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Supplementary material

Phytoplankton–zooplankton relationships based on phytoplankton functional groups in two tropical reservoirs

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Table S1. Morphological and physiological characteristics (toxicity), representative taxa for each morpho-functional group, and the degree of susceptibility to predation by zooplankton

Adapted from Colina *et al*. (2016)

MBFG	Characteristics	Representative taxon	Toxic potential	Susceptibility to predation
I	Small organisms occupying large areas	*Merismopedia tenuissima*, *Planktosphaeria gelatinosa*	0	High
II	Small flagellates with siliceous structures	*Mallomonas caudata*	0	Low
III	Broad filaments with gas-vacuoles	*Cylindrospermopsis raciborskii*, *Planktothrix agardhii*	1	Low
IV	Organisms of medium size without specialised structures	*Cosmarium* sp., *Staurastrum* sp., *Geitlerinema amphibium*	0	High
V	Medium to large single-celled flagellates	*Rhodomonas lacustris*, *Peridinium* sp.	1	Medium
VI	Organisms without flagella with siliceous exoskeleton	*Aulacoseira granulata*, *Thalassiosira* sp.	0	Medium
VII	Large mucilaginous colonies	*Microcystis aeruginosa*, *Botryococcus braunii*	1	Low

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Table S2. Taxonomic composition of the phytoplankton community by morphology-based functional groups (MBFG) in the mesotrophic reservoir

MBFG	Species identified
I	*Ankistrodesmus fusiformis*, *Merismopedia tenuissima*, *Monoraphidium griffithii* and *Planktosphaeria gelatinosa.*
II	*Mallomonas caudata.*
III	*Cylindrospermopsis raciborskii*, *Dolichospermum* sp. and *Planktothrix agardhii.*
IV	*Closterium* sp., *Closterium incurvum*, *Coelastrum indicum*, *Coenocystis* sp., *Cosmarium commissurale*, *C. margaritatum*, *Desmodesmus quadricauda*, *Dictyosphaerium elegans*, *Euastrum abruptum*, *Eutetramorus nygaardii*, *E. planctonicus*, *Geitlerinema amphibium*, *Kirchneriella obesa*, *Pediastrum tetras*, *Pseudanabaena* sp., *Quadrigula closterioides*, *Scenedesmus acuminatus*, *Sphaeroscystis schroeteri*, *Staurastrum curvimarginatum*, *S. cuspidatus*, *S. dilatatum*, *S. leptocladum*, *S. orbiculare*, *S. tetracerum*, *S. trifidum*, *Staurastrum* sp., *Tetraedron gracile*, *T. mediocris* and *T. trigonum.*
V	*Chroomonas* sp., *Cryptomonas* sp., *Euglena* sp., *Peridinium* sp., *Rhodomonas lacustris*, *Trachelomonas hispida* and *T. volvocina.*
VI	*Aulacoseira granulata*, *Cylindrotheca closterium*, *Cymbella* sp., *Eunotia* sp., *Navicula* sp., *Surirella* sp., *Surirella tenera*, *Thalassiosira* sp. and *Ulnaria ulna.*
VII	*Aphanocapsa* sp. and *Botryococcus braunii.*

Table S3. Taxonomic composition of the phytoplankton community by morphology-based functional groups (MBFG) in the supereutrophic reservoir

MBFG	Species identified
I	*Merismopedia tenuissima*, *Monoraphidium griffithii* and *Planktosphaeria gelatinosa.*
II	*Mallomonas caudata.*
III	*Anabaena* sp., *Cylindrospermopsis raciborskii*, *Dolichospermum viguieri*, *Planktothrix agardhii* and *Sphaerospermopsis aphanizomenoides.*
IV	*Actinastrum hantszchii*, *Closterium* sp., *Coelastrum indicum*, *Dictyosphaerium elegans*, *D. pulchellum*, *Geitlerinema amphibium*, *Kirchneriella obesa*, *Micractinium pusillum*, *M. quadrisetum*, *Pseudanabaena* sp. and *Scenedesmus acuminatus.*
V	*Chroomonas* sp., *Cryptomonas* sp., *Euglena* sp., *Peridinium* sp., *Rhodomonas lacustris*, *Trachelomonas hispida* and *T. volvocina.*
VI	*Aulacoseira granulata*, *A. granulata* var. *angustissima*, *Cylindrotheca closterium*, *Cyclotella meneghiniana*, *Eunotia* sp., *Gomphonema* sp., *Navicula* sp. and *Ulnaria ulna.*
VII	*Aphanocapsa* sp., *Botryococcus braunii*, *Microcystis aeruginosa*, *M. brasilensis*, *M. panniformis* and *Woronichinia karelica.*

Table S4. Statistical analysis (one way ANOVA) of the growth rate of morphology-based functional groups (MBFG) in *in situ* experiments

Bold numbers represents that there was a significant difference

	Mesotrophic			Supereutrophic		
	d.f.	*F*	*P*	d.f.	*F*	*P*
Group I	2	2.082	0.206	2	4.169	0.073
Group II	2	4.408	**0.057**	2	2.049	0.209
Group III	2	1.942	0.224	2	0.094	0.912
Group IV	2	7.513	**0.023**	2	0.754	0.51
Group V	2	3.103	0.119	2	16.01	**0.003**
Group VI	2	1.204	0.364	2	9.694	**0.013**
Group VII	2	1.886	0.231	2	2.46	0.166

Table S5. Statistical analysis (Student *t*-test unpaired) of the ingestion rate of micro and mesozooplankton on morphology-based functional groups (MBFG) in *in situ* experiments

	Mesotrophic			Supereutrophic		
	d.f.	*t*	*P*	d.f.	*t*	*P*
Group I	3.769	–1.919	0.131	2.436	–0.781	0.503
Group II	2.377	0.688	0.552	4	0	1.000
Group III	2.717	0.535	0.632	3.668	–2.486	0.073
Group IV	3.864	–2.541	0.066	3.752	–0.037	0.972
Group V	3.544	–0.854	0.446	2.768	–0.733	0.520
Group VI	3.634	–1.284	0.274	3.252	–2.437	0.086
Group VII	3.999	1.530	0.200	3.445	0.172	0.873

Reference

Colina, M., Calliari, D., Carballo, C., and Kruk, C. (2016). A trait-based approach to summarize zooplankton–phytoplankton interactions in freshwaters. *Hydrobiologia* **767**, 221–233. doi:10.1007/s10750-015-2503-y