The following supplement accompanies the article

Temporal variation of the small eukaryotic community in two freshwater lakes: emphasis on the zoosporic fungi

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Aquatic Microbial Ecology 67:91–105 (2012)

Supplement. Taxa included in the phylogenetic tree (Fig. 5), phytoplanktonic species observed in Lake Tuscaloosa and Lake Lurleen, rarefaction curves calculated for each environmental clone library, chlorophyll *a* concentrations measured for Lake Tuscaloosa and Lake Lurleen, and trophic state indices calculated from Secchi depths and chlorophyll *a* concentrations.

Table S1. Taxon sampling for phylogenetic analysis

Phylogenetic affiliation	Culture /clone number	Taxon	GenBank Accession No.
CHYTRIDIOMYCOTA			
Chytridiales	JEL221	*Rhizidium endosporangiatum*	DQ273834
	MP053	*Chytriomyces hyalinus*	JN049526
	MP040	*Rhizidium* sp.	JN049530
Rhizophlyctidales	RT003	*Rhizophlyctis rosea*	EU379197
	JEL342	*Catenomyces* sp.	DQ273789
Spizellomycetales	Ad-20	*Spizellomyces* sp.	FJ8227691
	JEL333	*Spizellomyces pseudodichotomus*	GQ160457
	WJD114	*Powellomyces* sp.	JN049531
	SW001	*Spizellomyces punctatus*	EU379198
	WJD116	*Triparticalcar arcticum*	JN049532
Lobulomycetales	JEL045	*Lobulomyces angularis*	DQ273815
	JEL374	*Lobulomyces poculatus*	EF443140
Rhizophydiales	JEL316	*Rhizophydium* sp.	DQ273835
	PL127	*Rhizophydium* sp.	DQ485583
	ARG014	*Rhizophydium* sp.	EF585599
	JEL171	*Rhizophlyctis harderi*	DQ273775
	PL163L	*Coralloidiomyces digitatus*	EF634248
	MP063	*Boothiomyces* sp.	JN084661
	PLAUS021	*Boothiomyces macroporosum*	AY439040
	PL042	*Boothiomyces* sp.	AY439056
	JEL385	Rhizophydiales clade	DQ485560
	PL117	*Kappamyces* sp.	EF585630
	AFTOL690	*Kappamyces laurelensis*	DQ273824
	JEL356	*Kappamyces* sp.	DQ485559
	ARG063	*Betamyces suramericanensis*	EF585624
	ARG025	*Alphamyces chaetifer*	EF585606
	MP047	*Alphamyces chaetifer*	JF809856
	JEL326	*Entophlyctis helioformis*	DQ273784
	JEL174	*Entophlyctis* sp.	DQ273782
Cladochytriales	JEL127	*Nowakowskiella elegans*	DQ273798
	JEL324	*Endochytrium* sp.	DQ273816
NEOCALLIMASTIGOMYCOTA			
	OUS1	*Orpinomyces* sp.	AJ864464
	GE13	*Neocallimastix* sp.	DQ273822
Outgroup: (Choanoflagellate)		*Monosiga ovata*	EU011940

Environmental sequences and Isolates:

CHYTRIDIOMYCOTA			
Chytridiales	LLSF2I		JN049533
	EL 105	*Chytriomyces hyalinus*	JN049528
	LLSA10I		JN049556
	EL 100	*Rhizoclosmatium globosum*	JN049527
	LLSA4II		JN049534
	EL 102	*Rhizoclosmatium aurantiacum*	JN049529
Environmental clade I	LLSB12II		JN049535
	LLSB8II		JN049536
	LLSH2I		JN049537
	LLMB2I		JN049538
Rhizophydiales	LTSG6I		JN049539
	LTME6I		JN049540
	LLME1I		JN049541
	LLSE7I		JN049557
	LTSA5I		JN049542
	LLSC8I		JN049543
	LLSB3I		JN049544
	LTSD6II		JN049545
	LTSE6I		JN049546
Environmental clade II	LLSB9I		JN049547
	LLMB3I		JN049548
	LLMB5I		JN049549
	LLMB1II		JN049550
	LLSA5I		JN049551
Environmental clade III	LLSG10I		JN049552
	LLSC6II		JN049553
NEOCALLIMASTIGOMYCOTA			
	LLMB10I		JN049554
	LLME10II		JN049555

Table S2. Phytoplanktonic species detected in Lakes Tuscaloosa and Lurleen. Common species between the 2 lakes are indicated in **bold**, and species observed bearing fungal sporangia are underlined

