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Species of *Bulbochaete* from the neighbourhood of Turawa — Gatunki z rodzaju *Bulbochaete* z okolic Turawy

Wpłynęło 23. I. 1964

During the period of June 1962 and 1963 in the periphyton of lakes situated near Kotórz Wielki (Opole province) and adjacent to the southern edge of the dam reservoir in Turawa, some interesting species of *Bulbochaete* were found. The lakes mentioned are surrounded with pine-fir woods. Lake (I), situated 4 km to the east from Kotórz Wielki, is 600 m long and has a maximum width of 400 m. The second lake (II) is situated to the east of the first one and approx. 4·5 km away; it is 300 m long and has a maximum width of 150 m.

Some of these species formed numerous oogonia at this period which made it possible to examine accurately the sculpture occurring on the oospore.

Bulbochaete De Baryana Wittrock et Lundell (1874) (figs. 1, 7—9); veg. cells 18—20 μ in diam., 18—25 μ long; oogonia 28—32 μ in diam., 43—48 μ long; oospores 27—30 μ in diam., 42—48 μ long; antheridia 9—11 μ in diam., 6—7 μ long. The longitudinal ribs occurring on the oospore are slightly curved. Sometimes semispherical indentations occur on them (figs. 7—9). No transverse lines were observed between the longitudinal ribs.

This species although very similar to *Bulbochaete mirabilis* Wittr. (fig. 2) and to *B. mirabilis* Wittr. fo. *immersa* (Wittr.) Hirn and often confused with them, is clearly distinguished from them by the fact that the longitudinal ribs occurring on the oospore are only slightly curved whereas in *B. mirabilis* (figs. 10—11) and *B. mirabilis* fo. *immersa* they are also crenated and clearly visible transverse lines occur between them.

It appeared in lake I in great amounts. On June 27th 1962 it was encountered in the reproductive stage. This species was not hitherto known from the territory of Poland.

Bulbochaete basispora Wittrock et Lundell (1874) (figs. 3—5, 19—20); veg. cells 15—18 μ in diam., (13)—15—20 μ long; oogonia (23)—24—28 μ in diam., 40—45 μ long; oospores 22—26 μ in diam., 39—44 μ long; antheridia 8—10 μ in diam., 6—8 μ long; longitudinal ribs occurring on the oospore are strongly undulated. The transverse lines are clearly visible and connected with distinguished undulations (figs. 19—20).

It appeared in great amounts in both the lakes. It was observed in the reproductive stage on June 27th 1962 and June 14th and 15th 1963. Formerly this species was found in Poland in the Tatra Mountains and in Silesia (Siemińska 1958).

Bulbochaete repanda Wittrock (1874) (figs. 6, 12—13); veg. cells 16—17 μ in diam., 27—37 μ long; oogonia 27—32 μ in diam., 49—55 μ long; oospores 26—30 μ in diam., 48—54 μ long; dwarf male stipe 12—15 μ in diam., 24—29 μ long; antheridia 8—10 μ in diam., 7—8 μ long; androsporangia 13—15 μ in diam., 16—21 μ long. The longitudinal ribs occurring on the oospore are slightly curved. At the edge of the rib numerous delicate spines of different sizes situated in various planes occur (figs. 12—13). Some of the more developed spines situated on the opposite ribs are probably connected by delicate transverse lines. Prescott (1951) indicated the occurrence of spines on the longitudinal ribs in this species and in drawings of Hirn (1900) the spines are also marked, though not clearly, and the longitudinal ribs are not undulated.

This species, especially as regards the kind of filament is very similar to *B. rectangularis* Wittr. When distinguishing these species Hirn took into consideration the kind of the vegetative cells which in *B. repanda* are usually longer and concave on one side. A more distinctive feature (which is, however, visible only under immersion) are the ribs which in *B. repanda* are flatter, slightly curved and the delicate spines (figs. 12—13) occur on them (rather at the lower layer of the rib). In *B. rectangularis* the ribs are distinctly undulated (the undulations being especially visible on the lower part of the rib) and on them spines occur (in the upper layer of the rib).

It occurred numerously in both the lakes. It was encountered in the reproductive stage on June 27th 1962 and on June 14th and 15th 1963.

Bulbochaete mirabilis Wittrock (1870) (figs. 2, 10—11); veg. cells 15—17 μ in diam., 22—29 μ long; oogonia 26—29 μ in diam., 54—58 μ long; oospores 24—28 μ in diam., 53—57 μ long; antheridia 9—10 μ in diam., 6—7 μ long.

