

Cladochytrium salsuginosum sp. nov.
— a new zoosporic fungus from Poland

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Cladochytrium salsuginosum sp. nov. isolated from brackish water of the Baltic bay Zalew Wiślany in Poland on onion skin baits is described. The new species is allied to the american *C. crassum* Hillegas but differs in many morphological features.

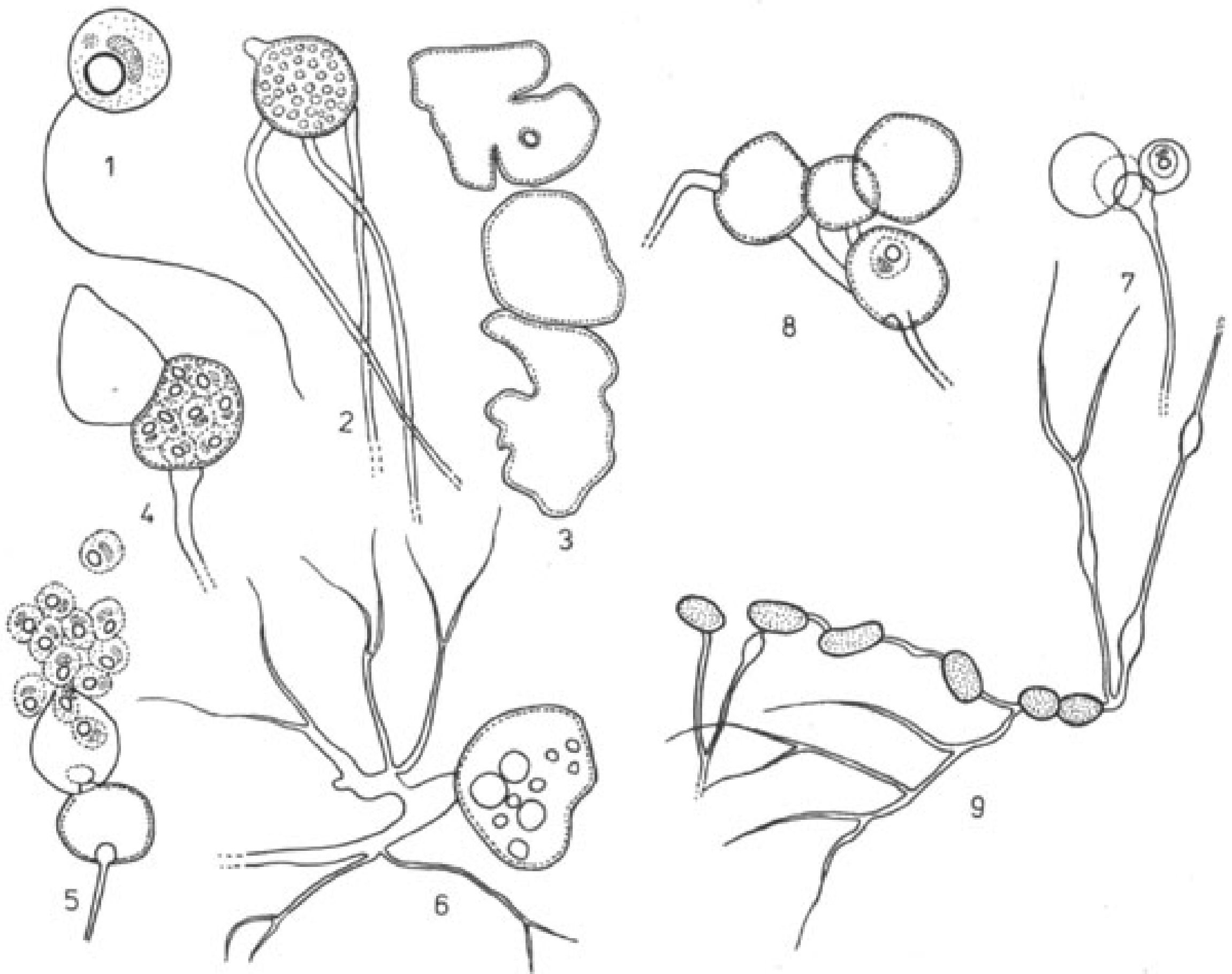
The samples of water which supply among others, a strain of an unknown yet *Cladochytrium* have been collected in July, 1984 in the vicinity of Frombork in north Poland. Twenty mililitre portion of brackish water have been baited with onion skin and snake skin baits and incubated at room temperature during one month. The microscopic examination of baits at August and September showed that in the investigated littoral zone of the bay many species of zoosporic fungi were active at the time of sampling. Most of discs of onion skin were covered by rhizomycelia of *Nowakowskiella* and *Cladochytrium*. The most active were common in Poland *N. macrospora* Karling but on some discs free from this fungus other members of the "cladochytrioid alliance" (Hassan 1982) developed. Among others, the still unknown *Cladochytrium* has been found, and this one is here described under the name *C. salsuginosum sp. nov.*

Cladochytrium salsuginosum sp. nov. Batko et Hassan

Etymology: *salsuginosum* (lat.) = brackish.

