

Comparison of trophic relationships of the pelagic ecosystems south and north of Iceland

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A trophic study was carried out on plankton communities in the different environments south and north of Iceland in spring 2013 using stable carbon and nitrogen isotopes. The waters south and north of Iceland vary greatly both oceanographically and biologically with the rather stable and warm Atlantic water dominating south and west of Iceland, and the more variable and cold Arctic and Sub-Arctic waters in north and east of Iceland. A baseline of nitrogen and carbon sources varied south and north of Iceland with apparent enrichment of stable nitrogen isotopes in the North. About 3.5 trophic levels were observed in both ecosystems (of the key zooplankton species). Herbivorous copepods i.e. *Calanus* species, occupied the lowest level. The three euphausiid species studied, *Meganctiphanes norvegica*, *Thysanoessa inermis* and *T. longicaudata*, and the amphipod *Themisto libellula*, practiced omnivorous feeding strategy (occupying trophic levels between 2 and 3) while the chaetognaths *Sagitta elegans* and *Eukronia hamata*, the amphipod *T. abyssorum* and the copepod *Paraeuchaeta glacialis* were strictly carnivorous (trophic levels > 3). Estimation of the variability in the trophic position of the most abundant zooplankton species in these two areas will provide fundamental information for the understanding of the functioning of the pelagic ecosystems of these two different environments.

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