

STATEMENT V

David Senn, Prof. Dr. phil., Professor of Zoology and Marine Biology at the University of Basel and crewmember of «sun21»

Plankton und food chains in the Atlantic Ocean – Essential research on the «sun21»

Seawater is not a lifeless liquid; on the contrary, it contains numerous and various creatures (frequently thousands upon thousands per litre). Most of the organisms are so small that they can only be seen in a water sample underneath the microscope. The organisms drifting passively in the flowing sea are called plankton. These can be plants (phytoplankton) or animals (zooplankton). Amidst them are tiny protozoans and small metazoans and larger animals such as jellyfish and tunicates (macro-plankton).

Life overseas and life on the seabed ultimately depend on the plankton. Not only do some forms feed on plankton; some of them also reproduce in such a way that their early development stages live after the manner of plankton themselves.

Research on marine plankton is an essential basis in the domain of marine biology. Healthy and diverse plankton is a prerequisite for an intact marine life. The vegetable primary production is followed by different steps of animal life in the food chain. Thus, copepods (their size extending only to a few millimetres) develop, then winged snails and fish larvae and then animals, which move along as nekton by means of own muscle strength, such as the herring species. These are eaten by larger animals like tunas and dolphins.

During the Atlantic crossing on the «sun21», we have the opportunity to take plankton samples with special (fine-meshed) nets every day. An analysis of the variety of forms of the phytoplankton and zooplankton from the east to the west across the moderately warm Atlantic Ocean shall broaden, as our basis, the understanding of the life streams in the sea. By means of this «transect», the microscopic life in the first 50 metres, i.e. in the zone of transmitted light, shall be explored.