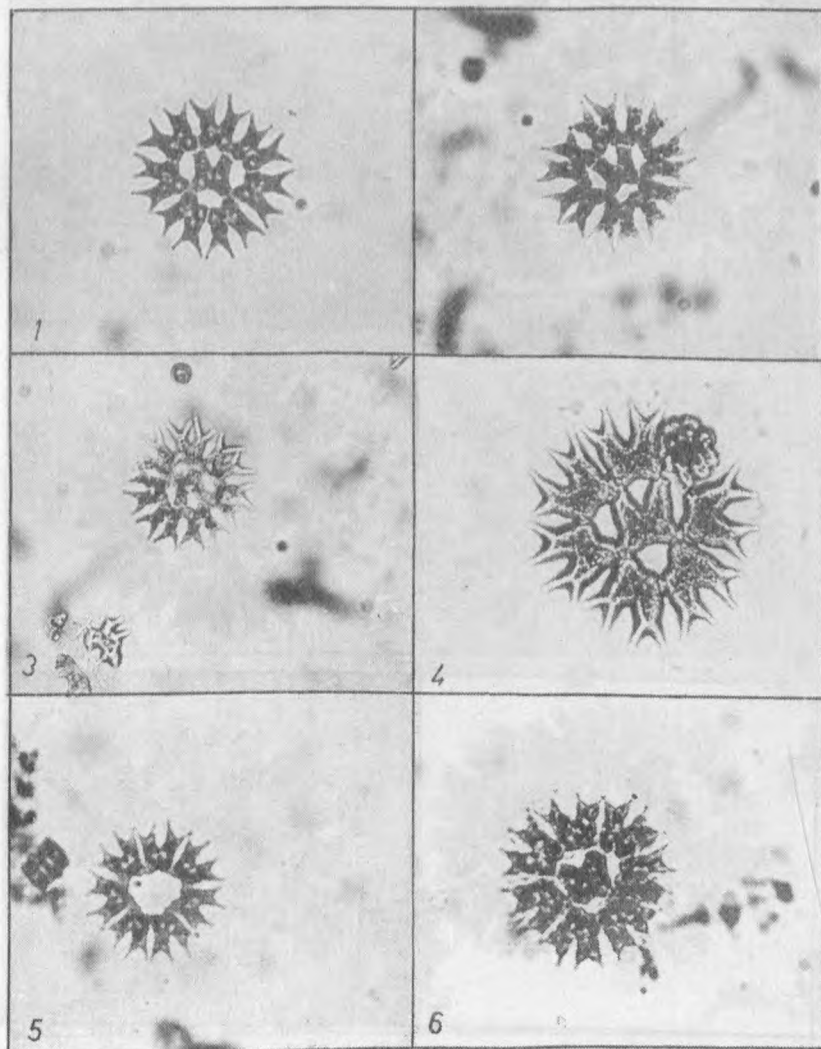


Liczby w nawiasach oznaczają ułożenie komórek w skupieniach. Liczby umieszczone nad skalą oznaczają mikrometry; pod skalą – numer rysunku.

Numbers in brackets signify the location of cells in clusters. Numbers above the scale signify micrometers; numbers below the scale the number of a figure.

Tablica I

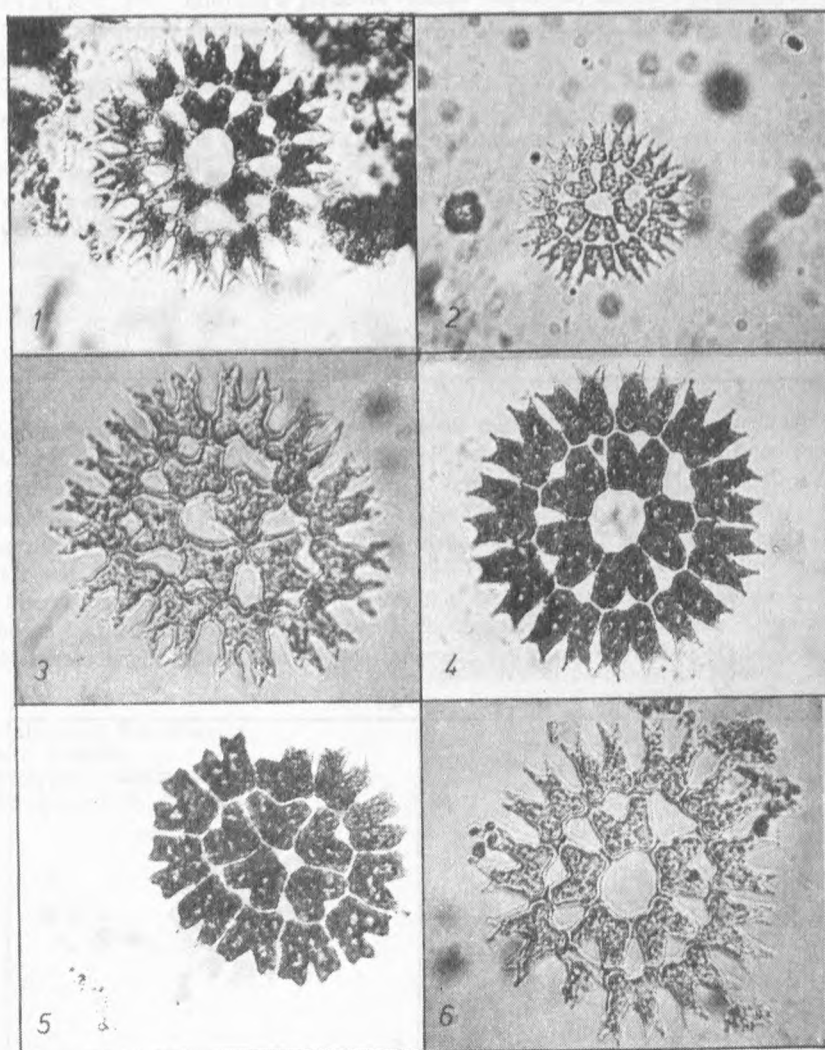


10
12356

10
4

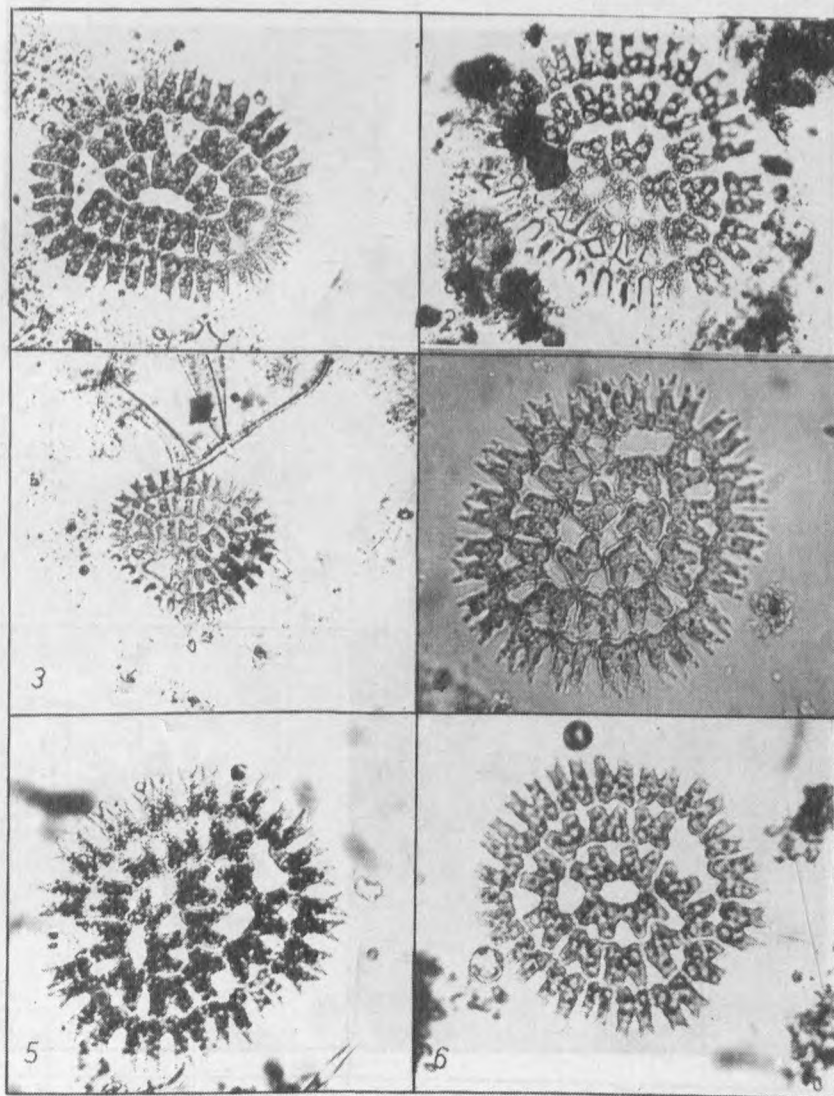
P. biradiatum var. *longecornutum* (1+7): 1 – stan. (site) 5, 10.05.1984, 2 – stan. (site) 5, 26.05.1987, 3 – stan. (site) 5, 10.05.1984, 4 – stan. (site) 4, 10.05.1984; rozmnażanie bezpłciowe przez zarodniki (vegetative reproduction by spores) *P. biradiatum* var. *biradiatum*: 5 – (0+7), stan. (site) 5, 28.04.1987, 6 – (1+7), stan. (site) 8, 28.04.1987

Tablica II


 $\frac{10}{124}$
 $\frac{10}{35,6}$

P. biradiatum var. *biradiatum* (5+11): 1 – stan. (site) 4, 26.05.1987, 2 – stan. (site) 6, 21.05.1985, 3 – stan. (site) 6, 21.05.1985, 4 – stan. (site) 5, 10.04.1984, 5 – stan. (site) 5, 28.04.1987, 6 – stan. (site) 6, 21.05.1985

Tablica III



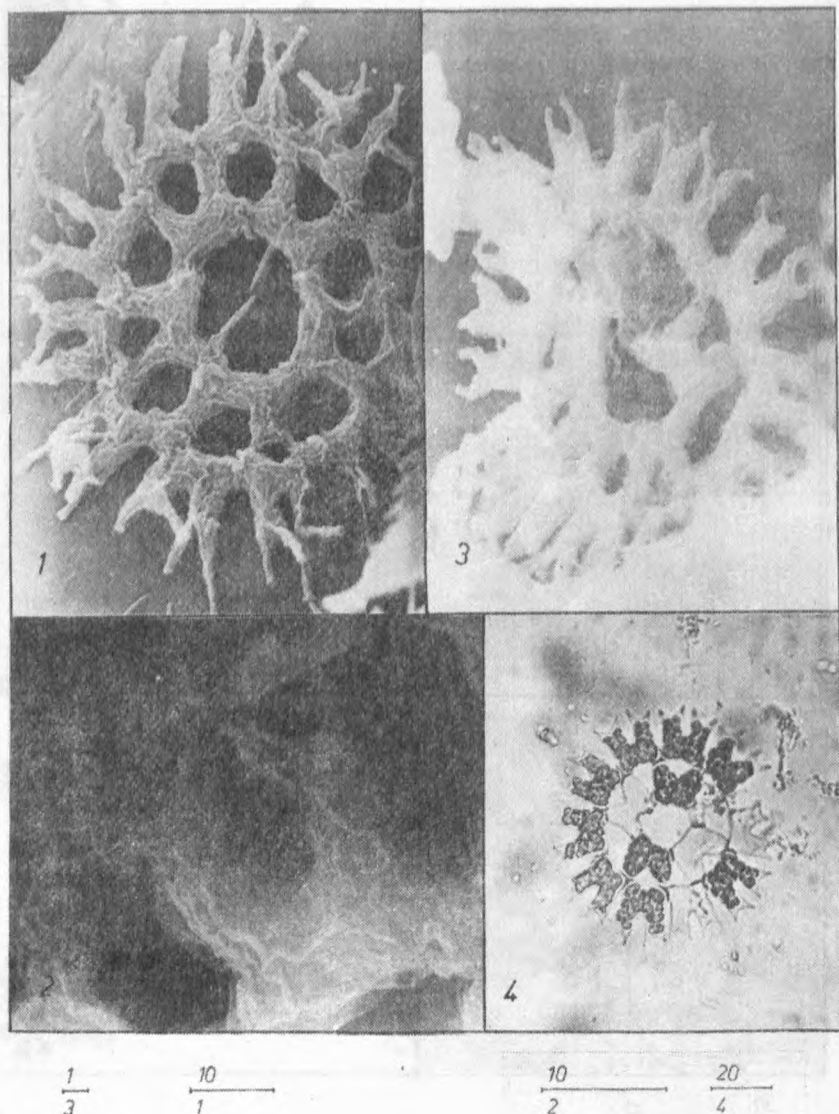
$$\frac{10}{23}$$

$$\frac{10}{46}$$

$$\frac{10}{15}$$

P. biradiatum var. *biradiatum*: 1 – (3+9+18), stan. (site) 8, 28.04.1987, 2 – (4+11+17), stan. (site) 6, 21.05.1985, 3 – (5+10+17), stan. (site) 6, 21.05.1985, 4 – (5+10+17), stan. (site) 6, 24.06.1985, 5 – (5+10+17), stan. (site) 4, 26.05.1987, 6 – (5+10+17), stan. (site) 5, 26.05.1987

