

## *Bulbochaete augustowiensis* Szym. sp. nova (*Oedogoniales, Chlorophyta*) found in Poland

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### Abstract

A new species of *Chlorophyta*—*Bulbochaete augustowiensis* was found in Poland. This species differs from *Bulbochaete echinospora* Lacerda by the size oogonia, and slightly by the size of the reduced male filaments and vegetative cells. The oospore is covered with irregular papillae on the central wall. The oogonium is covered with spines.

During phycological investigations in the Pojezierze Suwalsko-Augustowskie (Suwałki-Augustów Lake District) a green alga was found which was initially identified as *Bulbochaete echinospora* Lacerda (Szymańska 1976). A detailed analysis indicated that in fact it is a new species. *B. echinospora* does not occur in this area.

### BULBOCHAETE AUGUSTOWIENSIS SZYMAŃSKA SP. NOVA

Dioecious, nannandrous, idioandrosporous. Oogonia pyriform or spherical, slightly or distinctly flattened at poles, in outline slightly square, protruding, located under apical setae, or more rarely under vegetative cells (Figs. 1D, E, 2A, D). After fertilization of the egg cell the wall of the oogonium thickens, sometimes reaching 7 µm. On the middle wall small irregular warts occur, sometimes they are connected forming a sort of irregular reticulum (Figs. 1D, F, 2C). In species of *Bulbochaete echinospora* found and described by Lacerda (1943) and Gauthier-Lièvre (1964) in Portugal and Algeria the oospore outer wall is covered with conical spines. The supporting cells are of unequal length: the upper one is shorter than the lower one, or they are almost equal in length. Androsporangial cells single

