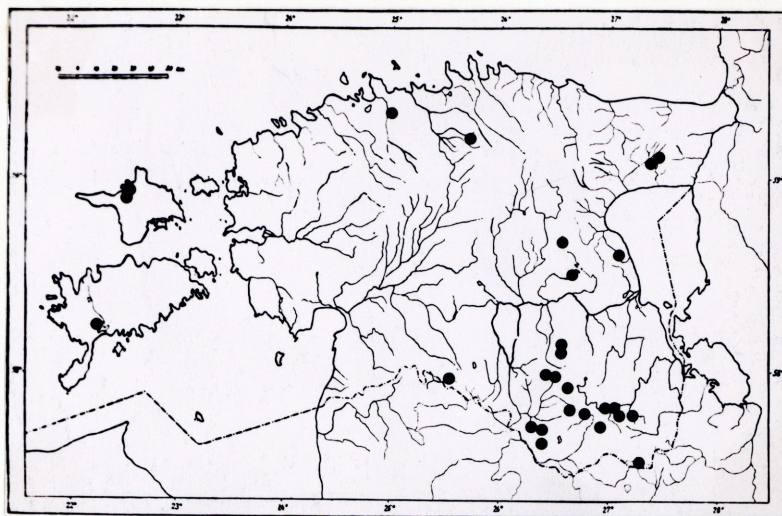
Joon. 35. *Cosmarium binum'i* leiukohad Eestis.



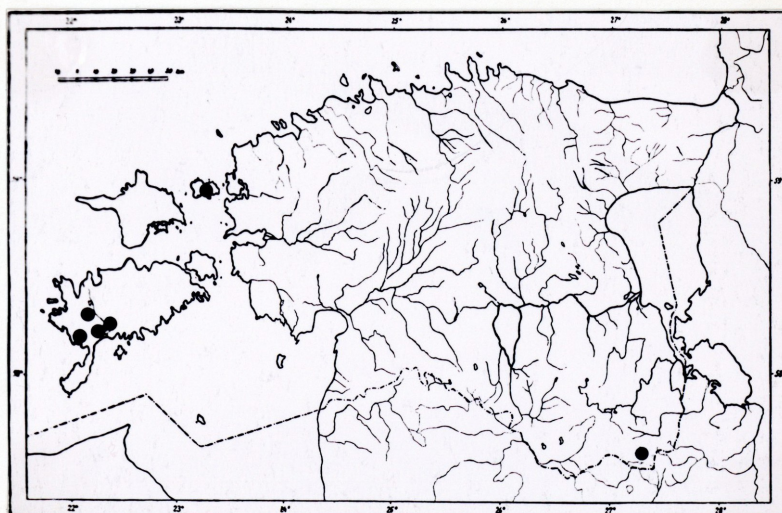
Joon. 36. *Cosmarium contractum* var. *contractum*
f. *contractum'i* leiukohad Eestis.



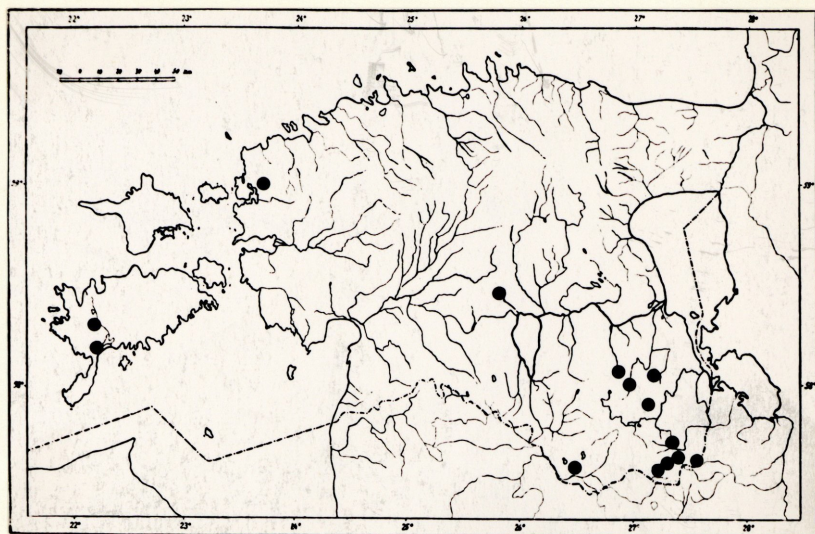
Joon. 37. *Cosmarium depressum* var. *depressum'i*
leiukohad Eestis.



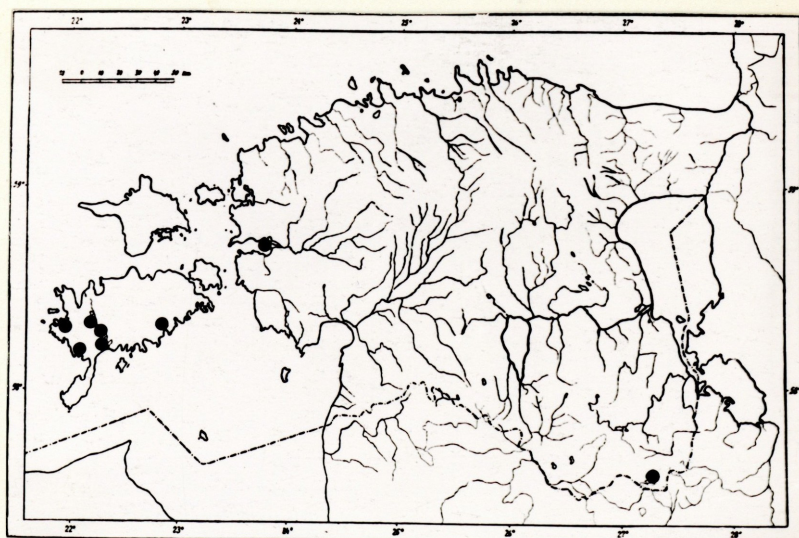
Joon. 38. *Cosmarium depressum* var. *planctonicum*'i leiukohad Eestis.



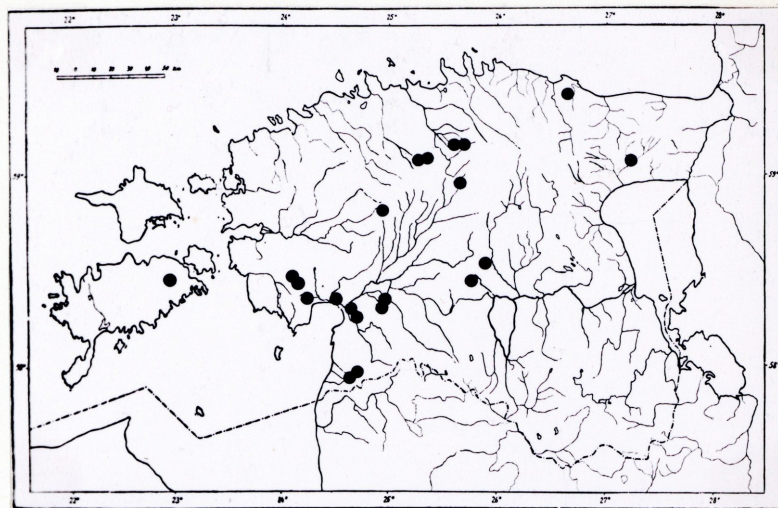
Joon. 39. *Cosmarium laeve* var. *laeve* leiukohad Eestis.



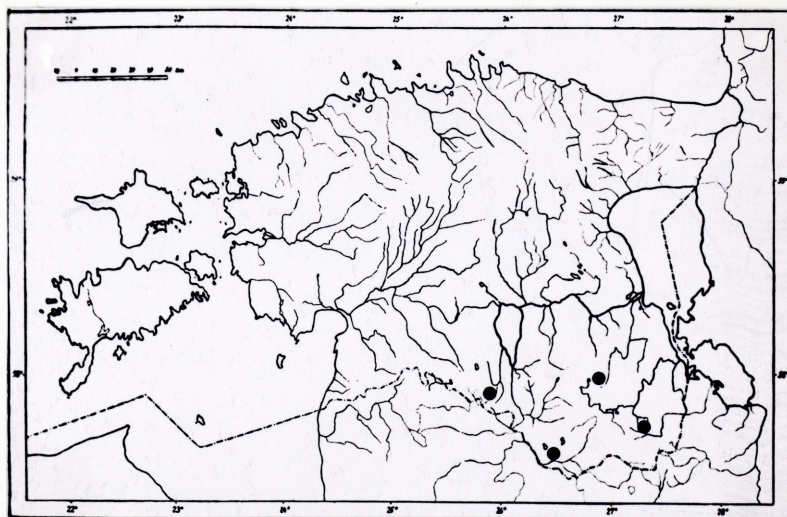
Joon. 40. *Cosmarium margaritifera*'i leiukohad
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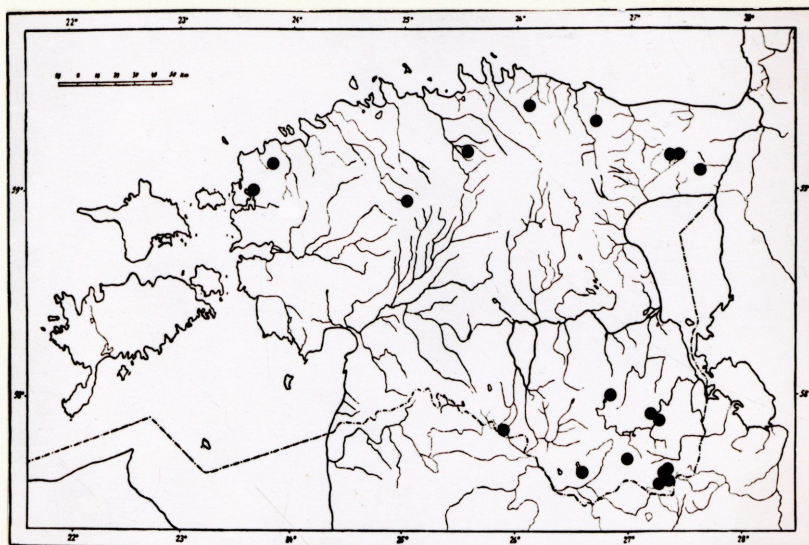
Joon. 41. *Cosmarium Mikutowiczii* leiukohad
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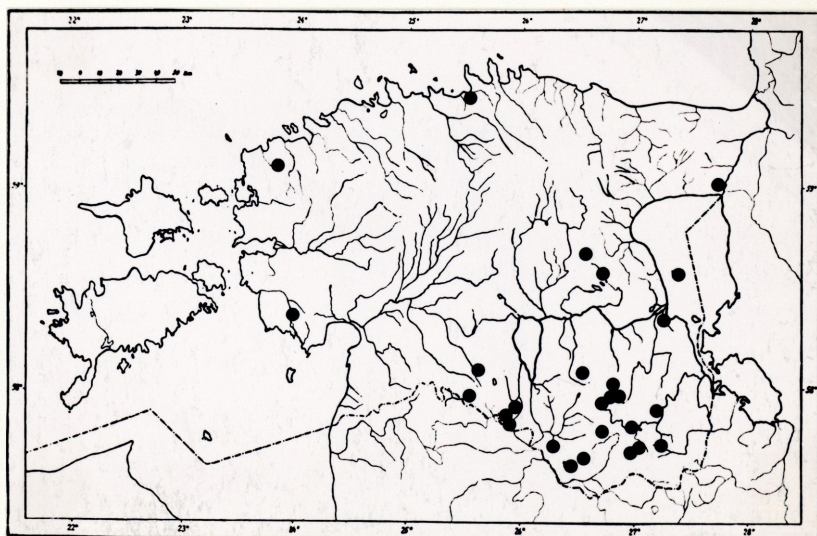
Joon. 42. *Cosmarium obliquum*'i leiukohad Eestis.



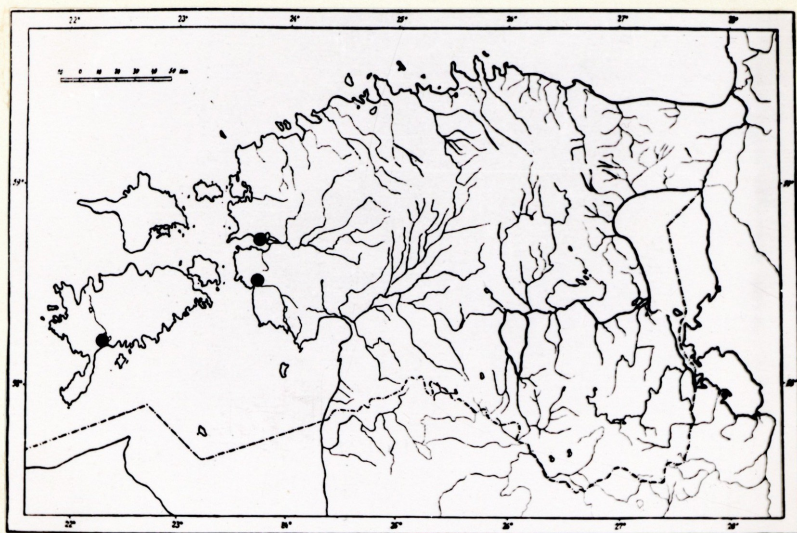
Joon. 43. *Cosmarium obsoletum* var. *sitvense* leiukohad Eestis.



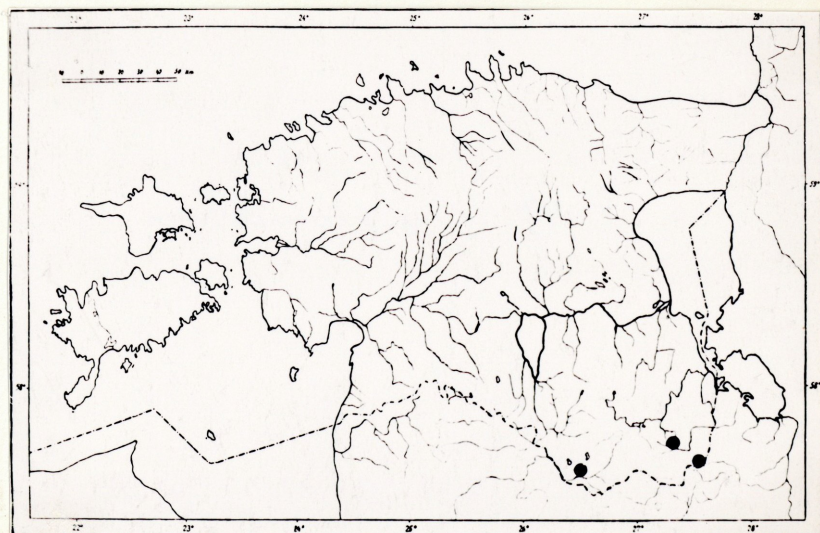
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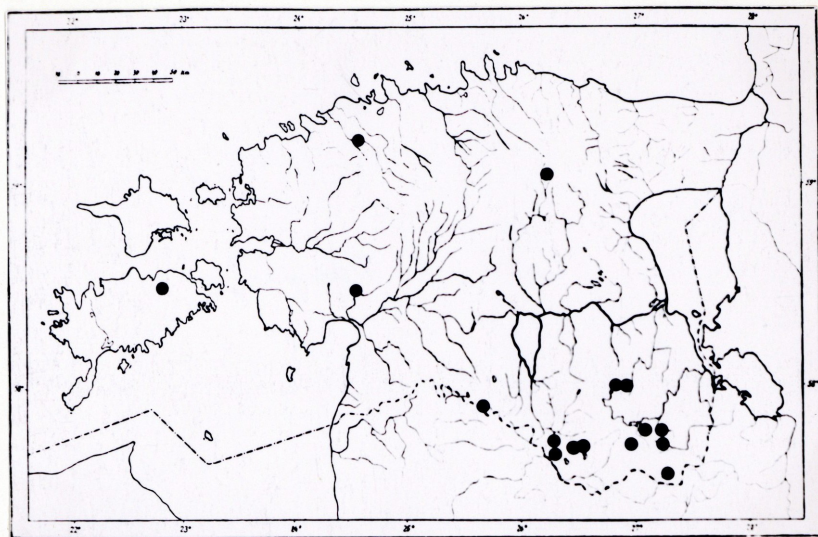
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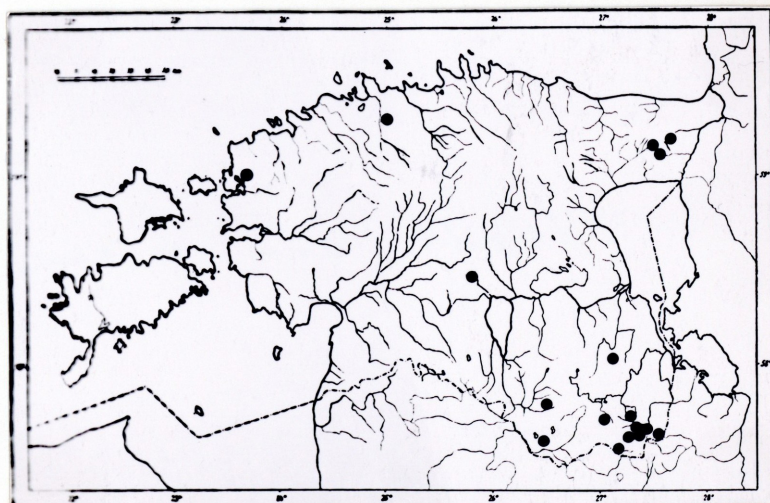
Joon. 46. *Cosmarium scopulorum*'i leiukohad
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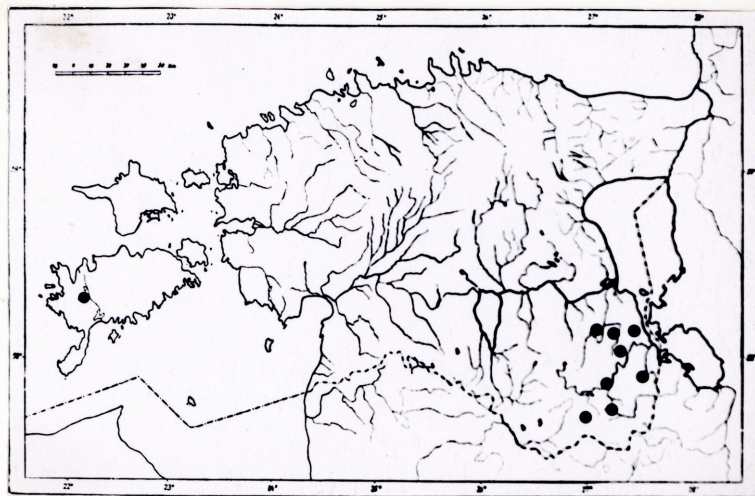
Joon. 47. *Cosmarium smolandicum*'i leiukohad
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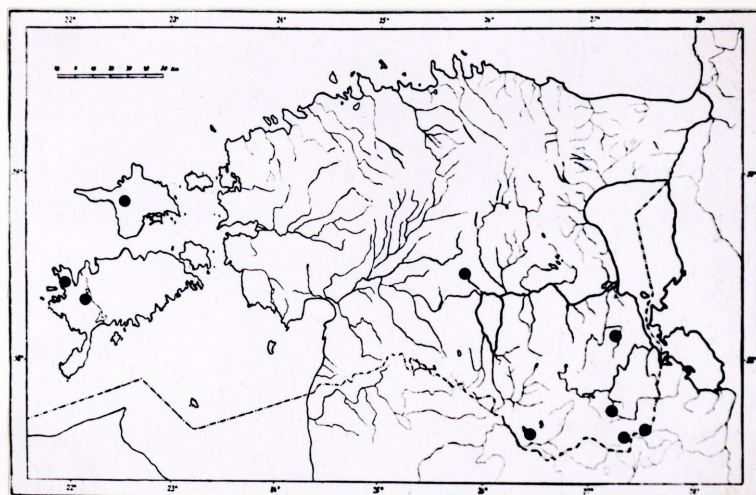
Joon. 48. *Cosmarium Turpinii* var. *Turpinii*
leiukohad Eestis.