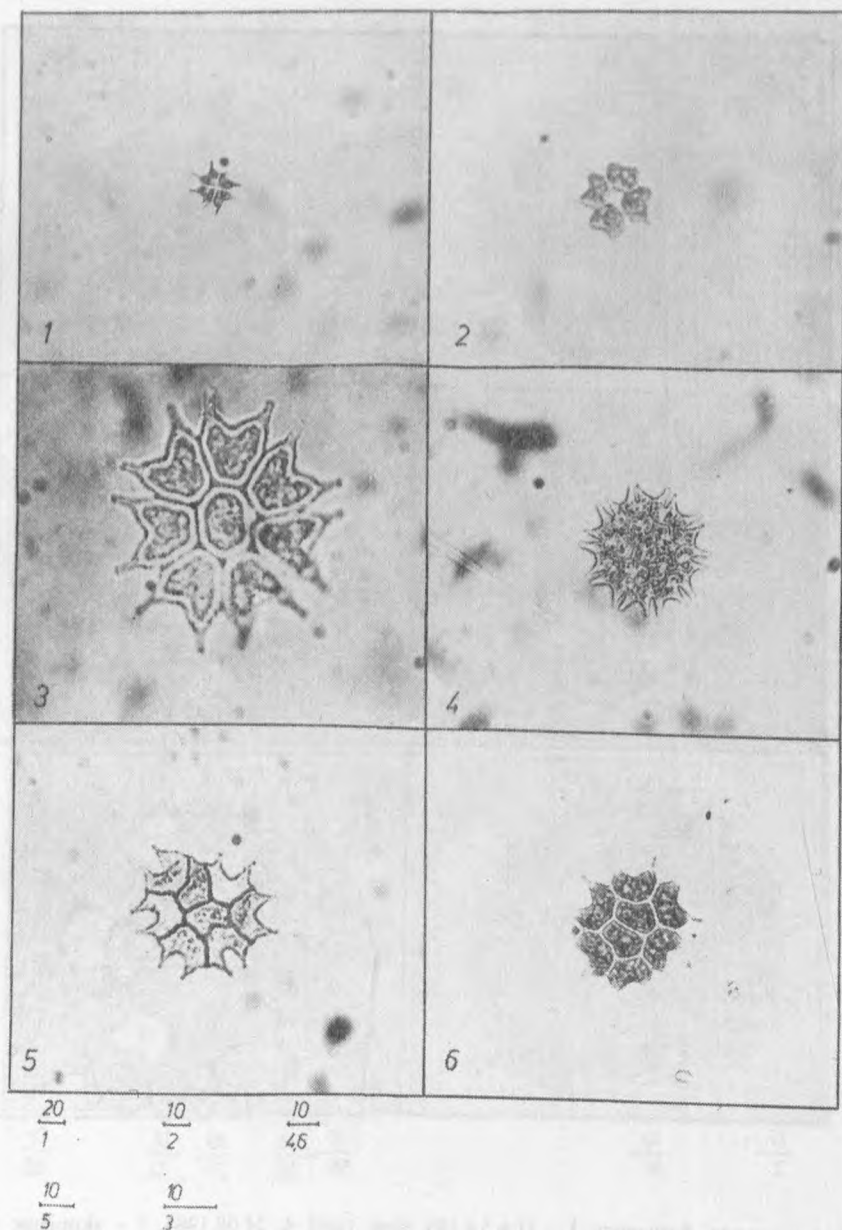
Tablica IV



1–3 – skulptura ściany komórkowej *P. biradiatum* var. *biradiatum* oglądana w elektronowym mikroskopie skaningowym; widoczne zgrubienia są prawdopodobnie artefaktami, stan. 5, 21.05.1985, 4 – *P. biradiatum* var. *biradiatum* – gładka ściana komórkowa widoczna w mikroskopie świetlnym, stan. 5, 21.05.1985

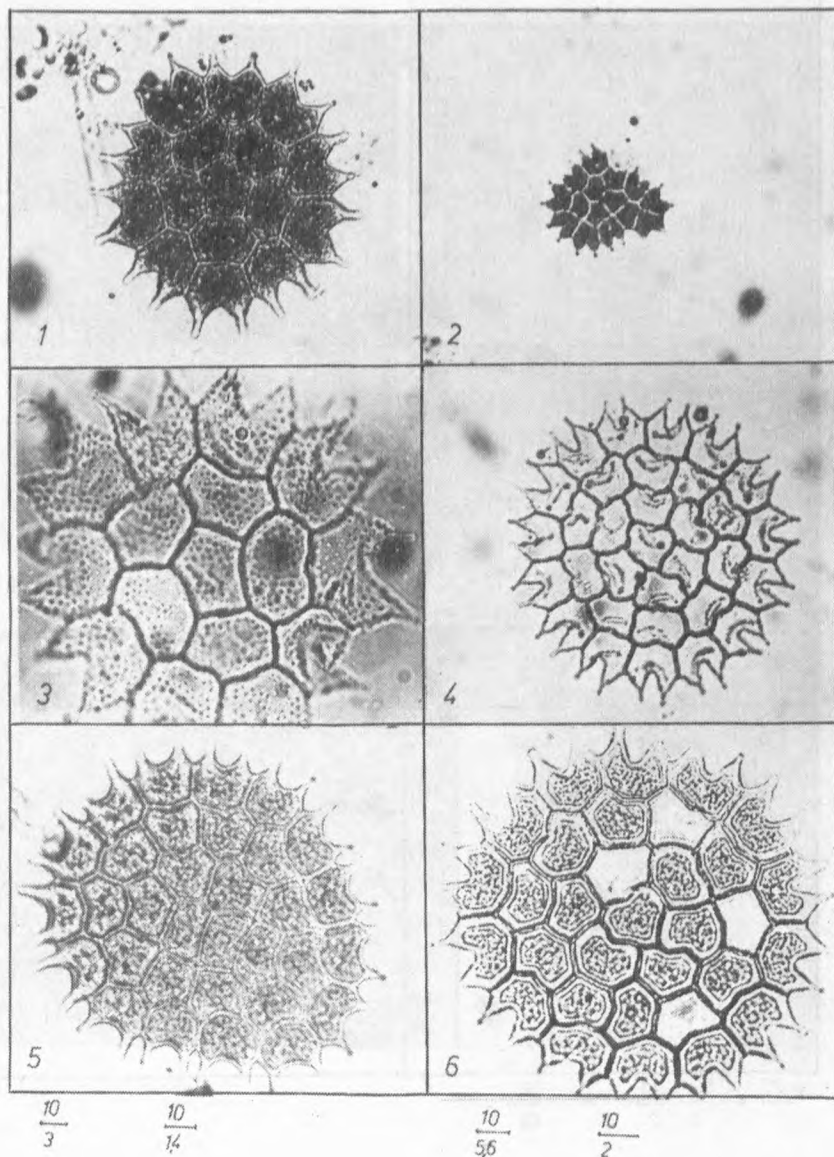
1–3 – Sculpture of a cell wall of *P. biradiatum* var. *biradiatum* observed in a scanning electronic microscope. The visible swellings are probably artifacts. Site 5, 21.05.1985, 4 – *P. biradiatum* var. *biradiatum* – smooth cell wall visible in a light microscope. Site 5, 21.05.1985

Tablica V



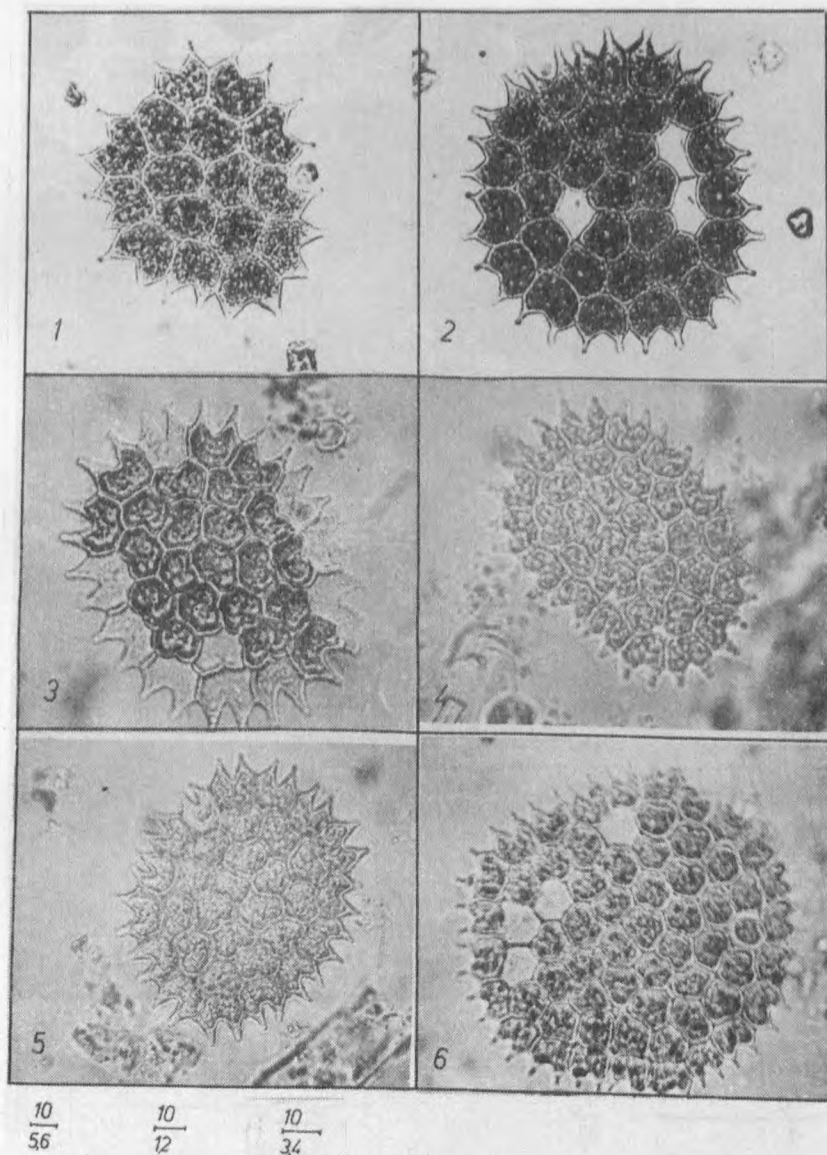
P. boryanum var. *boryanum*: 1 – (4+0), stan. (site) 5, 24.08.1984, 2 – (4+0), stan. (site) 7, 24.07.1985, 3 – (1+7), stan. (site) 4, 22.06.1984, 4 – (1+5+10), stan. (site) 4, 26.05.1987, 5 – skupienie 8-komórkowe spiralne (spiral arrangement of 8 cells), stan. (site) 1, 24.10.1986, 6 – (2+6), stan. (site) 5, 24.08.1984

Tablica VI



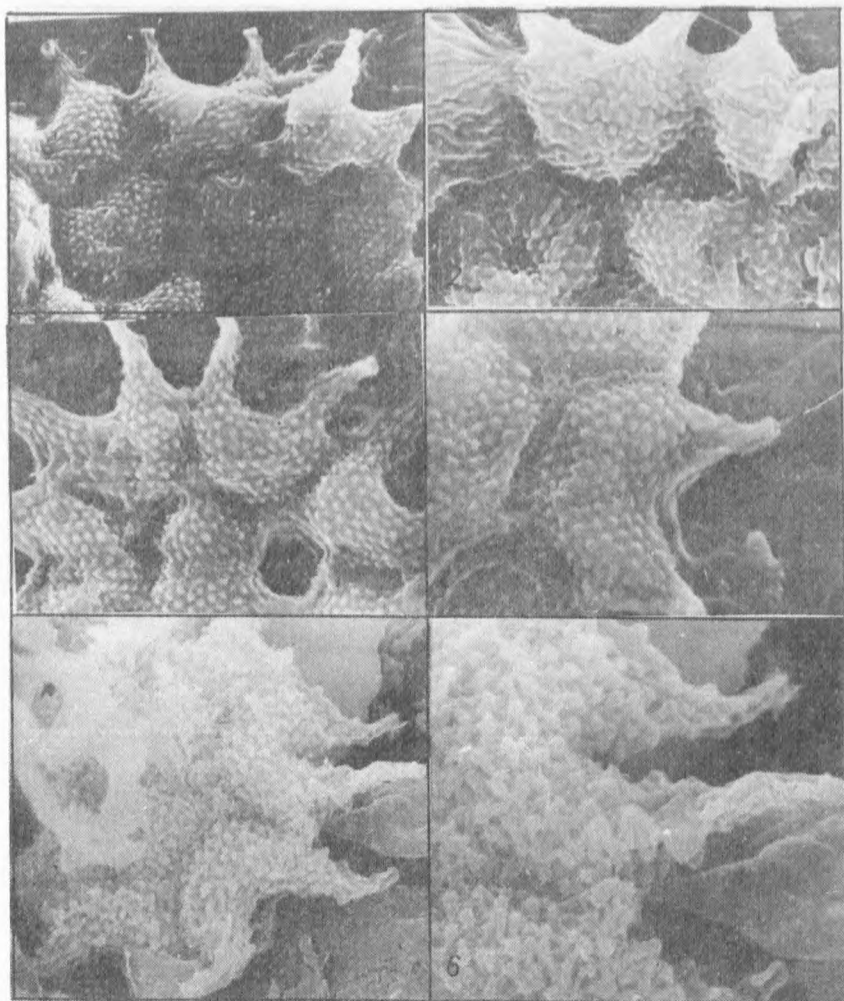
P. boryanum var. *boryanum*: 1 – (1+5+10), stan. (site) 4, 24.08.1984, 2 – skupienie spiralne 15-komórkowe (spiral segregation of 15 cells), stan. (site) 1, 24.10.1986, 3 – ściana komórkowa granulowana (granulated cell wall surface), (1+5+10), stan. (site) 4, 22.06.1984, 4 – ściana komórkowa granulowana (granulated cell wall surface), (1+5+10+15), stan. (site) 8, 24.06.1985, 5 – komórki środkowe ułożone spiralnie (central cells situated spirally), (5+12+15), stan. (site) 4, 10.05.1984, 6 – ściana komórkowa gładka (smooth cell wall), (1+6+11+14), stan. (site) 6, 30.04.1984

