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SUPPLEMENTARY MATERIAL

Thermal regime of the Ticino River and ecological implications

Thermal regime of a highly regulated Italian river (Ticino River) and implications for aquatic communities

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Supplementary Tab. 1. Taxa list of diatoms, macrophytes, benthic macroinvertebrates, and fish recorded at S1 and S2. In the lists below, cross indicates the presence of each taxon. For diatoms and benthic macroinvertebrates the presence of each taxon in summer (i.e., August and September) and/or in the other seasons are also shown in the relative tables. Dominant taxa of each group are shown in bold. Data were collected within a regional project about Minimum Flow evaluation in the Ticino River from 2010 to 2014 for benthic macroinvertebrates, and from 2010 to 2012 for the other ecological groups (see project reports at http://www.ticinoconsorzio.it).

Diatoms

(Taxa with a relative abundance >5% in more than one sample are listed in bold).

	S1		S2	
	Summer	Other seasons	Summer	Other seasons
Achnanthes minutissima var. *jackii*			x	
Achnanthidium biasolettianum		x	x	x
Achnanthidium minutissimum	x	x	x	x
Achnanthidium minutissimum var. *affinis*	x			
Achnanthidium subatomus				x
Alaucoseira islandica			x	x
Amphora inariensis		x		x
Amphora pediculus	x	x	x	x
Cocconeis pediculus	x	x	x	x
Cocconeis placentula	x	x	x	x
Cocconeis placentula var. *euglypta*	x	x		x
Cocconeis placentula* var. *lineata		x		x
Cocconeis placentula var. *pseudolineata*		x	x	
Cyclotella comensis	x	x		
Cyclotella cyclopuncta	x			
Cyclotella meneghiniana	x	x	x	x
Cymbella affiniformis			x	x
Cymbella affinis			x	
Cymbella compacta				x
Cymbella excisa	x	x	x	x
Cymbella helvetica			x	
Cymbella lange-bertalotii	x	x	x	x
Denticula tenuis		x	x	x
Diatoma ehrenbergii	x	x	x	x
Diatoma mesodon			x	
Diatoma vulgaris	x	x	x	x
Didymosphenia geminata		x		
Encyonema caespitosum	x		x	x
Encyonema prostratum		x	x	
Encyonema silesiacum				x

Encyonopsis microcephala	x	x	x	x
Epithemia adnata	x	x	x	x
Fragilaria capucina	x		x	
Fragilaria capucina var. *capitellata*		x		
Fragilaria capucina var. *mesolepta*	x		x	
Fragilaria capucina* var. *vaucheriae	x	x	x	x
Fragilaria crotonensis	x	x	x	x
Geissleria decussis			x	
Gomphonema minutum		x		x
Gomphonema olivaceum	x			
Gomphonema parvulum			x	
Gomphonema pumilum				x
Gomphonema tergestinum	x	x	x	x
Gomphonema truncatum			x	
Melosira varians			x	
Navicula capitatoradiata	x		x	
Navicula cryptotenella	x	x	x	x
Navicula jakovljevicii		x		
Navicula lanceolata		x		
Navicula splendicula	x		x	
Navicula tripunctata	x	x	x	x
Nitzschia acicularis		x		x
Nitzschia amphibia				x
Nitzschia dissipata	x	x	x	x
Nitzschia fonticola	x	x	x	x
Nitzschia frustulum	x		x	
Nitzschia linearis				x
Nitzschia paleacea		x		x
Nitzschia sinuata var. *tabellaria*			x	
Planothidium lanceolatum				x
Planothidium rostratum	x			
Pseudostaurosira brevistriata		x	x	
Pseudostaurosira parasitica var. *subconstricta*		x		
Reimeria sinuata	x	x	x	x
Reimeria uniseriata	x	x	x	x
Staurosira venter			x	
Tabellaria flocculosa		x		x
Ulnaria ulna	x		x	

Macrophytes
(Taxa with a relative cover > 5% in more than one sample are listed in bold)

	S1	S2
Algae		
***Cladophora* sp.**	x	x
Geminella sp.	x	
Hydrodiction sp.	x	x
Hydrurus sp.		x
Lyngbia sp.		x
Melosira sp.	x	x
Microspora sp.	x	x
***Oedogonium* sp.**	x	x
Oscillatoria sp.		x
Phormidium sp.		x
***Spirogyra* sp.**	x	x
Ulothrix sp.	x	x
Vaucheria sp.		x
Zygnema sp.	x	x
Phanerogams		
Apium nodiflorum		x
Bidens frondosa	x	x
Bidens tripartita	x	
Callitriche sp.		x
Carex sp.	x	x
Commelina communis	x	
Cyperus glomeratus		x
Cyperus microiria	x	x
Echinochloa crus-gallis	x	x
Elodea canadensis	x	x
Elodea densa	x	
Elodea nuttallii	x	
Iris pseudacorus	x	
Lagarosiphon major	x	x
Lythrum salicaria	x	x
Myosotis scorpioides		x
Myriophyllum spicatum	x	x
Myriophyllum verticillatum	x	
Nasturtium officinale	x	x
Panicum dichotomiflorum	x	x
Polygonum lapathifolium		x
Polygonum mite	x	x
Polygonum persicaria	x	x

