ACTUAL AND POTENTIAL RIPARIAN VEGETATION IN STREAMS STRONGLY AFFECTED BY CONTAMINATED WATERS FROM PYRITE MINES: THE PYRITIC BASE-METAL DEPOSIT OF FEITAIS (ALJUSTREL, BAIXO ALENTEJO, PORTUGAL)

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Abstract

The main objective of this study was to analyze the flora and vegetation in a water line strongly affected by contaminated water from mining activities, and to compare it with a reference stream (average distance between the two water lines is less than 5 km). The contaminated riverside (Ribeira dos Galhudos) rises in the Feitais mineland (located in the Iberian Pyrite Belt), and join downstream with a larger water line (Ribeira do Roxo), both belonging to the Sado basin. Biogeographically, the study area is located in the interface between Baixo Alentejo and Sadense superdistricts (Costa et al., 1998), standing bioclimatically in the upper thermomediterranean termotype and in the lower dry ombrotype (Mesquita & Sousa, 2009). The landscapes are dominated by communities belonging to the holm oak serie of *Myrto communis-Querceto rotundifoliae* S., with its serial head *Myrto communis-Quercetum rotundifoliae* and the respective sub-seral stages: *Asparago albi-Rhamnetum oleoidis* schrublands, *Genisto hirsutae-Cistetum ladaniferi* shrublands, *Phlomido lychnitidis-Brachypodietum phoenicoidis* perennial grasslands, and *Trifolio cherleri- Plantaginetum bellardii* annual grasslands. Phytosociological relevés were carried out in the margins of the two streams, and collected soil and water samples, in order to evaluate its physicochemical characteristics. Morphometric characteristics (e.g. slope, slope position) were computed based on digital elevation model. Due to these negative impacts, the riparian vegetation is almost absent, finding vestigial riparian communities, very amended and fragmented, or invaded by alien species.

Palavras-chave: riparian vegetation, mineland, water quality, pyrite