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Niektóre glony w planktonie stawów Gołysz i Landeka

Some planktonic algae in the ponds of Gołysz and Landek

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Abstract — Remarks are given on planktonic algae:

new for Poland — *Trachelomonas hispida* var. *caudata*, *Tr. pseudocaudata*, *Tr. pseudofelix*, *Strombomonas gibberosa*, *Str. gibberosa* fa. *spiralis* (Euglenophyta), *Dichotomococcus Hoefleri* (Xanthophyceae) and *Siderocelis oblonga* (Chlorococcales).

noted previously from regions now beyond the Polish borders (USSR) — *Trachelomonas granulata*, *Strombomonas longicauda* and from the present territory of Poland (provinces of Gdańsk and Opole) — *Trachelomonas hispida* var. *punctata*, *Micrasterias Mahabuleshwarensis* var. *Wallichii* (Conjugales).

known only from some stations in Poland — *Trachelomonas alia*, *Pediastrum duplex* var. *genuinum* fa. *gracilis*, *P. simplex* var. *radians*, *Elakatothrix acuta* (Chlorococcales) and *Staurastrum pilosum* (Conjugales).

new only for the investigated terrain (district Cieszyn) — *Trachelomonas oblonga* and *Cryptomonas erosa* (Cryptophyceae).

The described algae were chosen from material collected (1953—1967) in spawning, nursery, and commercial carp ponds, mainly at Gołysz (district Cieszyn) and at Landek (district Bielsko), in the Province of Katowice. They form part of the Experimental Farm of the Laboratory of Water Biology of the Polish Academy of Sciences in Kraków.

The note is a supplement to the list of species given in the authors' previous publications and includes drawings and some diagnostic data useful for completing the materials concerning the Polish flora.

It should be stressed that some of these algae, though found in other countries, either were not mentioned from Poland (or from the

investigated province) or were determined only to the higher systematic units.

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Euglenophyta

Trachelomonas allia Dreż. emend. Defl. (Huber-Pestalozzi 1955) (Fig. 1). Test 30.9—32.5 μ l., 18.5—19.8 μ br. Noted singly in the years 1958 and 1959 in a new spawning pond at Gołysz (Krzczkowska-Wołoszyn 1957).

