Embracing Immigration - Investigating the effect of influent wastewater on microbial community structure in WRRSs

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The abundance of bacterial species in Influent Wastewaters affects the abundance in in Activated Sludge

Embracing Immigration – Investigating the Effect of Influent Wastewater on Microbial Community Structure in WRRSs

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What

Water Resource Recovery Facilities (WRRFs) are *open* engineered ecosystems.

Microorganisms from Influent Wastewaters (IWW) are continuously *dispersed* into Activated Sludge (AS) microbial communities.

Why

To identify the *relationship* between IWW and AS in terms of microbial community's *composition and abundance*

How

- IWW and AS samples
- every second week for 3 months at 14 WRRFs in Denmark
- 16S rRNA gene amplicon sequencing, mass-balance, statistics.

Results

In most facilities, the relative abundance of a certain species within a genus was similar in both Influent Wastewater and Activated Sludge.

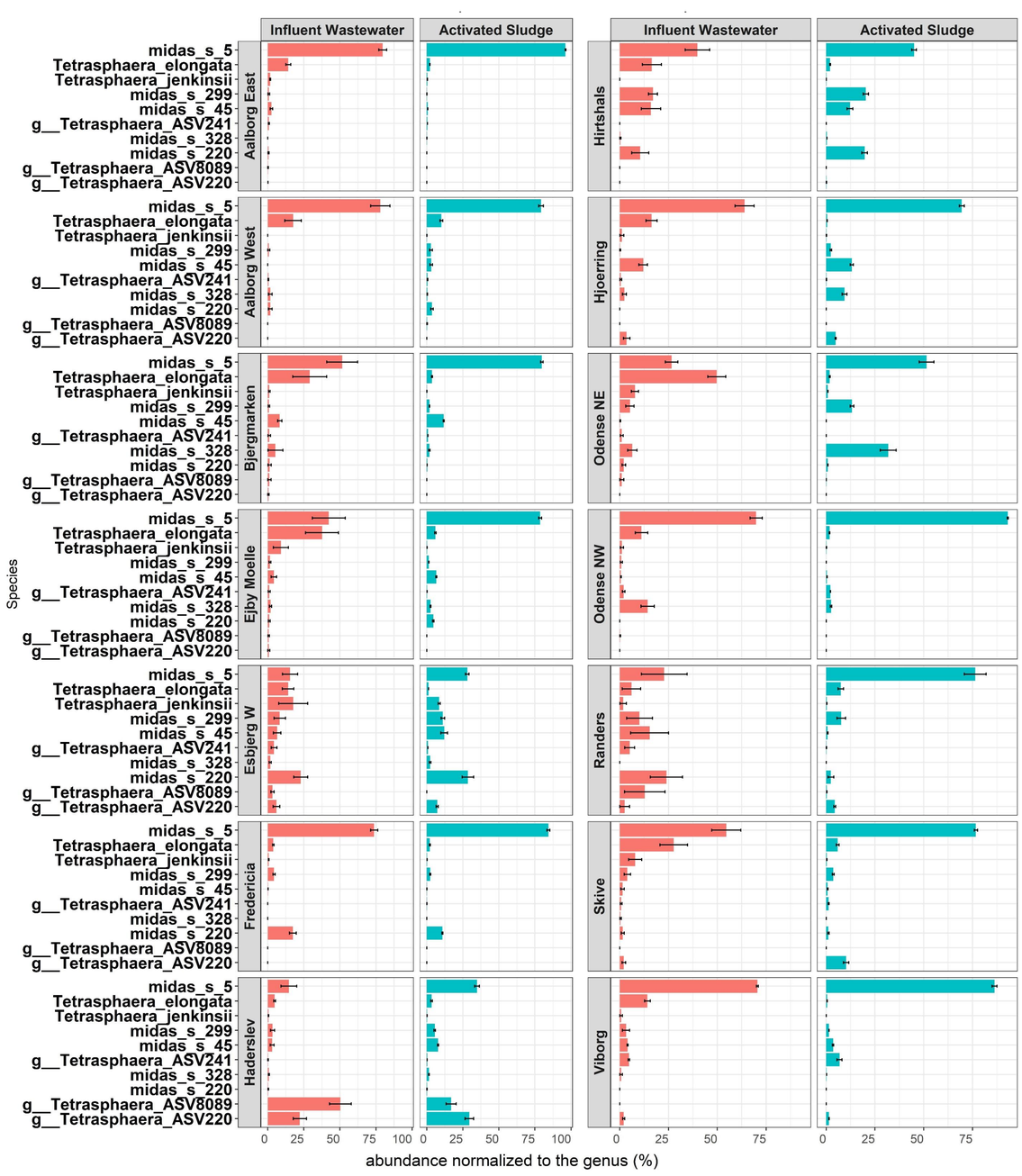

Figure 1. Bar plot of abundance (x-axis) referred to the most abundant species (y-axis) within the genus *Tetrasphaera* in activated sludge. The abundance is expressed for each species as read abundance normalized to the total number of reads within the genus. The abundance represents an average over up to 6 samples and it is shown for every one of the 14 facilities in both samples' types, Influent Wastewater (red) and Activated Sludge (blue).

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