

Diatom assemblages in Portuguese temporary rivers

(Poster presentation)

Critical dry-season conditions and ecological response

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Abstract

During a survey of benthic diatoms in watercourses from Portugal in spring and summer 2006 and 2007, 76 sites in temporary streams (according to the National Water Institute classification) have been studied. These streams belong to the Ribeiras do Algarve (10 sites), Guadiana (19 sites), Mira (7 sites), Sado (16 sites), Tejo (20 sites), and Douro (4 sites) watersheds. Among these 76 sites, the National Water Institute classified only 48 as reference sites, and only these were therefore considered in the statistical analysis performed.

A total of 276 diatom taxa have been identified in the 48 reference sites, from which 112 were present in abundance above 2% in at least one inventory. The most frequent taxa, present in more than 50% of the studied sites, were *Achnantheidium minutissimum* (Kützing) Czarnecki, *Amphora pediculus* (Kützing) Grunow, *Cocconeis euglypta* Ehrenberg, *Eolimna minima* (Grunow) Lange-Bertalot, *Gomphonema parvulum* Kützing, *G. rosenstockianum* Lange-Bertalot & E. Reichardt, *Navicula gregaria* Donkin, *N. veneta* Kützing, *Nitzschia inconspicua* Grunow and *Planothidium frequentissimum* (Lange-Bertalot) Lange-Bertalot. These are neutrophilous to alcaliphilous, β -mesosaprobous to α -meso-saprobous, eutrphentic to indifferent taxa.

Furthermore, a multivariate analysis relating diatom assemblages with environmental parameters is presented and the ecological preferences of not yet well known taxa, such as *G. rosenstockianum*, are provided.

Keywords: diatoms, ecological preferences, seasonality, environmental parameters