Phytopia: Showcasing Tiny Ocean Life in a Multimedia Environment

Cynthia Hall-Atkinson, Annette deCharon, Michael Sieracki and Stephan Zeeman

Phytopia is an educational CD-ROM now being developed by the Bigelow Laboratory for Ocean Sciences, the University of New England, and the Data Distribution Laboratory at NASA's Jet Propulsion Laboratory. This multimedia educational experience brings the lower end of the marine food web "to life," promoting interaction with multimedia tools that enable students to discover why the marine ecosystem is critical to human existence. This product provides a window to the fascinating world of the oceans' microscopic plant life which, before Phytopia, only scientists saw.

The core technology of Phytopia is a first-ever searchable database of many important phytoplankton from the world's temperate oceans: "The Phyto Files." Also included in The Phyto Files module are three-dimensional phytoplankton models and a virtual microscope tool, which allows for the viewing of phytoplankton at various magnifications, under various epifluorescence techniques, and by scanning electron microscopy. In the future, we will develop two additional modules: "The Phyto Factors" and "Special Topics." The Phyto Factors module contains engaging interactive interfaces in which users can alter environmental conditions to see how changes in these factors affect the chlorophyll content and species composition of the upper ocean. The elements heretofore described provide the foundation needed for students to truly envision and grasp the marine food web. With this background they can explore many interesting and relevant subjects, such as harmful algal blooms, in the Special Topics module. The culmination of these three modules will be a truly hybrid product benefiting both research and education.