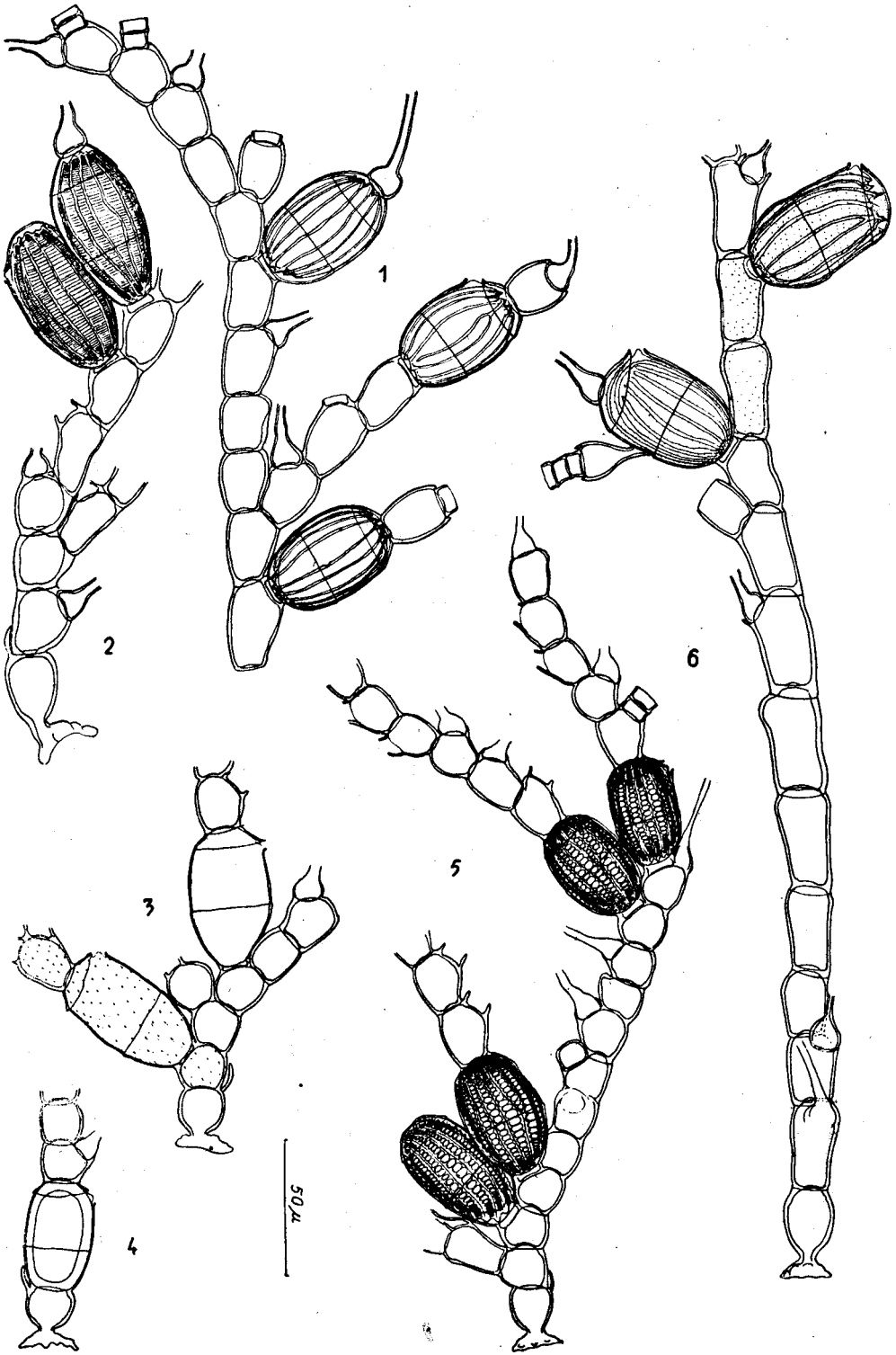
It occurred fairly numerously in both the lakes. On June 27th 1962 and June 14th and 15th 1963 it was observed in reproductive stage. Formerly this species was found in Poland in the Tatra Mountains (Gutwiński 1913), Pieniny Mountains (Filarszky 1900) and in lake Wigry (Masurian lakeland) (Wołoszyńska 1923).

Bulbochaete insignis Pringsheim (1858); veg. cells 20—21 μ in diam., 53—79 μ long; oogonia 48—52 μ in diam., 74—78 μ long; oospores 47—51 μ in diam., 73—77 μ long; dwarf male stipe 17—18 μ in diam., 28—29 μ long; antheridia 10—11 μ in diam., 6—7 μ long.

It appeared fairly numerously in both the lakes. On June 27th 1962 and 14th and 15th 1963 it was observed in the reproductive stage. Formerly this species was found in Poland in the vicinity of Wrocław (Kirchner 1878) and in the vicinity of Żmigród (Milicz prov.) (Schröder 1897).

Bulbochaete varians Wittrock var. *subsimplex* (Wittrock) Hirn (1900); veg. cells 14—18 μ in diam., 17—24 μ long; oogonia 26—28 μ in diam., 41—43 μ long; oospores 25—27 μ in diam., 40—42 μ long; dwarf male stipe 11—12 μ in diam., 14—18 μ long; antheridia 7—8 μ in diam., 4—5 μ long.