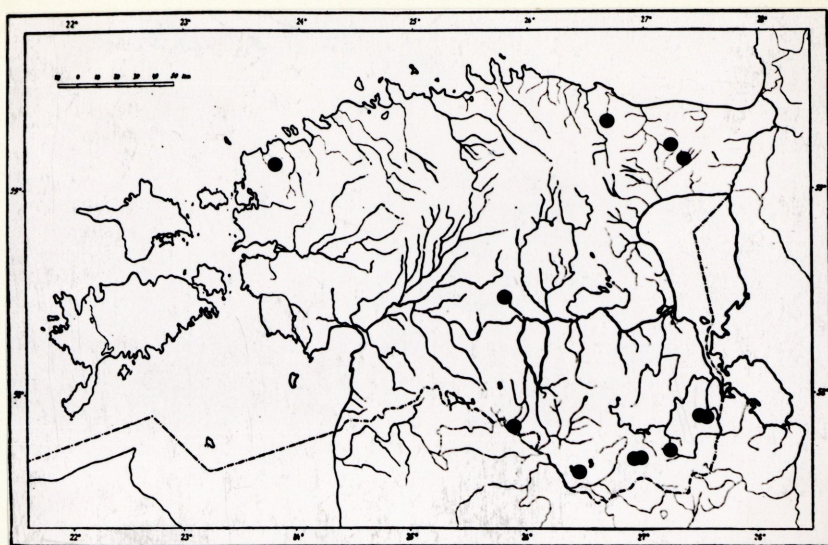
Joon. 49. *Xanthidium antilopaeum* var. *laeve*
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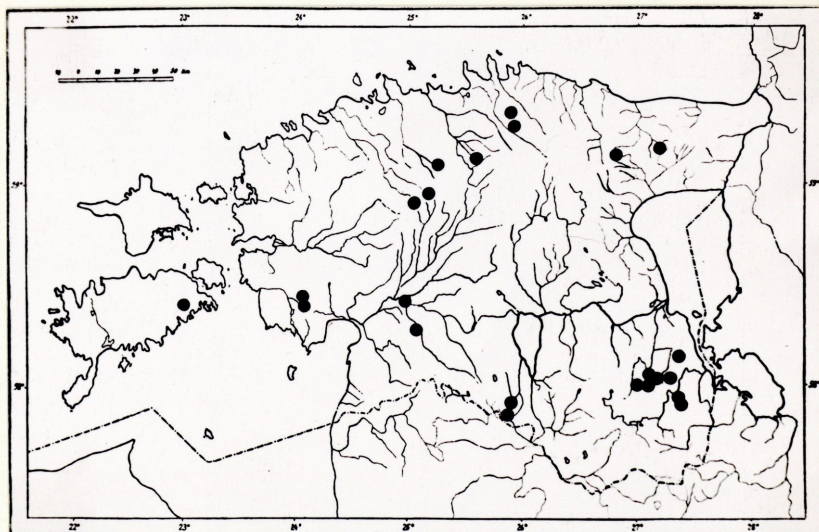
Joon. 50. *Xanthidium antilopaeum* var. *planum*'i
leiukohad Eestis.



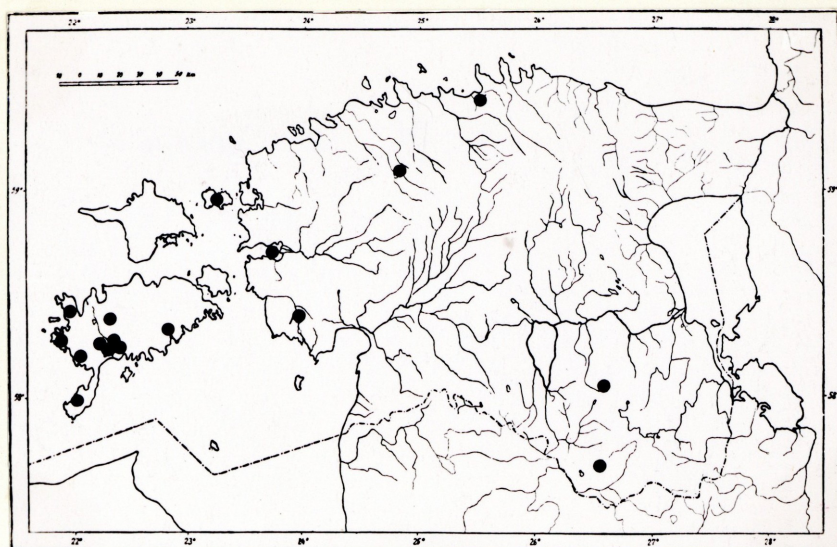
Joon. 51. *Xanthidium cristatum*'i leiukohad
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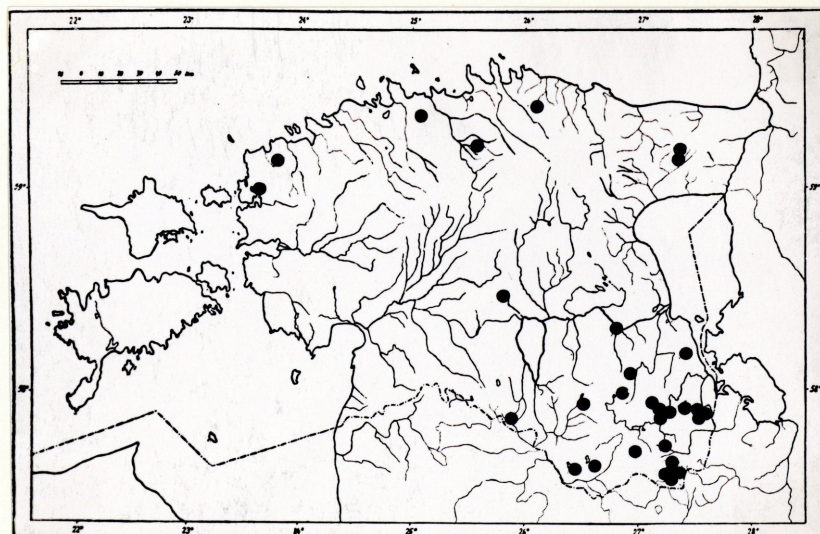
Joon. 52. *Staurodesmus leptodermus*'e leiukohad
Eestis.



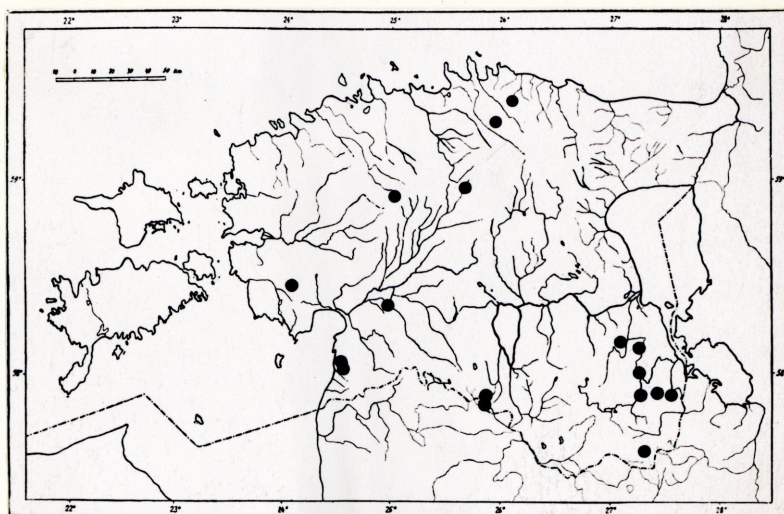
Joon. 53. *Staurastrum aciculiferum*'i leiukohad
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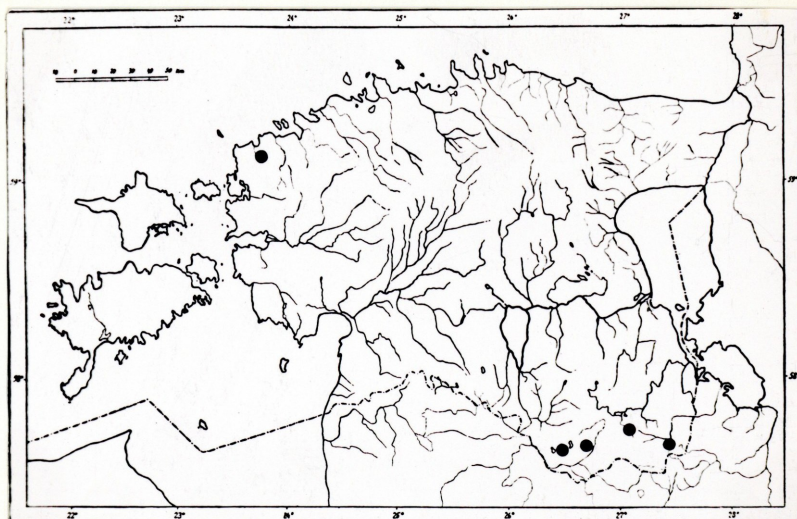
Joon. 54. *Staurastrum alternans*'i leiukohad
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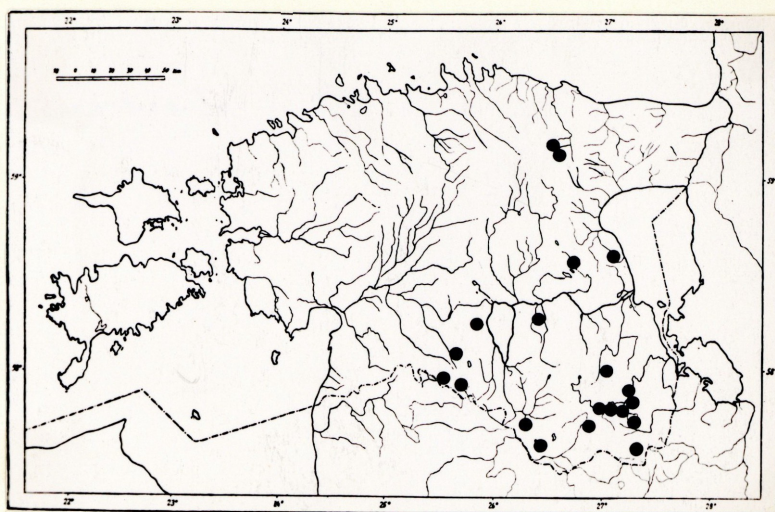
Joon. 55. *Staurastrum arcticon*'i leiukohad
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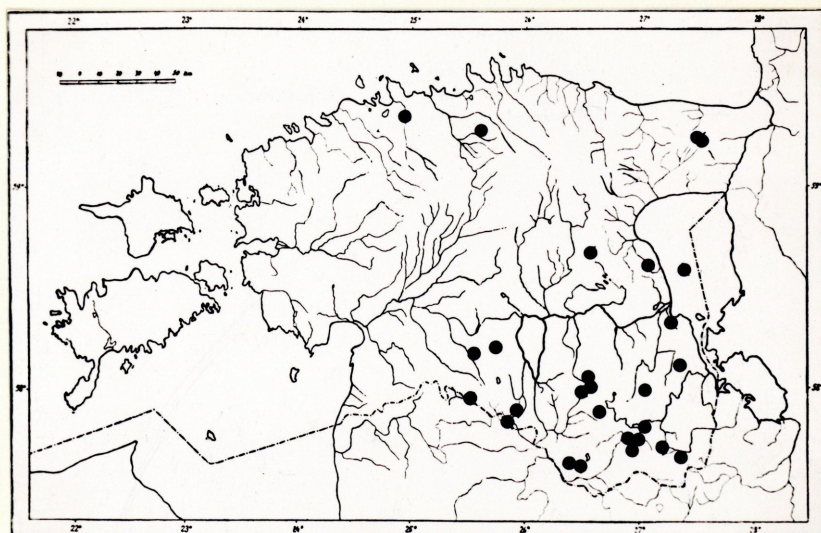
Joon. 56. *Staurastrum brachiatum*'i leiukohad Eestis.



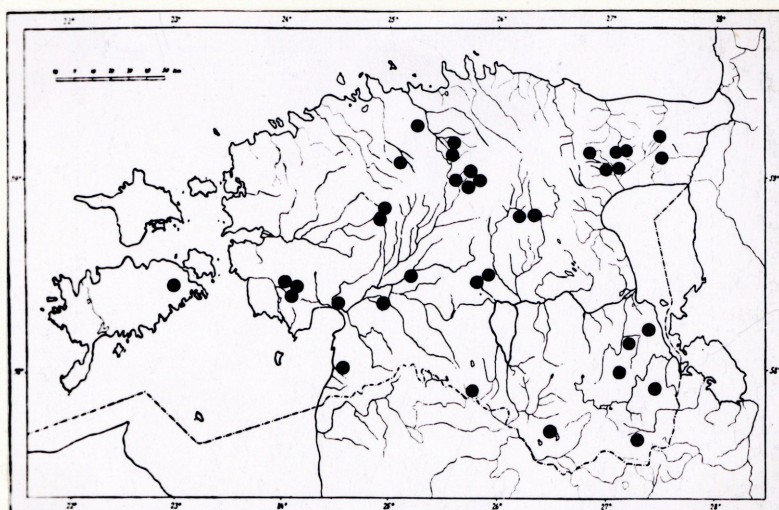
Joon. 57. *Staurastrum brasiliense* var. *Lundellii* leiukohad Eestis.



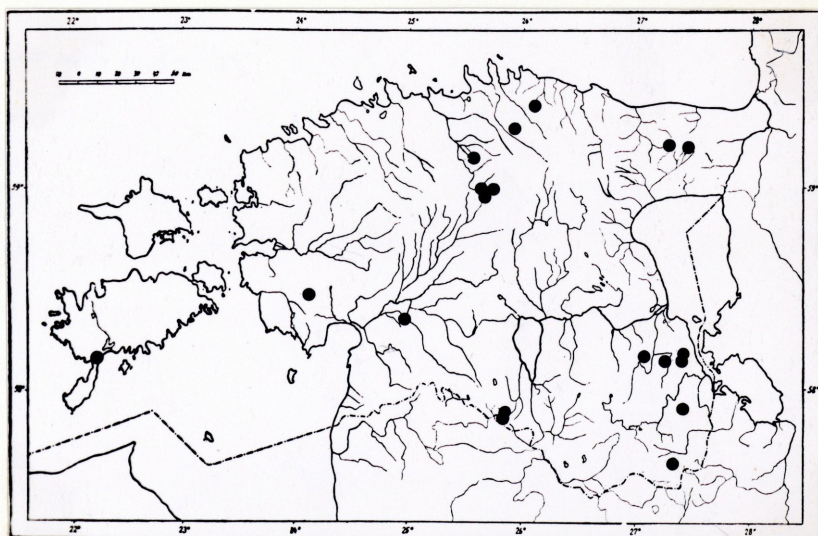
Joon. 58. *Staurastrum chaetoceras'* leiukohad Eestis.



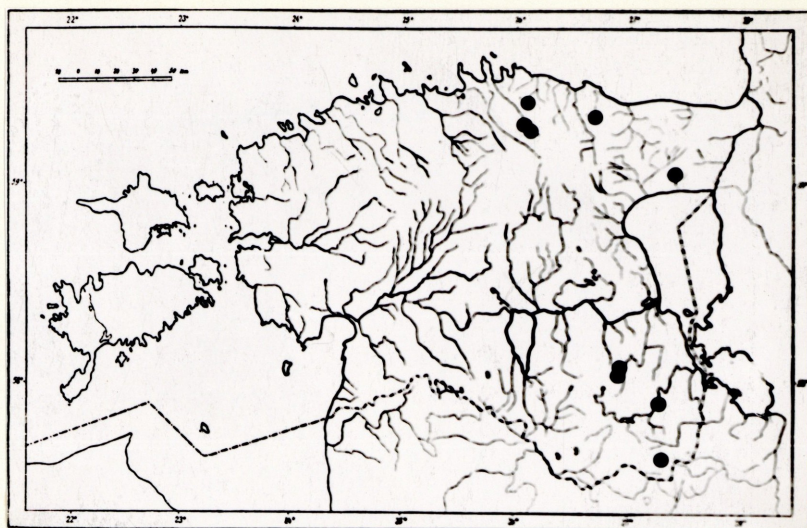
Joon. 59. *Staurastrum cingulum* var. *obesum'*i leiukohad Eestis.



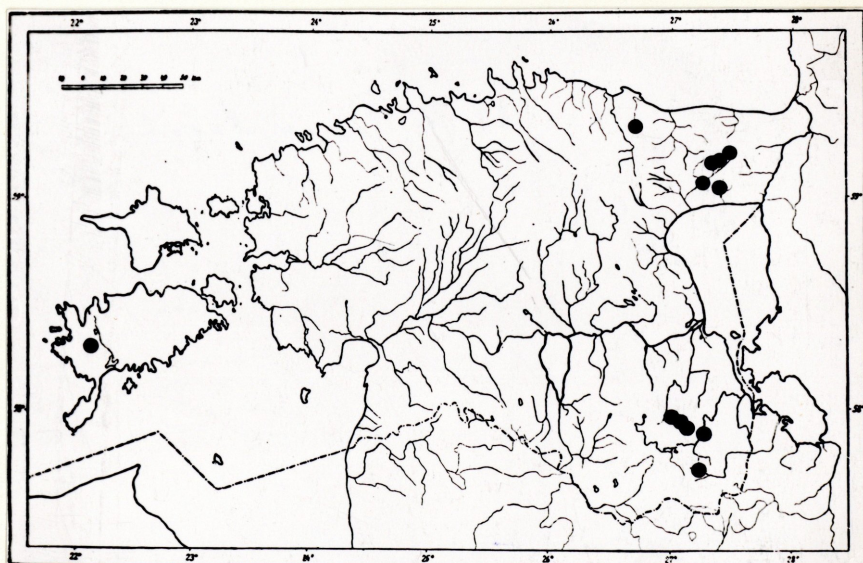
Joon. 60. *Staurastrum furcatum*'i leiukohad
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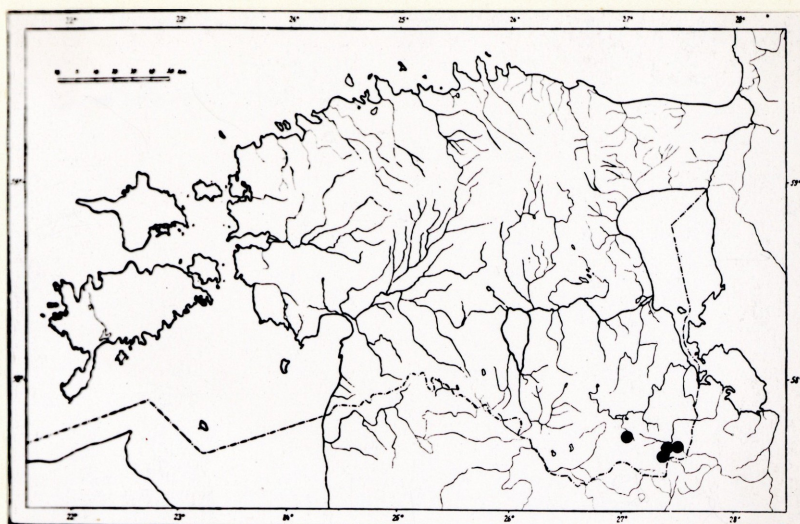
Joon. 61. *Staurastrum incospicuum*'i leiukohad
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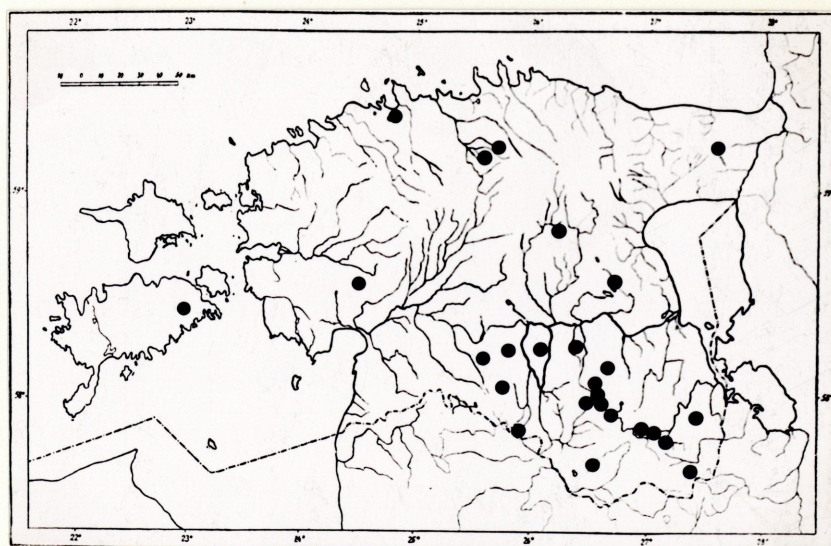
Joon. 62. *Staurastrum longipes*'i leiukohad Eestis.