Tablica VII



P. boryanum var. *boryanum*: 1 – (6+10), stan. (site) 5, 24.08.1984, 2 – (1+6+10+15), stan. (site) 5, 24.08.1984, 3 – ściana granulowana (granulated cell wall surface), (1+6+10+15), stan. (site) 6, 30.04.1984, 4 – komórki środkowe ułożone spiralnie (central cells situated spirally), (16+16), stan. (site) 2, 30.04.1984, 5 – komórki środkowe ułożone spiralnie (central cells situated spirally), (17+15), stan. (site) 5, 10.05.1984, 6 – (1+8+13+19+23), stan. (site) 8, 24.06.1985

Tablica VIII



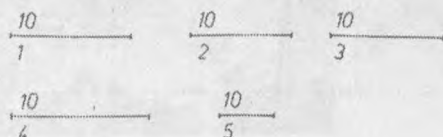
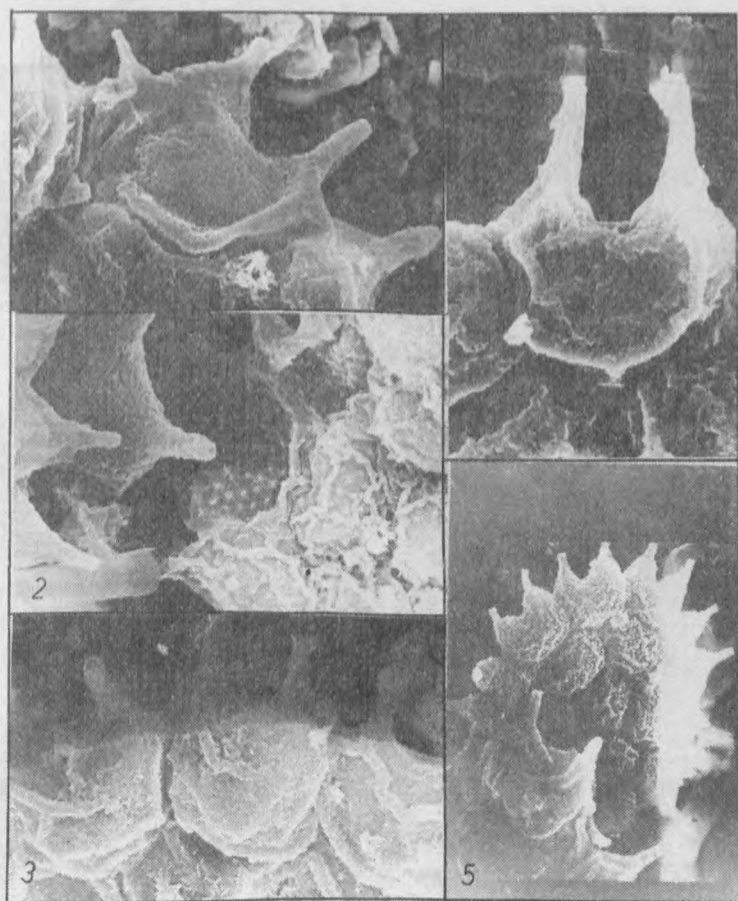
10 — 1
1 — 23

1 — 1 — 1
4 — 5 — 6

1-6 – fragmenty skupień *P. boryanum* var. *boryanum* oglądane w mikroskopie skaningowym, stan. 5, 25.04.1985

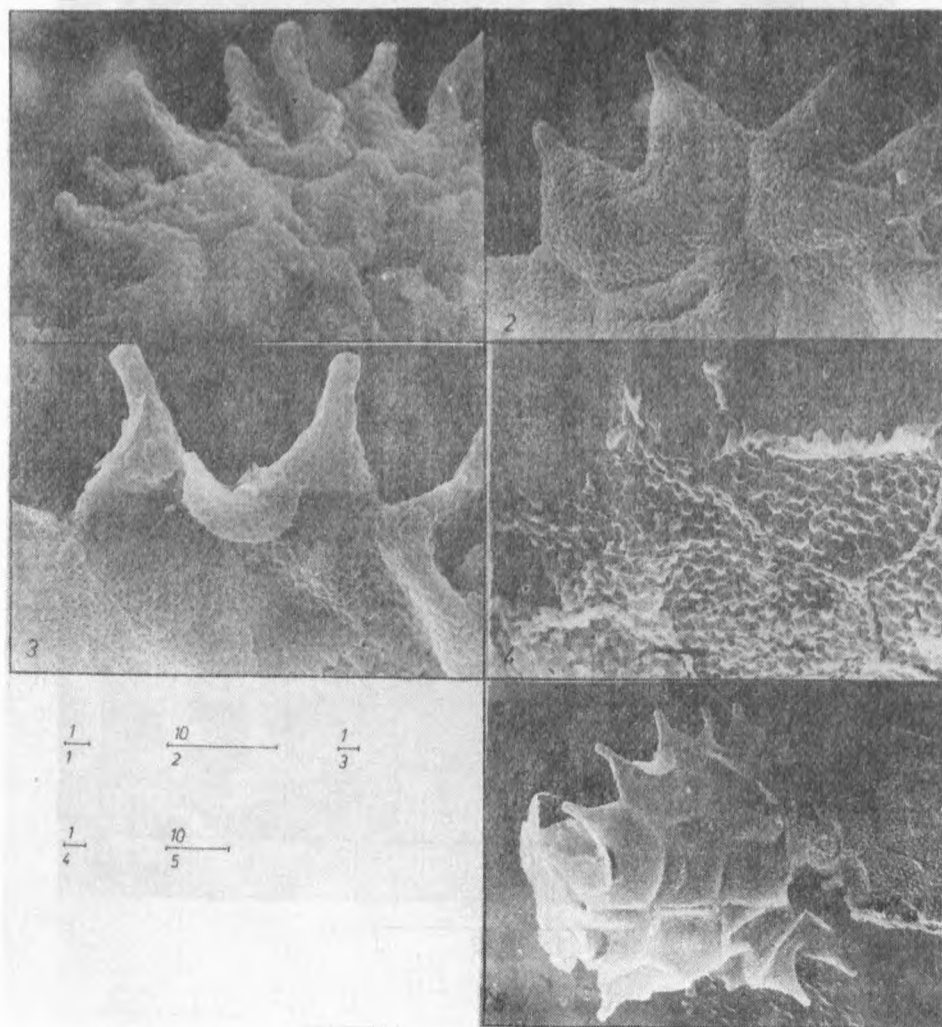
1-6 – fragments of *P. boryanum* var. *boryanum* aggregations observed in the scanning microscope, site 5, 25.04.1985

Tablica IX



1-5 – fragmenty skupień *P. boryanum* var. *boryanum* oglądane w mikroskopie skaningowym, stan. 5, 21.05.1985

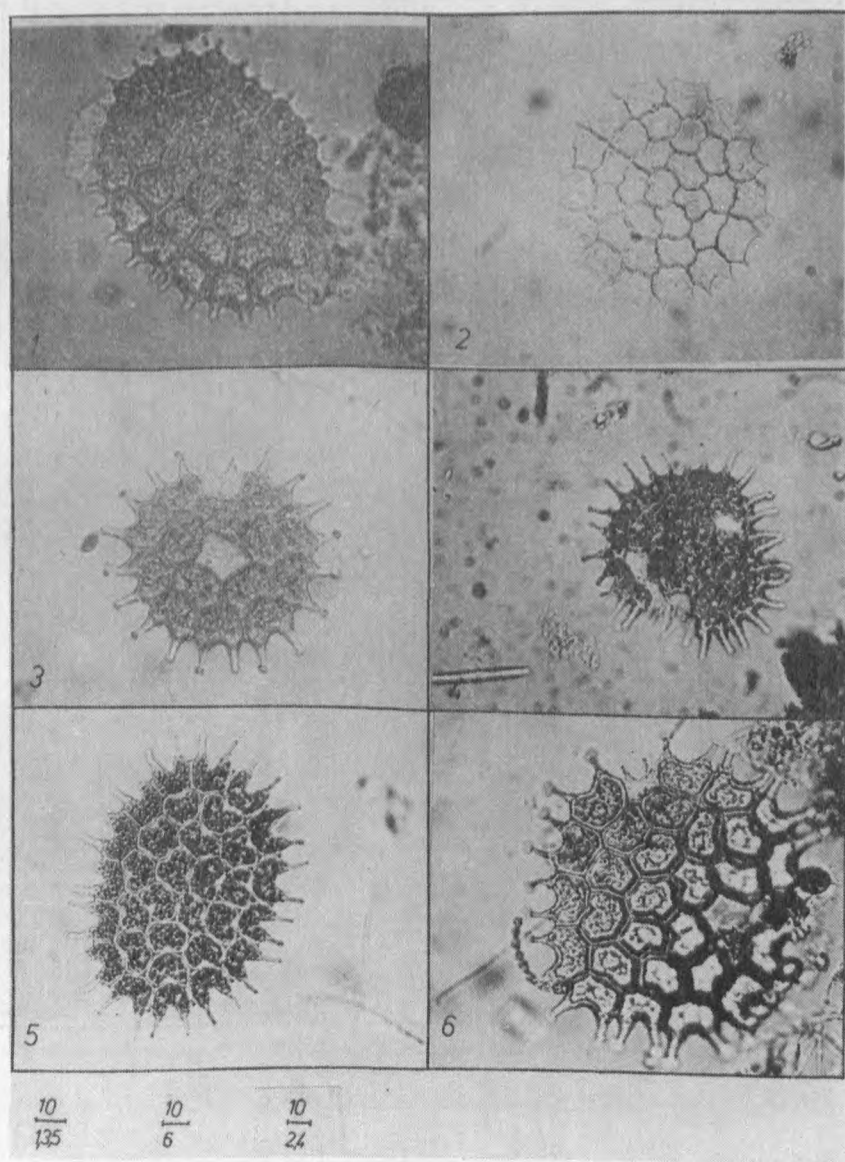
1-5 – fragments of *P. boryanum* var. *boryanum* aggregations observed in the scanning microscope, site 5, 21.05.1985



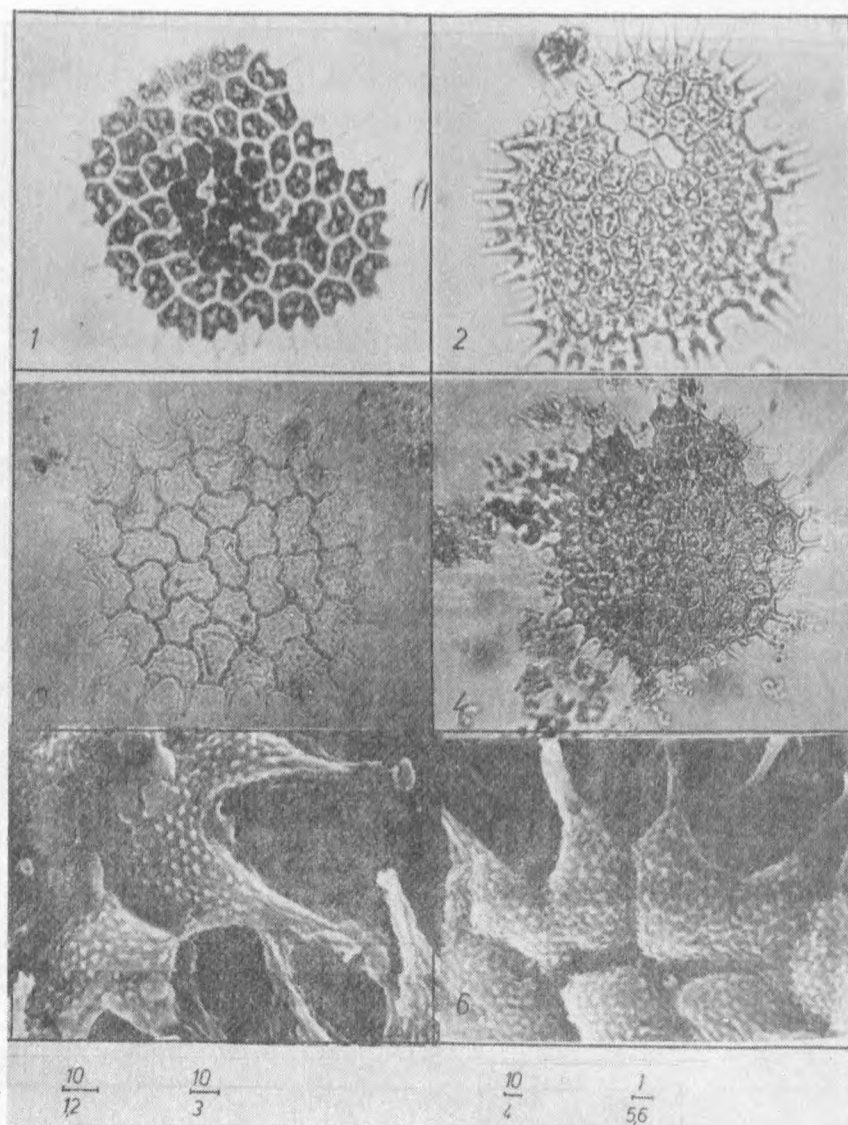
1-5 – fragmenty skupień *P. boryanum* var. *boryanum* oglądane w mikroskopie skaningowym, stan. 5, 25.07.1985

1-5 – fragments of *P. boryanum* var. *boryanum* aggregations observed in the scanning microscope, site 5, 25.07.1985