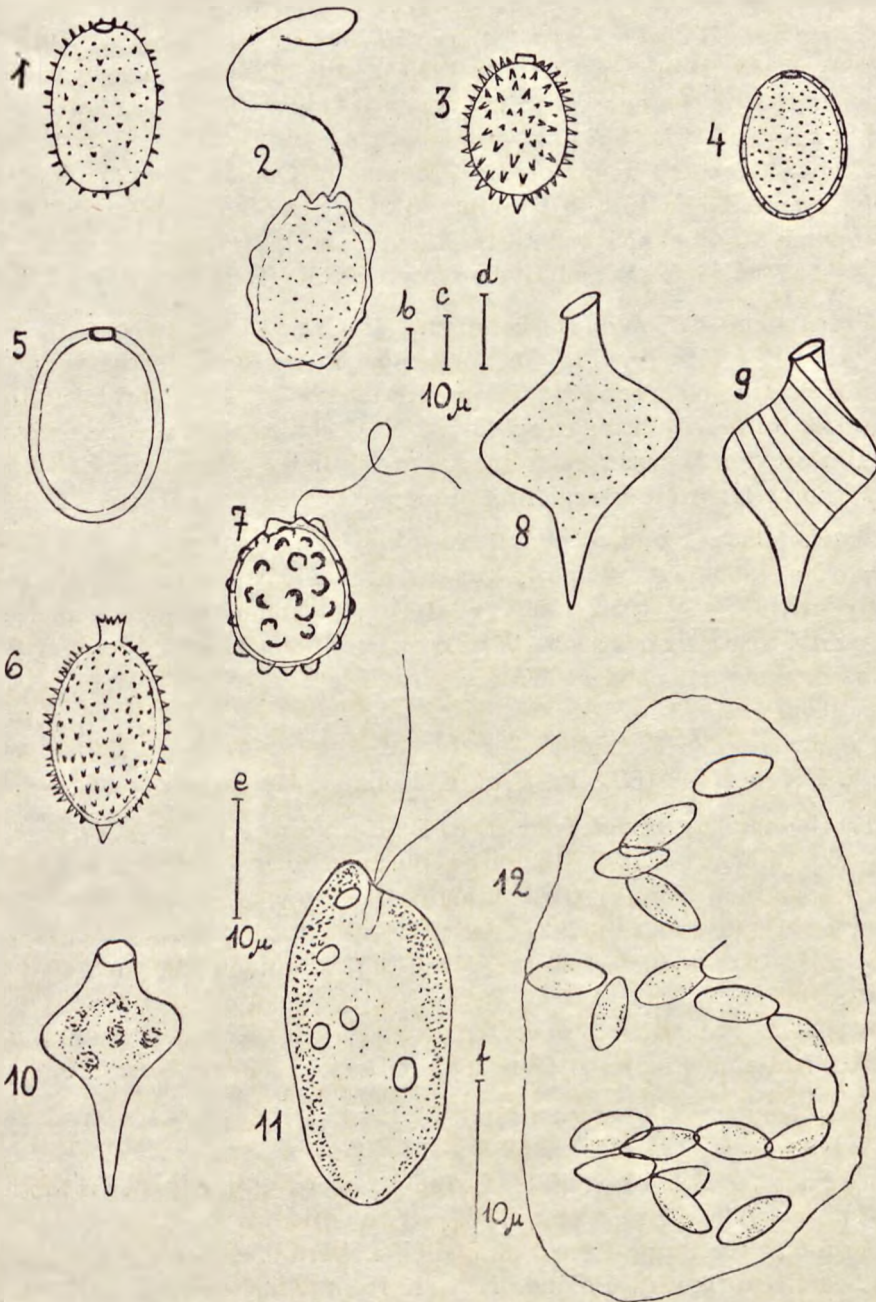
Koczwarą (1916) reported it under the old name *Tr. hispida* (Perty) Stein var. *cylindrica* Klebs from the plankton of the Dobrostany ponds (now Ukrainian S.S.R.). Dreżepolski (1925), distinguishing it as *Tr. allia* nov. sp. (*Tr. hispida* var. *cylindrica* Klebs), did not exactly determine its stations in Poland owing to the loss of notes. Luer-Jeziorańska (1939) mentioned it in the list of algae of the Jeziora river (Province of Warszawa).

Trachelomonas granulata Swir. emend. Defl. (Huber-Pestalozzi 1955, Popova 1966). Test 21—22.5 μ l., 16.24—17.25 μ br., flagellum aperture 5.32 \times 1.33 μ (Fig. 2). Dimensions smaller than those given by Huber-Pestalozzi (1955) after Bourrelly. Found singly in the year 1963 in the commercial pond at Landek (Bucka, Kyselowa 1967), in the year 1964 in the Vistula river above Bielany near Kraków (Kyselowa, Kysela 1966), and in the year 1967, in the Soła river at Żywiec (Bucka, Krzczkowska-Wołoszyn, hitherto unpublished material).

Earlier it was reported by Dreżepolski (1925) from the vicinity of Lwów (now Ukrainian S.S.R.).

Trachelomonas hispida (Perty) Stein var. *caudata* Lemm. (Huber-Pestalozzi 1955, Popova 1966). Test 22.8 μ l., 16.3 μ br., spine ca 2.5 μ l. (Fig. 3). Variety found singly in the year 1958 in the new spawning pond at Gołysz (Krzczkowska-Wołoszyn 1967) and in the year 1961 in two commercial ponds at Wójcza (Province of Kielce) (Krzczkowska 1963).

The variety has probably not been reported up to now from the other regions of Poland. Given from Latvia, Germany, Belgium, Austria, and from Asia and Australia.



