PhD Student Poster Contest

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INTRODUCTION

- During autumn, leaves of the *Posidonia oceanica* seagrass are shed and accumulate on unvegetated sand patches forming hypoxic detritus packages
- A wide diversity of "O_2 sensitive" harpacticoid copepods (Crustacea) is found in those "macrophytodetritus" (MPD) accumulations

Hypoxia in macrophytodetritus accumulation: Species-specific harpacticoid copepod adaptation?

AIM

Link copepod densities to oxygen variability

SAMPLING STRATEGY

- Two sites in Calvi Bay (Corsica)
- Five abundant harpacticoid copepods (> 56%)
- One year (2011), four seasons
- Winkler method adapted to micro-volumes

CONCLUSION

- Total and species specific harpacticoid copepod abundances did not respond to fluctuating oxygen concentrations
- Harpacticoid copepods, whilst being sensitive to hypoxia and anoxia developed a strategy to live in fast changing oxygen environment

RESULTS

- Variable O_2 concentrations inside MPD (Fig. 1)
- No correlations between O_2 concentration and the harpacticoid copepod abundances (Fig. 2) (Spearman correlations /r/ <0.35 & p > 0.09)

Possible explanation is the high copepod mobility and patchiness of O_2 concentrations inside MPD

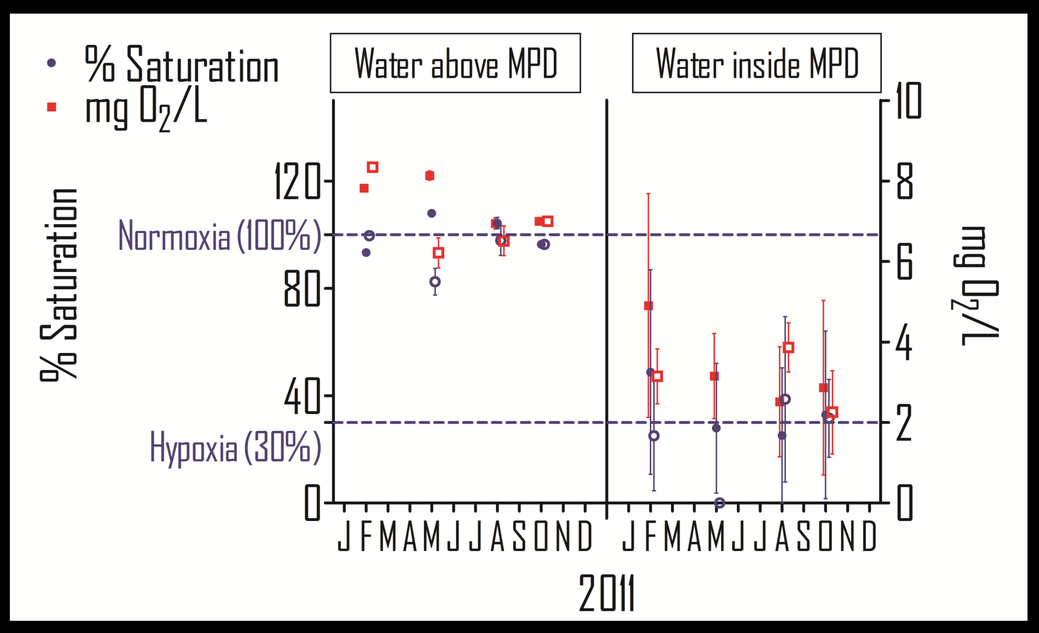
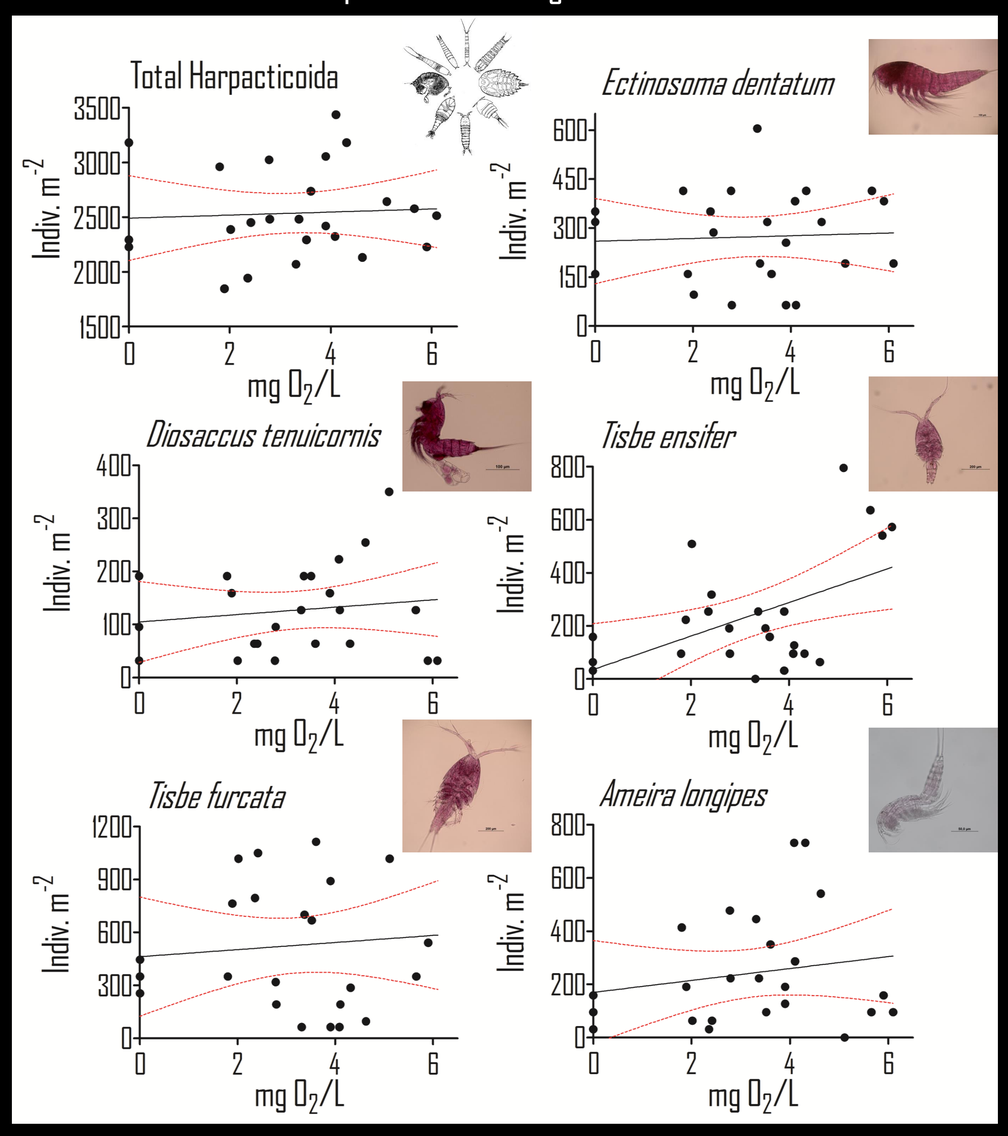


Fig. 1: Seasonal and spatial evolution of O_2 concentration (mg O_2/L, right axis) and saturation (%, left axis) of two sites (open and closed symbols) for the water just above the MPD and for the water inside the MPD.

Fig. 2: Correlations between O_2 concentration (mg O_2/L) inside the MPD and the total abundance & the abundance of five dominant harpacticoid species. Solid black line : fitted correlation, dotted red curves : 95% positive and negative confidence bands.



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