Tablica XI

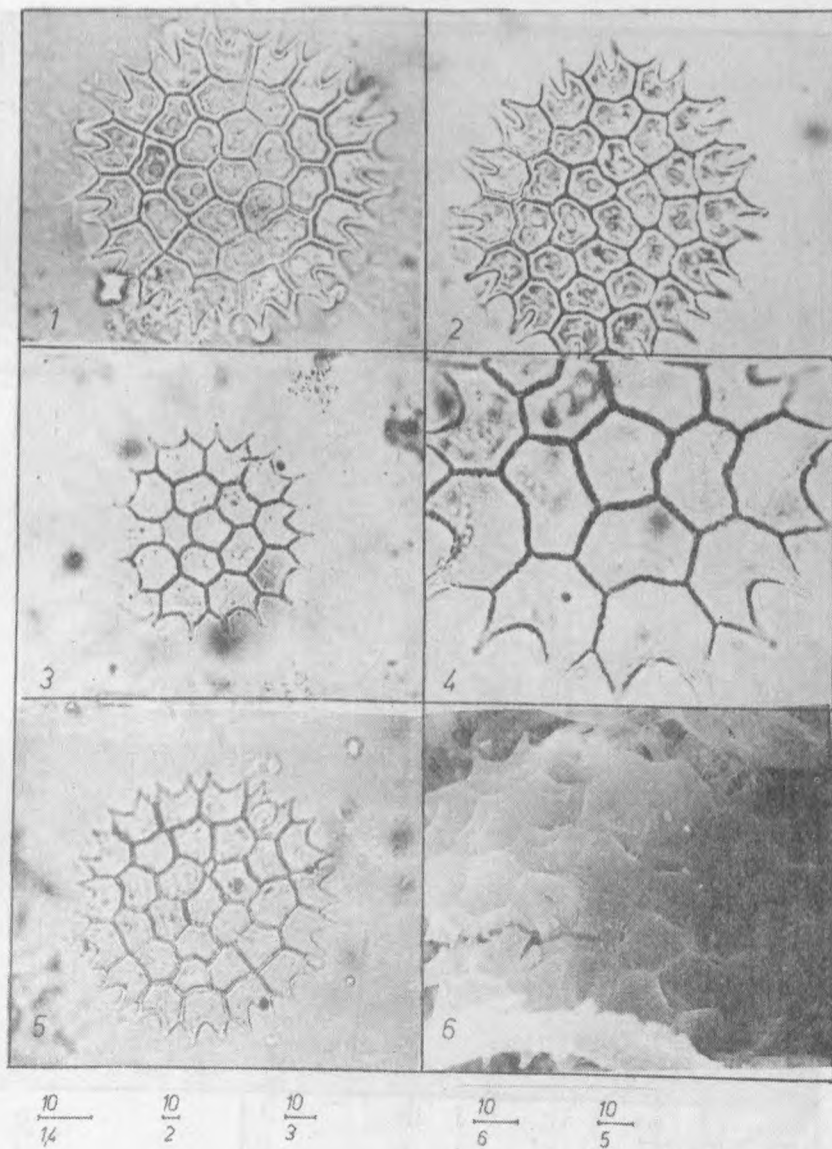


P. boryanum var. *brevicorne*: 1 – (5+11+15), stan. (site) 4, 10.05.1984, 2 – (1+6+10+15), stan. (site) 6, 30.04.1984; *P. boryanum* var. *longicorne*, 3 – (1+5+10), stan. (site) 4, 25.07.1985, 4 – skupienie uszkodzone (damaged aggregation), stan. (site) 5, 12.06.1987, 5 – (6+11+15), stan. (site) 5, 28.04.1987, 6 – jedna z komórek w początkowym stadium rozmnażania bezpłciowego (one of the cells in the initial stage of vegetative reproduction), stan. (site) 5, 22.06.1984

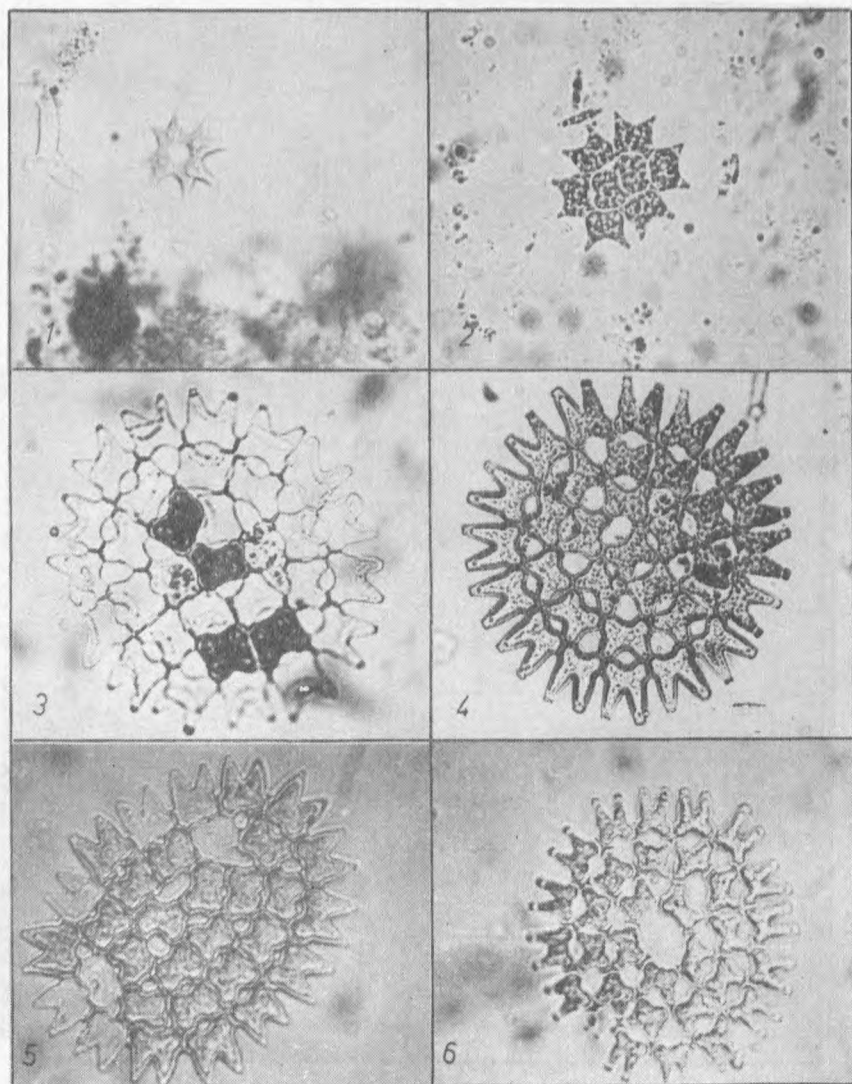


P. boryanum var. *longicorne*: 1 – w środku skupienia komórki ułożone w dwóch warstwach (in the middle of the aggregations cells arranged in two layers), stan. (site) 5, 25.04.1985, 2 – jedna z komórek w początkowym stadium rozmnażania bezpłciowego (one of the cells in the initial stage of vegetative reproduction), (3+8+13+18+22), stan. (site) 4, 1.07.1984, 3 – (1+6+10+15), stan. (site) 3, 30.04.1984, 4 – (1+10+13+17+20), stan. (site) 6, 30.04.1984, 5, 6 – fragmenty skupień oglądane w mikroskopie skaningowym (fragments of aggregations observed in the scanning microscope), stan. (site) 6, 30.04.1984

Tablica XIII



P. boryanum var. *pseudoglabrum*: 1 – (1+6+10+15), stan. (site) 5, 22.06.1984, 2 – skupienie o komórkach środkowych ułożonych spiralnie (an aggregation with central cells arranged spirally), (17+15), stan. (site) 5, 22.06.1984, 3 – (1+5+10), stan. (site) 4, 22.06.1984, 4 – (1+5+10), stan. (site) 4, 22.06.1984, 5 – (1+5+10+15), stan. (site) 8, 24.06.1985, 6 – fragment skupienia oglądany w mikroskopie skaningowym (fragment of aggregation observed in the scanning microscope), stan. (site) 5, 21.05.1985



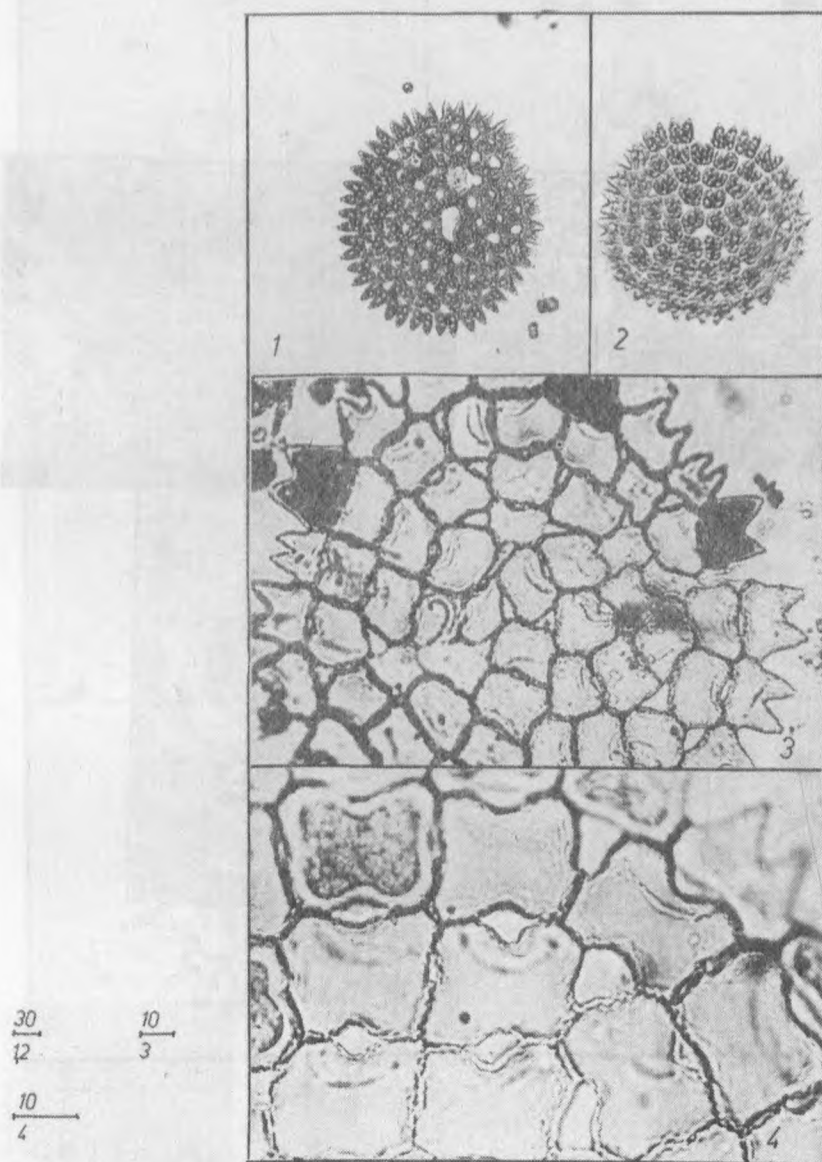
$$\frac{10}{3}$$

$$\frac{10}{46}$$

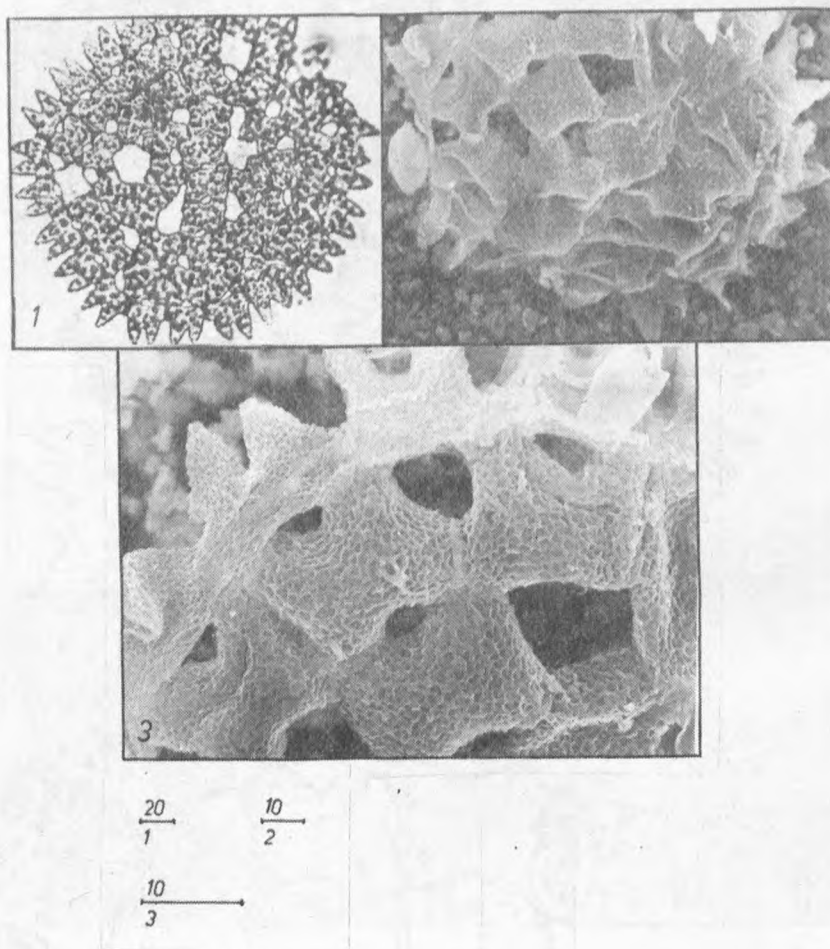
$$\frac{10}{5}$$

$$\frac{20}{12}$$

P. duplex var. *duplex*: 1 - (0+4), stan. (site) 4, 25.07.1985, 2 - (2+6), stan. (site) 6, 24.06.1985,
 3 - (1+6+10+15), stan. (site) 2, 24.08.1984, 4 - (1+5+10+16), stan. (site) 2, 24.08.1984,
 5 - (6+11+15), stan. (site) 4, 10.05.1984, 6 - (5+11+16), stan. (site) 8, 24.06.1985