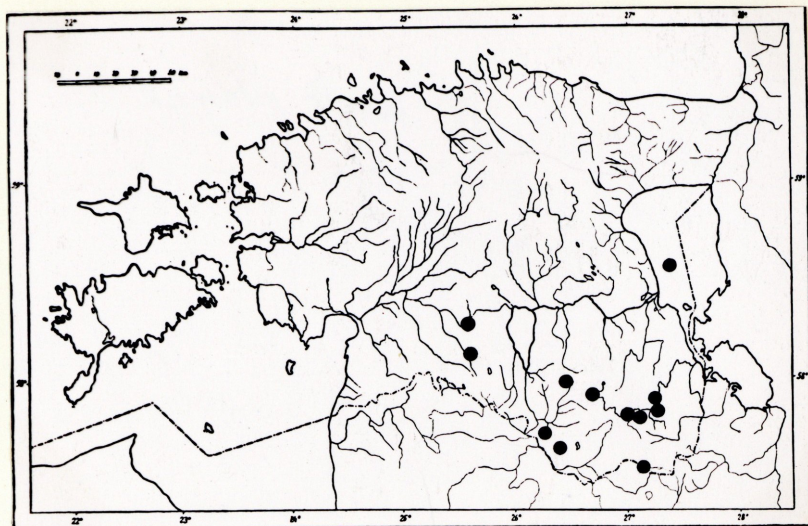
Joon. 63. *Staurastrum lunatum* var. *planctonicum*'i leiukohad Eestis.



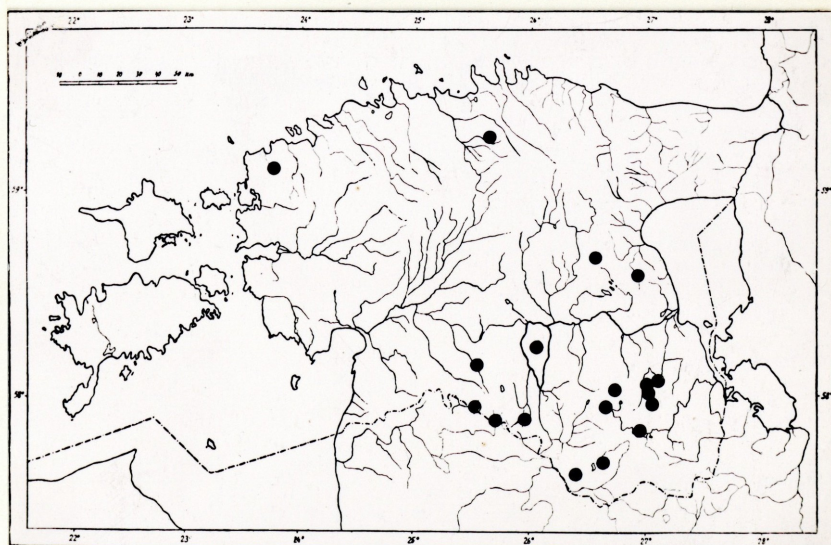
Joon. 64. *Staurastrum ophiura* leikohad
Eestis.



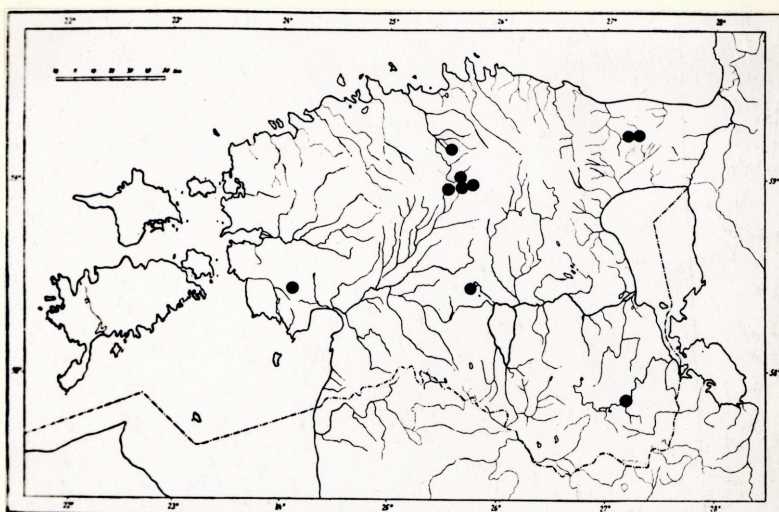
Joon. 65. *Staurastrum pingue* leikohad
Eestis.



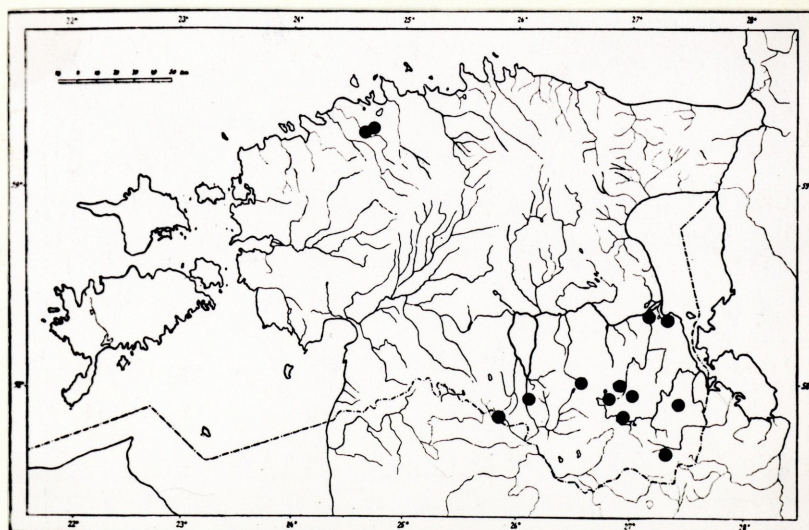
Joon. 66. *Staurastrum planctonicum*'i leiukohad Eestis.



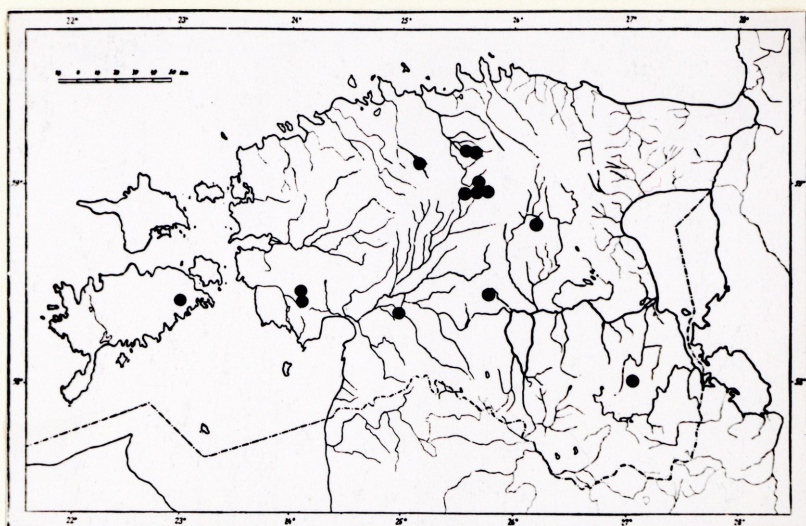
Joon. 67. *Staurastrum pseudopelagicum* var. *tumidum*'i leiukohad Eestis.



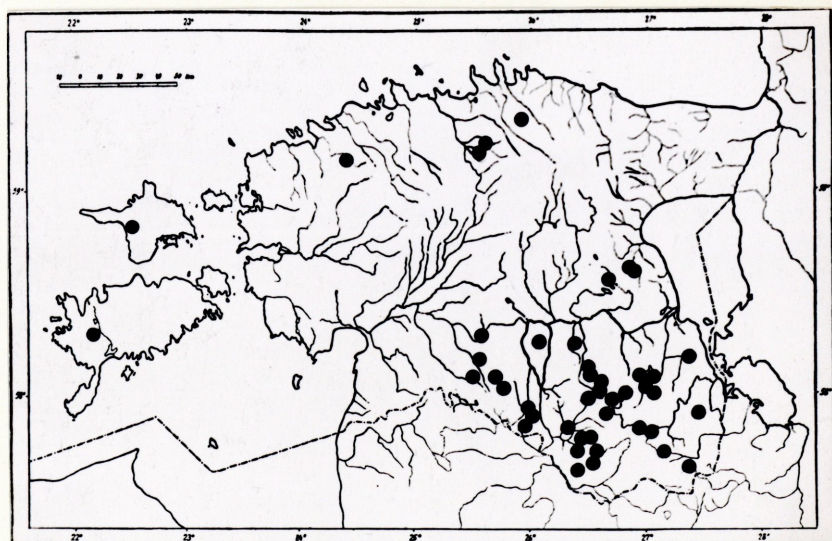
Joon. 68. *Staurastrum quadrispinatum* f.
minus'e leiukohad Eestis.



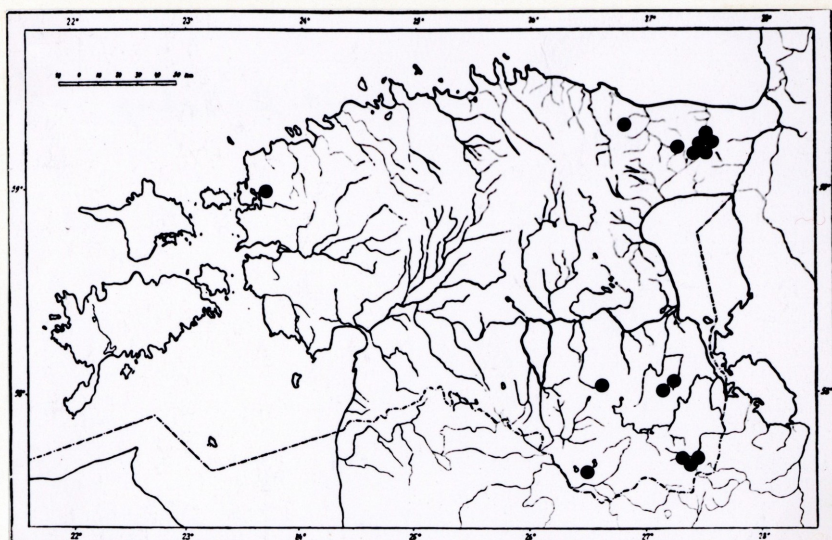
Joon. 69. *Staurastrum Sebaldi* var. *ornatum* f.
planctonica leiukohad Eestis.



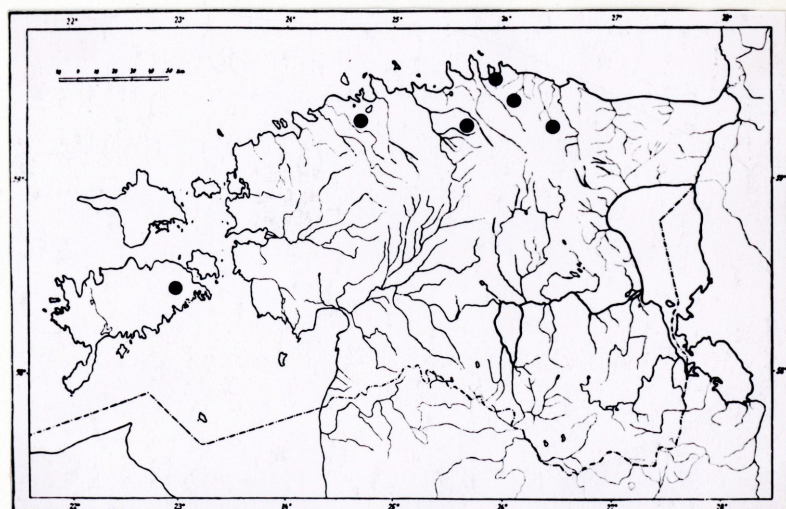
Joon. 70. *Staurastrum Simonyi* leikohad
Eestis.



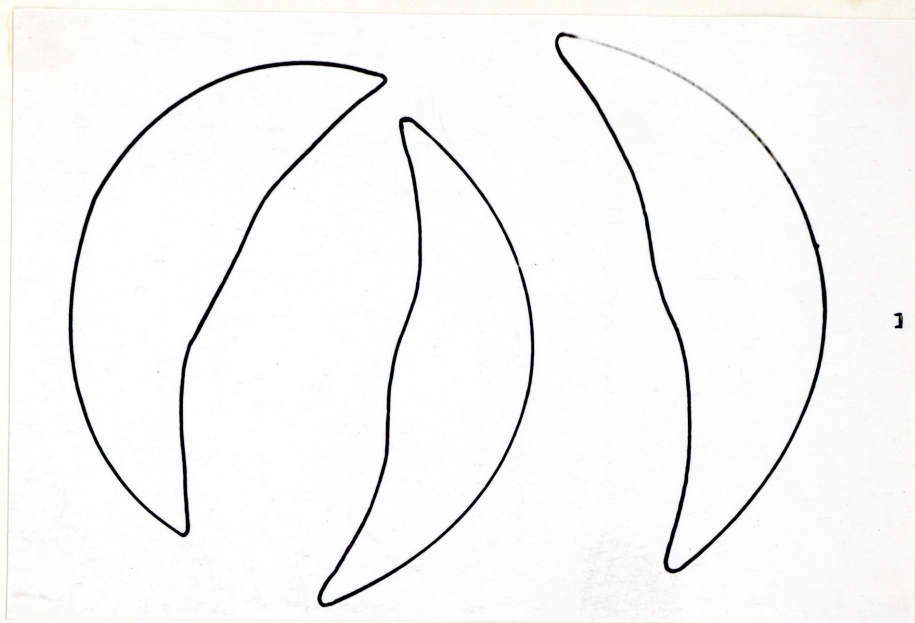
Joon. 71. *Staurastrum Smithii* var. *verrucosum*'i leikohad Eestis.



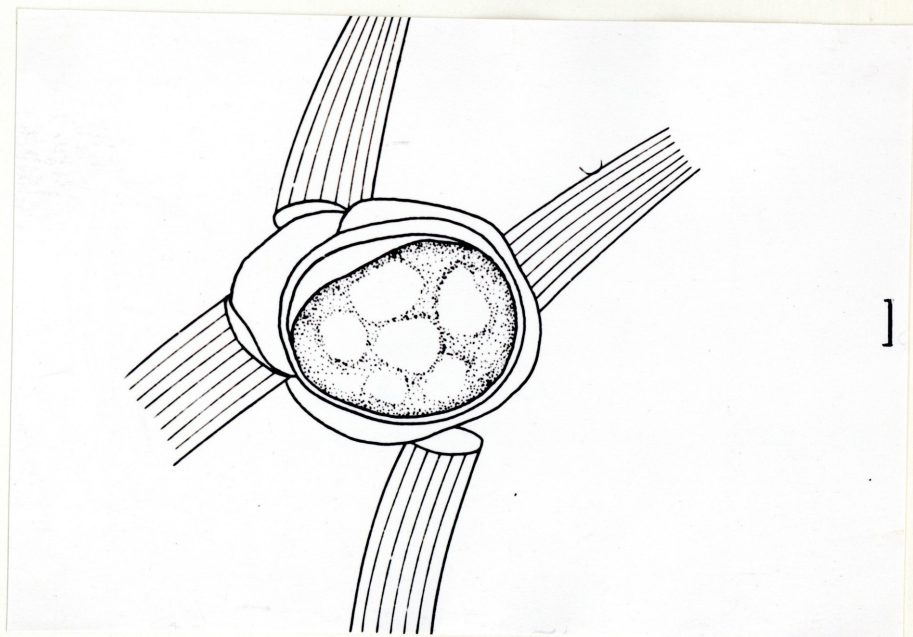
Joon. 72. *Staurastrum tohopekaligense* leiukohad Eestis.



Joon. 73. *Sphaeroszma Aubertianum* var. *Archeri* leiukohad Eestis.

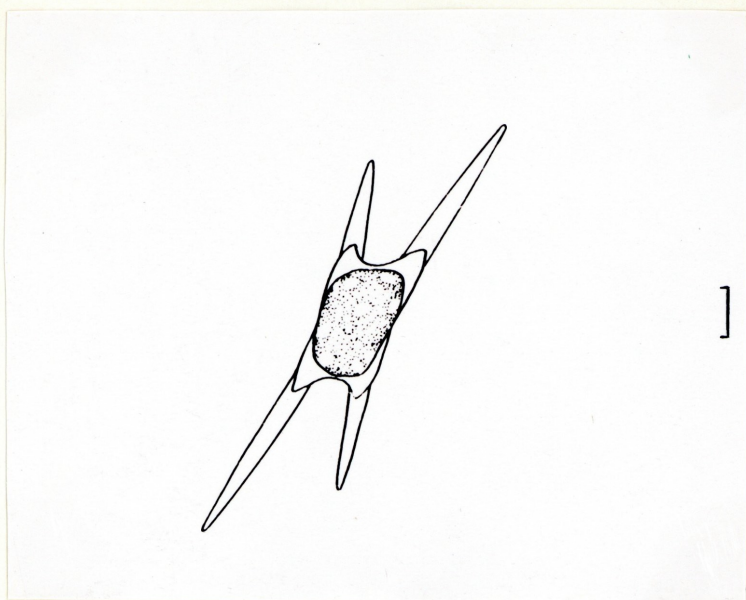


a

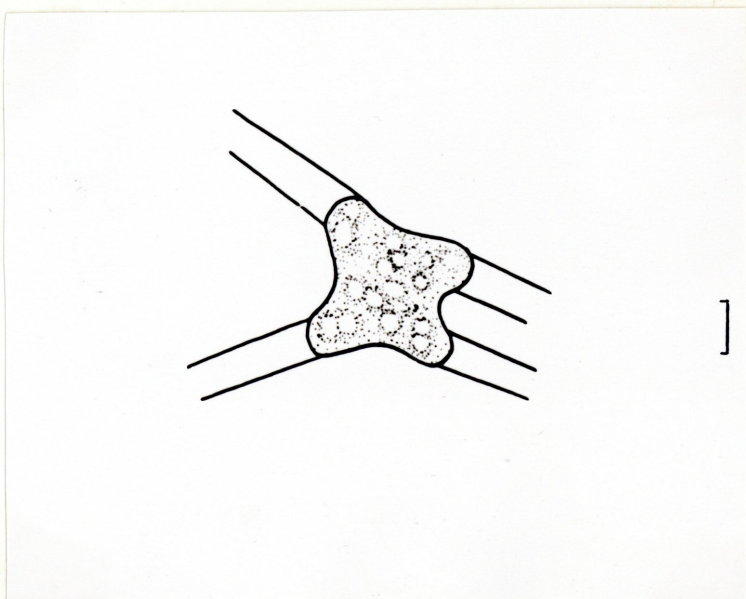


b

Joon. 74. a - *Closterium Ehrenbergii* var. *percrassum*; b - *C. intermedium*'i sügoot.