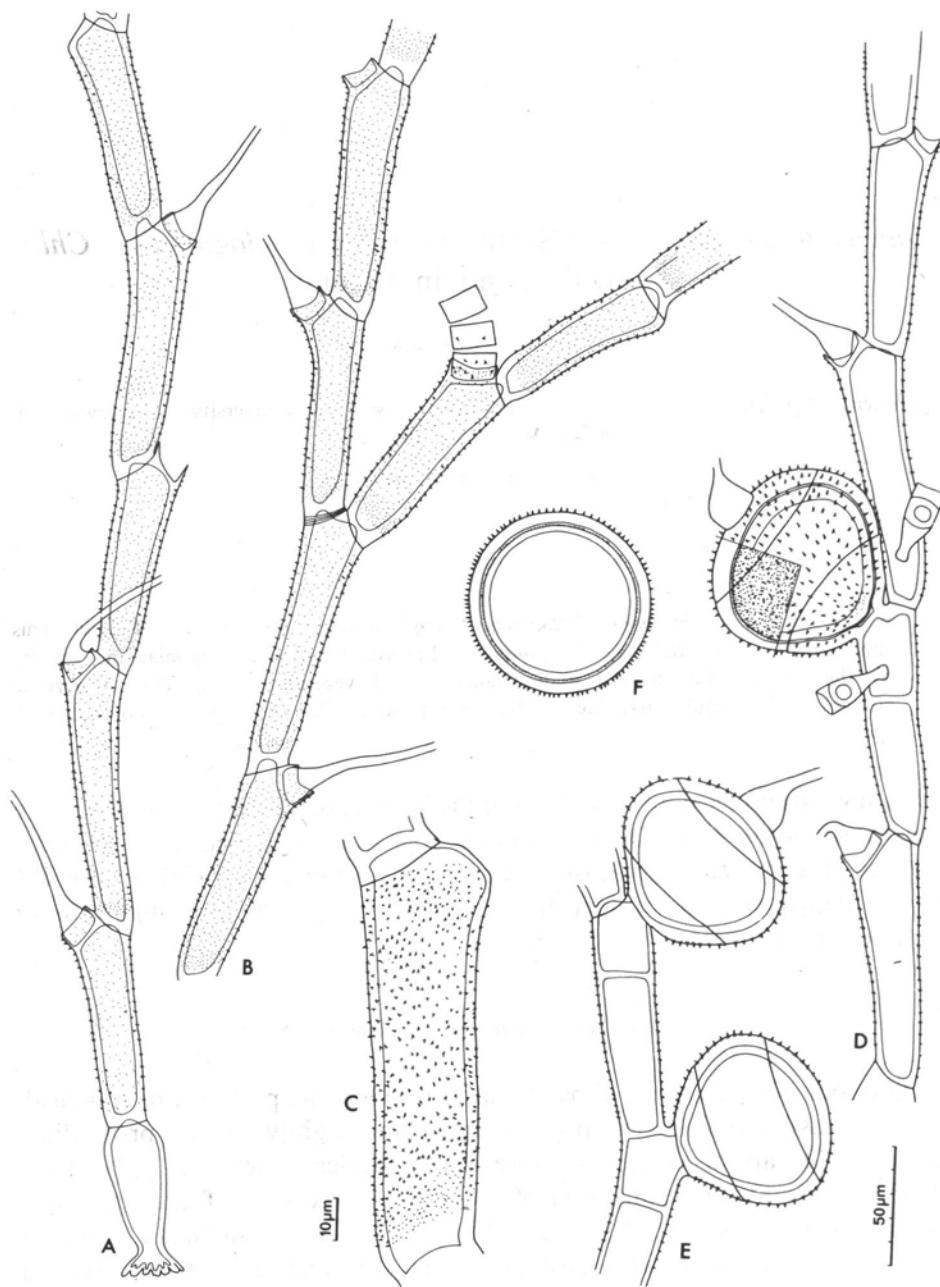


Fig. 1. *Bulbochaete augustowiensis*: A—fragment of thallus with basal cell; B—fragment of male thallus with androsporangia; C—relief of vegetative cell; D, E—fragment of female thalli with oogonia; F—oogonium with oospore (from above)

or grouped (2-4) (Fig. 1B). Reduced male filaments are attached to oogonium or to vegetative cells. Antheridia internal (Fig. 2E). Wall of oogonia and vegetative cells (except for the basal cell) covered with spines (Figs. 1A, C, 2B). Spines on androsporangia occur rarely and are then scarce. Dimensions: vegetative cells of female filaments 20-25  $\mu\text{m}$  wide, 72-105  $\mu\text{m}$  long; oogonia 73-80  $\mu\text{m}$  wide, 60-70  $\mu\text{m}$  long; oospores 62-69  $\mu\text{m}$  wide, 48-59  $\mu\text{m}$  long; androsporangia 19-20  $\mu\text{m}$  wide, 10-12  $\mu\text{m}$  long; reduced male filaments 11-14  $\mu\text{m}$  wide, 30-35  $\mu\text{m}$  long.

This species occurs in large numbers in the littoral of small lakes with a slightly acid or neutral pH; it forms generative cells from June to October.

Distribution in Poland: Suwałki-Augustów Lake District: Biale Lake near Smolniki, on *Phragmites communis*, VII 1973, leg. H. Szymańska (holotype in herbarium of Institute of Botany, Warsaw University—WA), ibidem on *Equisetum limosum*, VII-X 1973, leg. Szymańska; Czarne Lake near Smolniki, on *Ph. communis* and *E. limosum* and Kamionka Lake near Wiżajny, on *Ph. communis*, *Schoenoplectus lacustris*, *Nuphar letum*, VI-X 1973, leg. Szymańska.

*Diagnosis.* Dioica, nannandria, idioandrospora. Oogonia pyriformia aut globosa polis plus minusve complanatis et conturis aliquantum quadratis, patentia, sub setis terminalibus vel rarius sub cellulis vegetativis sita. Mesosporium oogoni verruculis irregularibus instructum, quae interdum confluent et reticulum irregulare formant. Cellulae suffulcantes inaequalis longitudinis (supera brevior quam infera) vel peane aequales. Androsporangia solitaria vel 2-4 aggregata. Nannandria interiora. Membrana cellularum vegetativarum et oogoniorum echinata ornata. Echini super androsporangiis raro et parce proventi. Dimensiones: cell. veg. (filam. fem.) 20-25  $\mu\text{m}$  diam., 72-105  $\mu\text{m}$  long.; oogonia 73-80  $\mu\text{m}$  diam., 60-70  $\mu\text{m}$  long.; oosporae 62-69  $\mu\text{m}$  diam., 48-59  $\mu\text{m}$  long.; androsporangia 19-20  $\mu\text{m}$  diam., 10-12  $\mu\text{m}$  long.; nannand, stipes 11-14  $\mu\text{m}$  diam, 30-35  $\mu\text{m}$  long.

Loci natales: lacus—Biale, Czarne, Kamionka (Szymańska 1976).

Typus in Instituto Botanico Universitatis Varsoviensis asservatur.

#### Acknowledgment

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*Bulbochaete augustowiensis* Szym., sp. nova (Oedogoniales, Chlorophyta)  
znaleziona w Polsce

Streszczenie

W Polsce znaleziono nowy gatunek *Chlorophyta*—*Bulbochaete augustowiensis*. Gatunek ten różni się od *B. echinospora* Lacerda wielkością oogoniów oraz wyraźnie mniejszymi nitkami męskimi i komórkami wegetatywnymi. Oospora jest pokryta nieregularnymi brodaweczkami na środkowej ścianie. Oogonium jest pokryte kolcami.