Potamogeton natans		x
Ranunculus fluitans	x	x
Ranunculus trychophyllus	x	x
Rorippa amphibia	x	x
Senecio erraticus	x	x
Vallisneria spiralis	x	x
Veronica anagallis-aquatica		x
Zannichellia palustris		x
Mosses		
Fontinalis antipyretica		x

Benthic Macroinvertebrates

(Taxa with a relative abundance >5% in more than one sample are listed in bold)

	S1		S2	
	Summer	Other seasons	Summer	Other seasons
Bivalvia				
Corbiculidae	x	x	x	x
Dreissenidae	x	x	x	x
Pisidiidae				x
Coleoptera				
Dryopidae		x	x	x
Dytiscidae		x	x	
Elmidae	x	x	x	x
Haliplidae	x			
Crustacea				
Asellidae	x	x	x	x
Gammaridae	x	x	x	x
Diptera				
Athericidae	x			
Ceratopogonidae			x	x
Chironomidae	x	x	x	x
Dolichopodidae		x		
Empididae	x	x	x	x
Limoniidae	x	x	x	x
Muscidae	x		x	
Simuliidae	x	x	x	x
Tabanidae				x
Tipulidae				x
Ephemeroptera				
Baetidae	x	x	x	x
Caenidae	x	x	x	x
Ephemerellidae	x	x	x	x
Ephemeridae			x	x

Heptageniidae	x	x	x	x
Gastropoda				
Ancylidae	x	x	x	x
Bythiniidae	x	x	x	x
Hydrobioiidae		x	x	
Lymnaeidae	x	x	x	x
Neritidae	x	x	x	x
Physidae		x	x	x
Planorbidae	x	x	x	x
Valvatidae	x	x	x	x
Heteroptera				
Aphelocheiridae	x			
Naucoridae	x			
Irudinea				
Erpobdellidae	x	x	x	x
Odonata				
Calopterygidae			x	x
Gomphidae	x	x	x	x
Platycnemididae		x		
Oligochaeta				
Enchytraeidae			x	x
Haplotaxidae			x	x
Lumbricidae	x	x	x	x
Lumbriculidae	x	x	x	x
Naididae	x	x	x	x
Propappidae		x		
Tubificidae		x		
Plecoptera				
Leuctridae	x	x	x	x
Nemouridae				x
Perlodidae				x
Trichoptera				
Ecnomidae	x	x	x	x
Glossosomatidae				x
Goeridae	x	x	x	x
Hydropsychidae	x	x	x	x
Hydroptilidae	x	x	x	x
Lepidostomatidae	x	x	x	x
Leptoceridae	x	x	x	x
Limnephilidae	x			x
Odontoceridae			x	x
Philopotamidae	x	x		x
Polycentropodidae		x	x	

Psychomyidae	x	x	x	x
Rhyacophilidae	x	x	x	x
Sericostomatidae		x		x
Turbellaria				
Dendrocoelidae	x	x	x	x
Dugesiidae	x	x	x	x
Planariidae	x	x		
Other taxa				
Hydracarina	x	x	x	x
Spongillidae		x		
Mermithidae		x	x	x

Fish

(Taxa with a relative abundance of 3-4 on 4-abundance classes are listed in bold)

	S1	S2
Anguillidae		
Anguilla anguilla	x	x
Blennidae		
Salaria fluviatilis	x	x
Centrarchidae		
Lepomis gibbosus	x	x
Cobitidae		
Cobitis bilineata	x	x
Misgurnus anguillicaudatus		x
Sabanejewia larvata		x
Cyprinidae		
Alburnus arborella	x	x
Barbus plebejus	x	x
Carassius carassius	x	x
Cyprinus carpio	x	x
Squalius squalus	x	x
Telestes muticellus	x	x
Phoxinus lumaireul	x	x
Pseudorasbora parva		x
Rhodeus amarus	x	x
Rutilus aula	x	x
Rutilus pigus	x	
Rutilus rutilus	x	x
Scardinius hesperidicus	x	x
Tinca tinca	x	x
Esocidae		
Esox lucius		x

Gobiidae		
Padogobius bonelli	x	x
Percidae		
Perca fluviatilis	x	x
Siluridae		
Silurus glanis		x

Supplementary Fig. 1. Results of the linear regression analysis on the mean annual temperature measured at the Miorina Dam from 1999 to 2013 (*top*) and on the mean temperature of each month as a function of the year (*bottom*). Regressions with P-value lower than 0.05 are considered significant and are shown through an asterisk after the R^2 value.