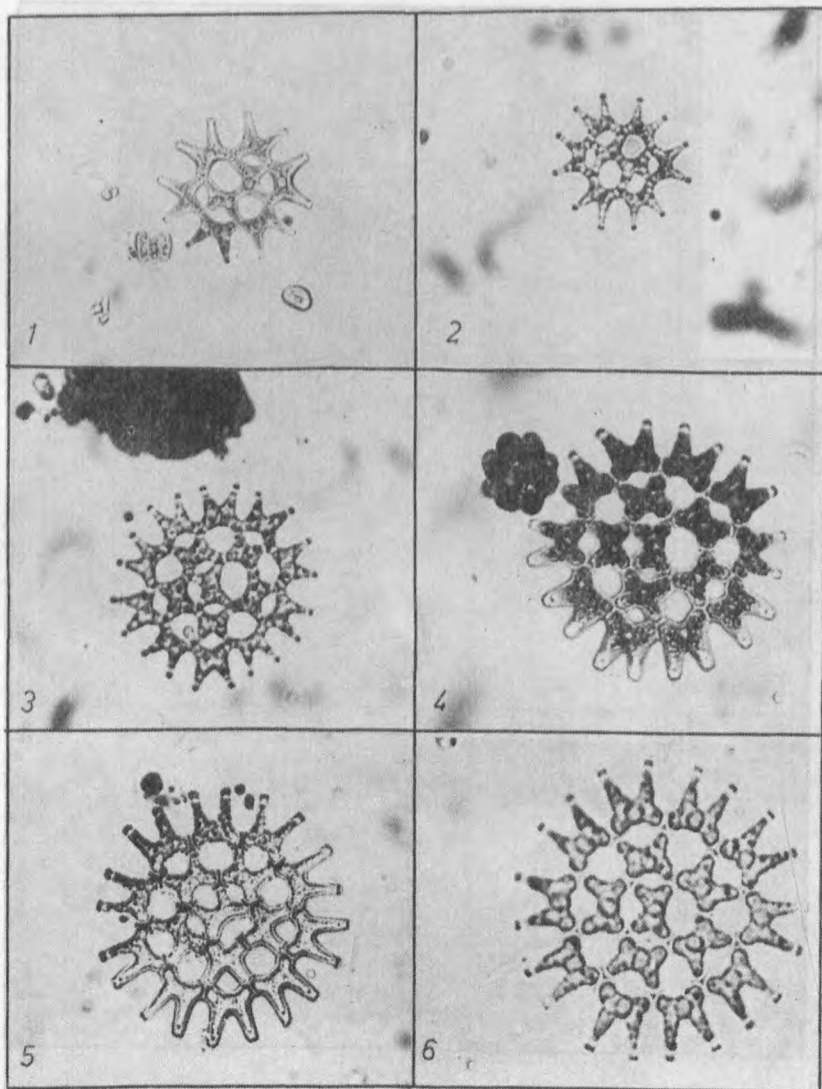


P. duplex var. *duplex*: 1 – skupienie spiralne 64-komórkowe (64-cell spiral aggregation), stan. (site) 5, 21.05.1985, 2 – skupienie koncentryczne wypukłe (concentric, convex aggregation), (2+8+13+18+23), stan. (site) 5, 21.05.1985, 3, 4 – fragmenty skupień (fragments of aggregations), stan. (site) 4, 26.05.1987



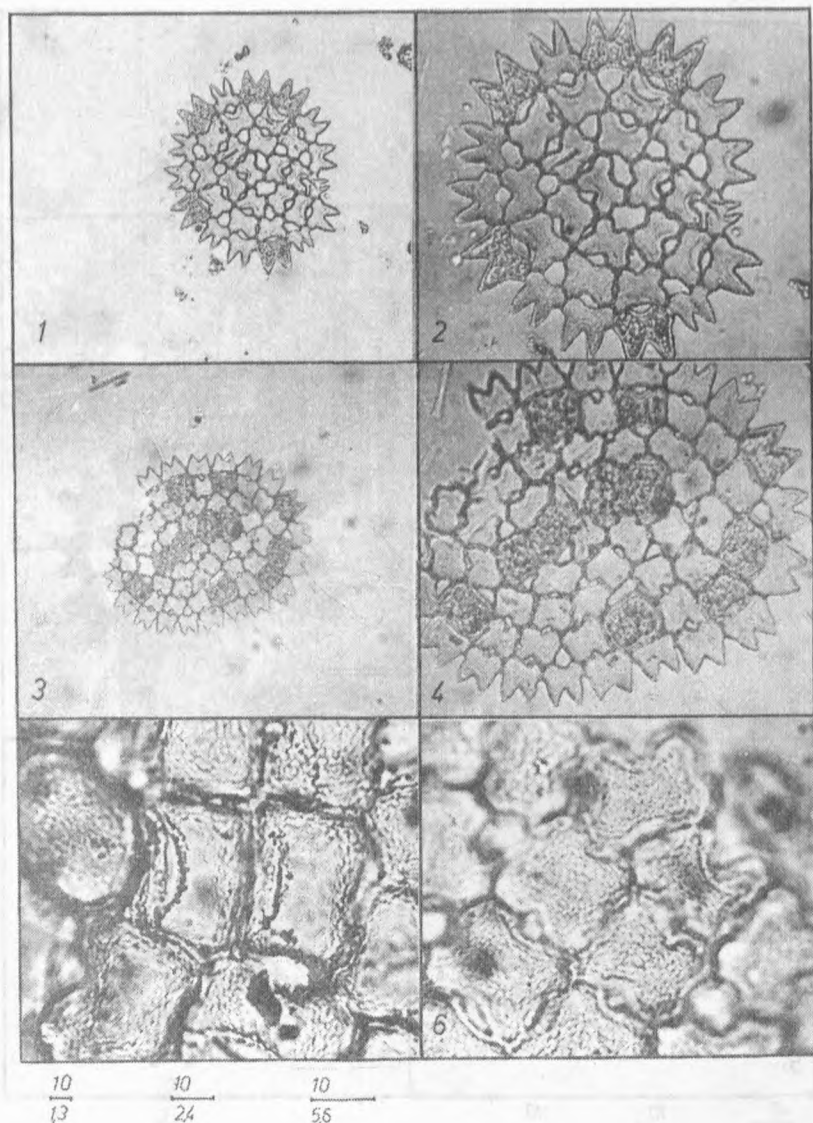
P. duplex var. *duplex*: 1 – oglądane w mikroskopie świetlnym (observed in the light microscope), stan. (site) 5, 25.07.1985, 2, 3 – fragmenty skupień oglądane w mikroskopie skaningowym; ściana komórkowa siateczkowata, siateczka o trójkątnych oczkach (fragments of aggregations observed in the scanning microscope. A reticulate cell wall, a net of triangular meshes), stan. (site) 5 25.07.1985

Tablica XVII



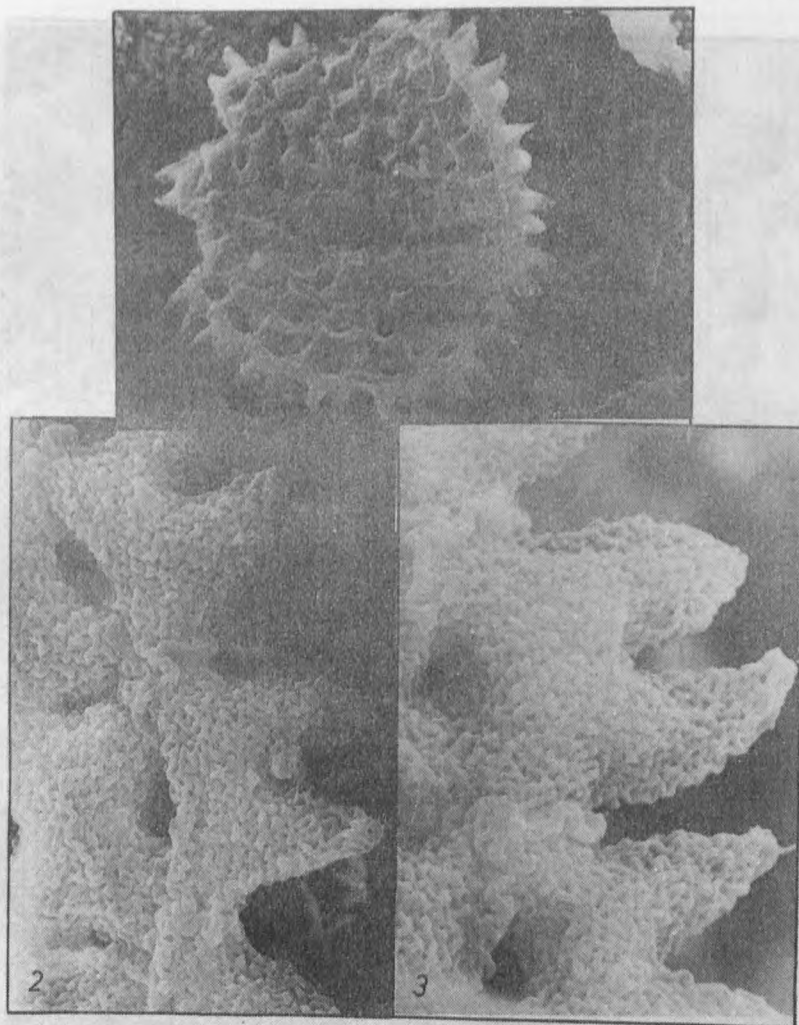
$\frac{10}{1}$ $\frac{10}{2}$ $\frac{10}{3}$
 $\frac{10}{4}$ $\frac{10}{5}$ $\frac{10}{6}$

P. duplex var. *gracillimum*: 1 – (2+6), stan. (site) 4, 24.08.1984, 2 – (2+6), stan. (site) 4, 26.05.1987, 3 – (1+5+10), stan. (site) 4, 26.05.1987, 4 – (1+5+10), stan. (site) 1, 26.05.1987, 5 – (1+5+10), stan. (site) 2, 24.08.1984, 6 – (1+5+10), stan. (site) 2, 24.08.1984

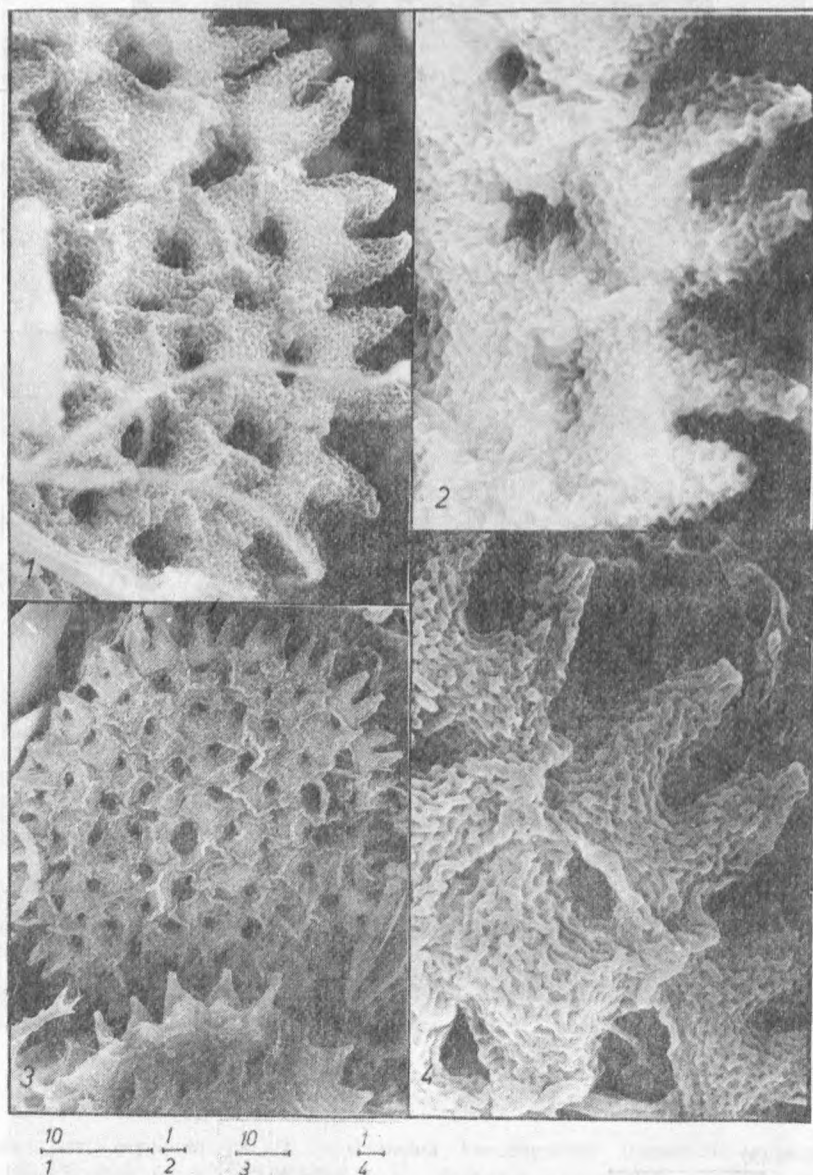


P. duplex var. *rugulosum*: 1, 2 – skupienia koncentryczne (concentric aggregation), (1+6+10+15), stan. (site) 5, 22.06.1984, 3, 4 – skupienie o komórkach ułożonych spiralnie (aggregation with cells arranged spirally), stan. (site) 4, 24.06.1985, 5 – fragment skupienia, komórki w środku z pęknięciami powstałymi po wypłynięciu pęcherzyków hialinowych z zoosporami (fragment of aggregation, cells with fractures in their middles caused by the emptying of vesicles with zoospores), stan. (site) 4, 10.05.1984, 6 – fragment skupienia; ściana komórkowa oglądana w mikroskopie świetlnym (fragment of aggregation. The cell wall observed in the light microscope), stan. (site) 4, 10.05.1984.