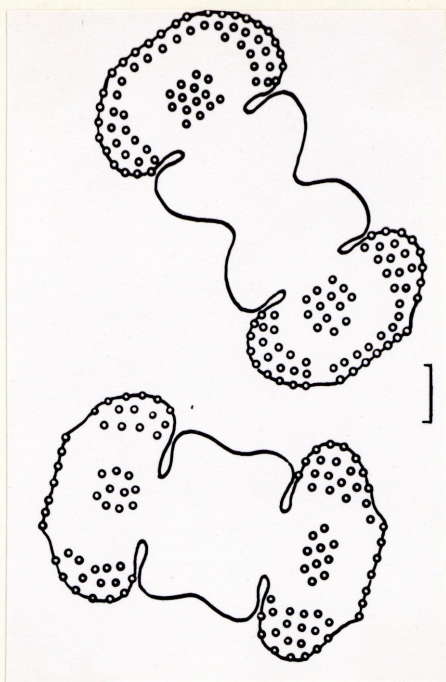


a

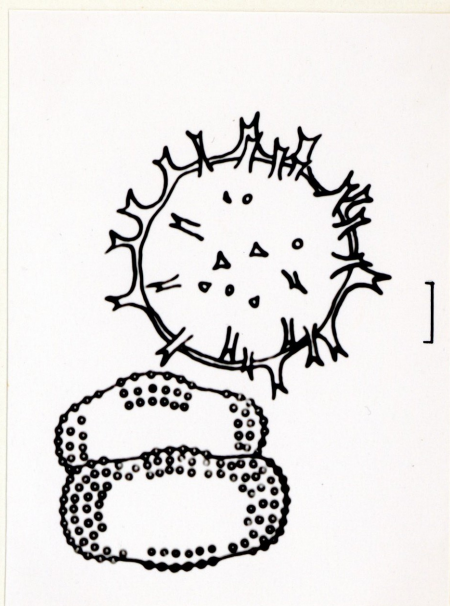


b

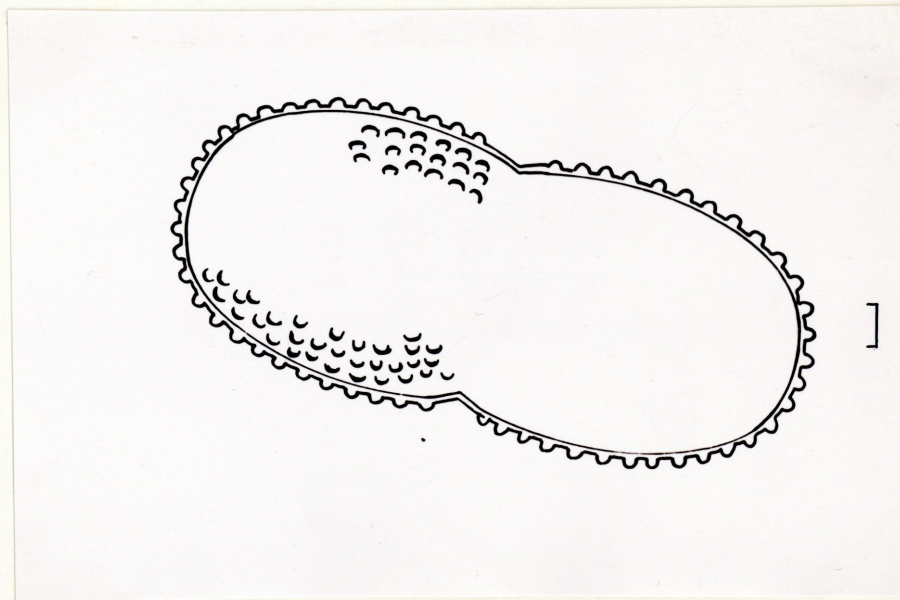
Joon. 75. a - *Closterium acutum* var. *linea* sügoot, b - *C. setaceum*'i sügoot.



a

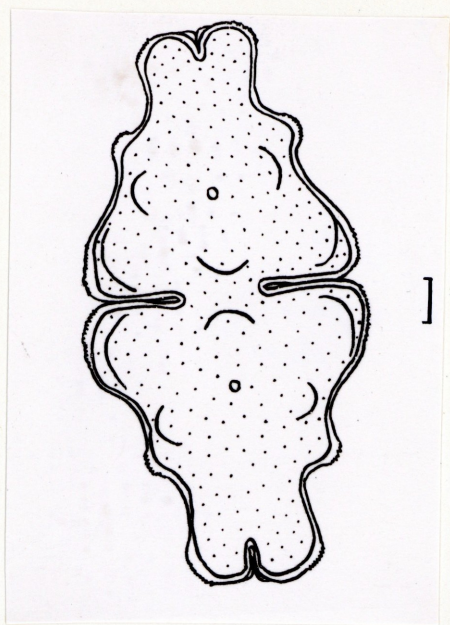


b

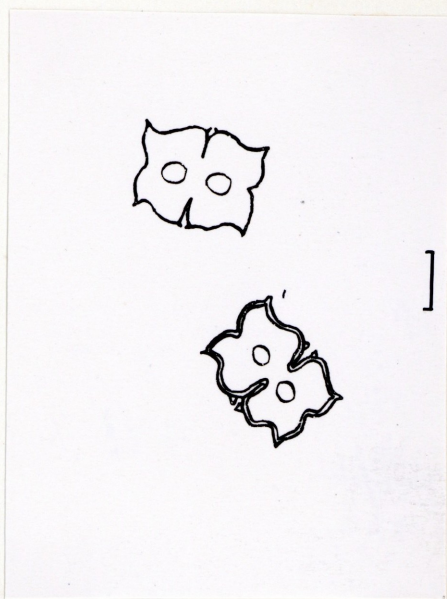


c

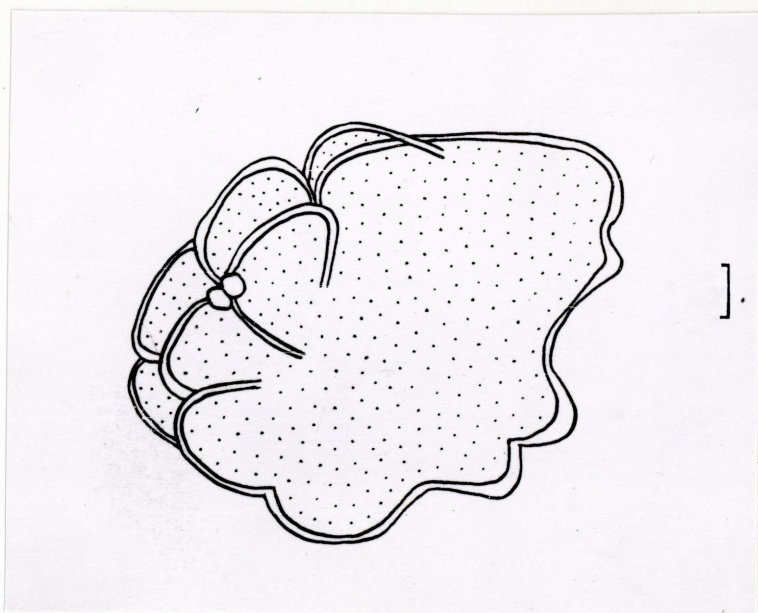
Joon. 76. a - *Cosmarium ornatum*'i mittetäielikult
pooldunud isendid, b - *C.ornatum*'i
sügoot, c - *C. tessellatum*.



a

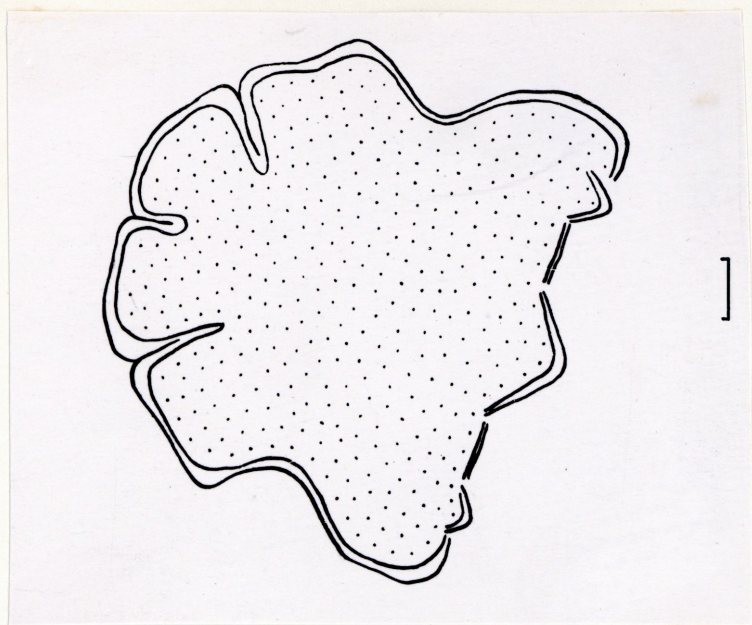


b

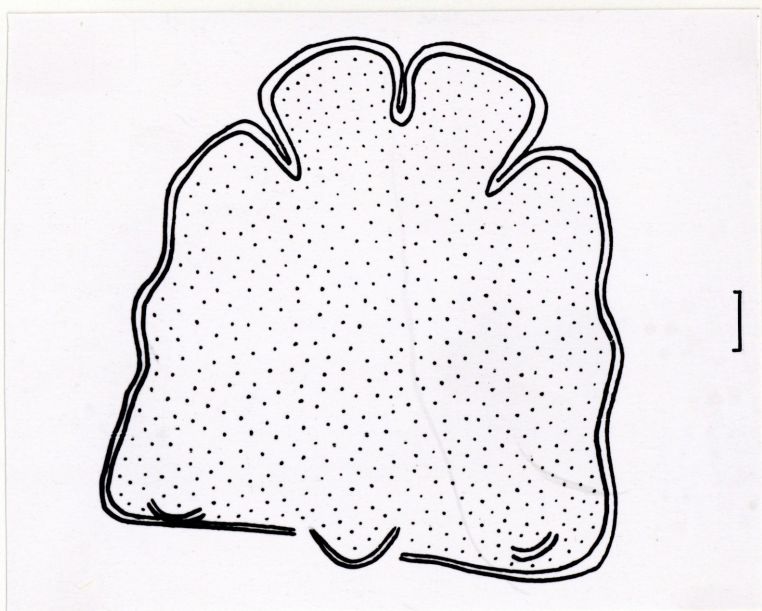


c

Joon. 77. a - *Euastrum affine* vorm, b - *E. binale*
var. *papilliferum*, c - *E. crassum*'i vorm.

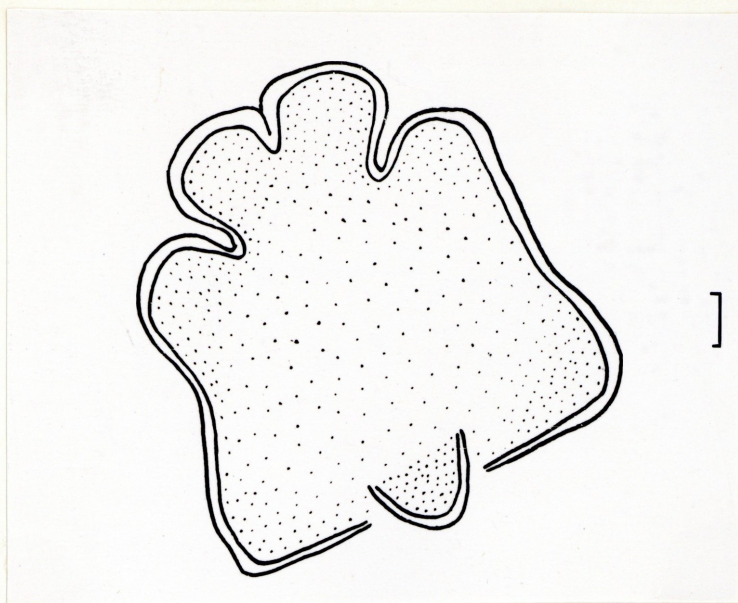


a

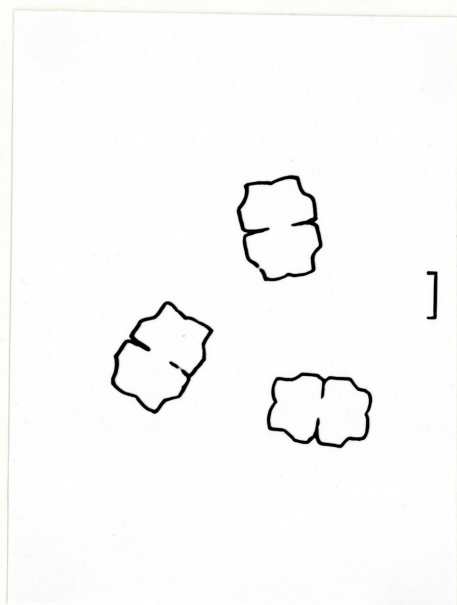


b

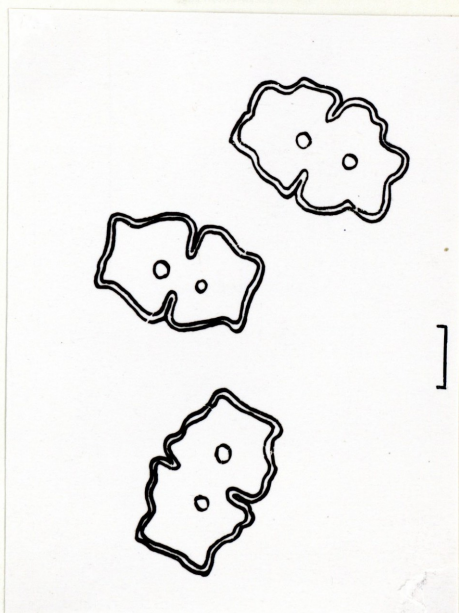
Joon. 78. a, b - *Euastrum crassum*'i vormid.



a

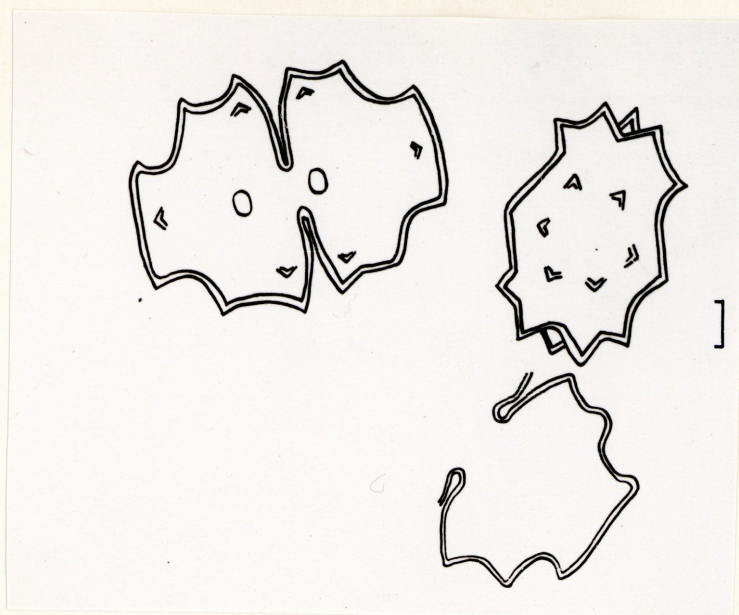


b

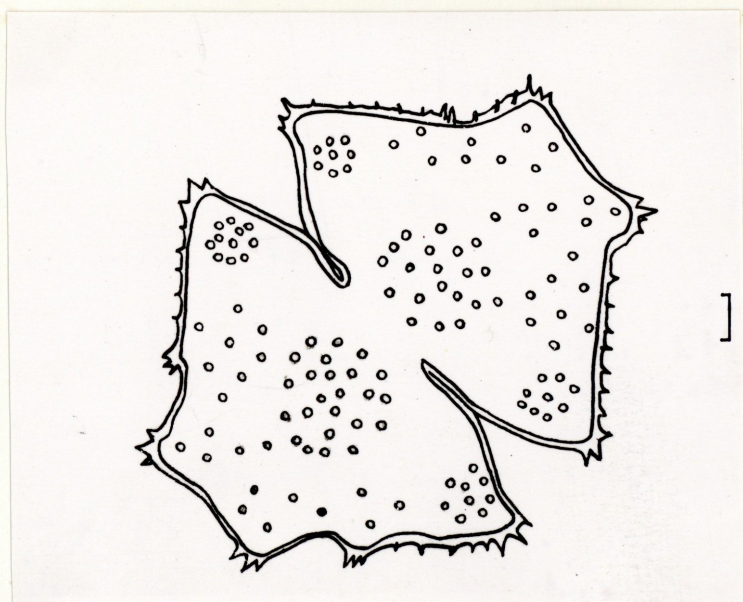


c

Joon. 79. a - *Euastrum crassum* var. *michiganense*,
 b - *E. insulare* f. *silesiacum*, c - *E.*
Luetkemuellerei.

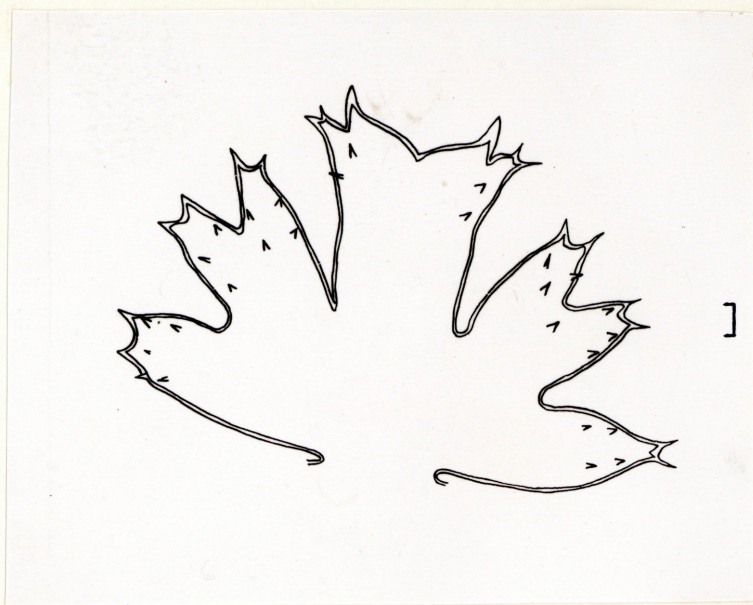


a

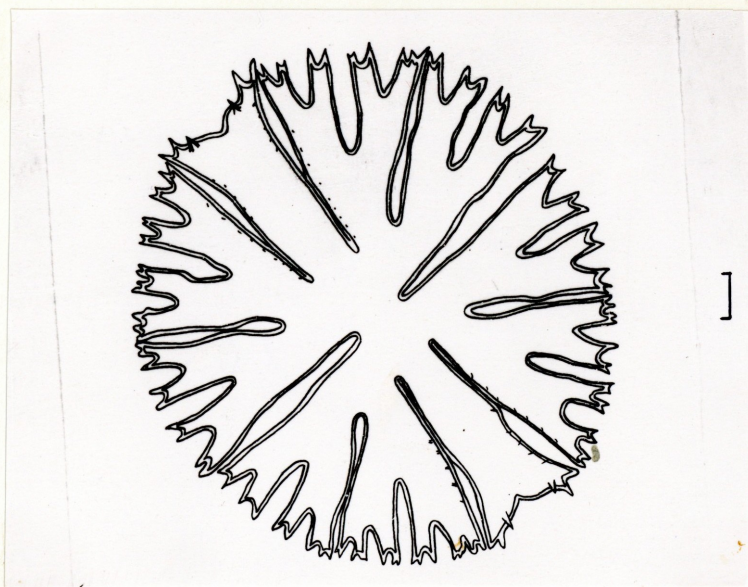


b

Joon. 80. a - *Euastrum pectinatum* var. *acutius*,
b - *E. verrucosum* var. *rhomboideum*.

