

# INVASIVE MUD CRAB *RHITHROpanopeus harrisii* ALTERS INVERTEBRATE COMMUNITY COMPOSITION IN THE NORTHERN BALTIC SEA

## INTRODUCTION

The characteristics of the Baltic Sea make it especially vulnerable to non-indigenous species. *Rhithropanopeus harrisii* is a novel mud crab species with high potential of affecting local communities in the northern Baltic Sea, where no native crab species exist.

Here, we studied the effect of *R. harrisii* invasion stage on the benthic invertebrate community composition and diversity.

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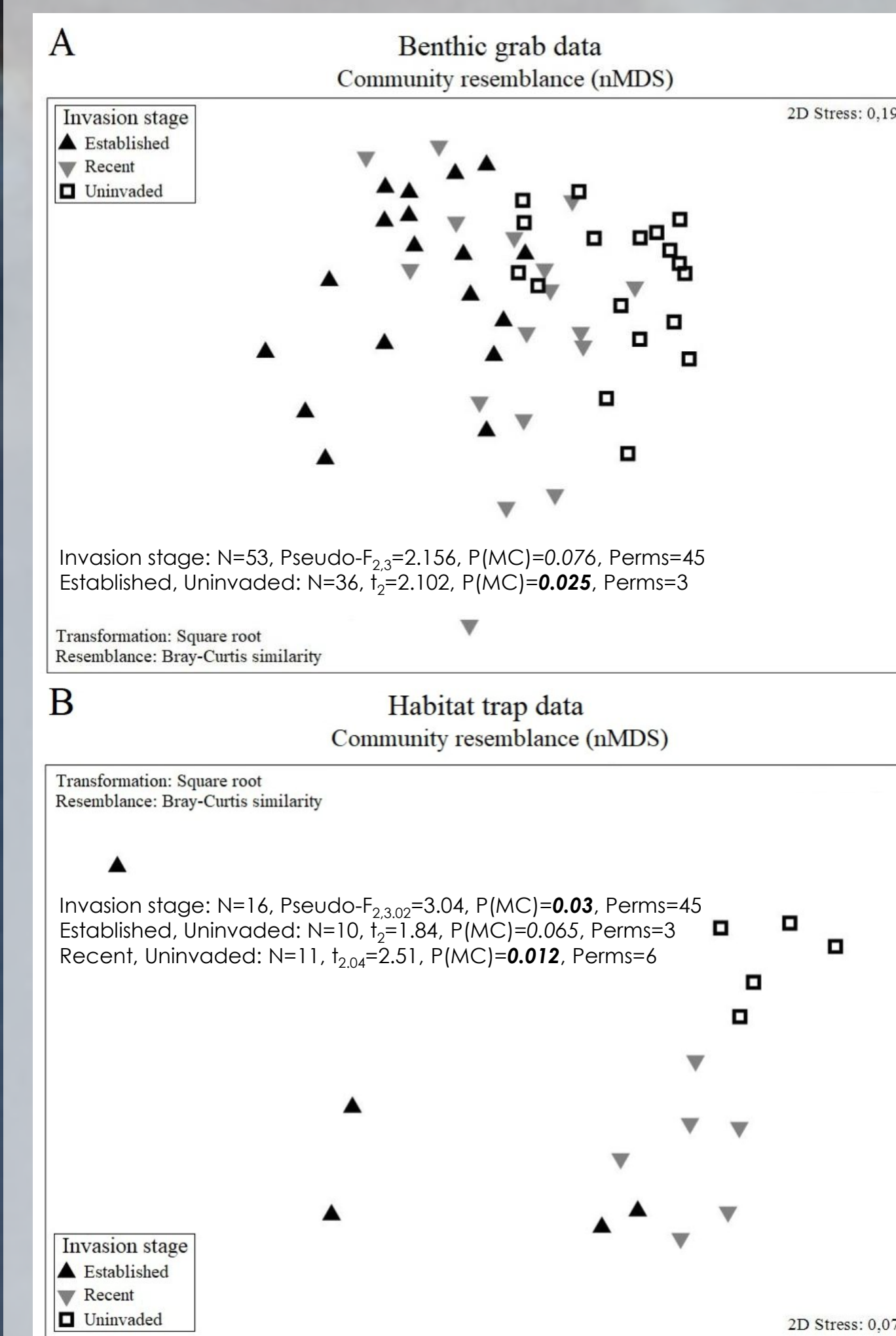
## METHODS

We collected in total 53 benthic grab samples in May, July, and September 2013, and in total 16 habitat trap samples in September from six sites representing different *R. harrisii* invasion stages in the Finnish Archipelago Sea, northern Baltic Sea.