Lake Tuscaloosa	**Lake Lurleen**
Desmids (6 species)	Desmids (9 species)
Arthrodesmus sp.	*Arthrodesmus convergens*
Cosmarium sp. 1	*Arthrodesmus incus*
Gonatozygon sp.	*Cosmarium protractum*
Spondylosium sp.	*Cosmarium* sp. 2
Staurastrum rotula	*Micrasterias* sp.
Staurodesmus sp.	*Spondylosium planum*
	Staurastrum paradoxum
	Staurodesmus cupidatus
	Xanthidium cristatum
Chlorophytes (25 species)	Chlorophytes (34 species)
Actinastrum sp.	*Ankistrodesmus convolutes*
***Ankistrodesmus* sp. 1**	*Ankistrodesmus flacatus*
Botryococcus sp.	***Ankistrodesmus* sp. 1**
Chlamydomonas sp. 1	*Ankistrodesmus* sp. 2
***Chlorococcum* sp.**	*Ankistrodesmus spiralis*
Closteriopsis sp.	*Asterococcus limneticus*
Coelastrum reticulum	*Botryococcus braunii*
Crucigenia sp. 1	*Chlamydomonas* sp. 2
Dyctiosphaerium sp.	*Chlamydomonas* sp. 3
Elakatothrix sp.	***Chlorococcum* sp.**
Eudorina sp.	*Chodatella longisseta*
Golenkia sp. 1	*Closteriopsis longissima*
Kirchneriella sp.	*Coelastrum reticulum*
Micractinium sp.	*Crucigenia* sp.2
Monoraphidium contortium	*Crucigenia tetrapedia*
Mougeotia sp. 1	*Dyctiosphaerium pulchelum*
Nephrocystium sp.	*Elakatothrix gelatinosa*
Oocystis sp.	*Eudorina elegans*
Pediastrum sp.	*Golenkia* sp. 2
Scenedesmus sp.	*Kirchneriella elongate*
Schyzochlamys sp.	*Kirchneriella lunaris*
Sphaerocystis sp.	*Mougeotia* sp. 2
Tetraedron sp.	*Mougeotia* sp. 3
Tetrastrum sp.	*Nephrocystium agardhianum*
Westella sp.	*Oocystis lacustris*
	Quadrigula closterioides
	Scenedesmus bijuta
	Shroederia setigeta
	Sphaerocystis schroeteri
	Tetraedron caudatum
	Tetraedron minimum
	Unknown chlorophyta 1
	Unknown chlorophyta 2
	Westella bothryoïdes
Centric diatoms (5 species)	Centric diatoms (4 species)
Attheyra sp.	***Cyclotella* sp. 1**
***Cyclotella* sp. 1**	***Cyclotella* sp. 2**
***Cyclotella* sp. 2**	***Melosira* sp.**
***Melosira* sp.**	*Urosolenia longiseta*
Urosolenia sp.	
Pennate diatoms	Pennate diatoms (8 species)
	Amphipleura pellucida
	Asterionella formosa
	Navicula sp.
	Nitzchia sp.
	Synedra acus
	Synedra sp.
	Synedra ulna
	Unknown pennate diatom
Dinophytes (4 species)	Dinophytes (3 species)
Ceratium sp.	*Ceratium hirundinella*
Cystodinium sp.	***Gymnodinium* sp.**
***Gymnodinium* sp.**	***Peridinium* sp.**
***Peridinium* sp.**	
Euglenoids (3 species)	Euglenoids (4 species)
Euglena sp. 1	*Euglena* sp. 2
Phacus sp.	*Euglena* sp. 3
***Trachelomonas* sp.**	*Trachelomonas armata*
	***Trachelomonas* sp.**
Chrysophytes (7 species)	Chrysophytes (5 species)
Chilomonas sp.	***Chrysidalis* sp.**

***Chrysidalis* sp.** ***Dinobryon* sp.** *Mallomonas* sp. *Centractus* sp. *Gloeobotrys* sp. *Ophiocytium* sp.	***Dinobryon* sp.** *Mallomonas caudata* *Synura uvella* Unknown Chrysophyceae
Coccoid cyanobacteria (5 species) ***Aphanothece* sp.** *Chroococcus* sp. *Coelosphaerium* sp. ***Merismopedia* sp.** *Microcystis* sp. 1	Coccoid cyanobacteria (5 species) ***Aphanothece* sp.** *Coelosphaerium naegelatium* *Merismopedia punctata* ***Merismopedia* sp.** *Microcystis* sp. 2
Filamentous cyanobacteria (4 species) ***Anabaena* sp.** *Aphanizomenon* sp. ***Oscillatoria* sp.** ***Planktothrix* sp.**	Filamentous cyanobacteria (7 species) ***Anabaena* sp.** *Arthrospira* sp. ***Oscillatoria* sp.** *Planktolyngbya linmetica* ***Planktothrix* sp.** *Pseudanabaena* sp. Unknown filamentous cyanobacteria