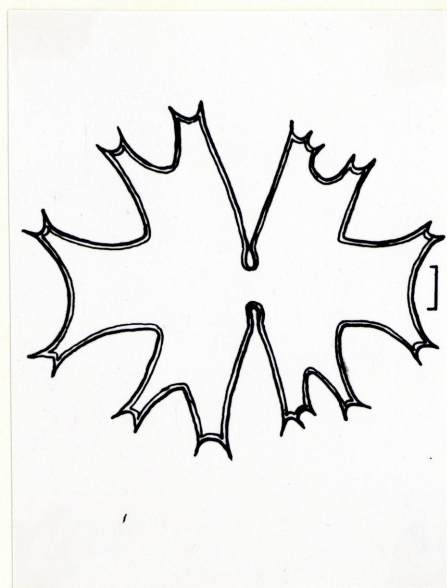


a

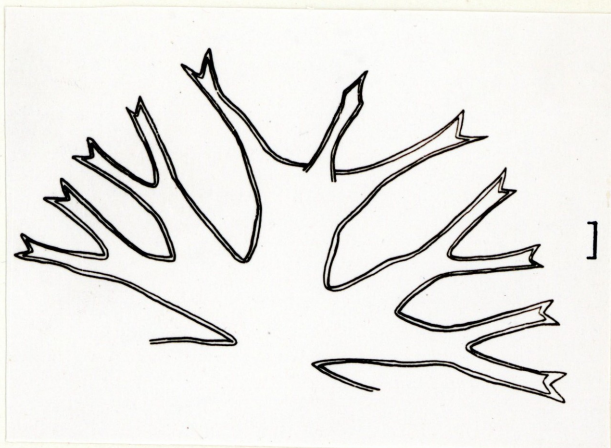


b

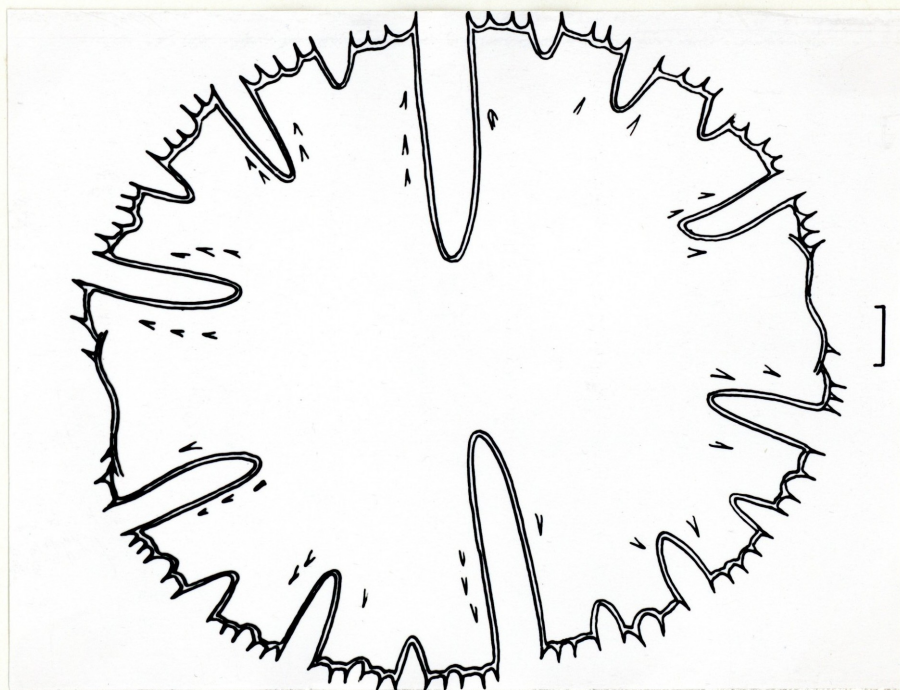
Joon. 81. a - *Micrasterias apiculata* redutseerunud vorm, b - *M. papillifera* vorm.



a

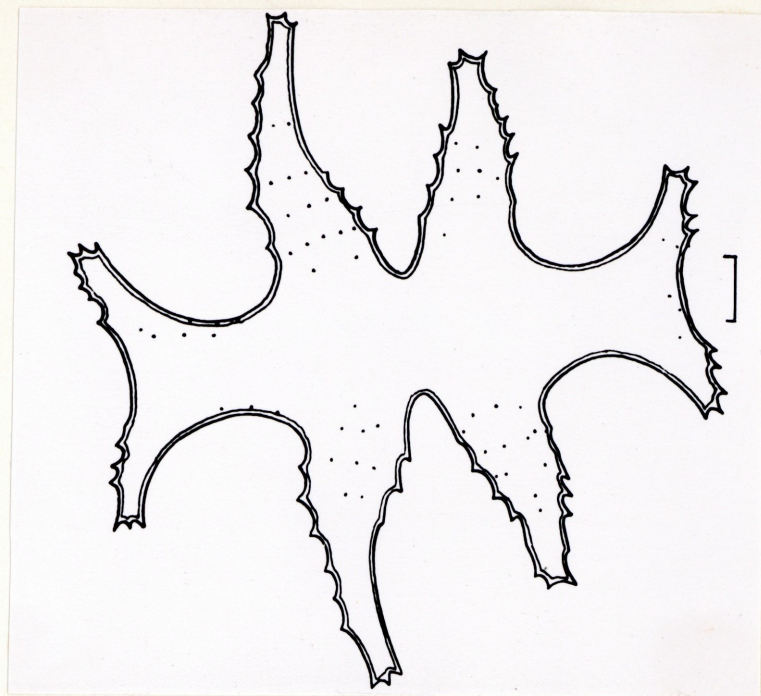


b

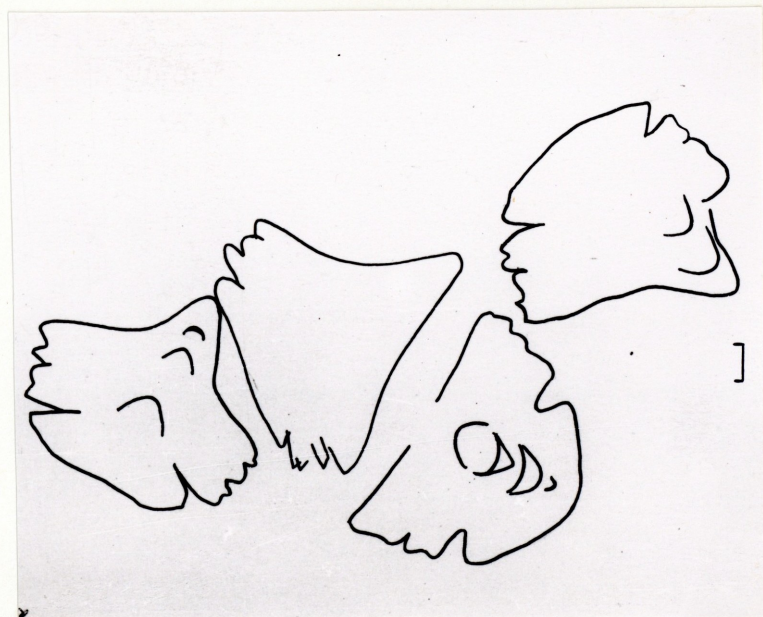


c

Joon. 82. a - *Micrasterias crux-melitensis* var. *Rabenhorstii*, b - *M. radiata* vorm,
c - *M. papillifera* var. *valdajensis*'e vorm.

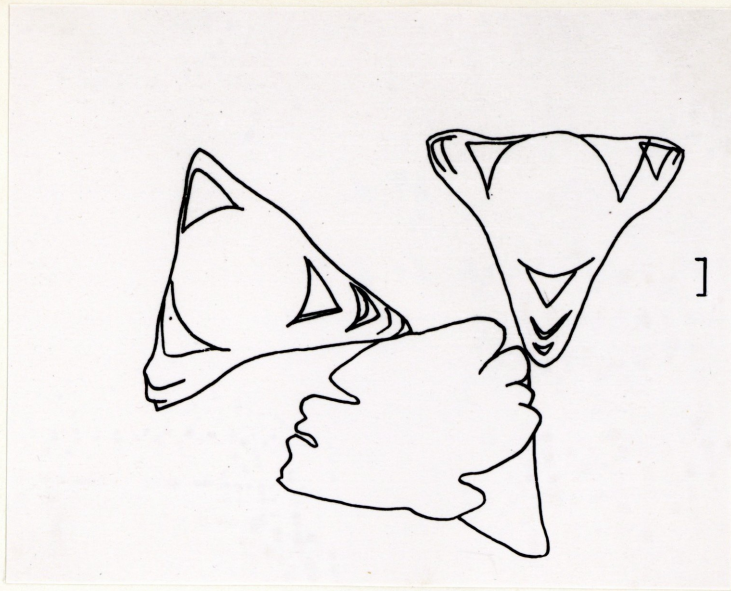


a

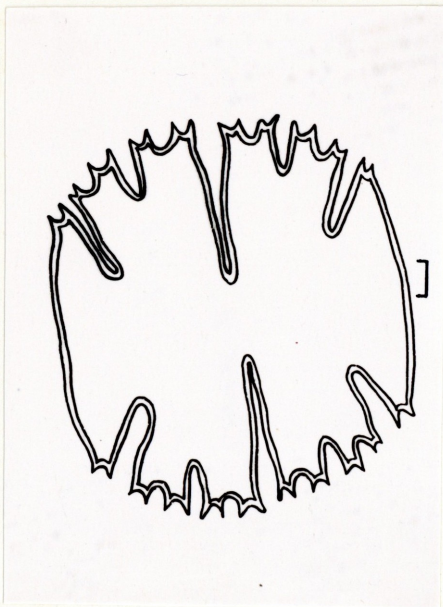


b

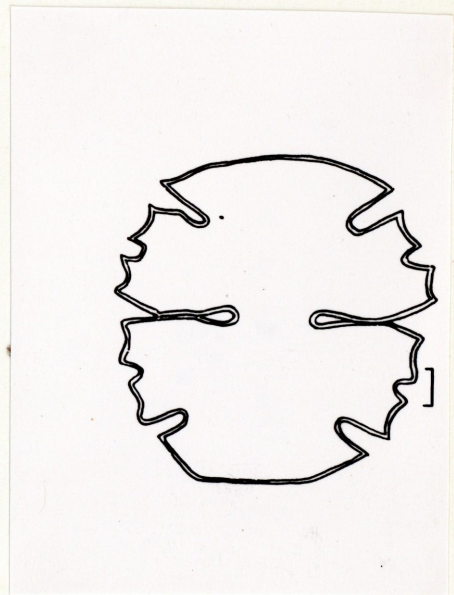
Joon. 83. a - *Micrasterias tropica*, b - *M. truncata*
kolmekiireline vorm.



a

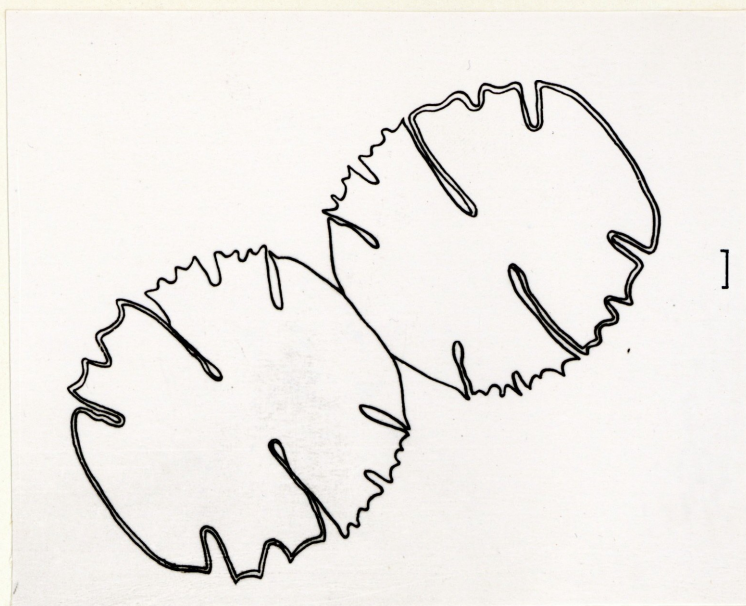


b

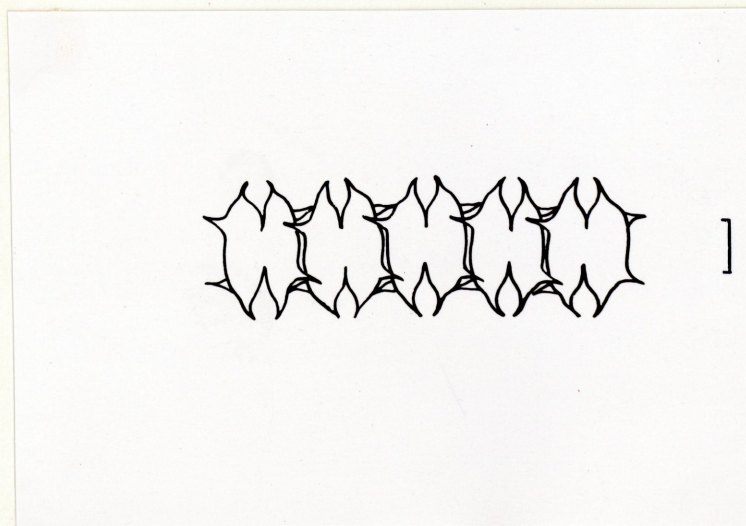


c

Joon. 84. a - *Micrasterias truncata* kolmekiireline vorm, b - *M. truncata* f. *semiradiata*, c - *M. truncata* var. *neodamensis*.

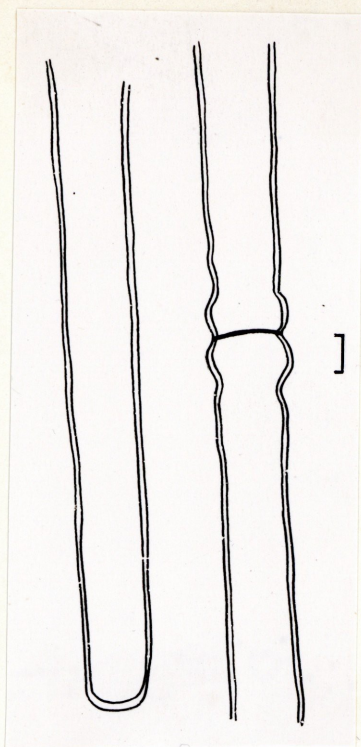


a

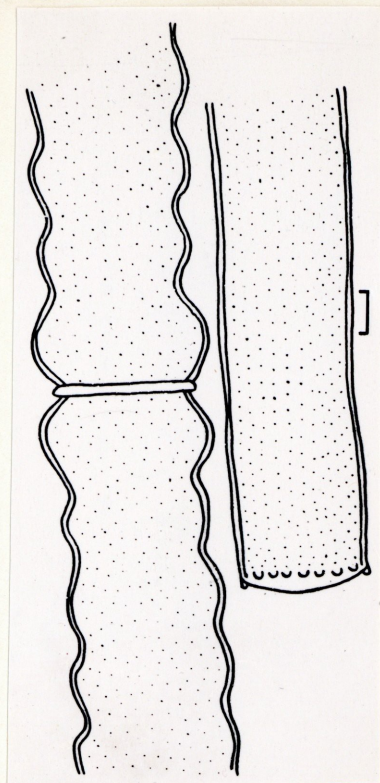


b

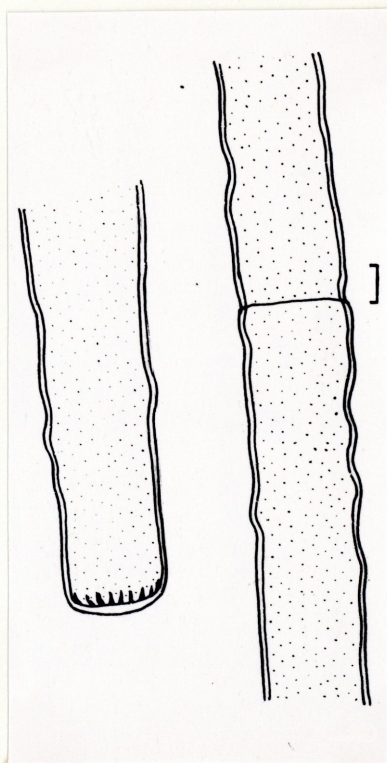
Joon. 85. a - *Micrasterias truncata* var. *neodamensis*,
 b - *Onychonema laeve*.



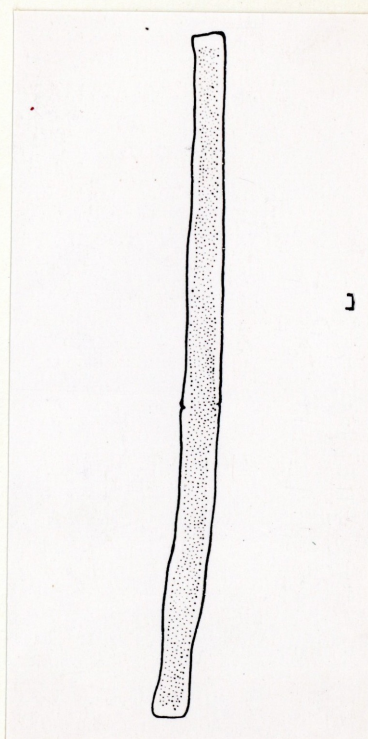
a



b



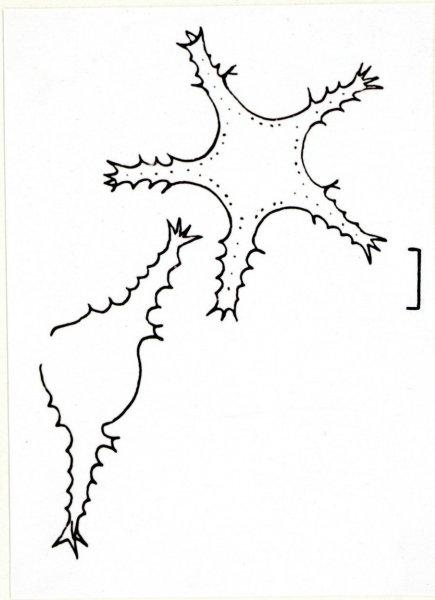
c



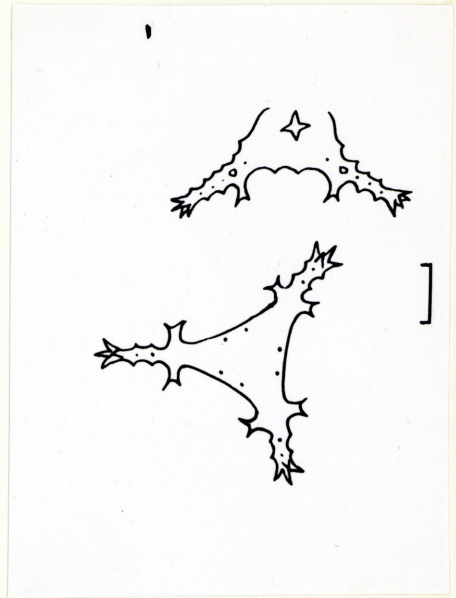
d

Joon. 86. a - *Pleurotaenium baculoides*, b - *P. eugeneum*, c, d - *P. simplicissimum* var. *insigne*.

