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Chlorophyll *a* specific Δ^{14}C, δ^{13}C and δ^{15}N values in stream periphyton: implications for aquatic food web studies

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Supplemental tables

Table S1. The $\delta^{13}C_{bulk}$, $\delta^{15}N_{bulk}$ and $\Delta^{14}C_{bulk}$ values (‰) and C/N ratios (g g^{-1}) of the samples. PP: primary producer. Means and 1σ analytical errors of the repeated measurements are shown.

Table S2. The $\delta^{13}C_{chl}$, $\delta^{15}N_{chl}$ and $\Delta^{14}C_{chl}$ values (‰), C/N ratios of purified chlorophyll *a* (g g^{-1}) (theoretical value: 11.8), chlorophyll *a* abundances per unit dry weight of the samples (μg g^{-1}) and carbon contents of the chlorophyll *a* samples introduced into the AMS (μg C) for periphyton, *Cladophora* sp. and *Q. glauca*. Means and 1σ analytical errors of the repeated measurements are shown. Periphyton in April compiles chlorophyll *a* and phaeophytin *a*. The October periphyton $\delta^{13}C_{chl}$ and $\delta^{15}N_{chl}$ values were determined based on single measurement.

Supplemental figures

Figure S1. Illustration of algae and cyanobacteria in the periphyton community observed in November 2008. White scale bars in the bottom right corners indicate 50 μm.

Figure S2. Microscopic images of a) periphyton and b) the gut contents of *E. latifolium* collected in April 2013. White scale bars in the bottom right corners indicate 100 μm.

Figure S3. Three-dimensional chromatograms of laboratory standards for a) chlorophyll *a*, and b) phaeophytin *a* and periphyton collected from the Seri River in c) April, and d) October 2013.

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	$\delta^{13}C_{bulk}$ (‰)	$\delta^{15}N_{bulk}$ (‰)	C/N (g g^{-1})	$\Delta^{14}C_{bulk}$ (‰)	AMS lab code
April					
Periphyton	–20.7 ± 0.0	–5.7 ± 0.1	5.9 ± 0.2	–228 ± 2.3	IAAA-131744
E. latifolium	–26.6 ± 0.1	–3.9 ± 0.3	4.3 ± 0.0	–215 ± 2.3	IAAA-131743
October					
Periphyton	–26.2 ± 1.1	–1.7 ± 0.1	6.6 ± 0.5	–179 ± 2.2	IAAA-140037
E. latifolium	–26.5 ± 0.2	+1.4 ± 2.4	5.0 ± 0.1	–199 ± 2.2	IAAA-140038
Reference					
Cladophora sp.	–23.0 ± 1.8	–4.3 ± 0.1	11.6 ± 1.0	–199 ± 2.7	IAAA-131745
Q. glauca	–30.9 ± 0.1	–0.8 ± 0.1	28.7 ± 0.8	+27 ± 2.3	IAAA-131749

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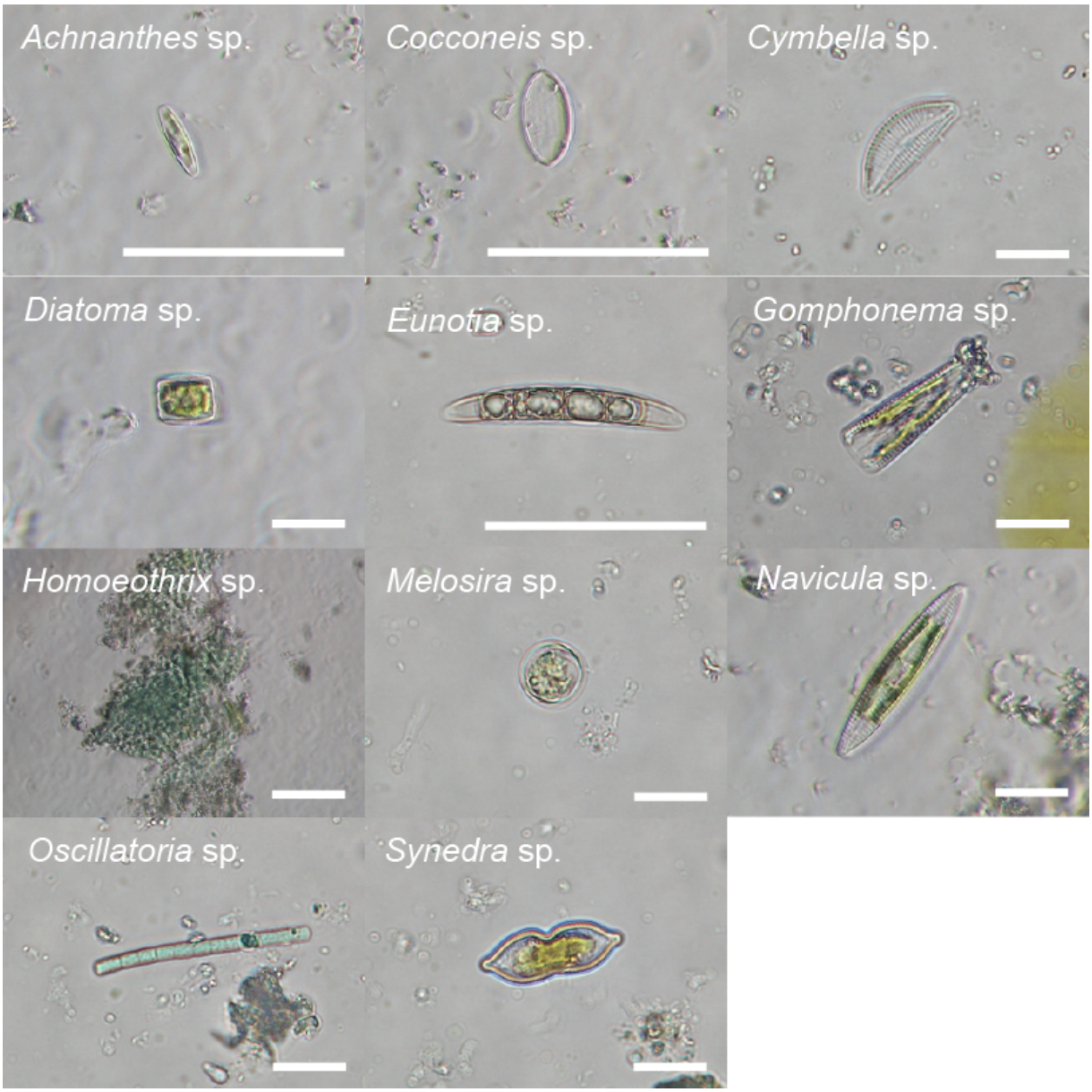
	$\delta^{13}C_{chl}$ (‰)		$\delta^{15}N_{chl}$ (‰)		C/N (g g^{-1})		$\Delta^{14}C_{chl}$ (‰)		μg g^{-1}	μg C	AMS lab code
April											
Periphyton	–20.0	± 0.2	–1.5	± 0.2	14.3	± 1.8	–258	± 4.8	249	90	YAUT-012012
October											
Periphyton	–26.0		+0.5		12.2		–190	± 6.1	817	617	YAUT-005816
Reference											
Cladophora sp.	–24.7	± 0.1	–6.0	± 1.2	11.9	± 0.2	–210	± 6.8	429	100	YAUT-005815
Q. glauca	–32.0	± 0.1	–0.2	± 0.4	13.1	± 2.0	–10	± 7.3	465	119	YAUT-005824



