

DIFFERENCES IN SHELL MORPHOLOGY AND REPRODUCTIVE IMPAIRMENT IN *LITTORINA LITTOREA* ALONG THE BELGIAN COAST

Van den Broeck Heidi¹, Hans De Wolf¹, Thierry Backeljau^{1,2} and Ronny Blust¹

¹ University of Antwerp, Department of Biology
Groenenborgerlaan 171, B-2020 Antwerp, Belgium
E-mail: Heidi.VandenBroeck@ua.ac.be

² The Royal Belgian Institute of Natural Sciences, Department of Invertebrates, Vautierstraat 29,
B-1000, Belgium

In this study we evaluated the condition of *Littorina littorea* along the Belgian coast using shell morphology and reproductive impairment (*i.e.* female intersex and sterility; male penis shedding) characteristics. Periwinkles were collected at eight sites along the Belgian coast of which three were in the direct vicinity of the seaports of 'Zeebrugge', 'Oostende' and 'Nieuwpoort'. Standard shell parameters were measured, animals were sexed based on the p/a of the vesicula seminalis and reproductive impairment was determined for both sexes. Significant differences in the shell morphology and reproductive impairment could be detected among the sites. Indeed, periwinkles from 'Zeebrugge' were significantly larger and heavier compared to the specimens that were taken from the other sites. In addition, 'Zeebrugge' contained the largest number of penis shedded males (*i.e.* 61.11%) and intersex/sterile females (*i.e.* 100% and 95.24% respectively). The latter resulted in an ISI-index of 3.52, which is one of the highest ISI values ever recorded in *L. littorea*.