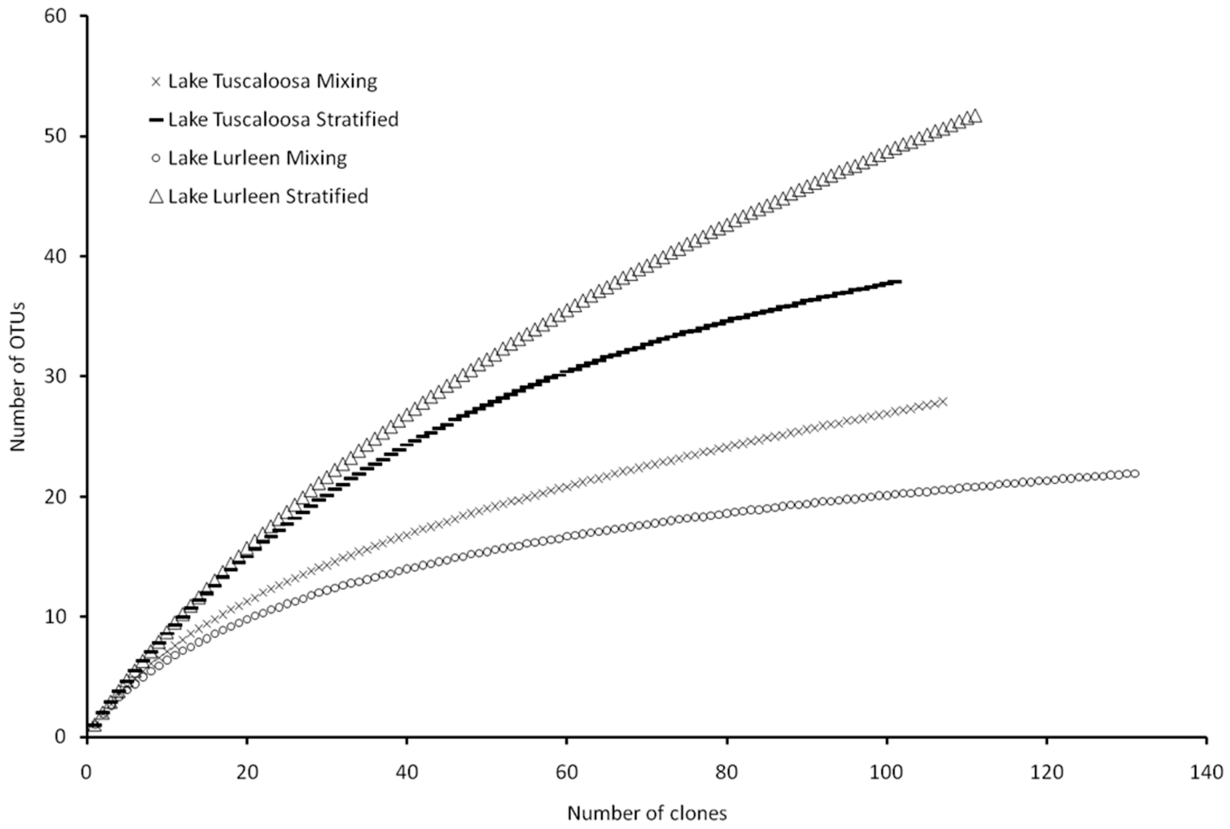

Fig. S1. Rarefaction curves for Lake Tuscaloosa and Lake Lurleen clone libraries (calculated using the computer program Analytic Rarefaction 1.3 [http://strata.uga.edu/software/Software.html])