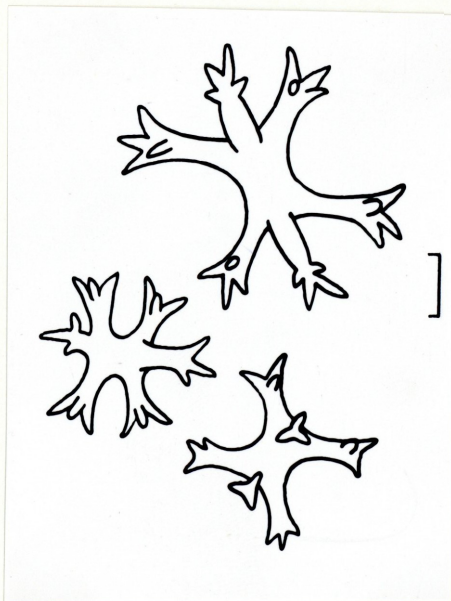
on fragment



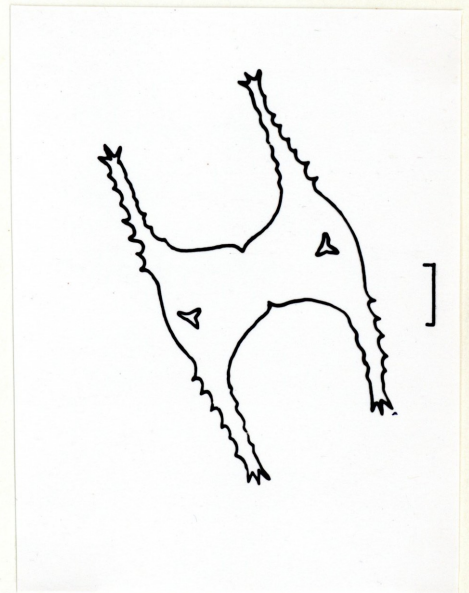
a



b

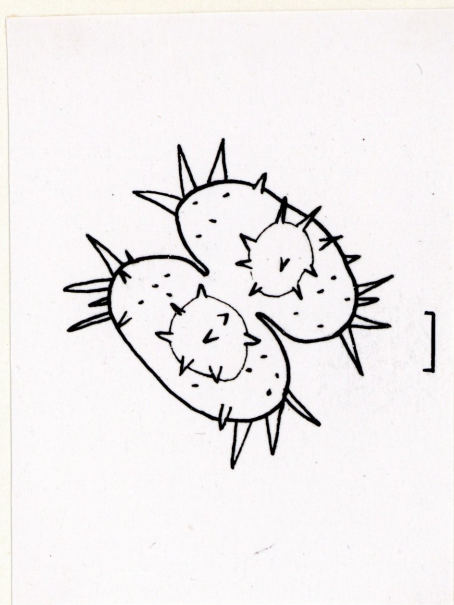


c

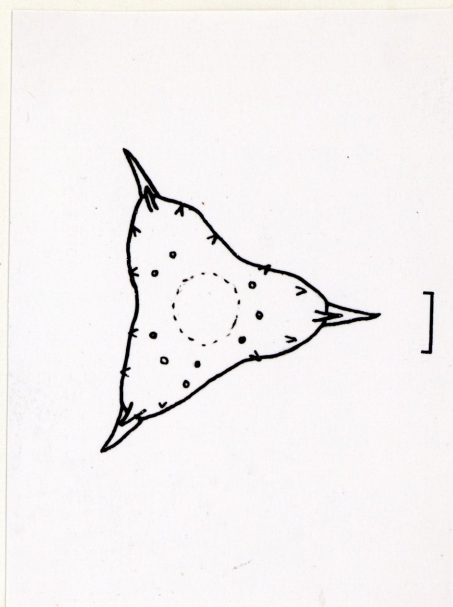


d

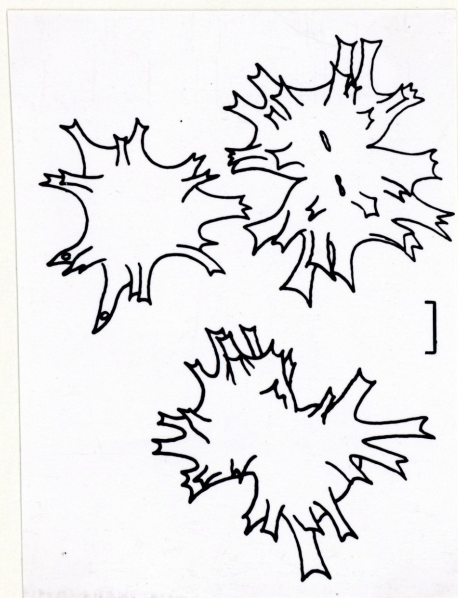
Joon. 87. a - *Staurastrum acestrophorum* var. subgenuinum, b - *S. acestrophorum* var. subgenuinum'i vorm, c - *S. brachiatum*'i vormid, d - *S. Sebaldi* var. ornatum f. planctonica.



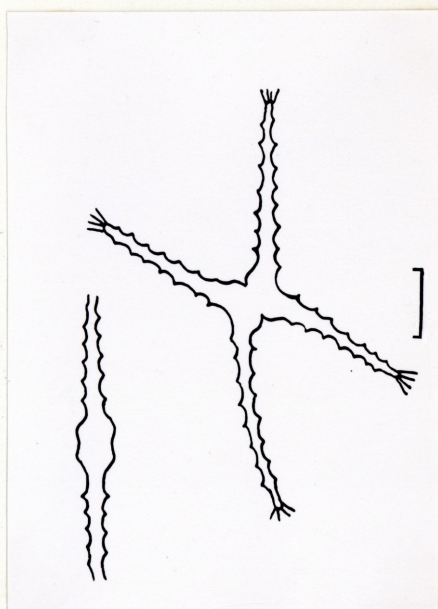
a



b

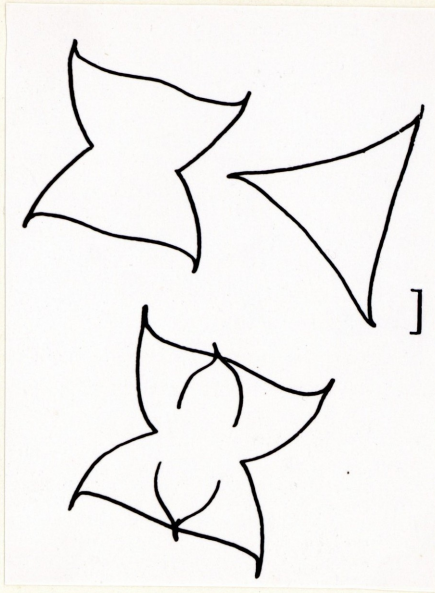


c

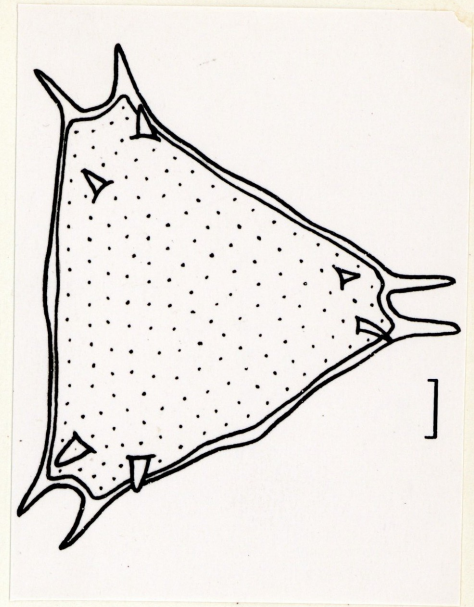


d

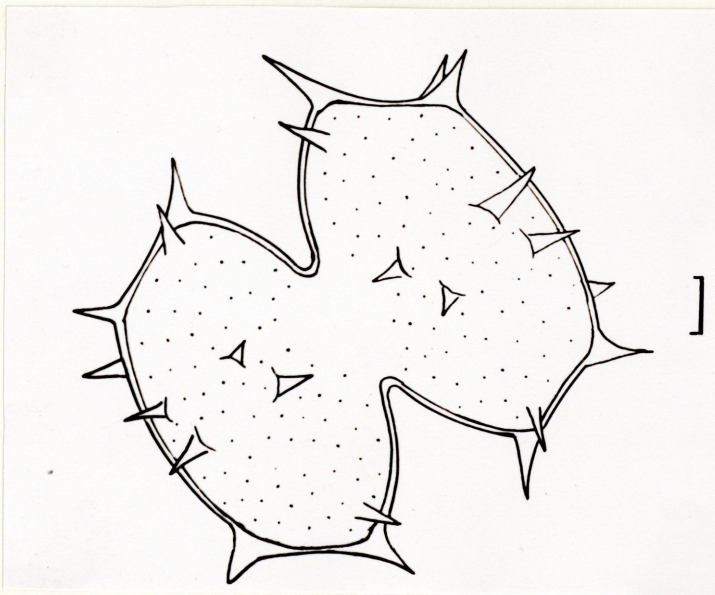
Joon. 88. a - *Staurostrum setigerum* var. *apertum*'i
 külgvaade, b - sama vormi otsvaade,
 d c - *S. Smithii* var. *verrucosum*, d - *S. toho-*
 pekaligense vormid. e



a

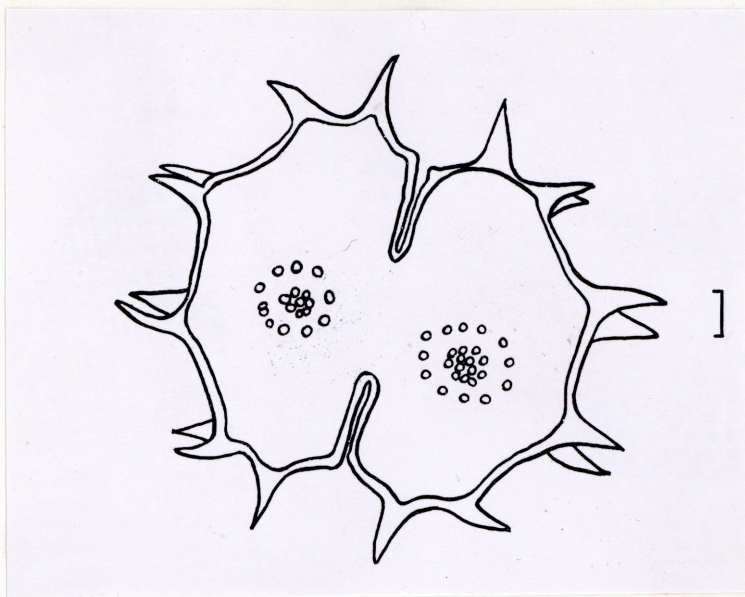


b

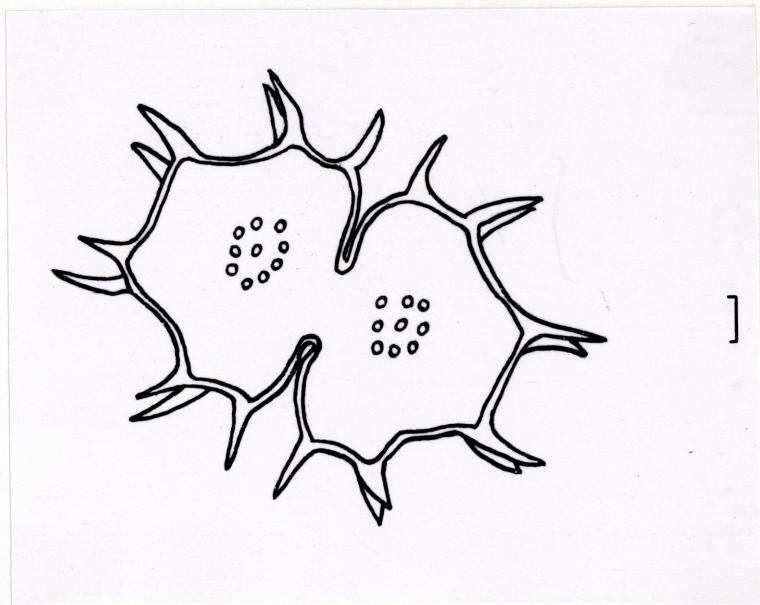


c

Joon. 89. a - *Staurodesmus leptodermus*, b - *Xanthidium antilopaeum* var. laeve kolmekiirelise vormi otsvaade, c - sama vormi külgsaade.

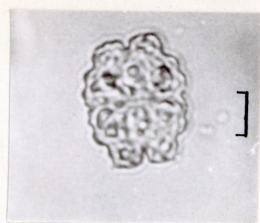


a

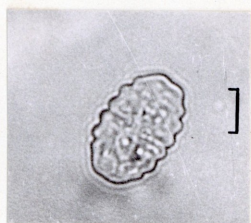


b

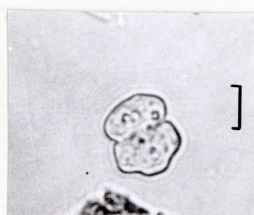
Joon. 90. a - *Xanthidium cristatum* var. *Delpontei*,
 b - *X. cristatum* var. *uncinatum*.



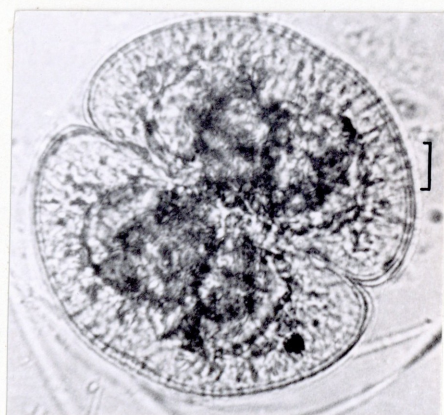
a



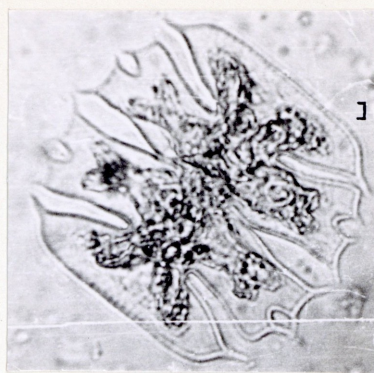
b



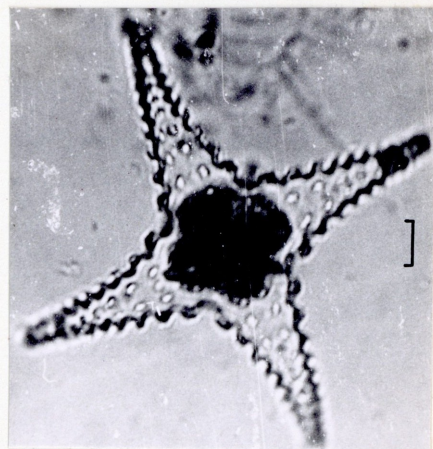
c



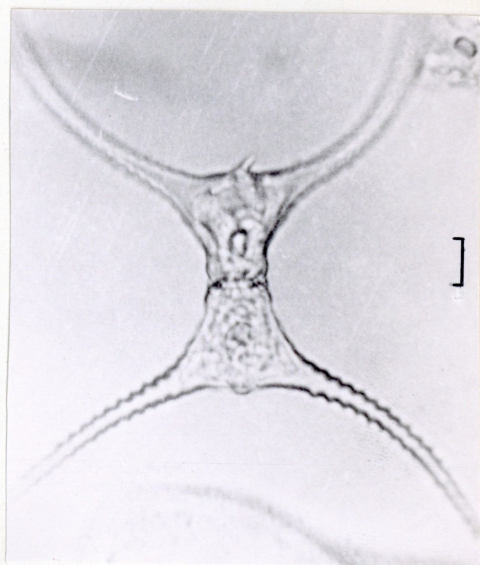
d



e

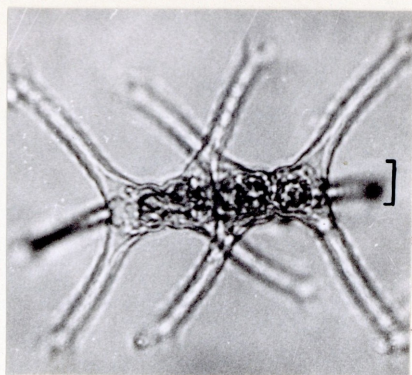


f

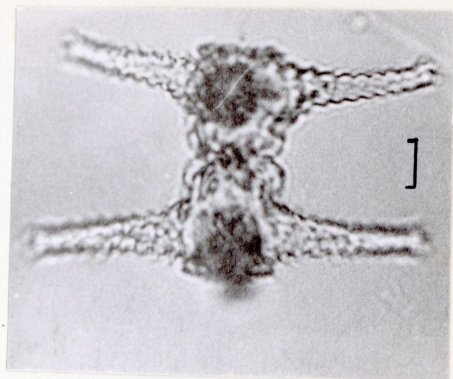


g

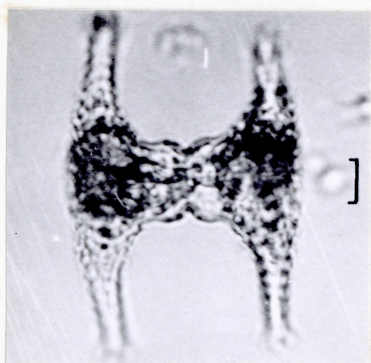
Joon. 91. a - *Euastrum dubium* var. *ornatum*, b - *Cosmarium Micutowiczii*, c - *C. scopulorum*, d - *C. obsoletum* var. *sitvense*, e - *Micrastrias decedentata*, f - *Staurastrum ceras-tes* (otsvaade), g - *S. leptocladum*.



