IECPS 2020
1st International Electronic Conference on Plant Science
01–15 DECEMBER 2020 | ONLINE

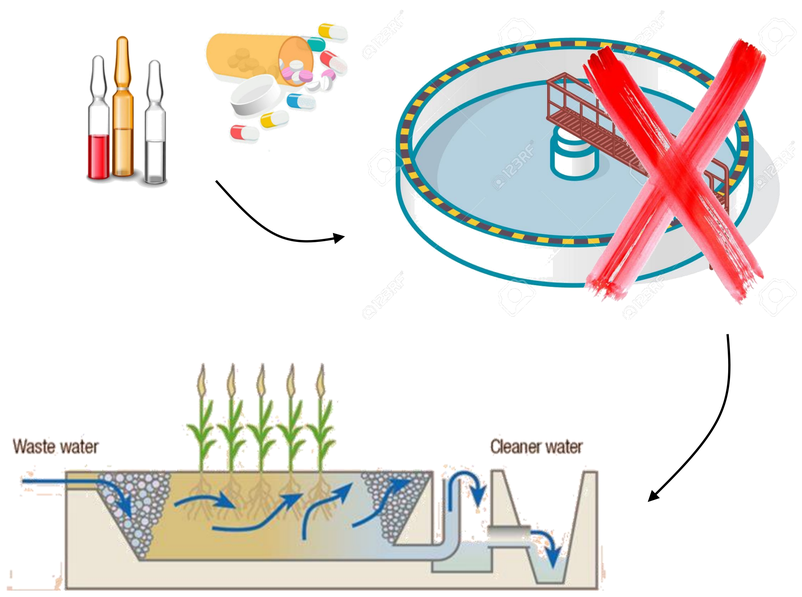
CAPACITY OF ERYTHROMYCIN PHYTOREMEDIATION BY DIFFERENTIAL AQUATIC MACROPHYTES

Daiane Cristina Rocha[1], Camila da Silva Rocha[1], Leticia Yoshie Kochi[1], Gabriela Breternitz Ribeiro[1], Daniela Nogueira Moraes Carneiro[2], Marcelo Pedrosa Gomes[1]

[1] Laboratório de Fisiologia de Plantas sob Estresse, Departamento de Botânica, Setor de Ciências Biológicas, Universidade Federal do Paraná, Avenida Coronel Francisco H. dos Santos, 100, Centro Politécnico, Jardim das Américas, C.P. 19031, 81531-980, Curitiba, Paraná, Brasil;
[2] Departamento de Fitotecnia e Fitossanidade, Setor de Ciências Agrárias, Universidade Federal do Paraná, Rua dos Funcionários, 1540, CEP 80035-050, Juvevê, Curitiba, Paraná, Brasil;

INTRODUCTION

Despite technological advances, **wastewater treatment systems are still inefficient** in the complete removal of antibiotic residues.



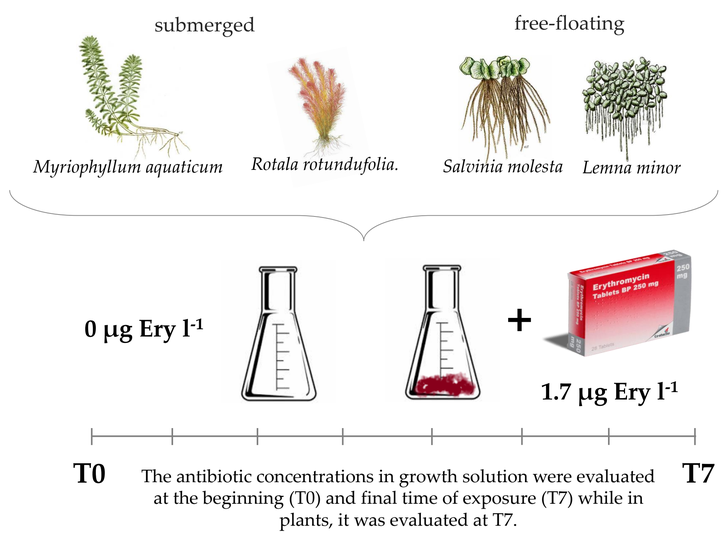
As a sustainable alternative, **phytoremediation** uses the ability of aquatic plants to purify water, which, among other factors, depends on the intrinsic characteristics of each species.

OBJECTIVE

We investigated the capacity for **erythromycin (Ery)** removal between different free-floating (*Salvinia molesta* and *Lemna minor*) and submerged macrophyte species (*Myriophyllum aquaticum* and *Rotala rotundufolia*).