Figs 1—12. 1 — *Trachelomonas allia*, 2 — *Tr. granulata*, 3 — *Tr. hispida* var. *caudata*, 4 — *Tr. hispida* var. *punctata*, 5 — *Tr. oblonga*, 6 — *Tr. pseudocaudata*, 7 — *Tr. pseudofelix*, 8 — *Strombomonas gibberosa*, 9 — *Str. gibberosa* fa *spiralis*, 10 — *Str. longicauda*, 11 — *Cryptomonas erosa*, 12 — *Dichotomococcus Hoefleri*. Fig. 9 magnification b; Figs 1, 4, 6, 8, 10 magnification c; Figs 2, 3, 7 magnification d; Fig 11 magnification e; Figs 5, 12 magnification f

Trachelomonas hispida (Perty) Stein emend. Defl. var. *punctata* Lemm. (Huber-Pestalozzi 1955). Test 27.9μ l., 19μ br. (Fig. 4). Found singly in the year 1956 in the old spawning pond and in the year 1958 in the new spawning ponds at Gołysz (Krzeczowska-Wołoszyn 1967, 1967a).

Known from the ponds of the Province of Opole (Lemmermann 1905), from a lake in the Province of Gdańsk (Schultz 1931), and from ponds situated now within the Ukrainian S.S.R. (Koczwarą 1916, Dreżepolski 1925) and Byelorussian S.S.R. (Dreżepolski 1922).

Trachelomonas oblonga Lemm. (Huber-Pestalozzi 1955). Test 12μ l., 8.75μ br. (Fig. 5). Single specimens found in the year 1963 in the commercial pond at Gołysz (Bucka, Kyselowa 1967 — included to *Trachelomonas* sp. div.). New species for the investigated terrain; previously reported from this province by Siemińska (1956). Also known from other regions of Poland.

Trachelomonas pseudocaudata Defl. (Huber-Pestalozzi 1955, Popova 1966). Test 40.5μ l., 21.9μ br., collar ca 6μ br. (Fig. 6). Noted singly in the years 1958, 1959, and 1960 in the new spawning ponds at Gołysz (Krzeczowska-Wołoszyn 1967) and in the year 1961 in the commercial pond at Wójcza, Province of Kielce (Krzeczowska 1963).

On the basis of accessible literature no other stations in Poland were found. Given from U.S.S.R., France, Holland, and Switzerland.

Trachelomonas pseudofelix Defl. (Huber-Pestalozzi 1955). Test $15-16.17 \mu$ l., $11.55-12.6 \mu$ br. (without warts), warts $1.33-1.50 \mu$, wall 2.1μ thick (Fig. 7). Test dimensions somewhat smaller than those given by Deflandre (1927). Occurred fairly numerously in the year 1963 in the commercial pond at Gołysz and at Landek (Bucka, Kyselowa 1967).

A species not hitherto reported from Poland. Known from U.S.S.R., France, Holland, Rumania, Hungary, and also Asia and America.

Strombomonas gibberosa (Playf.) Defl. (Huber-Pestalozzi 1955, Popova 1966). Test 59.8μ l., 36.8μ br., collar ca 15μ l. and 6.4μ br., spine 20.2μ l. (Fig. 8). Found once in the year 1960 in the new spawning pond (Krzeczowska-Wołoszyn 1967).

As far as we know from the available literature, the species has not yet been reported in Poland. Known from Czechoslovakia, Rumania, France, Holland, U.S.S.R., Manchuria, and also Australia and Venezuela.

Strombomonas gibberosa (Playf.) Defl. fo. *spiralis* Defl. (Huber-Pestalozzi 1955). Whole test 61.6μ l., 35μ br., spine 17.7μ l., collar 11μ l., and 8.3μ br. (Fig. 9). Occurred once in the year 1960 in the new spawning pond at Gołysz (Krzeczowska-Wołoszyn 1967).

As far as we know, it has not hitherto been described in Poland; given from France.