Tablica XIX

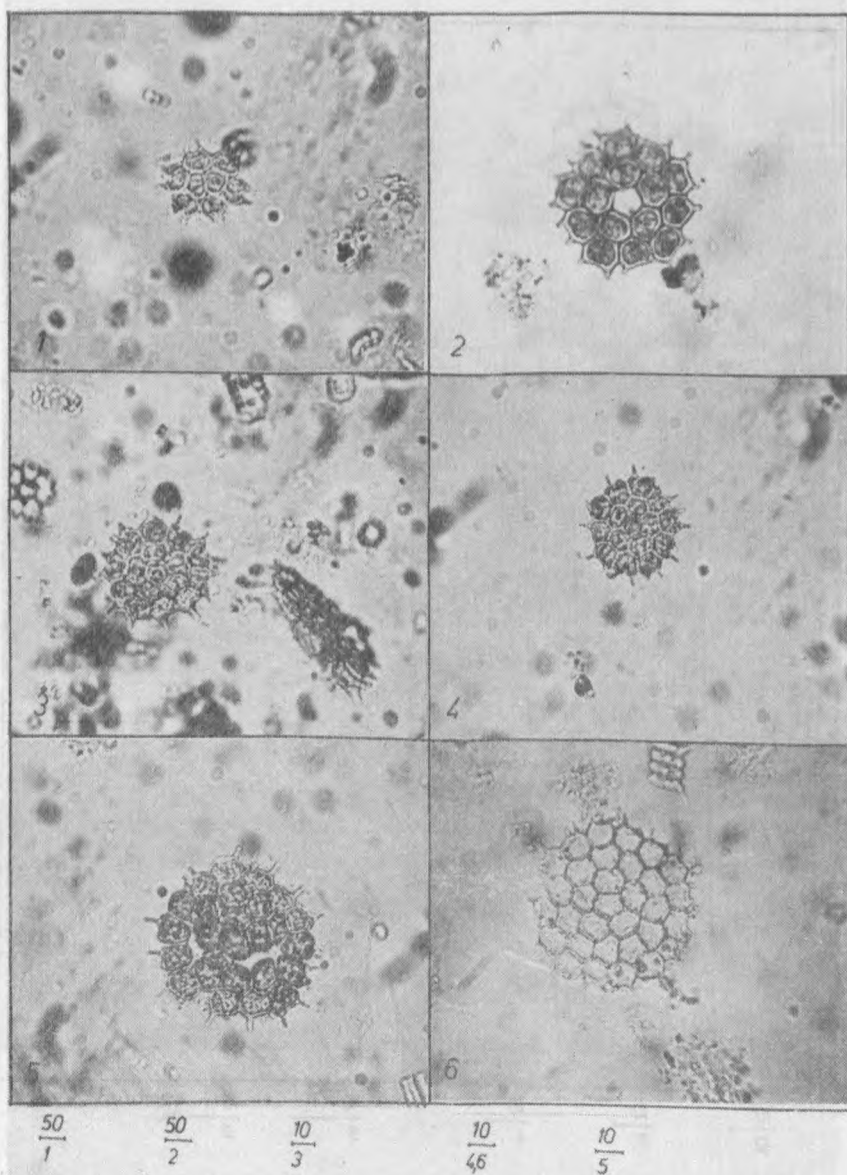


P. duplex var. *rugulosum*: 1 – skupienie oglądane w mikroskopie skaningowym (an aggregation observed in the scanning microscope), stan. (site) 4, 21.05.1985, 2, 3 – ściana komórkowa oglądana w mikroskopie skaningowym (the cell wall observed in the scanning microscope), stan. (site) 4, 21.05.1985



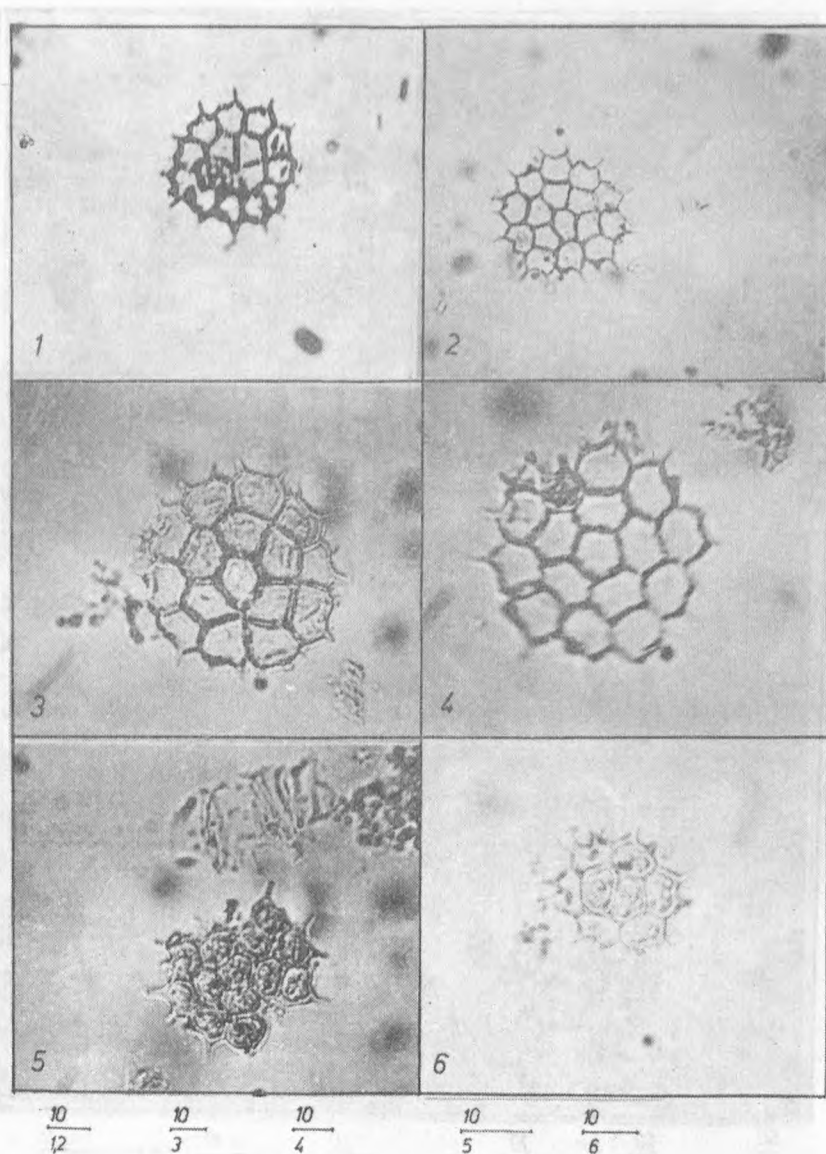
P. duplex var. *rugulosum*: 1, 2 – fragment skupienia oglądany w mikroskopie skaningowym (fragment of the aggregation observed in the scanning microscope), stan. (site) 4, 21.05.1985, 3, 4 – fragment skupienia oglądany w mikroskopie skaningowym, na rys. 3 u dołu widoczny jest fragment skupienia *P. boryanum* var. *boryanum* (fragment of the aggregation observed in the scanning microscope. At the bottom of Photo 3 a fragment of *P. boryanum* var. *boryanum* aggregation is visible), stan. (site) 4, 21.05.1985

Tablica XXI



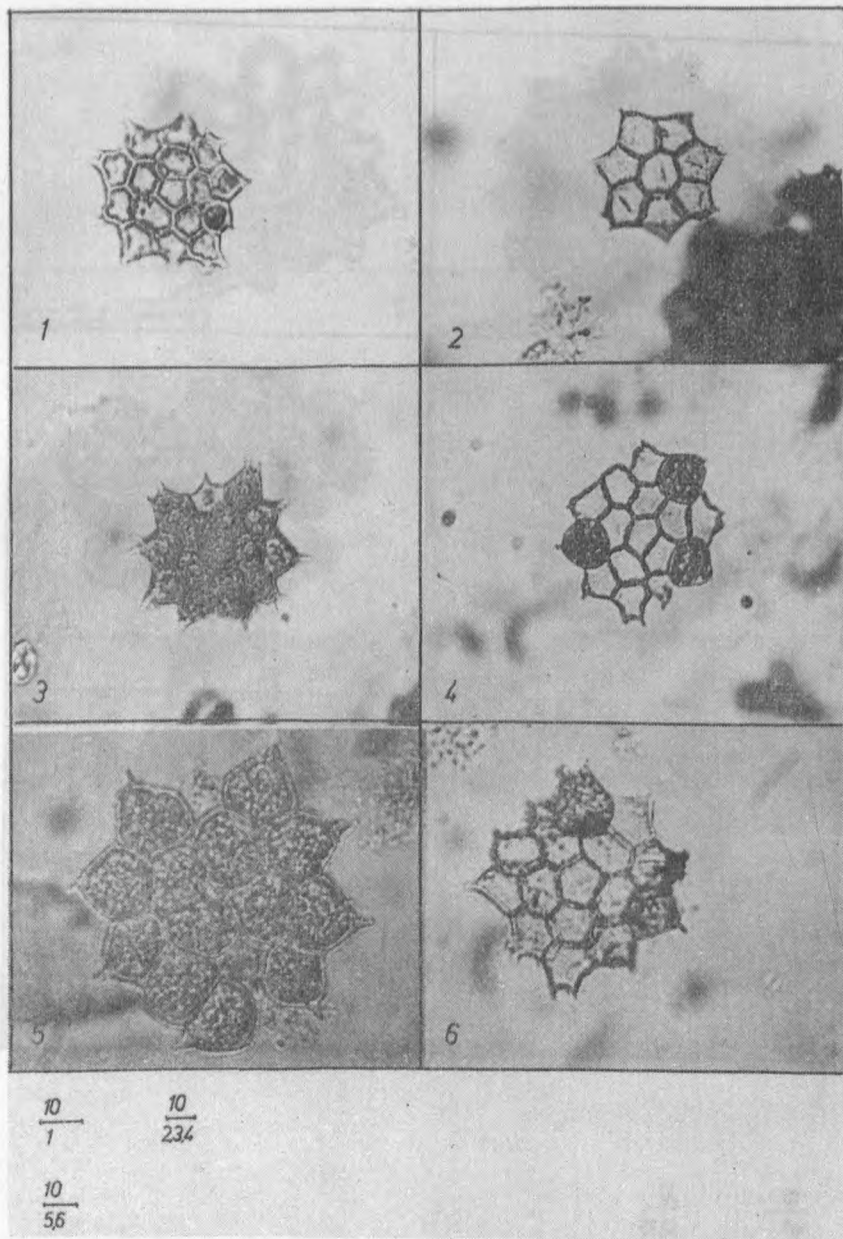
P. integrum: 1 - (2+6), stan. (site) 6, 24.06.1985, 2 - (1+5+10), stan. (site) 1, 26.05.1987, 3, 4 - (1+5+10), stan. (site) 6, 24.06.1985, 5 - dwuwarstwowe ułożenie komórek w środku skupienia (a double layer arrangement of cells in the middle of an aggregation), stan. (site) 6, 24.06.1985, 6 - (1+5+10+16), stan. (site) 6, 30.04.1984

Tablica XXII

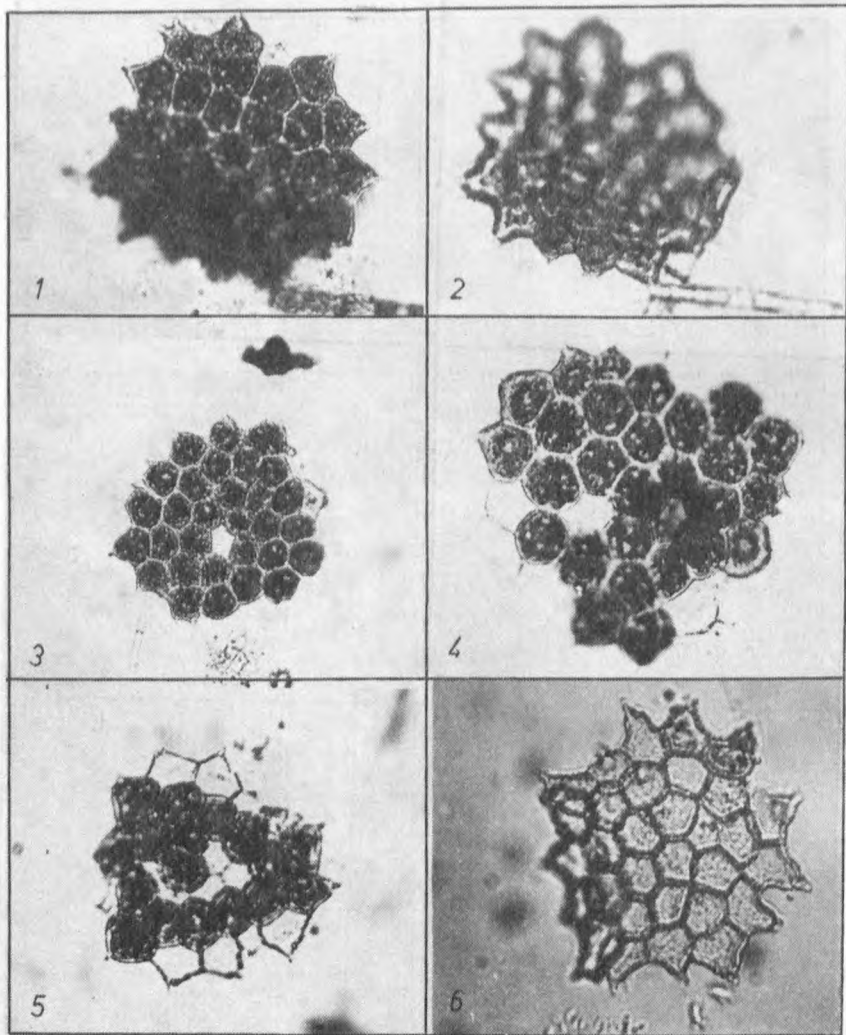


P. integrum: 1 – skupienie wygięte (bent aggregation), stan. (site) 6, 24.06.1985, 2 – komórki środkowe ułożone po dwie w trzech rzędach (middle cells arranged in twos in each three rows), stan. (site) 6, 24.06.1985, 3 – skupienie płaskie (flat aggregation), (1+5+10), stan. (site) 6, 30.04.1984, 4 – skupienie wypukłe (convex), (1+5+10), stan. (site) 6, 24.06.1985, 5 – forma teratologiczna (theratological form), stan. (site) 6, 30.04.1984, 6 – rozmnażanie przez cysty (reproduction by cysts), stan. (site) 6, 24.06.1985

