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Molecular characterizations of the Arctic jellies from Svalbard (79°N), Norway, by ribosomal DNA sequences

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Gelatinous plankton organisms (jellyfishes) frequently observed in Arctic coastal waters of Svalbard (79°N) in summer, and belong to cnidarians and ctenophores morphologically. Species identification, however, remained unclear due to lack of knowledge. In this study, we determined 18S and 28S ribosomal DNA sequences of five jellies (five genera: *Beroe, Bolinopsis, Cyanea, Leuckartiara*, and *Leuckartiara*) from Svalbard coastal waters in August 2006. Comparative analyses of the sequences revealed that two cryptic jellies were *Bolinopsis infundibulum* (Ctenophora; Cyclocoela) and *Mertensia ovum* (Ctenophora; Typhlocoela) but we could not identify the remaining three genera to species level. On the molecular data, they belonged to *Beroe* sp. (Ctenophora; Typhlocoela), *Cyanea* sp. (Cnidaria; Scyphozoa), *Leuckartiara* sp. (Cnidaria; Hydroida), respectively according to their morphological characters. Phylogenetic analysis showed that the Arctic jellies formed the independent clade, respectively. This suggests that the Arctic jellies may possess a little genetic variation, compared to the same species from other regions (e.g. temperate, tropical). These may provide genetic characteristics of the Arctic jellies using rDNA for making molecular comparisons of jellies.