Strombomonas longicauda (Swir.) Defl. Test 41—42.5 μ l., 19—21.3 μ br., spine 18.5—20.3 μ l., neck 10.5—11.2 μ l., 6—6.5 μ br. (Fig. 10).

According to Huber-Pestalozzi (1955), *Str. longicauda* (Swir.) Defl. relates to *Tr. longicauda* Swir.; after Dreżepolski (1925) its separation was unfounded as he considered it as *Tr. ensifera* Daday.

Found only once in the year 1960 in the new spawning pond at Golysz (Krzeczowska-Wołoszyn 1967). It is probably the first station of this species in Poland, for Dreżepolski (1925) did not establish the localities of its occurrence; known from U.S.S.R. and Belgium.

Pyrrophyta

Cryptophyceae

Cryptomonas erosa Ehrenb. (Huber-Pestalozzi 1955). Cell 29.33 μ l., 16.87 μ br. (Fig. 11). Observed abundantly in the years 1959 and 1960 in the new spawning ponds at Golysz (Krzeczowska-Wołoszyn 1957) and in the year 1967 numerously in the commercial pond of the Complex Mnich (Kyselowa, materials in elaboration).

A new species for the described terrain. Within the present borders of Poland it has been reported hitherto from lakes and rivers in the provinces: Zielona Góra (Schroeder 1918, Bennin 1925, 1926 a, b), Poznań (Wawrzyniak 1923), Białystok (Wisłouch 1926) and from ponds in the Province of Wrocław (Weimann 1938).

Chrysophyta

Xanthophyceae

Dichotomococcus Hoefleri Bourrelly. Cell ca 5 μ l., ca 2 μ br. (Fig. 12). Cells elliptic in shape, joined together with the remains of the old mother-cell wall, forming irregularly branched colonies within gelatinous envelopes. Occurred fairly numerously in the year 1963 in the commercial pond at Golysz (Bucka, Kyselowa 1967).

Species described by Bourrelly (1963) from France. In Poland it is its first station.

Chlorophyta

Volvocales

Elakatothrix acuta Pascher (Koršikov 1953). Cell 5.88—7 μ

l., 1.54—1.9 μ br., colony 28 μ l. (Fig. 13). Dimensions smaller than those given by Pascher (1915), Koršikov (1953), and Krzeczowska-Wołoszyn (1966), which might be the result of the cell division observed in the majority of specimens.

The colony described by Krzeczowska-Wołoszyn was in shape like that given by Hindák (1962), while the one now discussed was similar to Peterfi's illustration (1964).

Species noted fairly numerous in the year 1963 in the commercial pond at Landek and singly at Gołysz (Bucka, Kyselowa 1967). It was reported by Krzeczowska-Wołoszyn (1966) from the investigated region.

Unknown for the other stations in Poland. Recorded from Czechoslovakia, Rumania, and U.S.S.R.

Chlorococcales

Pediastrum duplex Meyen var. *genuinum* A. Braun fo. *gracilis* (Pascher 1915). Cell 10 μ in diameter (Fig. 14). The form appeared once in the year 1963 in the commercial pond at Gołysz (Bucka, Kyselowa 1967 — among *Pediastrum* sp. div.).

