

## ***Interactive comment on “Total nitrate uptake by an invasive benthic foraminifer in marine sediments” by Constance Choquel et al.***

**Constance Choquel**

constance.choquel@gmail.com

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Dear Vincent Bouchet, Thank you for your constructive comment and your interest in our work. I agree that consensus about the ecological status of *Nonionella* sp. T1 in Europe fjord needs to be reached.

In the previous literature three papers should be taken into account. The study of Polovodova Asteman and Schönfeld (2016) revealed the introduction of *Nonionella stella* in the North Sea and used the terminology “invasion” but they did not discuss this species as “invasive”. Then, *Nonionella stella* was mentioned as “invasive” species by Charrieau et al. (2018), in the North Sea. Recently, your group (Deldicq et al., 2019), named it *Nonionella* sp. T1 after DNA analyses and assigned to it the status of intro-

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duced Non-Indigenous Species (NIS) in the North Sea and discussed if *Nonionella* sp. T1 would become an invasive species.

The main aim of our study was not to show the invasion of *Nonionella* sp. T1, but the role of denitrifying species of benthic foraminifers in the geochemical cycle of nitrogen in the context of coastal hypoxia. However, we were surprised by its high relative density at the entrance of the Gullmar fjord and therefore by the potential contribution of this species to the mitigation of nitrogen through denitrification in the Gullmar Fjord that accounts to more than 50% of the benthic denitrification. The trend drawn by previous studies that our study seems to confirm definitely pleads to a change of the status of *Nonionella* sp. T1 from NIS to invasive. This is why the title of the manuscript seems appropriate even though some development could be done in the introduction and the discussion of the BGD manuscript for final publication in BG.

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