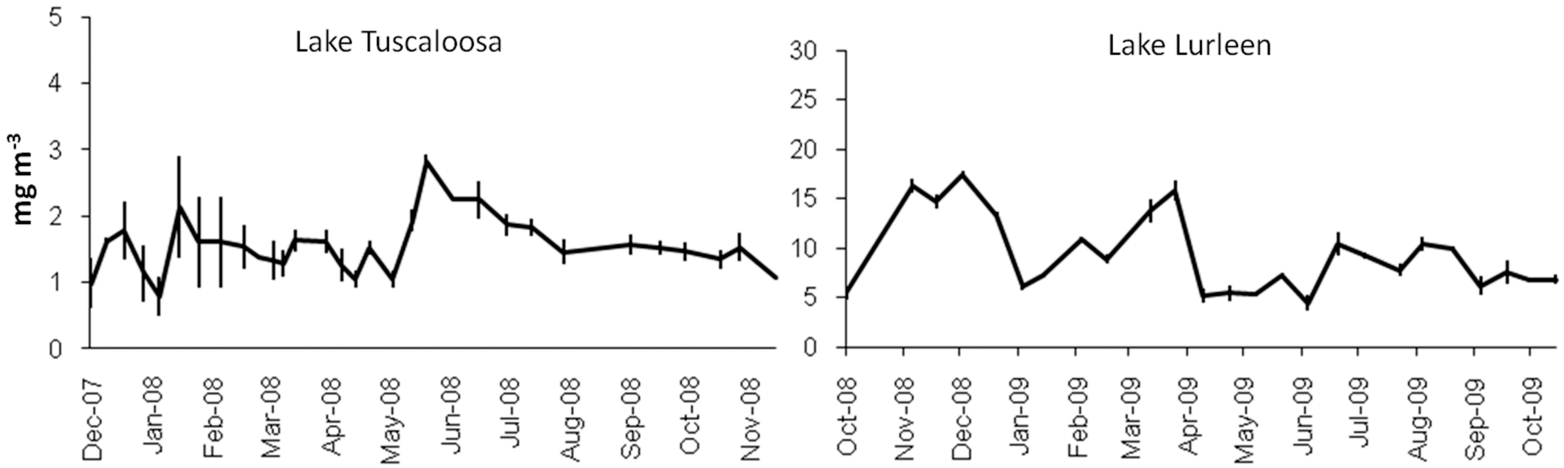

Fig. S2. Chlorophyll a concentration in the euphotic zone of Lake Tuscaloosa and Lake Lurleen. Vertical bars indicate standard deviation calculated from biological triplicate samples.

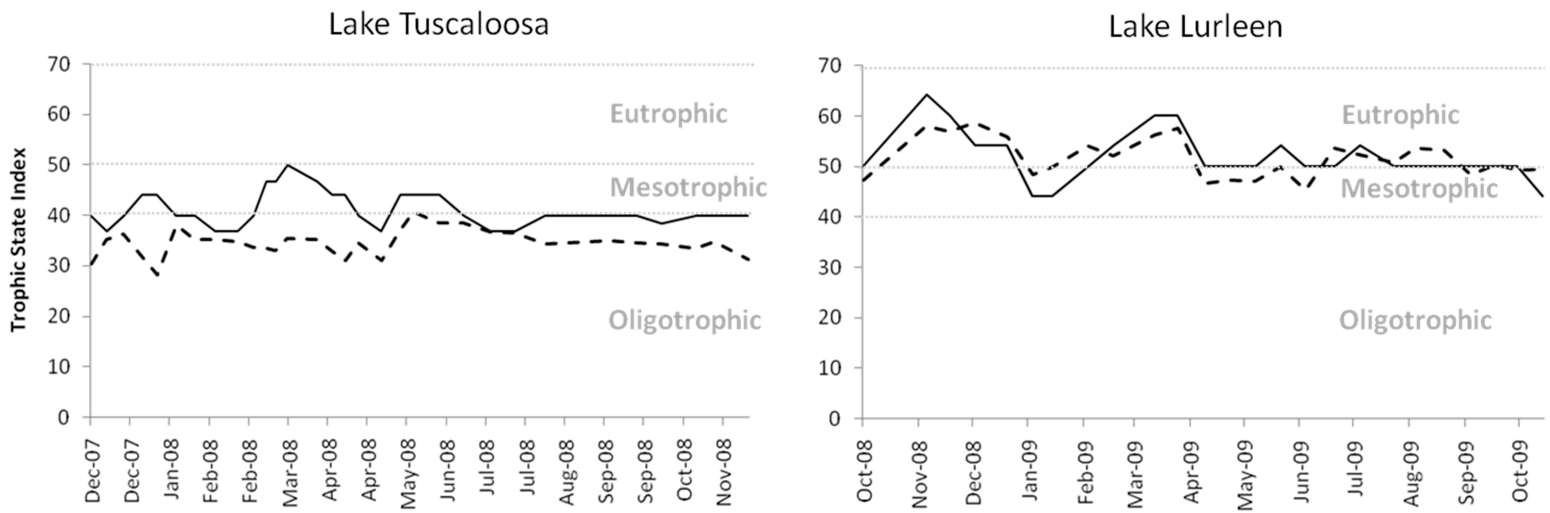

Fig. S3. Seasonal variation of trophic state indices for Lake Tuscaloosa and Lake Lurleen calculated from Secchi depths (lines) and chlorophyll *a* concentrations in the euphotic zone (dashed lines)