

Phylogenetic, taxonomic and biogeographical studies in the Pithophoraceae (Cladophorales, Chlorophyta)
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hristian Bödeker was born on the 27th of August 1976 in Münster, Germany. He obtained his highschool diploma in 1996 and subsequently performed his civil service in Münster. In 1997, Christian started studying biology at the University of Göttingen, Germany. After the intermediate examinations in general biology in 1999, he switched to the University of Rostock, Germany, to specialise in marine biology as a major. Minor subjects were ecology, botany and physical oceanography. While studying in Rostock, Christian worked in numerous projects as a student assistant and took part in several phycological fieldtrips abroad. His term paper on the physiology of red algae under UVR-stress was carried out at the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven, Germany. The practical work for the graduation thesis ('Diplom') was undertaken at the National Institute for Water and Atmospheric Research and Te Papa Tongarewa National Museum of New Zealand in Wellington, New Zealand, and funded by a scholarship of the German Academic Exchange Service (DAAD). The title of the thesis was 'Do morphology and life history reflect phylogeny? Culture experiments with Bangia strains (Bangiales, Rhodophyta) from New Zealand', supervised by Dr. Wendy Nelson (Wellington) and Prof. Dr. Ulf Karsten (Rostock). After graduating in December 2003, Christian started his PhD in May 2004 at the National Herbarium of the Netherlands on phylogenetics and systematics of the Cladophorales (Chlorophyta). Originally, the PhD project focussed on the genera Chaetomorpha, Cladophora and Rhizoclonium, but was later changed to studies in the Aegagropilaclade. During his PhD, Christian assisted undergraduate classes and supervised a BSc project on the biogeography of the green freshwater alga Aegagropila linnaei. Furthermore, he undertook phycological fieldwork in many countries and presented his research at international conferences in Leiden (Netherlands), Durban (South Africa), London (United Kingdom), Hobart (Australia) and Tokyo (Japan).





Boedeker, C. & Karsten, U. 2005. The occurrence of mycosporine-like amino acids in the gametophytic and sporophytic stages of *Bangia* (Bangiales, Rhodophyta). *Phycologia* 44:403-8.

Boedeker, C., Farr, T. J. & Nelson, W. A. 2007. Unusual rhizoidal development in *Bangia* (Bangiales, Rhodophyta)-another way of vegetative reproduction? *Algae* 22:31-6.

Leliaert, F. & **Boedeker,** C. 2007. Cladophorales. *In* Brodie, J., Maggs, C. A., John, D. [Eds.] *Green seaweeds of Britain and Ireland*. Natural History Museum Publications, London.

Leliaert, F., De Clerck, O., Verbruggen, H., **Boedeker,** C. & Coppejans, E. 2007. Molecular phylogeny of the Siphonocladales (Cladophorophyceae, Chlorophyta). *Molecular Phylogenetics and Evolution* 44:1237-56.

Boedeker, C., Farr, T. J. & Nelson, W. A. 2008. Comparative culture experiments with filamentous members of the Bangiales (Rhodophyta) from New Zealand: insight into ecological adaptation and biogeography. *Phycological Research* 56:183-92.

Boedeker, C. & Immers, A. 2009. No more lake balls (*Aegagropila linnaei* Kützing, Cladophorophyceae, Chlorophyta) in The Netherlands? *Aquatic Ecology* 43:891-902. **[part of Chapter 2]**

Leliaert, F., **Boedeker**, C., Pena, V., Bunker, F., Verbruggen, H. & De Clerck, O. 2009. *Cladophora rhodolithicola* sp. nov. (Cladophorales, Chlorophyta), a diminuitive species from European Maerl beds. *European Journal of Phycology* 44:155-69.

Leliaert, F, Rueness, J., **Boedeker,** C., Maggs, C.A., Cocquyt, E., Verbruggen, H. & De Clerck, O. 2009. Systematics of the marine microfilamentous green algae *Uronema curvatum* and *Urospora microscopica*. *European Journal of Phycology* 44:487-96.

Shakman, E., **Boedeker**, C., Bariche, M. & Kinzelbach, R. 2009. Food preferences and feeding habits of the Lessepsian migrants *Siganus rivulatus* Forsskål, 1775 and *Siganus luridus* Rüppell, 1828 (Pisces: Siganidae) from Libyan coastal waters. *Journal of Biological Research* 12:115-24.

Boedeker, C. 2010. The attached form of the endangered freshwater alga *Aegagropila linnaei* Kützing (Chlorophyta) is found in the Zuideindigerwiede, The Netherlands. *Aquatic Botany* 92:75-7. **[part of Chapter 2]**

Boedeker, C. & Hansen, G. 2010. Nuclear rDNA sequences of *Wittrockiella amphibia* (Collins) comb. nov. (Cladophorales, Chlorophyta) and morphological characterisation of the mat-like growth form. *Botanica Marina* 53:351-6. [= Chapter 6]

Boedeker, C., Eggert, A., Immers, A. & Smets, E. 2010. Global decline of and threats to *Aegagropila linnaei*, with special reference to the lake ball habit. *BioScience* 60:187-98. **[= Chapter 3]**

Boedeker, C., Eggert, A., Immers, A. & Wakana, I. 2010. Biogeography of *Aegagropila linnaei* (Cladophorophyceae, Chlorophyta): a widespread freshwater alga with low effective dispersal potential shows a glacial imprint in its distribution. *Journal of Biogeography* 37:1491-503. **[= Chapter 4]**

Boedeker, C., Ramírez, M. E. & Nelson, W. A. 2010. *Cladophoropsis brachyartra* from southern South America is a synonym of *Wittrockiella lyallii* (Cladophorophycaeae, Chlorophyta), previously regarded as endemic to New Zealand. Phycologia 49 (6): 525-536. **[= Chapter 5]**

Nitschke, U., **Boedeker,** C., Karsten, U., Hepperle, D. & Eggert, A. Does the lack of mannitol accumulation in an isolate of *Rhodella maculata* (Rhodellophyceae, Rhodophyta) from the brackish Baltic Sea indicate a stressed population at the distribution limit? *European Journal of Phycology*, in press.

Boedeker, C., O'Kelly, C. J., Star, W. & Leliaert, F. Molecular phylogeny and taxonomy of the *Aegagropila*-clade (Cladophorales, Chlorophyta), including the description of *Aegagropilopsis* gen. nov. and *Pseudocladophora* gen. nov. Submitted. [part of Chapter 7]

Boedeker, C., O'Kelly, C. J. & Leliaert, F. Thallus and niche evolution in the Pithophoraceae (Cladophorales, Chlorophyta). In preparation. [part of Chapter 7]

O'Kelly, C. J., **Boedeker,** C., Wysor, B. & Bellows, W. K. Microscopical observations and molecular sequence data for *Wittrockiella amphibia* and *Wittrockiella zosterae* sp. nov. (Cladophorales, Chlorophyta) from the Pacific coast of North America. In preparation.

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And, how could I forget, there's good old Hana. I like.