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ALGAL AND CYANOBACTERIAL SPECIES DIVERSITY OF FRESH WATER STREAMS OF EAST ANTARCTICA.

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Based on the collection of algal and cyanobacterial species from 6 fresh water streams of Schirmacher Oasis, east Antarctica, the species diversity have been calculated. The species diversity can be expressed at three levels i.e. alpha (α), beta (β) and gamma (γ) diversity. The Alpha diversity comprises species richness and evenness in the distribution of individuals among species. The Simpson index λ, Shannon-Wiener diversity index H' and other two indices N1 and N2 were calculated. In Species richness (SR) Margalef Index (R1) and Menhinick Index (R2) were calculated for different streams. Different evenness indices E_1, E_2, E_3, E_4, E_5 were also calculated. For calculation of the beta (β) diversity Whittaker's measure, βw is calculated. The gamma (γ) overall diversity of all the streams can be calculated as the number of species found in the stream. It includes both α and β diversity. The maximum number of species was recorded in the stream SEM and the minimum was recorded in stream EGF. Also the species diversity were maximum in stream SEM and minimum in stream EGF.

There is not much difference in the values of β diversity of the streams studied and it ranged from 29 to 29.188 whereas the γ – diversity is highest in stream SEM and lowest in WN and it allows the comparison of stream diversity and gives an idea about how and which stream is different with other stream as in the present study we found that minimum γ diversity is found in stream EGF and maximum in SEM thus we can say that both are much different in comparison to other streams studied.