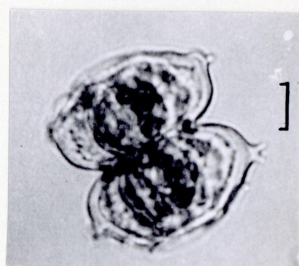
a



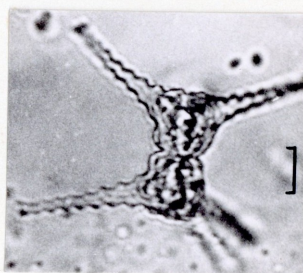
d



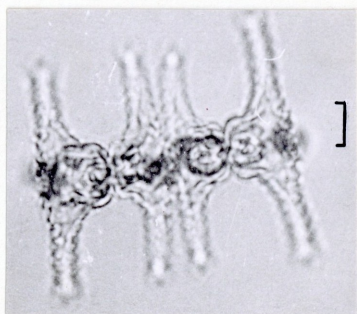
b



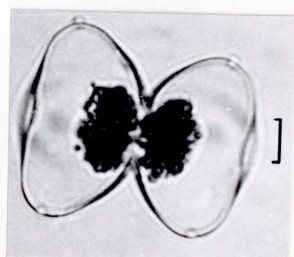
e



f

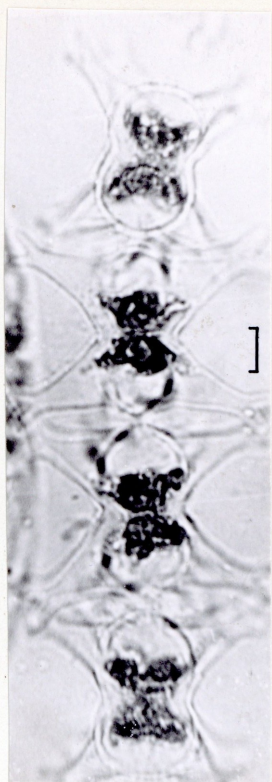


c

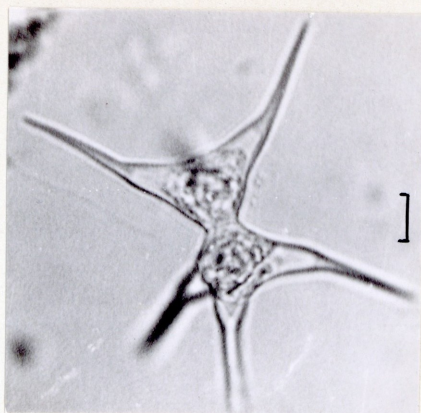


g

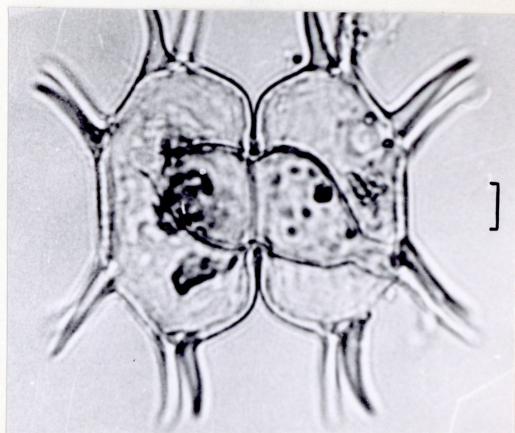
Joon. 92. a - *Staurastrum longipes* (kaks isendit),
 b - *S. Manfeldtii* var. *annulatum*,
 c - *S. Luetkemuellerei* (kaks isendit),
 d - *S. Messikommeri*, e - *S. oligocanthum*
 var. *podlachicum*, f - *S. pingue*, g - *Stau-*
rodesmus aversus.



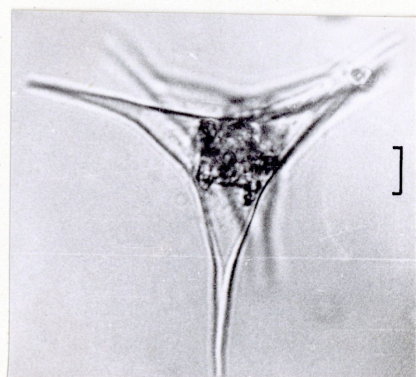
a



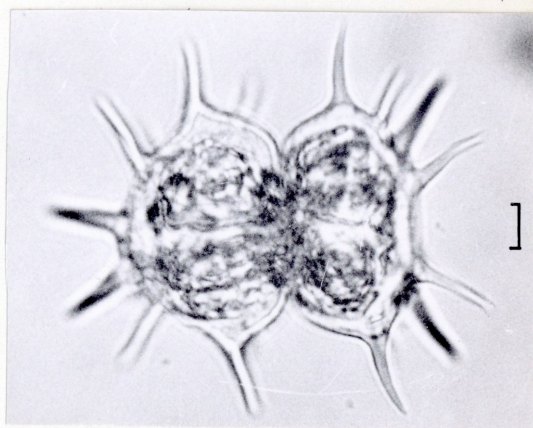
c



d



b



e

Joon. 93. a - *Staurastrum subnudibrachiatum* (neli isendit), b - *Staurodesmus curvatus*'e otsvaade, c - sama liigi külgvaade, d - *Xanthidium antilopaeum* var. *planum*, e - *X. antilopaeum* var. *planum*'i kolmekiireline vorm.

Taksooni nimetus	pH					
	4,0-4,9	5,0-5,9	6,0-6,9	7,0-7,9	8,0-8,9	> 9,0
1	2	3	4	5	6	7
<i>Arthrodesmus octocornis</i>						
<i>Bambusina Brebissonii</i> v. <i>graciliscens</i> 6						
<i>B. Brebissonii</i> 9						
<i>Closterium navicula</i>						
<i>C. striolatum</i>						
<i>C. ulna</i> 7						
<i>C. Baillyanum</i> 9						
<i>C. intermedium</i> 9						
<i>C. Ralfsii</i> v. <i>hybridum</i> 7						
<i>C. lunula</i>						
<i>C. dianae</i>						
<i>C. lineatum</i>						
<i>C. venus</i>						
<i>C. Ehrenbergii</i>						
<i>C. moniliferum</i>						
<i>C. Kuetzingii</i>						
<i>C. turgidum</i> 8						
<i>C. parvulum</i>						
<i>C. praelongum</i> 8						
<i>C. acerosum</i>						
<i>C. Leibleinii</i>						
<i>C. aciculare</i>						

Joon. 94. Ikkesvetikate ökoloogilised amplituudid pH suhtes.

1	2	3	4	5	6	7
Cosmarium amoenum						
C. contractum 9						
C. ornatum						
C. ovale						
C. connatum						
C. Debaryi						
C. margaritatum 9						
C. obtusatum						
C. Wittrockii						
C. formosulum						
C. margaritifera						
C. subcostatum f. minor						
C. pachydermum						
C. quadratum						
C. depressum						
C. impressulum						
C. reniforme						
C. portianum						
C. punctulatum v. sub-punctulatum						
C. depressum v. planctonicum						
C. subprotumidum						
C. Boeckii						
C. tetraophthalmum						
C. humile						
C. difficile						
C. subspeciosum v. validius 9						
C. Turpinii						
C. Meneghinii						
C. protractum						
C. subcostatum						
C. Turpinii v. podolicum						
C. subtumidum						
C. granatum v. subgranatum						
C. granatum						
C. Micutowiczii 5						
C. annulatum 8						
C. bioculatum						
C. botrytis						
C. Regnellii						

1	2	3	4	5	6	7
<i>Deridium Swartzii</i>						
<i>Euastrum crassum</i>						
<i>E. oblongum</i>						
<i>E. ansatum</i> 9						
<i>E. bidentatum</i>						
<i>E. verrucosum</i> v. <i>alatum</i>						
<i>E. verrucosum</i>						
<i>E. denticulatum</i>						
<i>E. pulchellum</i> v. <i>retusum</i>						
<i>E. elegans</i>						
<i>E. germanicum</i> 6						
<i>E. insulare</i>						
<i>Hyalotheca dissiliens</i>						
<i>H. mucosa</i>						
<i>Micrasterias truncata</i>						
<i>M. rotata</i>						
<i>M. Thomasiana</i> v. <i>notata</i>						
<i>M. apiculata</i>						
<i>M. papillifera</i>						
<i>M. Thomasiana</i> 7						
<i>M. americana</i>						
<i>M. radiata</i>						
<i>M. crux-melitensis</i>						
<i>M. pinnatifida</i>						
<i>M. fimbriata</i> 8						
<i>M. sol</i> 8						
<i>Netrium digitus</i>						
<i>Pleurotaenium trabecula</i>						
<i>P. truncatum</i> 5						
<i>P. Ehrenbergii</i>						
<i>P. eugeneum</i>						
<i>P. coronatum</i> 9						
<i>Sphaerosozoma granulatum</i>						
<i>Spondylosium planum</i>						

1	2	3	4	5	6	7
Staurastrum margaritaceum 4						
S. aciculiferum 7						
S. brachiatum						
S. vestitum						
S. arctiscon						
S. anatinum v. longibrachiatum						
S. teliferum						
S. longipes 8						
S. arachne 7						
S. tohopekaligense						
S. lunatum v. planctonicum						
S. Messikommeri						
S. Sebaldi v. ornatum 9						
S. Sebaldi v. ornatum f. planctonica						
S. cingulum 8						
S. pseudopelagicum 7						
S. Manfeldti v. annulatum 8						
S. cingulum v. obesum						
S. chaetoceras						
S. pingue						
S. furcigerum						
S. pseudopelagicum v. tumidum						
S. inflexum						
S. tetracerum						
S. lapponicum						
S. Bullardii 8						
S. cristatum 8						
S. bicornis 9						
S. planctonicum						
S. setigerum v. apertum						
S. Luetkemuelleri 6						
S. alternans						
S. Smithii v. verrucosum						

1	2	3	4	5	6	7
<i>Staurodesmus convergens</i>						
<i>S. leptodermum</i>						
<i>S. cuspidatus</i>						
<i>S. sellatus</i> subsp. <i>sellatus</i> 5						
<i>S. glabrus</i> subsp. <i>Brebissonii</i> 9						
<i>S. cuspidatus</i> v. <i>acuminatus</i> 8						
<i>Tetmemorus Brebissonii</i> v. <i>minor</i> 5						
<i>T. Brebissonii</i> 6						
<i>T. granulatus</i> 9						
<i>Xanthidium antilopaeum</i>						
<i>X. armatum</i>						
<i>X. antilopaeum</i> v. <i>planum</i> 8						
<i>X. antilopaeum</i> v. <i>laeve</i>						
<i>X. cristatum</i> 7						

Taksooni nimetus	HCO ₃ '						
	50	100	150	200	250	300	
1	2	3	4	5	6	7	
Arthrodesmus octocornis							
Bambusina Brebis iii 8							
Closterium navicula 8							
C. setaceum 5							
C. striolatum 5							
C. ulna 5							
C. Ralfsii v. hybridum 5							
C. Baillyanum 5							
C. venus							
C. lunula 9							
C. intermedium 9							
C. lineatum 7							
C. Kuetzingii							
C. Ehrenbergii							
C. parvulum							
C. acerosum 6							
C. praelongum 7							
C. moniliiferum							
C. aciculare							

Joon. 95. Ikkesvetikate ökoloogilised amplituudid HCO₃' suhtes.

1	2	3	4	5	6	7
<i>Cosmarium amoenum</i>						
<i>C. ornatum</i>						
<i>C. margaritifera</i>						
<i>C. portianum</i>						
<i>C. quadratum</i>						
<i>C. connatum</i>						
<i>C. Debaryi</i>						
<i>C. pachydermum</i> 7						
<i>C. Regnellii</i>						
<i>C. Turpinii</i> 9						
<i>C. subcostatum</i>						
<i>C. depressum</i>						
<i>C. Turpinii</i> v. <i>podolicum</i> 7						
<i>C. Wittrockii</i> 8						
<i>C. bioculatum</i>						
<i>C. impressulum</i>						
<i>C. subprotumidum</i>						
<i>C. protractum</i>						
<i>C. botrytis</i>						
<i>C. Turpinii</i> v. <i>eximium</i> 6						
<i>C. subtumidum</i>						
<i>C. depressum</i> v. <i>planctonicum</i>						
<i>C. difficile</i>						
<i>C. subcostatum</i> f. <i>minor</i>						
<i>C. granatum</i>						
<i>C. reniforme</i>						
<i>C. punctulatum</i> v. <i>subpunctulatum</i>						
<i>C. humile</i>						
<i>C. Boeckii</i>						
<i>C. granatum</i> v. <i>subgranatum</i>						
<i>C. formosulum</i>						
<i>C. tetraophthalmum</i>						

1	2	3	4	5	6	7
<i>Cosmarium amoenum</i>						
<i>C. ornatum</i>						
<i>C. margaritifera</i>						
<i>C. portianum</i>						
<i>C. quadratum</i>						
<i>C. connatum</i>						
<i>C. Debaryi</i>						
<i>C. pachydermum</i> 7						
<i>C. Regnellii</i>						
<i>C. Turpinii</i> 9						
<i>C. subcostatum</i>						
<i>C. depressum</i>						
<i>C. Turpinii</i> v. <i>podolicum</i> 7						
<i>C. Wittrockii</i> 8						
<i>C. bioculatum</i>						
<i>C. impressulum</i>						
<i>C. subprotumidum</i>						
<i>C. protractum</i>						
<i>C. botrytis</i>						
<i>C. Turpinii</i> v. <i>eximium</i> 6						
<i>C. subtumidum</i>						
<i>C. depressum</i> v. <i>planctonicum</i> /						
<i>C. difficile</i>						
<i>C. subcostatum</i> f. <i>minor</i>						
<i>C. granatum</i>						
<i>C. reniforme</i>						
<i>C. punctulatum</i> v. <i>subpunctulatum</i>						
<i>C. humile</i>						
<i>C. Boeckii</i>						
<i>C. granatum</i> v. <i>subgranatum</i>						
<i>C. formosulum</i>						
<i>C. tetraophthalmum</i>						

1	2	3	4	5	6	7
<i>Desmidiium Swartzii</i> 9						
<i>Euastrum crassum</i> 4						
<i>E. bidentatum</i> 9						
<i>E. denticulatum</i> 9						
<i>E. verrucosum</i>						
<i>E. oblongum</i>						
<i>E. pulchellum</i> v. <i>retusum</i>						
<i>E. elegans</i> 9						
<i>E. insulare</i>						
<i>Hyalotheca mucosa</i>						
<i>H. dissiliens</i>						
<i>Micrasterias fimbriata</i> 4						
<i>M. papillifera</i> 5						
<i>M. rotata</i>						
<i>M. apiculata</i>						
<i>M. Thomasiana</i> 7						
<i>M. truncata</i>						
<i>M. radiata</i>						
<i>M. americana</i> 5						
<i>M. Thomasiana</i> v. <i>notata</i> 5						
<i>M. sol</i> 5						
<i>M. crux-melitensis</i>						
<i>Netrium digitus</i>						
<i>Pleurotaenium eugeneum</i> 7						
<i>P. coronatum</i> 5						
<i>P. Ehrentorgii</i>						
<i>P. trabecula</i>						
<i>Sphaerosozoma granulatum</i>						
<i>Spondylosium pulchellum</i> 5						
<i>S. planum</i>						

1	2	3	4	5	6	7
Staurostrum anatinum v. longibrachiatum 7						
S. arachne 7						
S. aciculiferum 6						
S. brachiatum 4						
S. cristat 4						
S. inconspicuum 4						
S. lunatum v. planctonicum 6						
S. tohopekaligense 6						
S. vestitum 9						
S. arctiscon						
S. Messikommari 8						
S. teliferum						
S. lapponicum						
S. bicornis 5						
S. Manfeldtii v. annulatum 6						
S. furcigerum						
S. inflexum						
S. chaetoceras						
S. setigerum v. apertum 7						
S. Bullardii 5						
S. alternans						
S. tetracerum						
S. cingulum v. obesum						
S. pseudopelagicum v. tumidum						
S. pingue						
S. planctonicum						
S. Smithii v. verrucosum						
Staurodesmus convergens 9						
S. glabrus subsp. Brebissonii 5						
S. cuspidatus v. acuminatus 8						
S. cuspidatus						
Tetmemorus granulatus 6						
Xanthidium cristatum 6						
X. armatum 6						
X. antilopaeum						
X. antilopaeum v. laeve						

Taksooni nimetus	Ca ⁺⁺	10	20	30	40	50	60	70	80
1	2	3	4	5	6	7	8	9	
<i>Arthrodesmus octocornis</i> 9									
<i>Clesterium navicula</i> 5									
<i>C. venus</i> 5									
<i>C. Kuetsingii</i> 7									
<i>C. parvulum</i>									
<i>C. Ehrenbergii</i> 8									
<i>C. moniliferum</i>									
<i>C. aciculare</i>									
<i>C. acerosum</i> 5									
<i>Cosmarium ornatum</i> 4									
<i>C. margaritifera</i> 5									
<i>C. margaritatum</i> 5									
<i>C. quadratum</i> 9									
<i>C. portianum</i> 8									
<i>C. connatum</i>									
<i>C. Debaryi</i> 7									
<i>C. depressum</i>									
<i>C. Regnellii</i>									
<i>C. subcostatum</i>									
<i>C. Turpinii</i> v. <i>podolicum</i> 7									
<i>C. Turpinii</i> v. <i>eximium</i> 5									
<i>C. impressulum</i>									
<i>C. protractum</i>									
<i>C. difficile</i>									
<i>C. botrytis</i>									
<i>C. Wittrockii</i> 5									
<i>C. subcostatum</i> f. <i>minor</i>									
<i>C. subtumidum</i>									
<i>C. subprotumidum</i>									
<i>C. Boeckii</i>									
<i>C. depressum</i> v. <i>planctonicum</i>									
<i>C. granatum</i> v. <i>subgranatum</i>									
<i>C. tetraophthalmum</i>									
<i>C. granatum</i>									
<i>C. humile</i>									
<i>C. reniforme</i>									
<i>C. punctulatum</i> v. <i>subpunctulatum</i>									
<i>C. formosulum</i>									

Joon. 96. Ikkesvetikate ökoloogilised amplituudid Ca⁺⁺ suhtes.

1	2	3	4	5	6	7	8	9
<i>Euastrum pulchellum</i> v. <i>retusum</i> 6								
<i>E. denticulatum</i> 5								
<i>E. bidentatum</i> 6								
<i>E. elegans</i> 5								
<i>E. insulare</i>								
<i>Hyalotheca mucosa</i> 4								
<i>H. dissiliens</i>								
<i>Microasterias truncata</i> 5								
<i>M. apiculata</i> 4								
<i>M. Thomasiana</i> v. <i>notata</i> 5								
<i>M. crux-melitensis</i> 8								
<i>Netrium digitus</i> 6								
<i>Pleurotaenium Ehrenbergii</i>								
<i>P. trabecula</i>								
<i>Sphaerosoma granulatum</i> 5								
<i>Spondylosium planum</i> 8								
<i>Stauroastrum vestitum</i> 5								
<i>S. Messikommeri</i> 6								
<i>S. arcticon</i> 6								
<i>S. lapponicum</i>								
<i>S. furcigerum</i>								
<i>S. inflexum</i>								
<i>S. alternans</i> 7								
<i>S. setigerum</i> v. <i>apertum</i> 5								
<i>S. pseudopelagicum</i> v. <i>tumidum</i> 8								
<i>S. pingue</i>								
<i>S. chaetoceras</i> 9								
<i>S. cingulum</i> v. <i>obesum</i>								
<i>S. cingulum</i> 5								
<i>S. planctonicum</i> 6								
<i>S. tetracerum</i> 7								
<i>S. Smithii</i> v. <i>verrucosum</i>								
<i>Staurodesmus cuspidatus</i> v. <i>acuminatus</i> 5								
<i>S. cuspidatus</i>								
<i>Tetmemorus granulatus</i> 4								
<i>Xanthidium cristatum</i> 4								
<i>X. antilopaeum</i> v. <i>laeve</i> 5								
<i>X. antilopaeum</i>								

Taksooni nimetus	Dikrom. oks.									
	20	30	40	50	60	70	80	90	100	100
1	2	3	4	5	6	7	8	9	10	11
<i>Arthrodesmus octocornis</i>										
<i>Bambusina Brebissonii</i> 8										
<i>Closterium moniliferum</i>										
<i>C. aciculare</i>										
<i>C. lunula</i> 9										
<i>C. Kuetsingii</i>										
<i>C. navicula</i> 8										
<i>C. parvulum</i>										
<i>C. striolatum</i> 5										
<i>C. acerosum</i> 6										
<i>C. Mhrenbergii</i>										
<i>C. praelongum</i> 7										
<i>C. venus</i>										
<i>C. lineatum</i> 7										
<i>C. Baillyanum</i> 5										
<i>C. intermedium</i> 9										
<i>C. setaceum</i> 5										
<i>C. ulna</i> 5										

Joon. 97. Ikkesvetikate ökoloogilised amplituudid dikromaatses oksüdeeritavuse suhtes.

