

John BRUINSMA \*

\* Thorbeckelaan 24; NL 5694 CR Breugel; The Netherlands  
Institution  
jhpbruinsma@gmail.com

## The glossary of the book “Charophytes of Europe”

### Abstract

The glossary of “Charophytes of Europe” (SCHUBERT et.al, 2024) consists of ‘all’ terms used in English to describe the morphology of charophytes in the past one hundred years and makes choices between synonyms. It is published in two ways. The version in the book is in English only: term - definition - picture. The electronic version includes equivalents in Latin and in 16 European languages as well. The way this version can be accessed is described.

**Keywords:** Charophyte morphology, Charophyte terminology, Characeae, Charophyte terminology translations

### 1 A glossary of Charophyte terminology

During the preparation of European Charophytes (SCHUBERT et.al, 2024) the authors soon realised that many terms are not well defined. Some of them, coming e.g., from leaf morphology, were applied to unicellular structures, others used as synonyms for structures which differed in their ontogeny. In order to sort out these problems, a short list of “problematic terms” rapidly evolved into a rather huge compendium, giving rise to an initiative to compile a comprehensive glossary. The team that collaborated on this project consisted of Michelle T. Casanova, Dietmar Jäger, Elisabeth Lambert, Emile Nat, Hendrik Schubert, Nick Stewart and the present author. All specific terms dealt with have been revised, defined and, in the case of confusing use between authors or disciplines, a proposal for the future use of the term agreed upon after discussion. The glossary is presented in two ways: in the book and electronically.

### 2 The paper version

The printed glossary is a compilation of terms that are used to describe (European) Charophytes. Each term is defined, provided with a picture and an indication whether it is considered a synonym of another preferred term. Included are the terms used in the present book and synonyms that were used in important Charophyte literature in the last century, for which we referred to BRYANT and STEWART (2011); GROVES and BULLOCK-WEBSTER (1920); MOORE (1986) and WOOD and IMAHORI (1964, 1965). Many of the terms used to describe the (scanning electronic) microscopic

characters of oospore-membranes are quite new to charology. Most of these terms are analogies of the terms which are used to describe pollen surface characters: FAEGRI and IVERSON (1964); HARRIS (1979).

The terms are illustrated by two kinds of pictures. The drawings are made by Dietmar Jäger. The SEM-pictures are made by Michelle T. Casanova. For SEM the oospores were prepared by cleaning and coating in gold, or gold–palladium and several different SEM machines were used over time (methods are outlined in CASANOVA, 2009).

### **3 The electronic version**

The internet version of the glossary includes the same terms, definitions and pictures and equivalents in Latin and in all European languages in which we found literature. At present these languages are available: Czech, Danish, Dutch, Estonian, French, German, Greek, Hungarian, Italian, Norwegian, Polish, Russian, Serbian, Slovakian, Spanish and Swedish. The following persons, mainly native speakers, contributed to the translations: Nadia Abdelahad, Lars Båstrup-Spohr, Jelena Blaženčić, Irmgard Blindow, Aurélie Boissezon, John Bruinsma, Michelle T. Casanova, Elena Chemeris, Luc Denys, Núria Flor Arnou, Király Angela, Király Gergeli, Tomáš Hauer, Alica Hindáková, Anja Holzhausen, Elisabeth Lambert, Anders Langangen, Aleksandra Marković, Eva Papastergiadou, Mariusz Pełchaty, Jan Simons, Joep Spronk, Nick Stewart, Kaire Torn, Ivana Trbojević and Klaus van de Weyer.

### **4 Access and improvements**

The internet version of the glossary can be accessed via the University of Rostock website. Navigate to the section entitled 'Aquatic Ecology' and then select the tab 'Rostock Marine Biology Contributions'. The glossary is available in the folder for issue 34 (2025) of the RMBs and in detail at the following link: <https://www.oekologie.uni-rostock.de/rostocker-meeresbiol-beitraege/rmb-32-2023-1-1-1/> and the following hyperlink: [RMB 34 \(2025\) - Lehrstuhl für Ökologie - Universität Rostock](#). The internet version is meant as a first attempt and no doubt it will contain omissions and even mistakes. Users are invited to suggest improvements and additions. Especially Latin has to be complemented, an expert in charophytes and botanical Latin is invited. New languages are welcome on the condition that the terms have been used in the description of charophytes this language. In the same way there is no principal reason to restrict the internet version to European languages - though there may be practical ones. Suggestions can be sent either directly to the author (jhpbruinsma@gmail.com) or to Hendrik Schubert (Hendrik.schubert@uni-rostock.de). It is our intention to update annually.

## **Zusammenfassung**

Das Glossar "Charophytes of Europe" (SCHUBERT et. al, 2024) besteht aus allen Begriffen die im Englischen verwendet wurden um die Morphologie von Characeen in den letzten hundert Jahren zu beschreiben und wählt zwischen Synonymen. Es ist auf

zwei Arten veröffentlicht. Die Papierversion ist nur in englischer Sprache verfügbar: Begriff - Definition - Bild. Die elektronische Version enthält auch Äquivalente in Lateinisch und 16 europäische Sprachen. Die Weise, wie auf diese Version zugegriffen werden kann, wird beschrieben.

## Acknowledgements

All persons mentioned in the text are gratefully thanked for their pleasant and knowledgeable cooperation in preparing the glossary and the translations: Nadia Abdelahad, Lars Båstrup-Spohr, Jelena Blaženčić, Irmgard Blindow, Aurélie Boissezon, Michelle T. Casanova, Elena Chemeris, Luc Denys, Núria Flor Arnou, Tomáš Hauer, Alica Hindáková, Anja Holzhausen, Dietmar Jäger, Király Angela, Király Gergeli, Elisabeth Lambert, Anders Langangen, Aleksandra Marković, Emile Nat, Eva Papastergiadou, Mariusz Pełechaty, Hendrik Schubert, Jan Simons, Joep Spronk, Nick Stewart, Kaire Torn, Ivana Trbojević and Klaus van de Weyer.

## References

- Bryant, J. A., & N. Stewart, 2011. Order Charales. In: D. M. John, B. A. Whitton, & A. J. Brook (Eds.), *The freshwater algal flora of the British Isles* (pp. 742–765). Natural History Museum, Cambridge University Press, Cambridge.
- Casanova, M. T. (2009). An overview of *Nitella* (Characeae, Charophyceae) in Australia. *Australian Systematic Botany*, 22, 193–218.
- Faegri, K., & J. Iversen, 1964. *Textbook of pollen analysis*. With a chapter by H. T. Waterbolk. 2nd rev. ed. Blackwell Scientific Publications.
- Groves, J., & G. R. Bullock-Webster, 1920. *The British Charophyta*. Volume I. *Nitelleae*. Ray Society, London.
- Harris, R. A., 1979. A glossary of surface sculpturing. *Occasional Papers in Entomology*, 28, 1–31.
- Moore, J. A., 1986. *Charophytes of Great Britain and Ireland*. BSBI Handbook No. 5, Botanical Society of the British Isles, London.
- Schubert, H., I. Blindow, E. Nat, H. Korsch, T. Gregor, L. Denys, N. Stewart, K. van de Weyer, R. Romanov & M.T. Casanova (eds.), 2024. *Charophytes of Europe*. Springer.
- Wood, R. D., 1965. *A revision of the Characeae*. First Part: Monograph of the Characeae, J. Cramer, Wertheim
- Wood, R. D., & K. Imahori, 1964. *A revision of the Characeae 2: Iconograph of the Characeae*, J. Cramer, Werth