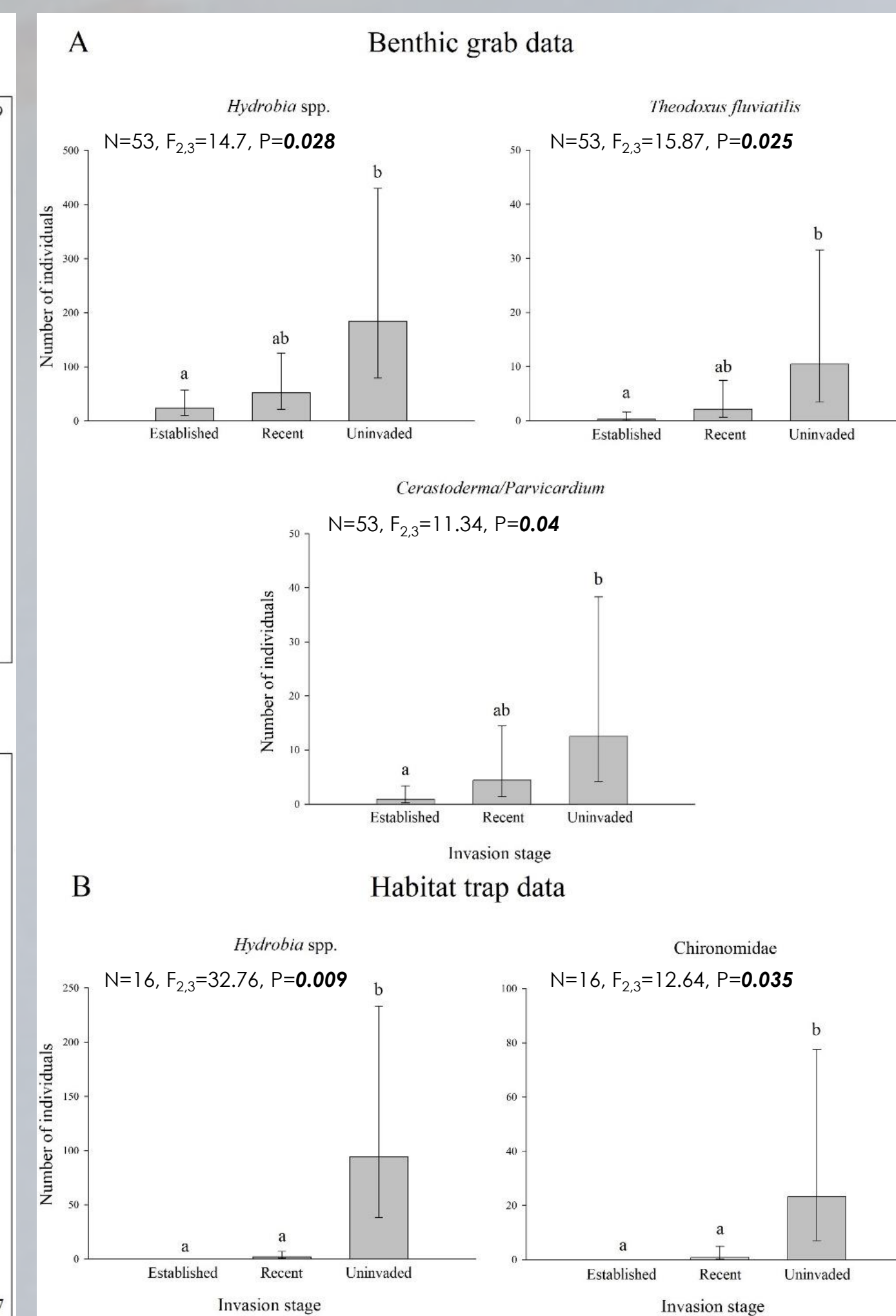
We analysed the effect of *R. harrisii* invasion stage on 1) the community composition using PERMANOVA, 2) the abundance of individual species and diversity using GLMM. We included sampling month and site as a random factor in the analyses.