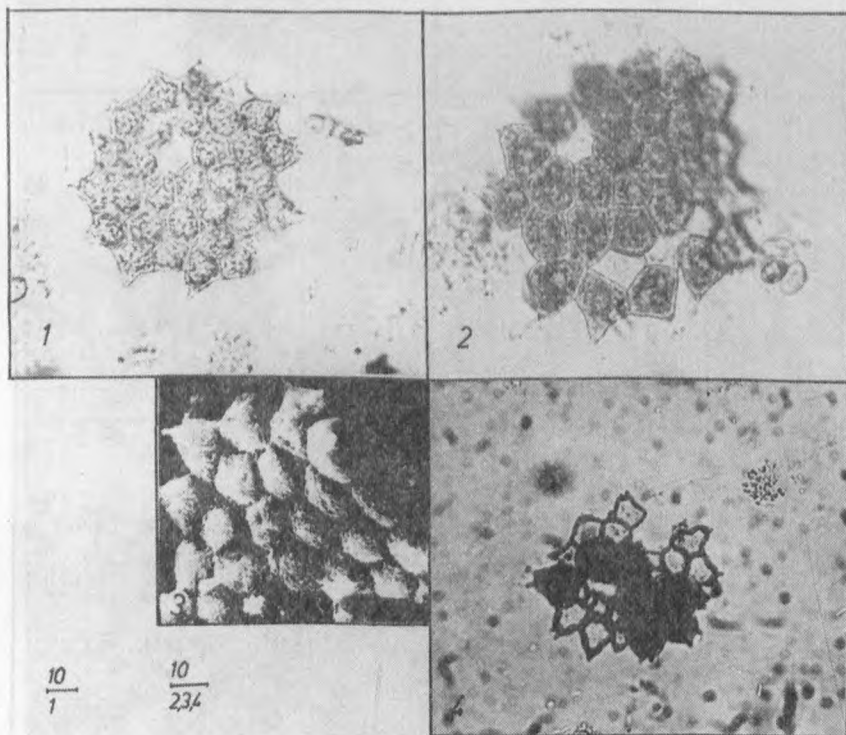
Tablica XXIII



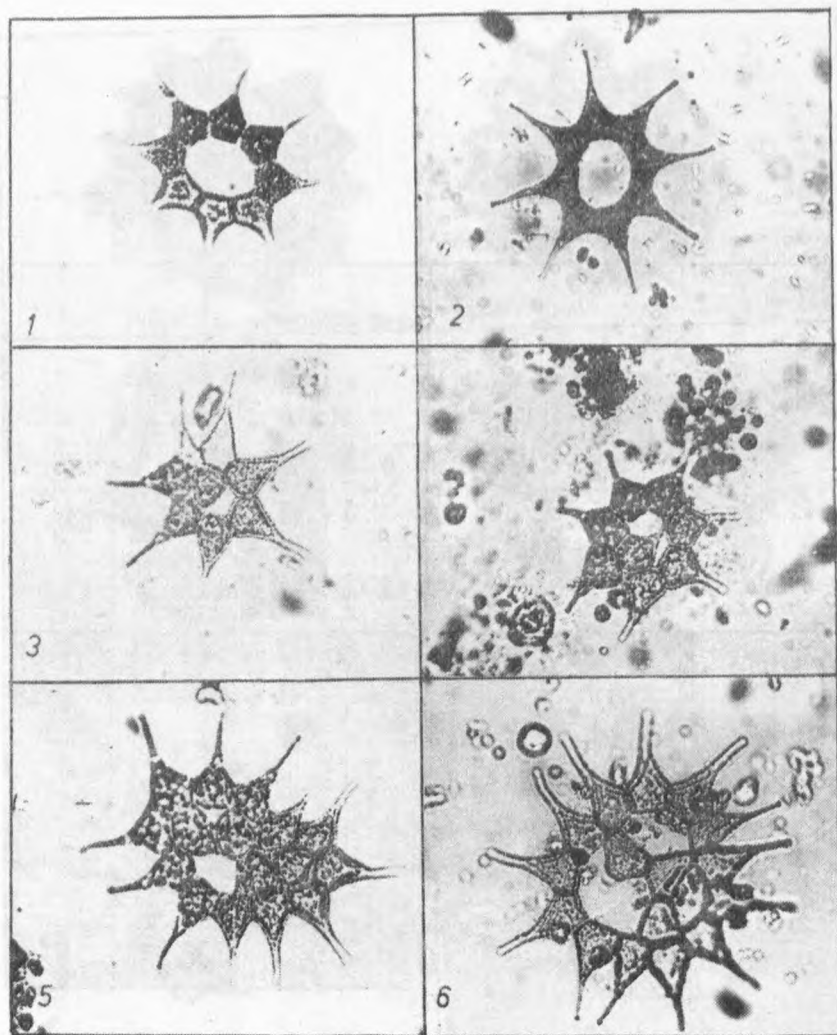
P. kawraiskyi: 1 – (1+5+10), stan. (site) 4, 1.07.1984, 2 – (1+7), stan. (site) 4, 26.05.1987,
 3 – (1+5+10), stan. (site) 5, 25.07.1985, 4 – (1+5+10), stan. (site) 4, 26.05.1987, 5 – (4+9), stan.
 (site) 3, 30.04.1984, 6 – (1+5+10), stan. (site) 4, 26.05.1987


 $\frac{10}{46}$
 $\frac{10}{1235}$

P. kawraiskyi – różne układy komórek w skupieniach (various cell arrangements in aggregations):
 1, 2 – stan. (site) 4, 24.08.1984, 3 – stan. (site) 5, 24.08.1984, 4 – stan. (site) 5, 25.04.1985, 5 – stan.
 (site) 4, 26.05.1987, 6 – stan. (site) 5, 25.07.1985



P. kawraiskyi: 1, 2 – różne układy komórek w skupieniach (various cell arrangements in aggregations), stan. (site) 5, 22.04.1984, 3 – fragment skupienia oglądanego w mikroskopie skaningowym (fragment of the aggregation observed in the scanning microscope), stan. (site) 5, 25.07.1985, 4 – skupienia uszkodzone (damaged aggregation), stan. (site) 4, 26.05.1987



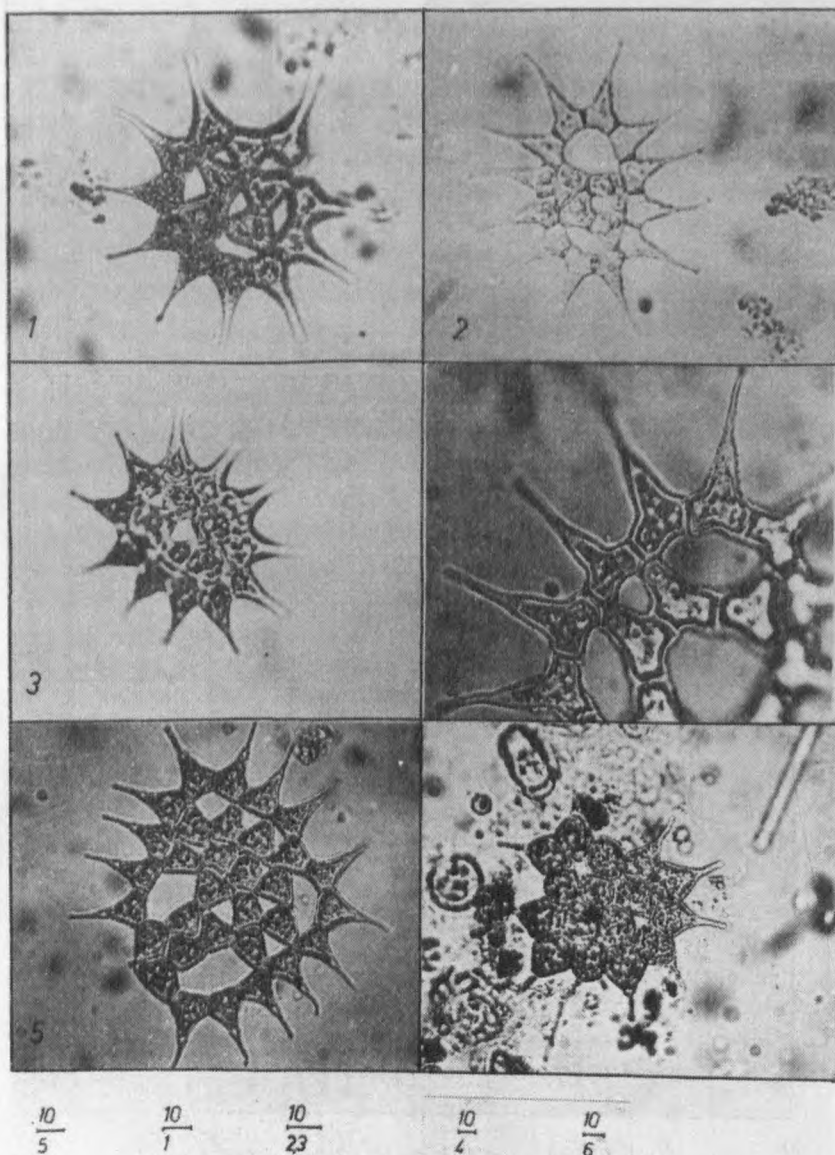
$$\frac{10}{4}$$

$$\frac{10}{12,36}$$

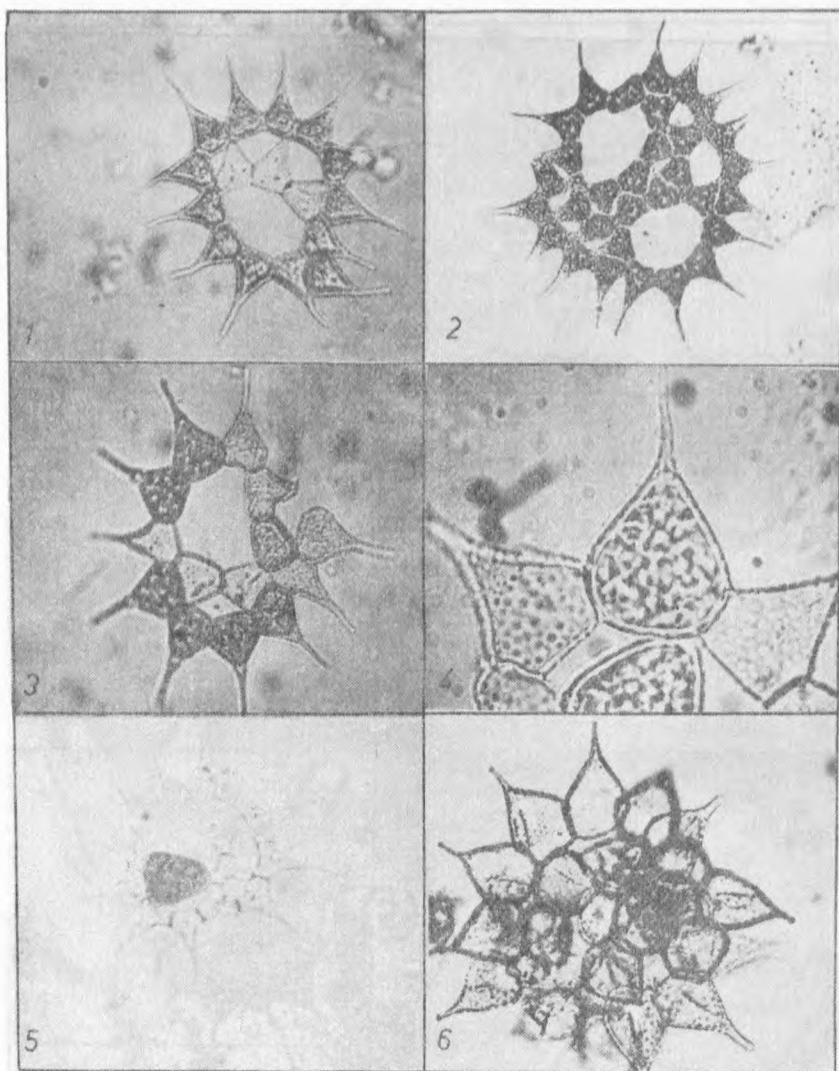
$$\frac{10}{5}$$

P. simplex var. *simplex*: 1, 2 – (8+0), stan. (site) 6, 21.05.1985, 3 – (1+7), stan. (site) 6, 24.06.1985;
P. simplex var. *sturmii*: 4 – (1+7), stan. (site) 6, 24.06.1985, 5 – (4+12), stan. (site) 6, 24.08.1984;
 6 – *P. simplex* var. *simplex* (3+13), stan. (site) 6, 24.08.1984

Tablica XXVII



P. simplex var. *simplex*: 1, 2 – (4+12), stan. (site) 6, 24.08.1984, stan. (site) 6, 24.06.1985, 3 – (5+11), stan. (site) 6, 25.04.1985, 4 – fragment skupienia (fragment of an aggregation), stan. (site) 6, 25.04.1985, 5 – (17+15), stan. (site) 6, 24.06.1985; 6 – *P. simplex* var. *sturmii* (6+10), stan. (site) 6, 24.06.1985



