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Colourful coexistence : a new solution to the plankton paradox

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The lakes and oceans on our planet are teeming with phototrophic microorganisms that absorb light for photosynthesis. Thereby, these microorganisms provide the basis of the food web and fix significant amounts of the greenhouse gas CO₂. Aquatic microorganisms come in many colours (red, brown, green, pink and purple), which allows them to utilize different parts of the solar light spectrum.

Would differences in pigmentation between phytoplankton species allow their coexistence, through a subtle form of niche differentiation analogous to Darwin's finches? And, is the distribution of the vari-coloured phytoplankton species in lakes and oceans related to the prevailing light spectra in these waters? Which colours of light predominate in the waters on planet Earth, and what have the vibrations of the water molecule to do with this?

These questions and many more are addressed in this Ph.D thesis. This research, which combined models, experiments and fieldwork took the author Maayke Stomp, her supervisor Prof. dr. Jef Huisman from the University of Amsterdam and many colleagues to a wide range of aquatic ecosystems across the globe to unravel the importance of light colour for the competitive dynamics of phytoplankton species. And still many questions remain to be answered...

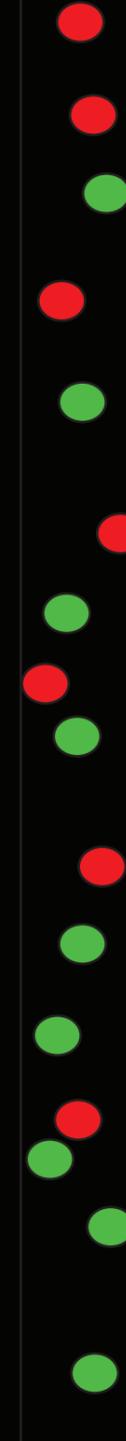


Colourful Coexistence

A New Solution to the Plankton Paradox



Maayke Stomp



Uitnodiging voor het bijwonen van de openbare verdediging van Maayke Stomp
op dinsdag 23 september 2008 om 12:00 in de Agnietenkapel
Oudezijds Voorburgwal 243, Amsterdam.



Receptie na afloop in Café De Jaren
Nieuwe Doelenstraat 20-22, Amsterdam.