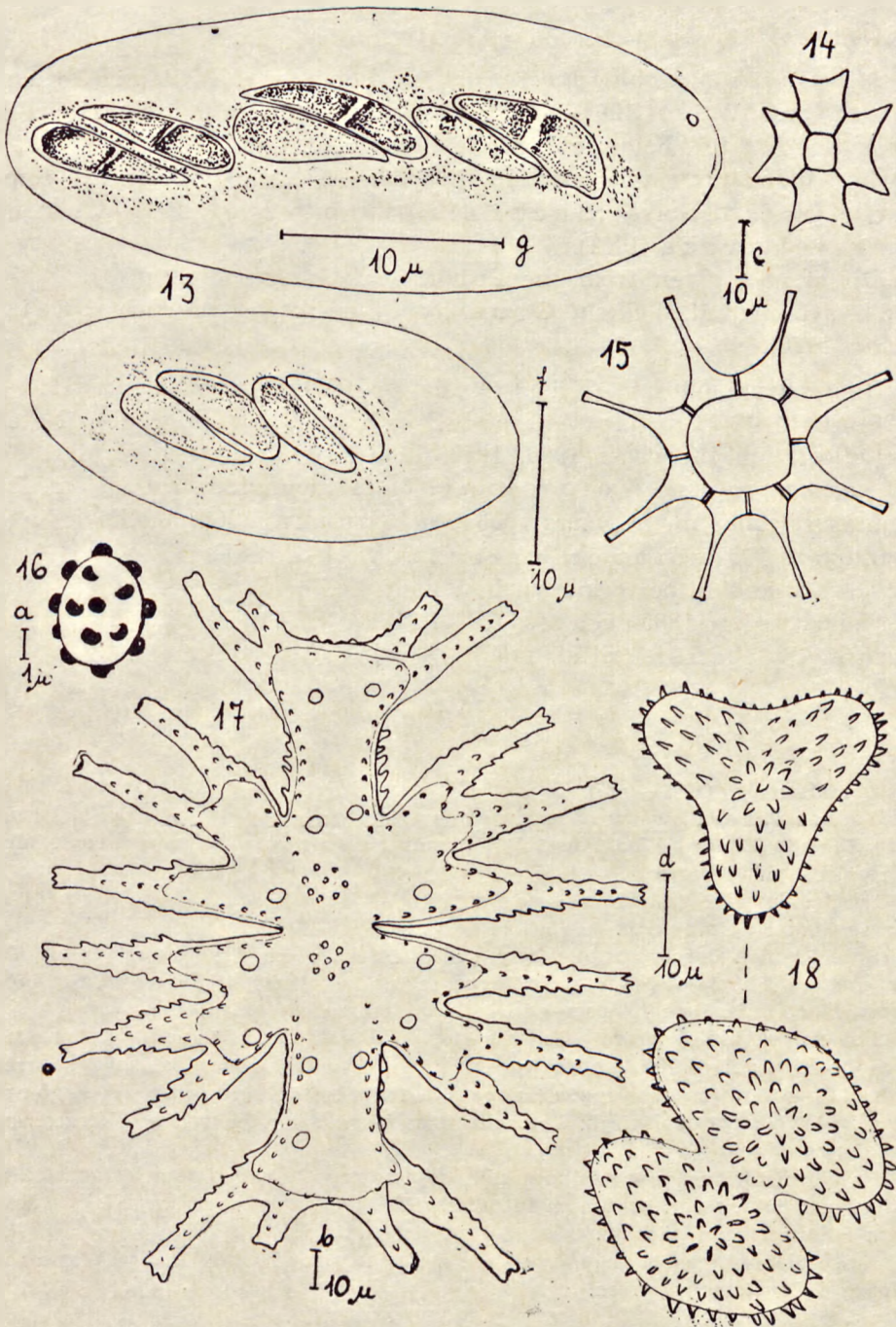
While the variety has often been reported from Poland, only two stations of this form have been found in the provinces: Olsztyn (Krawse 1906, as *Pediastrum simplex*) and Warszawa (Humblet-Pawłowska 1939).

Pediastrum simplex (Meyen p.p.) Lemm. var. *radians* Lemm. (Pascher 1915). Cell 10.5 μ l., 3.5 μ br., diameter of colony 21 μ (Fig. 15). The variety occurred sporadically in the year 1963 in the commercial pond at Gołysz (Bucka, Kyselowa 1967 — among *Pediastrum* sp. div.).

In Poland it has been noted in the provinces: Warszawa (Humblet-Pawłowska 1939, Luer-Jeziórańska 1939, Wysocka 1949—1950), Katowice (Wisłouch-Smreczyńska 1934), and Gdańsk (Rumek 1958). Sometimes other Polish authors did not distinguish the variety, leaving it at the species, this being seen in the collection of algal drawings. This variety, however, was eliminated in the later systematic publications (Bigeard 1936, Prescott 1951, Koršikov 1953).

