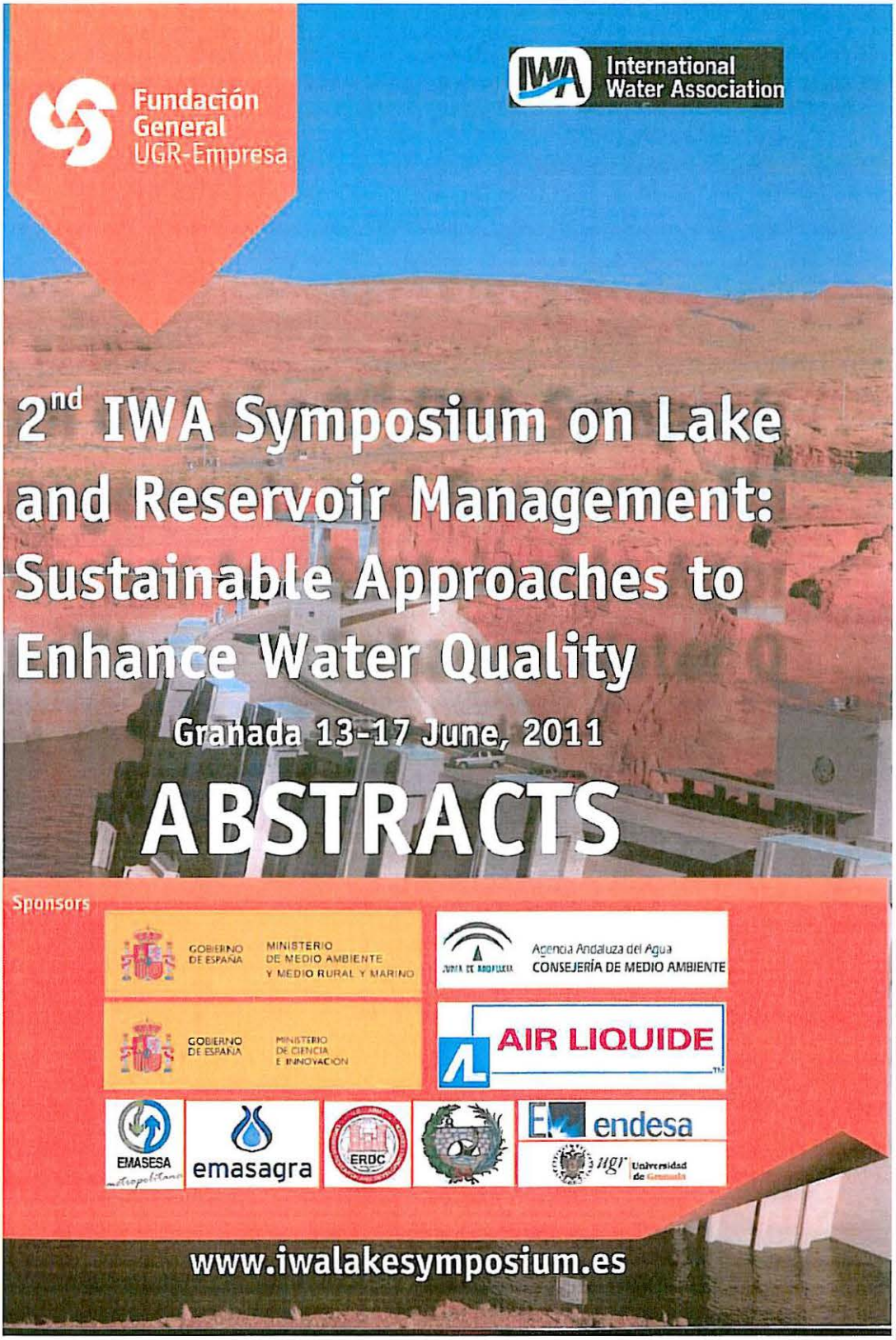
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ABSTRACTS
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Effects of essential oils and aqueous extracts of several plant species on the growth of *ANABAENA CYLINDRICA* (Cyanophyta) and *CHLORELLA VULGARIS* (chlorophyta)

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ABSTRACT

In the future, the use of plant extracts to control phytoplankton growth might be a promising algal management tool in aquatic ecosystems, due to its low cost and environmental safeness. In the present research, effects of aqueous extracts and essential oils from rosemary (*Rosmarinus officinalis*), lavender (*Lavandula* sp.), poplar (*Populus* sp.), ash (*Fraxinus angustifolia*), laurel (*Laurus nobilis*), mint (*Mentha suavolens*) and elder (*Sambucus nigra*) on the growth of axenic cultures of *Anabaena cylindrica* UTAD_ A212 and *Chlorella vulgaris* CBSC 15-2075 were screened. Plant species were collected in Bragança region (41º47'.01"N; 6º 45'59.21"W) during September 2009. Steam distillation of plants was performed to obtain essential oils and aqueous extracts. Essential oils were tested in 1:1, 1:3, 1:4, 1:10, 1:50 concentrations by disc plate diffusion assay method, against Anabaena and *Chlorella* growth. Aqueous extracts were evaluated in batch cultures by testing the effect of 1:4, 1:7 and 1:10 concentrations on algal growth. All the experiments were incubated under optimal conditions. Present results suggest that essential oils had an algaecide potential in all concentrations, except rosemary extract in the 1:50 concentration. Conversely, none of the aqueous extracts had algaecide potential. However, laurel, rosemary and ash aqueous extracts presented algaestic effect in the concentration of 1:4. Laurel and rosemary extracts had effect on both algal species, while ash only had effect on *Anabaena* growth. Further research to assess the effects of these plant extracts against other non-target organisms is in course.

Key words: Plant extracts, algae, algaecide and algaestatic effects