Tabl. I. 1 — *Bulbochaete De Baryana* Wittr. et Lund., 2 — *B. mirabilis* Wittr., 3—5 — *B. basispora* Wittr. et Lund., 6 — *B. repanda* Wittr.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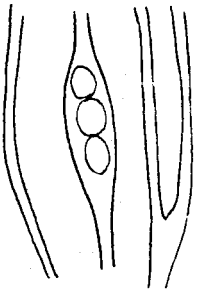

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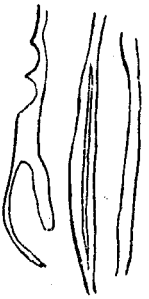

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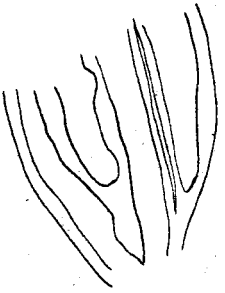

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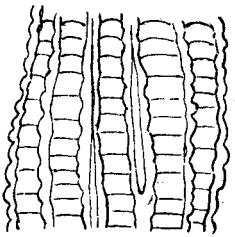

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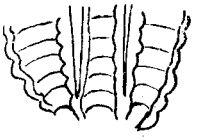

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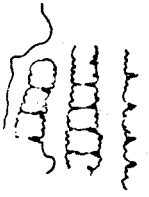

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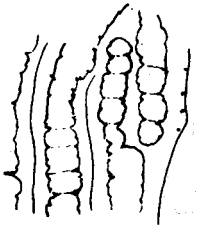

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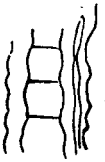

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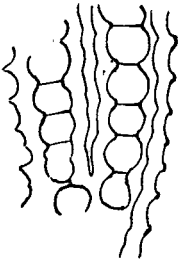

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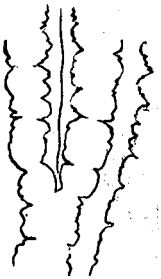

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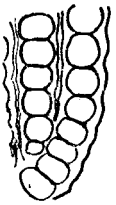

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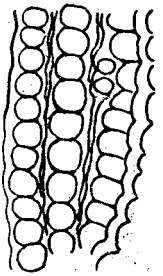

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20μ

It appeared in great quantities in both the lakes. It was observed in the reproductive stage on June 27th 1962 and 14th and 15th 1963. Formerly this species was found in Poland in Tułowice Małe and Tułowice (Niemodlin prov.) (Kirchner 1878) in the vicinity of Żmigród (Milicz prov.) (Schröder 1897), in Gołysz (Cieszyn prov.) (Mrozińska 1957).

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Tabl. II. 7—9 — *Bulbochaete De Baryana* Wittr. et Lund. parts of longitudinal ribs occurring on the oospores; 10—11 — *B. mirabilis* Wittr. parts of longitudinal ribs occurring on the oospores; 12—13 — *B. repanda* Wittr. parts of longitudinal ribs occurring on the oospores; 14—15, 18 — *B. rectangularis* Wittrr. parts of longitudinal ribs, upper layer of ribs, clearly visible spines are situated on ribs; 16—17 — *B. rectangularis* Wittr., lower part of ribs, clearly visible undulations; 19—20 — *B. basispora* Wittr. et Lund. parts of longitudinal ribs occurring on the oospores

Tabl. II. 7—9 — *Bulbochaete De Baryana* Wittr. et Lund. fragmenty podłużnych żeberek, występujących na oosporze; 10—11 — *B. mirabilis* Wittr. fragmenty podłużnych żeberek, występujących na oosporze; 12—13 — *B. repanda* Wittr. fragmenty podłużnych żeberek, występujących na oosporze; 14 — 15, 18 — *B. rectangularis* Wittr. fragmenty podłużnych żeberek, górna warstwa żeberka, wyraźnie widoczne kolce, znajdujące się na żeberkach; 16—17 — *B. rectangularis* Wittr. dolna warstwa żeberka, wyraźnie widoczne fałdy; 19—20 — *B. basispora* Wittr. et Lund. fragmenty podłużnych żeberek

STRESZCZENIE

W okresie czerwca 1962 i 1963 roku zaobserwowano w perifitonie jezior, położonych w pobliżu miejscowości Kotórz Wielki (powiat opolski) i przylegających do południowego brzegu zbiornika zaporowego w Turawie, kilka interesujących gatunków z rodzaju *Bulbochaete*, a mianowicie *B. De Baryana* Wittr. et Lund., *B. basispora* Wittr. et Lund. oraz *B. repanda* Wittr. Gatunki te tworzyły w tym okresie liczne oogonia, co pozwoliło na dokładne przebadanie skulptury, występującej na oosporze.

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