

Trophodynamics of chaetognaths in the Subtropical Convergence in the Indian sector of the Southern Ocean

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Trophodynamics of chaetognaths was investigated during the first Southern Ocean Ecosystem Variability Study within the vicinity of the Subtropical Convergence (STC) in the Indian sector of the SO during austral autumn (April), 2007. Total chaetognath abundance and biomass ranged from 0.37 to 6.88 ind.100m⁻³ and from <0.1 to 0.13mg Dwt 100m⁻³ respectively. Significantly ($p < 0.001$) higher biomass values were recorded south of the front. Neither biomass nor abundance of chaetognaths indicated significant correlations with mesozooplankton biomass and abundance ($r = 0.28$ and $r = -0.07$ respectively). Four species of chaetognaths were identified within the study area, *Eukrohnia hamata*, *Sagitta gazellae*, *S. zetesios* and *S. maxima*. Of the species *E. hamata* accounted for 45% of total abundance and 18% of total biomass while *S. gazellae* accounted for 36% and 68%, respectively. Average lengths for *E. hamata*, *S. gazellae* and *S. zetesios* were 36.15 ± 9.85 mm, 38.37 ± 8.16 mm and 37.46 ± 7.42 mm, respectively. The predominance of stages I and II indicated that chaetognaths were sexually immature. The mean feeding rate of *E. hamata* was estimated at 0.02 prey d⁻¹ and 0.34 prey d⁻¹ for *S. gazellae*. Combined predation impact of the two chaetognaths was equivalent to <0.1% of the copepod standing stock.