THE ROLE OF HABITAT COUPLING BY ZOOPLANKTON DRIVING POPULATION DYNAMICS AND STABILITY IN SHALLOW LAKES

Gilberto Muniz-Júnior[1], Bruno Renaly Souza Figueiredo[2], Anderson da Rocha Gripp[3], Adriano Caliman[4], Luciana Silva Carneiro[4], Rafael Dettogni Guariento[1]*

E-mails: rafael.guariento@ufms.br (* corresponding author); gilbertomunizjunior@gmail.com; brsfigueiredo@gmail.com; argripp@ufrj.br; caliman21@gmail; lscarnei@gmail.com.

SUPPLEMENTARY MATERIAL

Table S1. Definition of the model parameters with their respective values, which were obtained from Scheffer (1991) and Rose et al. (1988).

Symbol	Definition	Value(s)
r_j	Maximum growth rate of phytoplankton	0.5/day
K	Carrying capacity	0 – 5 mg/L
δ	Prey preference	Described in the text, equations (3) and (4)
g_{zj}	Maximum grazing rate of zooplankton on algae	0.8/day
h_j	Monod's saturation constant	0.6 mg/L
i	Mixing rate of the water mass	0.25/day 0.50/day

Symbol	Definition	Value(s)
		0.75/day
		1.00/day
f	Proportion of benthic algal forms susceptible to removal by the water movement	0,1
e	Prey assimilation efficiency of zooplankton	0.6
m_z	Rate of zooplankton mortality and respiration	0.175/day
p	Proportion of the carrying capacity attributed to the phytoplankton	Described in the text, equation (6)
mxp	Maximum proportion of the carrying capacity attributed to pelagic production	Low competition: 0.60 High competition: 0.80
Bp	Minimum proportion of the carrying capacity attributed to benthic production	Low competition: 0.40 High competition: 0.20
θ	scattering angle coefficient of the incident light beam in the water	2
π	Intensity of omnivory	0.50 0.75 0.90 1.00