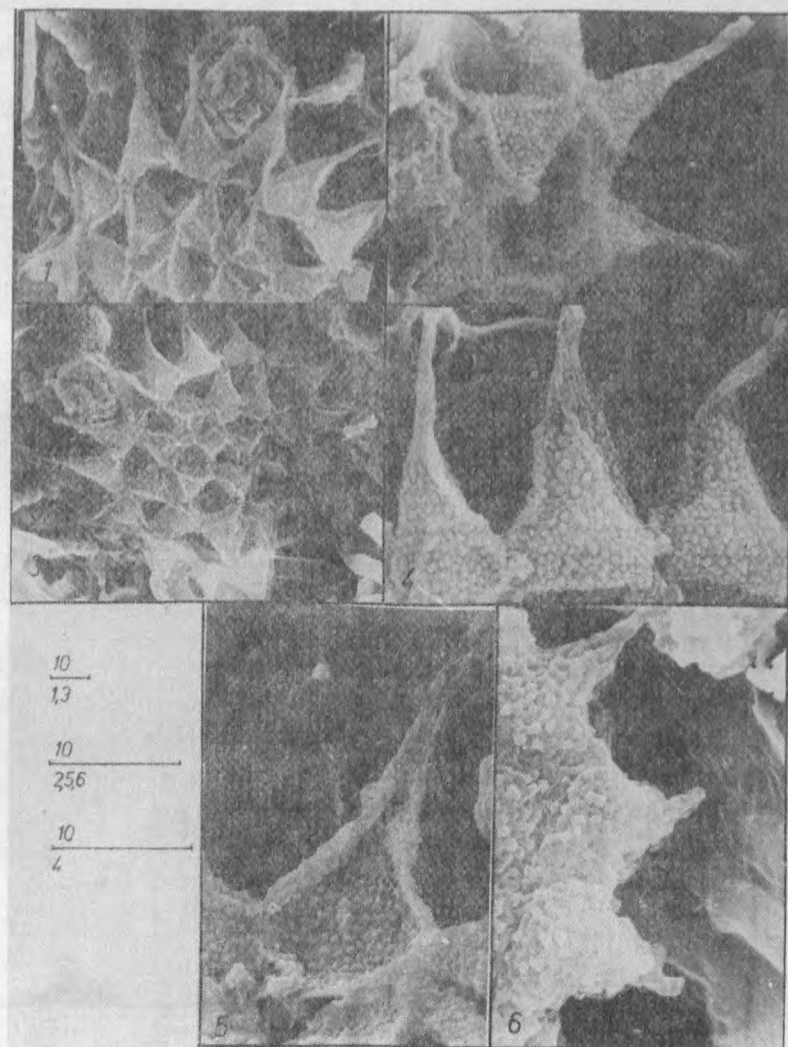
$$\frac{10}{4}$$

$$\frac{10}{12}$$

$$\frac{10}{36}$$

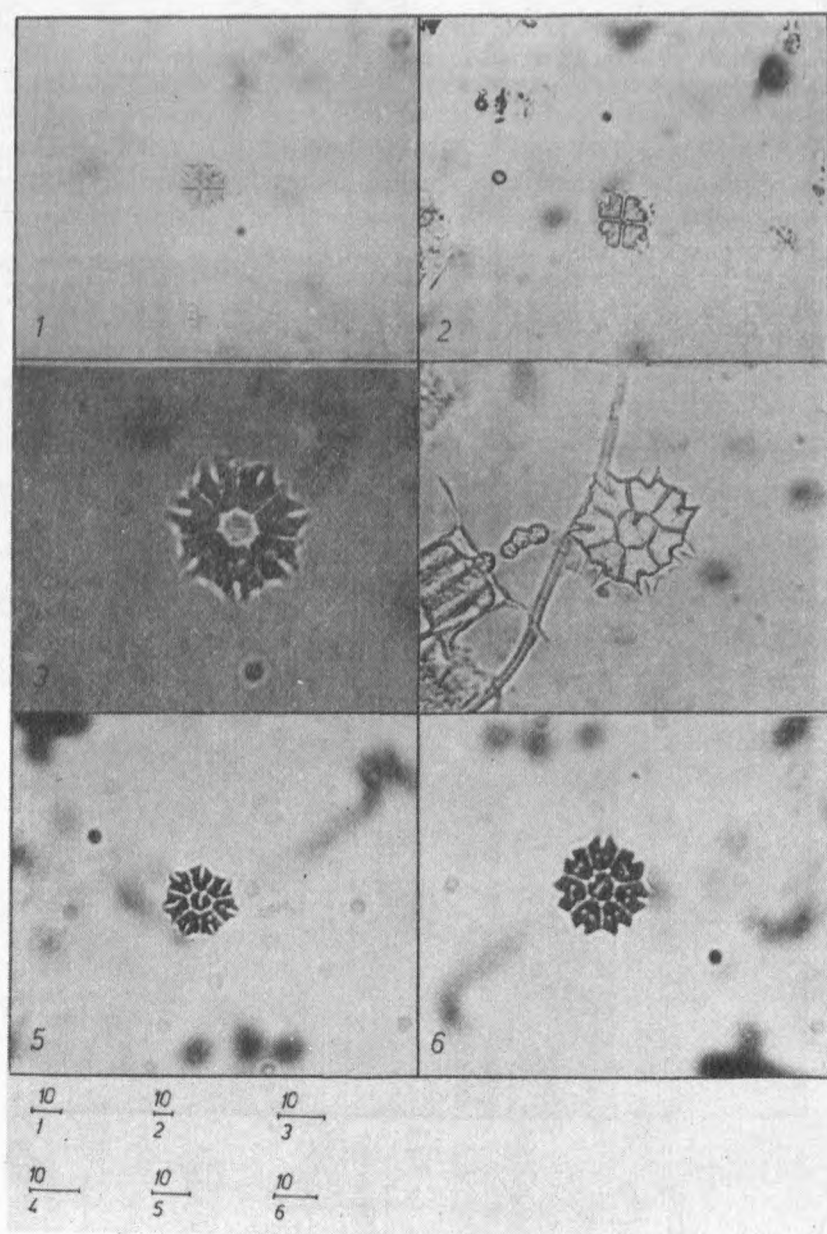
$$\frac{10}{5}$$

P. simplex var. *simplex*: 1 – (3+13), stan. (site) 6, 24.06.1985, 2 – (15+17), stan. (site) 6, 21.05.1985, 3 – (4+10), stan. (site) 6, 24.06.1985, 4 – fragment skupienia (fragment of an aggregation), stan. (site) 6, 24.06.1985, 5 – rozmnażanie przez cysty (reproduction by cysts), stan. (site) 6, 25.07.1985; 6 – *Pediastrum* sp., stan. (site) 6, 21.05.1985

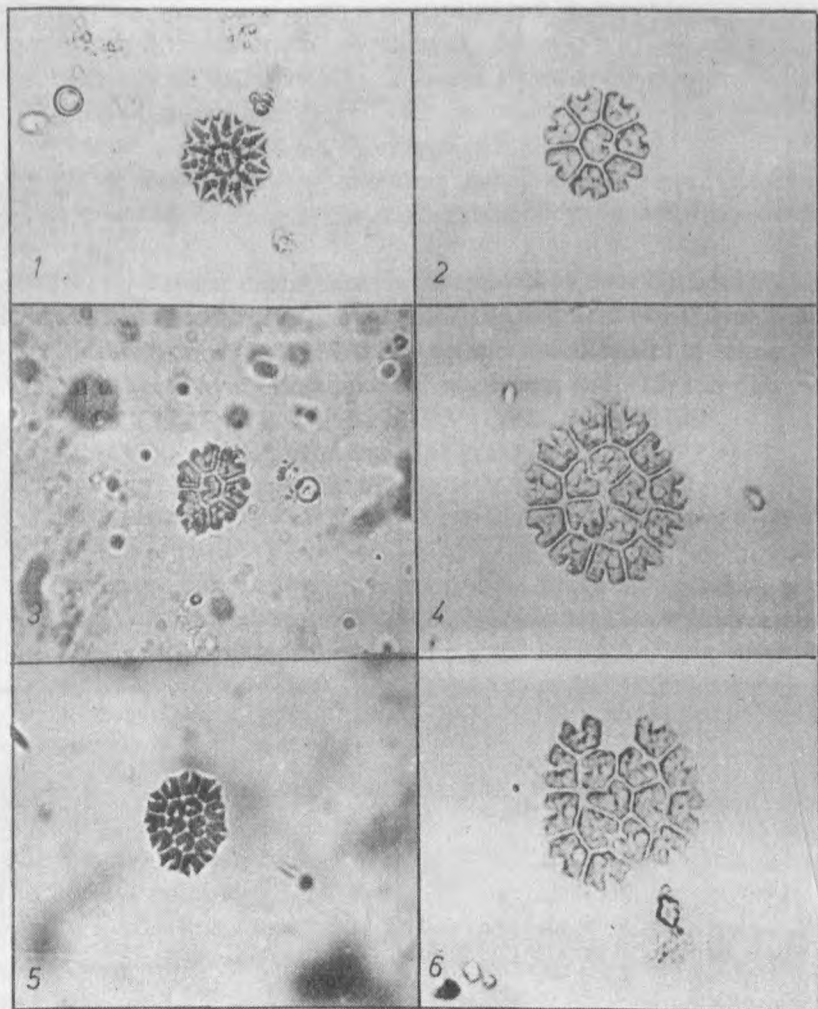


1–5 – *P. simplex* var. *simplex* – fragmenty skupień oglądane w mikroskopie skaningowym (fragments of aggregations observed in the scanning microscope), stan. (site) 6, 24.06.1985, 6 – *P. simplex* var. *sturmii* – fragment skupienia oglądanego w mikroskopie skaningowym (fragment of an aggregation observed in the scanning microscope), stan. (site) 6, 24.06.1985

Tablica XXX



P. tetras: 1, 2 – (4+0), stan. (site) 5, 25.07.1985, 3 – (0+7), stan. (site) 4, 24.06.1985, 4 – (1+7), stan. (site) 5, 22.06.1984, 5, 6 – stan. (site) 1, 26.05.1987

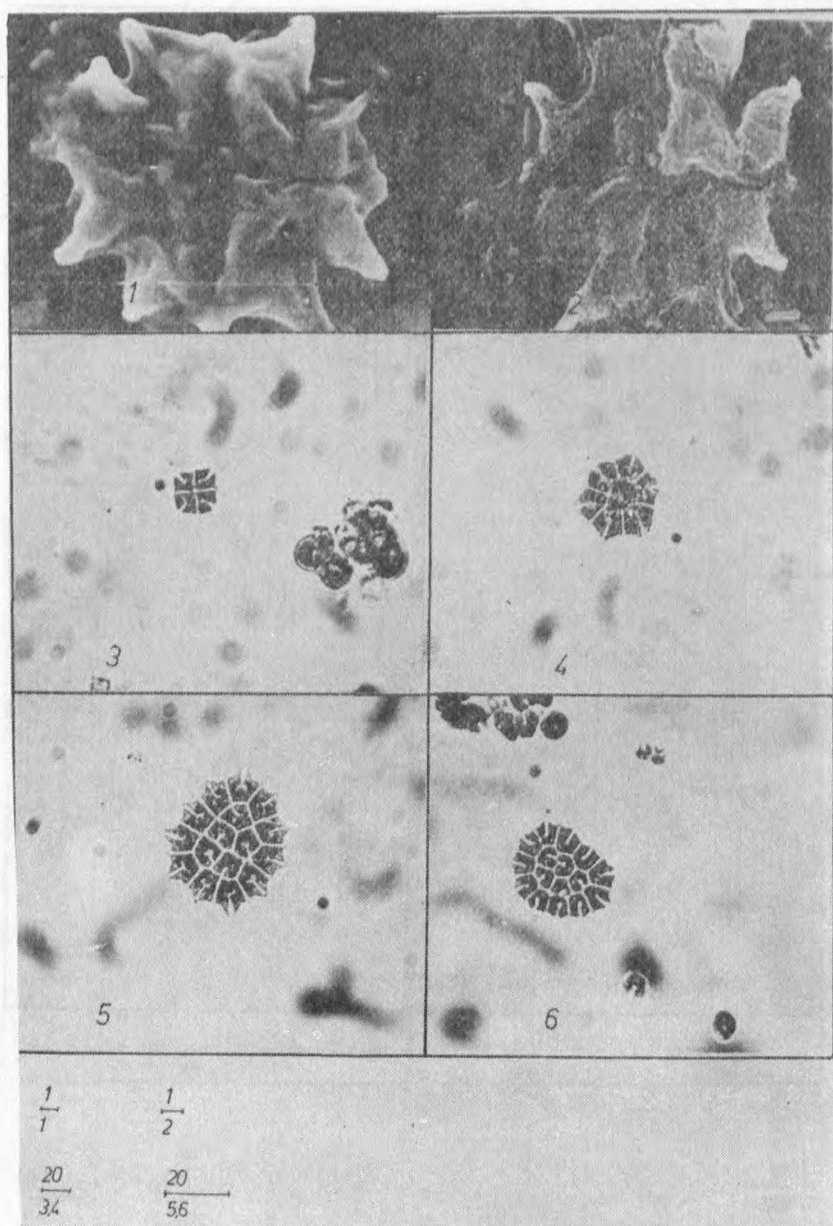


$$\frac{10}{13}$$

$$\frac{10}{5}$$

$$\frac{10}{246}$$

P. tetras: 1 – (1+7), stan. (site) 4, 24.06.1985, 2 – (1+7), stan. (site) 5, 22.06.1984, 3 – (1+7), stan. (site) 1, 26.05.1987, 4 – (5+11), stan. (site) 5, 22.06.1984, 5 – (5+11), stan. (site) 1, 26.05.1987, 6 – (6+9), stan. (site) 5, 22.06.1984



P. tetras: 1, 2 – ściana komórkowa oglądana w mikroskopie skaningowym (cell wall observed in the scanning microscope), stan. (site) 5, 25.07.1985, 3–6 – skupienia prawidłowe z czystej, starej kultury (normal aggregations from a pure long-reared culture)