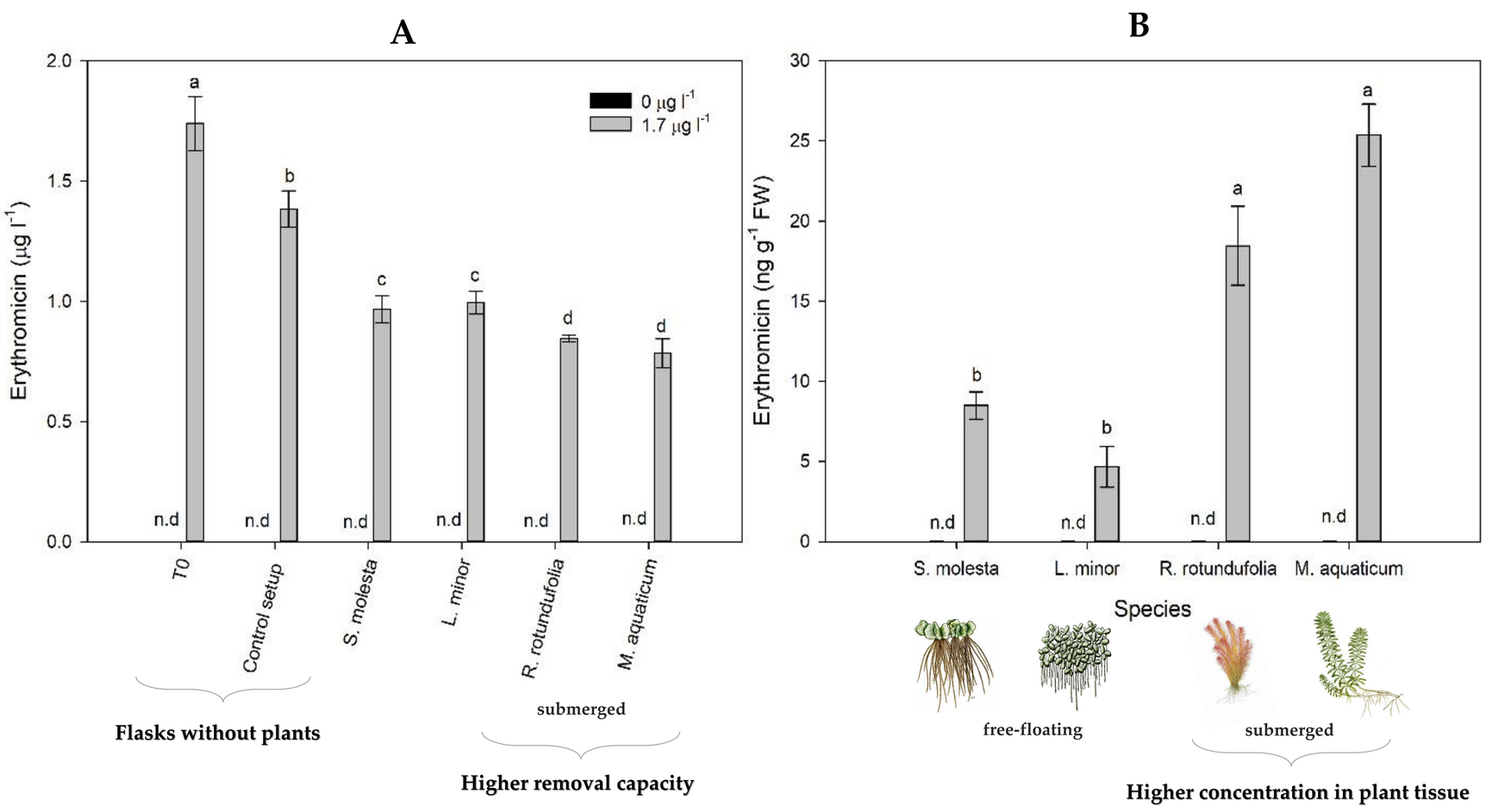
MATERIAL AND METHODS

Plants were submitted for 7 days to the antibiotic (0 and 1.7 μg. L^{-1}) in growth media.



RESULTS AND DISCUSSION

Concentration of erythromycin in the growth solution (A) and plants (B) in aquatic macrophytes exposed to 0 and 1.7 μg erythromycin l^{-1} for seven days.



Bars represent the mean ± SD of four repetitions. Means followed by the same letter did not differ by the Student t test (P> 0.05) . n.d. - not detected; T0 - concentration in the initial time; control setup - flasks without plants.

CONCLUSIONS

Although the four species of macrophytes studied are capable of removing erythromycin from the solution, **the submerged species have greater potential for remediation** and should, when possible, be assigned in phytoremediation projects.

ACKNOWLEDGMENTS

CAPES
UFPR UNIVERSIDADE FEDERAL DO PARANÁ
LAFIPE
plants
MDPI