## RESULTS

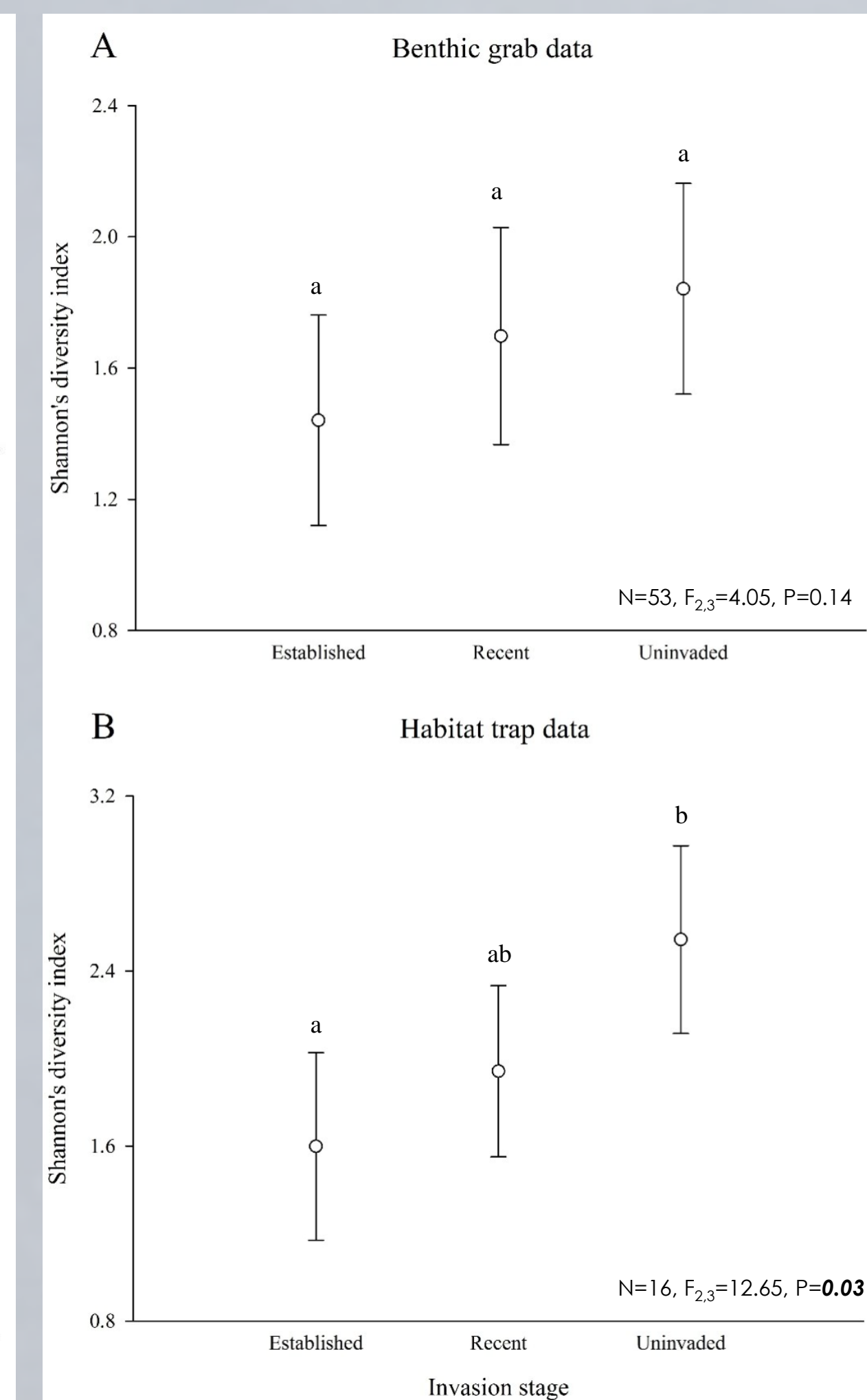
### Community composition



### Individual species



### Shannon diversity



*R. harrisii* invasion stage affected community composition and the abundance of some species in both data, and diversity in the habitat trap data.

We found no effect of sampling month on community composition, the abundance of individual species or diversity. Site as a random factor contributed to community composition and to the abundance of some species but not diversity.

## DISCUSSION

Our results show a significant shift in the benthic invertebrate community composition with advancing *R. harrisii* invasion. The decrease in the abundance of individual species, especially gastropods also has implications for further-reaching cascading effects in the northern Baltic Sea.