

30/07 | 11h00**PARALLEL SESSION I - T3.P1 - KNOWING AND MAINTAINING THE FRESHWATER BIODIVERSITY**

Room 2.2.15 | Topic 3 - Freshwater ecology (5)

OC-008 - (EEF2019-13982) - INVERTEBRATE AND BENTHIC DIATOM DYNAMICS IN MEDITERRANEAN INTERMITTENT STREAMS OF SOUTHERN PORTUGAL

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The main hypotheses of the present work are to demonstrate that diatom and invertebrate communities develop adaptations to water intermittency, benthic diatoms reflect spatial and temporal gradients, and diatoms in dry biofilm as well as carabids are good ecological quality indicators during dry conditions.

To test these hypotheses, macroinvertebrates, diatoms and carabids were sampled in 18 sites (streams) in southern Portugal from Spring 2017 to 2018, during different aquatic states (eurheic, oligorheic, arheic and hyporheic), also representing different mesohabitats (pools, flowing water and dry channel).

First results showed that sites classified as High or Good in spring were more affected by intermittency, with significant reduction in macroinvertebrate species richness, diversity and evenness. In arheic situation, a decrease in relative abundance of Trichoptera, Plecoptera and Ephemeroptera was detected, whilst Diptera, Heteroptera and Oligochaeta, more adapted to lentic conditions, increased. During the dry period, 14 carabid species were identified (e.g. *Pheropsophus hispanicus*, poorly known in Portugal), both in the channel and margins, including few species typical from streams, and the majority occurring in agricultural areas, cork-oak forests and shrublands. Benthic diatom assemblages and the Specific Pollution Sensitivity Index changed along spatial and temporal gradients. Differences in Ecological Quality Ratio (EQR) were only detected between pool and flowing water samples, and no differences in EQR were detected between spring 2017 and summer dry biofilm.

Our preliminary results reveal the importance of improving the assessment of intermittent streams considering the complete hydrological cycle, and integrating complementary bioindicators, as dry biofilm and carabids.