[illegible]

[illegible]

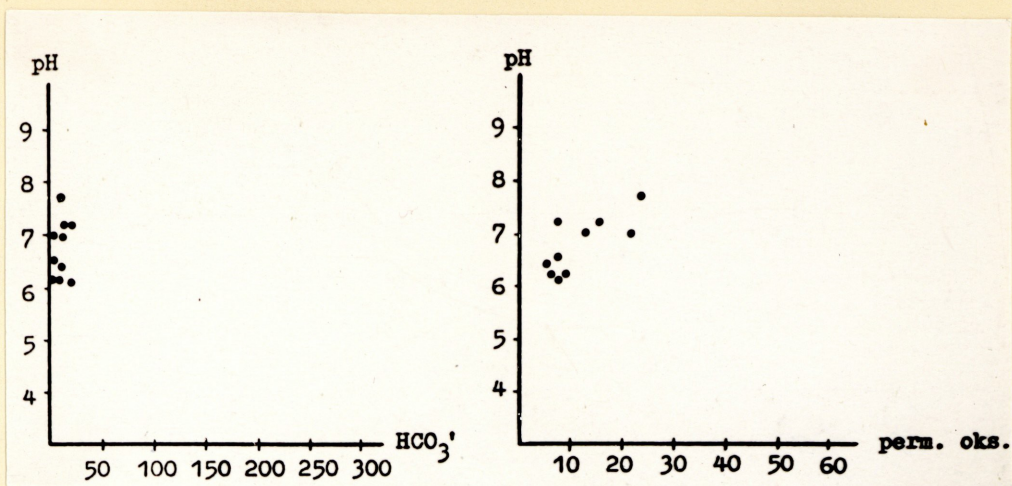
Taksooni nimetus	Perm. oks.		10	20	30	40	50	60	>60
1	2	3	4	5	6	7			
Arthrodesmus octocornis									
Bambusina Brebissonii 8									
Closterium aciculare									
C. Kuetzingii									
C. parvulum									
C. acerosum 6									
C. Baillyanum 5									
C. moniliferum									
C. Ehrenbergii									
C. venus									
C. lunula 9									
C. navicula 8									
C. praelongum 7									
C. striolatum 5									
C. lineatum 7									
C. setaceum 5									
C. intermedium									
C. ulna 5									

Joon. 98. Ikkesvetikate ökoloogilised amplituudid permanganaatse oksüdeeritavuse suhtes.

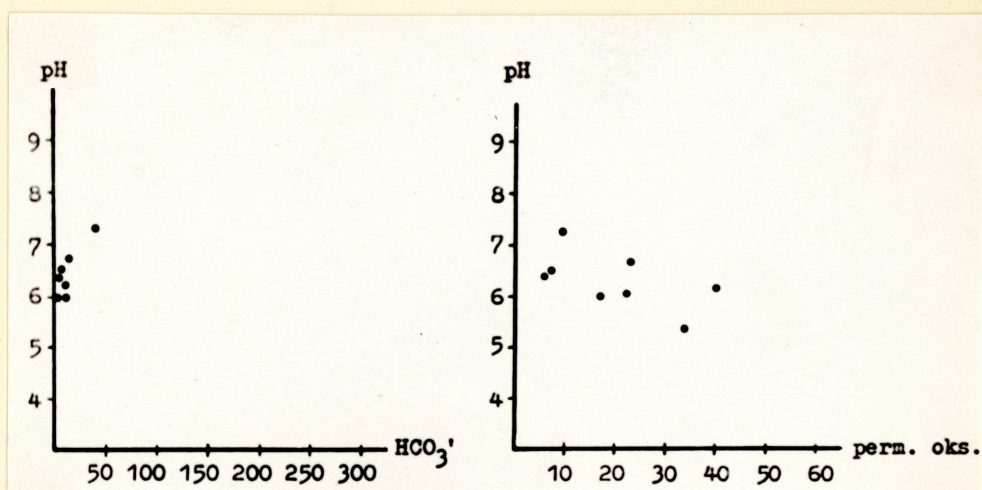
1	2	3	4	5	6	7
<i>Cosmarium margaritatum</i> 5						
<i>C. Meneghinii</i> 7						
<i>C. Turpinii</i> 8						
<i>C. smolandicum</i> 4						
<i>C. humile</i>						
<i>C. Boeckii</i>						
<i>C. formosulum</i>						
<i>C. subtumidum</i>						
<i>C. botrytis</i>						
<i>C. protractum</i>						
<i>C. depressum</i> v. <i>planctonicum</i>						
<i>C. quadratum</i>						
<i>C. ornatum</i>						
<i>C. subcostatum</i>						
<i>C. granatum</i> v. <i>subgranatum</i>						
<i>C. granatum</i>						
<i>C. Debaryi</i>						
<i>C. connatum</i>						
<i>C. Regnellii</i>						
<i>C. pachydermum</i> 7						
<i>C. subprotumidum</i> v. <i>Gregorii</i>						
<i>C. Turpinii</i> v. <i>eximium</i> 6						
<i>C. Turpinii</i> v. <i>podolicum</i> 7						
<i>C. punctulatum</i> v. <i>subpunctulatum</i>						
<i>C. subprotumidum</i>						
<i>C. tetraophthalmum</i>						
<i>C. reniforme</i>						
<i>C. depressum</i>						
<i>C. difficile</i>						
<i>C. impressulum</i>						
<i>C. subcostatum</i> f. <i>minor</i>						
<i>C. portianum</i>						
<i>C. bioculatum</i>						
<i>C. margaritifera</i>						
<i>C. Wittrockii</i> 8						
<i>C. amoenum</i>						

1	2	3	4	5	6	7
Desmidiium Swartzii 9						
Euastrum bidentatum 8						
E. crassum 4						
E. Turneri 4						
E. insulare 8						
E. verrucosum v. alatum 7						
E. oblongum						
E. verrucosum						
E. elegans						
E. denticulatum 8						
E. ansatum 4						
Hyalotheca mucosa						
H. dissiliens						
Microsterias americana 5						
M. rotata 6						
M. sol 4						
M. Thomasiana v. notata 5						
M. crux-melitensis						
M. apiculata						
M. radiata						
M. Thomasiana 7						
M. papillifera 5						
M. fimbriata 5						
M. truncata						
Netrium digitus						
Pleurotaenium trabecula						
P. Ehrenbergii						
P. eugeneum 6						
P. coronatum 6						
Sphaerososma granulatum						
Spondylosium planum						
S. pulchellum 5						

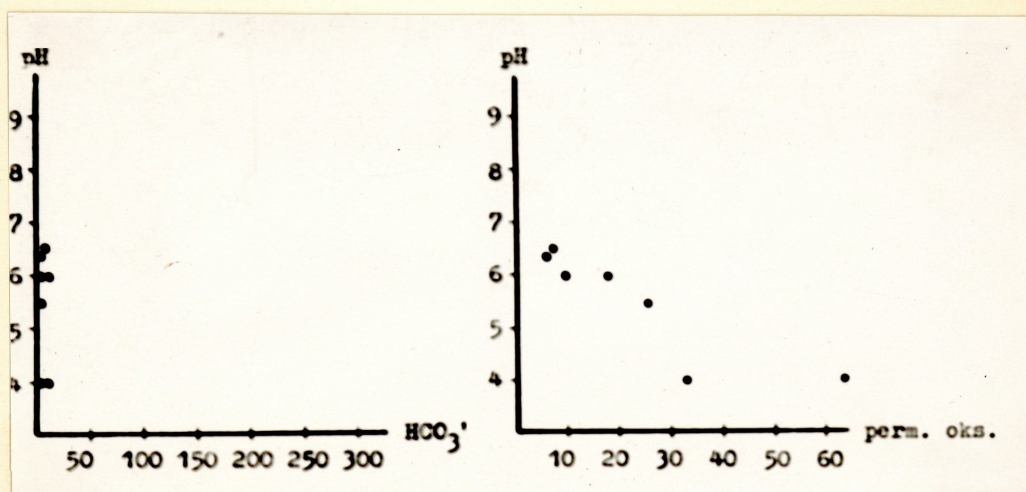
1	2	3	4	5	6	7
Staurostrum cingulum 5						
S. bicornis 5						
S. Bullardii 5						
S. lunatum v. planctonicum 6						
S. pingue						
S. cingulum v. obesum						
S. chaetoceras						
S. pseudopelagicum v. tumidum						
S. brachiatum 5						
S. cristatum 5						
S. lapponicum						
S. Manfeldtii v. annulatum 5						
S. planctonicum						
S. setigerum v. apertum 7						
S. anatinum v. longibrachiatum 7						
S. inflexum						
S. Messikommeri 8						
S. Smithii v. verrucosum						
S. arctiscon						
S. Sebaldi v. ornatum 5						
S. furcigerum						
S. arachne 7						
S. tohopekaligense 7						
S. teliferum						
S. alternans 7						
S. aciculiferum 5						
S. vestitum						
Staurodesmus convergens 9						
S. cuspidatus						
S. cuspidatus v. acuminatus						
S. glabrus subsp. Brebissonii 5						
Tetmemorus granulatus 6						
Xanthidium armatum 6						
X. cristatum 5						
X. antilopaeum v. laeve						
X. antilopaeum						
X. antilopaeum v. triquetum 4						



a *Cosmarium ornatum*

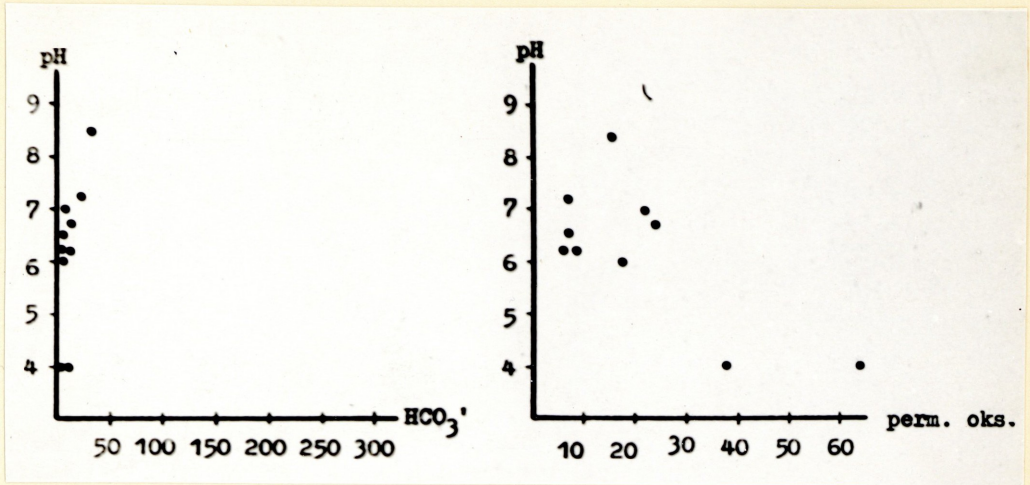


b *Closterium navicula*

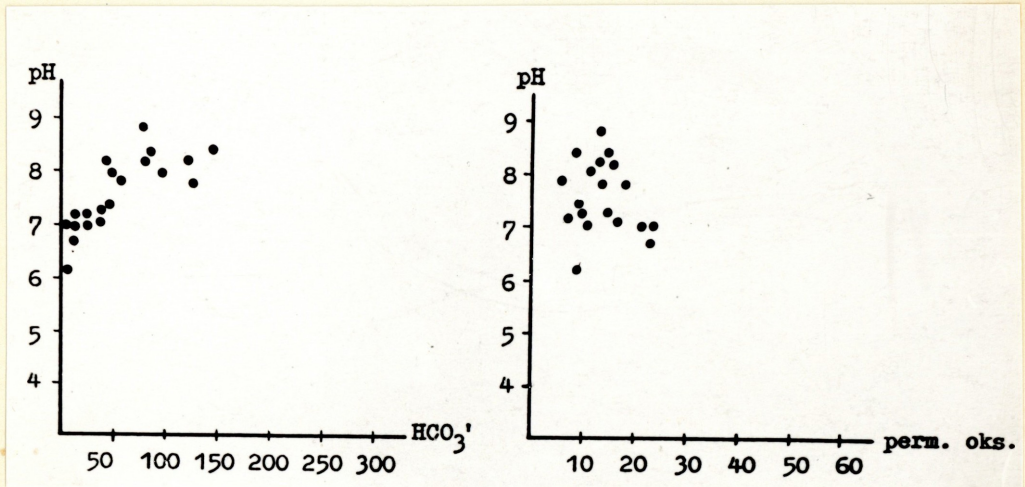


c *Closterium ulna*

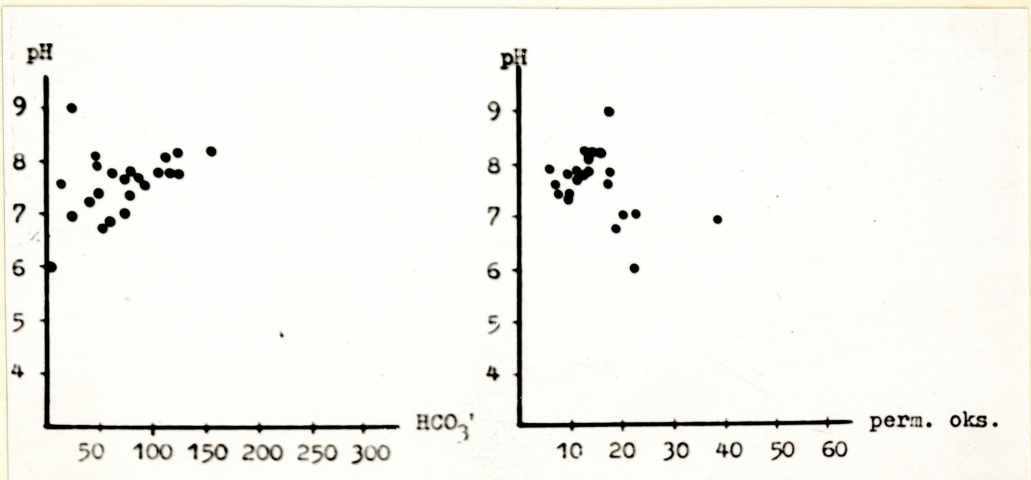
Joon. 99. Ikkesvetikate erinev suhtumine keskkonna keemilistesse omadustesse.



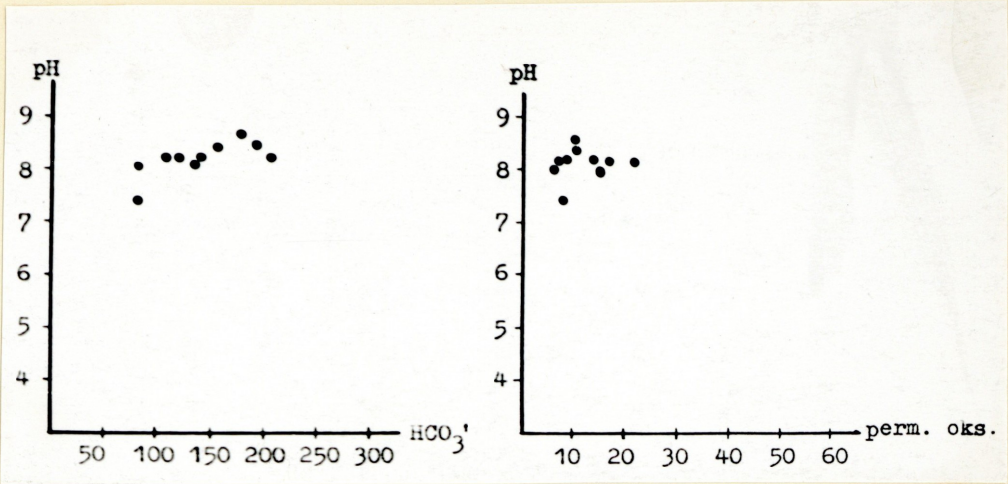
d *Cosmarium amoenum*



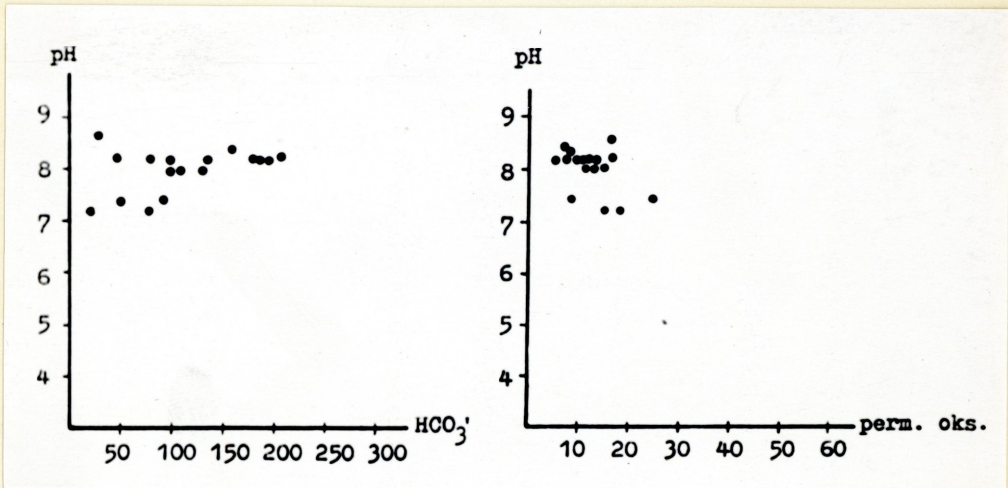
e *Cosmarium connatum*



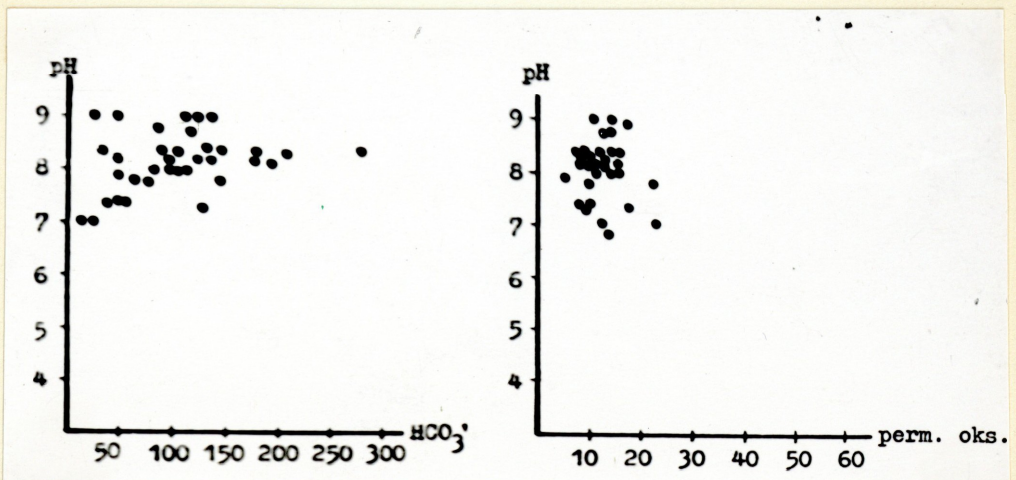
f *Staurastrum furcigerum*



g *Staurastrum planctonicum*



h *Staurastrum cingulum var. obesum*





Joon. 100. Järverühmade paiknemine.

- | | | | | | |
|---|-------------|-----|-------------|-------------|-------------|
| | 1. ○ /k.318 | II | ● /k.323 | 1. ○ /k.330 | |
| I | 2. ● /k.320 | III | 1. ⊗ /k.327 | IV | 2. ● /k.332 |
| | 3. ● /k.321 | | 2. ⊗ /k.328 | | 3. ■ /k.334 |
| | | | | V | ▲ /k.335 |
| | | | | VI | ◆ /k.336 |