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THE DIVERSITY AND DISTRIBUTION OF SURFACE PHYTOPLANKTON ALONG A MEGA TRANSECT (FROM HOBART TO MAWSON) IN SUMMER 2002/2003.

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Phytoplankton samples were collected from the water surface along a mega transect from Hobart to Mawson (from S 44^{o} 08.90' to S 66^{o} 47.81' and E 84^{o} 59.21' to E 145^{o} 51.90') in January to March 2003 during the Voyage 4, Australian Antarctic Division expedition.

The mega transect was divided into three parts, namely, the Antarctic Convergence, ice-free area and sea-ice area. Samples were taken from the surface using a submersible water pump which was attached at the bottom of the vessel *Aurora Australis*.

The salinity during the survey ranged from 33.219 ppt to 34.747 ppt. Meanwhile, the temperature during the sampling ranged from 3.453 ^{o}C to -1.819 ^{o}C. A total of 16 genera and 27 species of phytoplankton were recorded along the transect.

The Table below shows the summary of the results :

	Antarctic Convergence	Ice-free Area	Sea-ice Area
Total No. of Genera	7	13	13
Total No. of Species	13	13	19
Dominant Species	-*Chaetocerus atlanticus* -*Chaetocerus dichaeta*	-*Pseudonitzschia prolongatoides* -*Pseudonitzschia subcurvata*	-*Coscinodiscus* sp. -*Dactyliosolen* sp.

The dominant genus recorded in this study is *Chaetocerus* spp. And *C. pendulum* was reported to be unique in the Antarctic Convergence, while *Pseudonitzschia prolongatoides, Pseudonitzschia subcurvata* and *Corethron criophilum* were found in all the three areas along the mega transect.