Siderocelis oblonga (Naumann) Fott (Hortobágyi 1962). Cell 4.55 μ l., 3.11 μ br. (Fig. 16). Noted singly in the year 1963 in the commercial ponds at Gołysz (Bucka, Kyselowa 1967).

Species not hitherto reported from Poland. Known from Hungary, Czechoslovakia, and Sweden.



Figs 13—18. 13 — *Elakatothrix acuta*, 14 — *Pediastrum duplex* var. *genuinum* fa *gracilis*, 15 — *P. simplex* var. *radians*, 16 — *Siderocelis oblonga*, 17 — *Micrasterias Mahabuleshwariensis* var. *Wallichii*, 18 — *Staurastrum pilosum*. Fig. 16 magnification a; Fig. 17 magnification b; Fig. 14 magnification c; Fig. 18 magnification d; Fig. 15 magnification f; Fig. 13 magnification g.

Conjugales

Micrasterias Mahabuleshwariensis Hobson var. *Wallichi* (Grun.) (West and West 1904—1923). Cell without lobes 170.56μ l., with lobes 189.25μ br., polar lobe 105.14μ max. br., isth. 23.36μ (Fig. 17). Variety found not numerously in the years 1956 and 1957 in the commercial ponds at Gołysz (Bucka 1960) and in the year 1967 at Landek (Krzeczkowska 1961).

Up to now given from the Province of Gdańsk (Schultz 1922), and as synonym *M. Wallichi* Grun. from the Province of Opole (Gleisberg 1920).

Staurastrum pilosum (Näg.) Archer (West and West 1904—1923). Cell 42.78μ l., 37.43μ br., isth. 12.83μ (Fig. 18). Noted sporadically in the years 1956, 1959, 1960 (Bombówna et al. 1962, Krzeczowska-Wołoszyn 1966) in the nursery ponds, in the commercial ones in the years 1956, 1957 (Bucka 1960) at Gołysz, and in the year 1957 at Landek (Krzeczowska 1961).

The stations hitherto known in Poland lie in the provinces: Kraków (Raciborski 1885, Gutwiński 1897, Siemińska 1967) and Gdańsk (Czubiński et al. 1954).

STRESZCZENIE

Z materiałów (1953—1967), zbieranych przeważnie ze stawów rybnych w Gołyszu i Landeku (województwo katowickie) na terenie Gospodarstwa Doświadczalnego Zakładu Biologii Wód Polskiej Akademii Nauk w Krakowie, omówiono niektóre glony planktonowe.

Uwzględniono 12 gatunków, 4 odmiany i 2 formy z *Euglenophyta*, *Pyrrophyta*, *Chrysophyta* i *Chlorophyta*.

Spośród nich dotychczas nie były podawane z Polski: *Trachelomonas hispida* var. *caudata*, *Tr. pseudocaudata*, *Tr. pseudofelix*, *Strombomonas gibberosa*, *Str. gibberosa* fa. *spiralis*, *Dichotomococcus Hoefleri* i *Siderocelis oblonga*.

Podane wcześniej przez Koczwarę i Dreżepolskiego, przeważnie z okolic Lwowa: *Trachelomonas granulata* i *Strombomonas longicauda*; przez Schultza z województwa gdańskiego i Lemmermannna oraz Gleisberga z województwa opolskiego: *Trachelomonas hispida* var. *punctata* i *Micrasterias Mahabuleshwariensis* var. *Wallichi*.

Rzadko notowane, znane tylko z kilku stanowisk w Polsce: *Trachelomonas allia*, *Pediastrum duplex* var. *genuinum* fa. *gracilis*, *P. simplex* var. *radians*, *Elakatothrix acuta* i *Staurastrum pilosum*.

Nowe dla badanego terenu, cytowane z innych rejonów Polski: *Trachelomonas oblonga* i *Cryptomonas erosa*.

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