Rhizomycelium profusum, extensum, ramosum, 1.5-3.1 μm diametro, filiforme, isodiametricum, aseptatum, cum organis fusiformibus aseptatis, Sporangia plerum-

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Figs 1-9. *Cladochytrium salsuginosum*

1 - three free-swimming zoospores (scale A); 2 - spherical free-formed unripe zoosporangium; papilla wall yet dissolved leaving gelatinous plug; 3 - three irregular zoosporangia developing on the surface of the substrate; 4 - two zoosporangia linked in pair; one is still empty, other is passing through the stage of zoospores cleavage; 5 - zoosporangium with group of freshly discharged, still unmotile zoospores; 6 - the rhizomycelium bearing the rudiment of irregular zoosporangium and thin rhizoids; 7, 8 - clusters of empty zoosporangia; 9 - rhizomycelium with resting spores and aseptate spingle organs; 1 mm = 1.5 μ m

aque sphaerica vel late oviformia, 21-34.5 μ m diametro et 30-41 μ m longa, papillam brevem habentia, inoperculata. Saepe sporangia plus minusque irregulares. Zoosporae sphaericae, 9.6-10.5 μ m diametro, cum flagellis 54 μ m longis; in zoosporis liber natantis globuli refractivi hyalini 4.2-5.1 μ m diametro sunt. Sporae perdurantes plerumque plus minusque ovaes, 12-18.8 μ m longe et 7.5-9.8 μ m latae, pallide-brunneae, leves.

Holotypus: in herbario Instituti Botanici Universatis Varsaviensis subnumero 27830 et in collectio (isotypus) Universatis Minia (Egypt) depositus est.

Rhizomycelium cobwebby, delicate, prostrate, with intercalary, nonseptate, regularly fusiform swellings 9-13.5 μ m long and 4.5-6.8 μ m wide, the tenuous portions thin, mostly 1.5-3.1 μ m in diameter, rarely thicker, up to 4.5 μ m, thin-walled or wall slightly thickened; rhizoids very thin, branched. Zoosporangia intercalary or terminal, mostly nearly spherical to broadly ovate, 21-34.5 μ m in

diameter and 30-41 μm long, sometimes very irregular and lobate, in both instances equipped with one short domeshaped or cylindrical papilla up to 4.5 μm high and 4.1 μm in diameter; at maturity wall of papilla dissolves leaving the gelatinous plug which ultimately also deliquesce liberating zoospores. Some sporangia may be apophysate. Zoospores delimited in the sporangium and emerging in a non-motile mass, which remains at the mouth of the exit tube a few minutes before the zoospores become active and swim away. Zoospore hyaline, spherical, 9.6-10.5 μm in diameter, with a highly refractive globule 4.2-5.1 μm in diameter, flagellum 54 μm long. Close by globule a clear arched body or two smaller bodies are visible within the zoospore protoplast. Resting spores more or less elliptical, intercalary, 12-18.8 μm long and 7.5-9.8 μm wide, wall moderately thickened, light-brown, smooth, content homogenous. Isolated from the brackish water of the bay Zalew Wiślany in Poland on the onion skin bait at July, 1984.

H o l o t y p e: slide no 27830 deposited in the Herbarium of the Institute of Botany of the Warsaw University, Warsaw, Poland.

I s o t y p e: in the junior author collection in the Botany Department, Faculty of Science, Minia University, Minia, Egypt.

Among 8 species of *Cladochytrium* which may be accepted as validly described and sufficiently known (S p a r r o w 1960; K a r l i n g 1977), only two form aseptate spindle swellings on the rhizomycelium and have zoospores with hyaline resting globule at the same time. They are *C. crassum* Hillegas (1941) and *C. hyalinum* Berdan (1941). The zoospores of *C. crassum* are, however, smaller, up to 6.6 μm in diameter only. Moreover, the rhizomycelium of *C. crassum* differs distinctly from the rhizomycelium of our fungus being more robust, equipped with numerous trabeculae etc. *C. hyalinum* is closer to the new species, but also differs clearly by the shape of zoosporangia which are apophysate and equipped with longer neck and by the zoospore internal structure. Some similarities should be, however, emphasised, as a tendency of both fungi (i.e. – *C. hyalinum* and *C. salsuginosum*) to the predominantly extramatrically growth. In this respect they resemble rather *Nowakowskiella*, than *Cladochytrium*.

It may be concluded, that the mutual affinity between *C. hyalinum* – an Old World species, and *C. salsuginosum* – an New World one, supply once more example of the species vicariation, a phenomenon well known in the evolutionary taxonomy.

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