

Risk assessment of non-indigenous marine invaders: a combined approach of morphological and molecular analysis allowed unambiguous identification of the comb jelly *Mnemiopsis leidyi* in the Belgian Part of the North Sea (BPNS)

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Mnemiopsis leidyi is an invasive American species present for more than two decades in European waters. This species has reportedly influenced the collapse of stressed environments and commercial fish stocks. Some native species are morphologically very similar to *M. leidyi*, which hinders identification of this ctenophore in newly invaded areas. Risk assessment of non-indigenous marine invaders can only be successful if identification is unambiguous and a combination of morphological and molecular analysis can be of great assistance. For this purpose different fixatives have been tested and scored on their ability to preserve morphological features and to allow extraction of DNA with high concentration and purity. Fixated samples of *M. leidyi* were observed microscopically and the extracted DNA was tested with primers for the nuclear internally transcribed spacer (ITS) region and the mitochondrial cytochrome b (CYTB) and cytochrome oxidase I (COI) region. The results of the molecular analysis were furthermore used to prepare a species specific DNA probe and primers to allow identification of *M. leidyi* in fish stomachs. This makes it a useful method to study prey-predator relationships which in turn can help in a better management of this notorious invader.

References

Van Ginderdeuren K. 2011. Distribution of the invasive ctenophore *Mnemiopsis leidyi* in the Belgian part of the North Sea (BPNS). Aquatic Invasions Records Annales (submitted).