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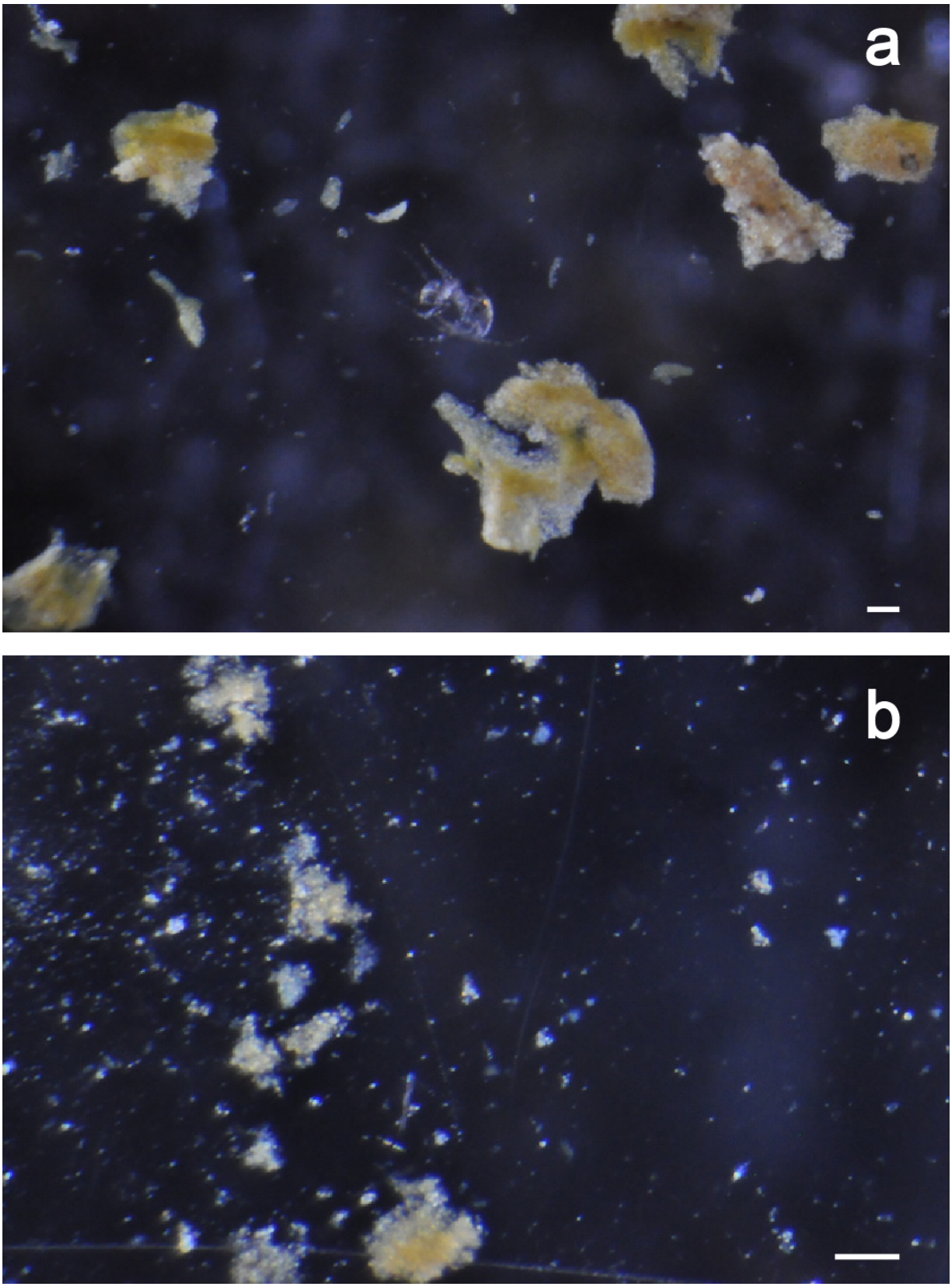

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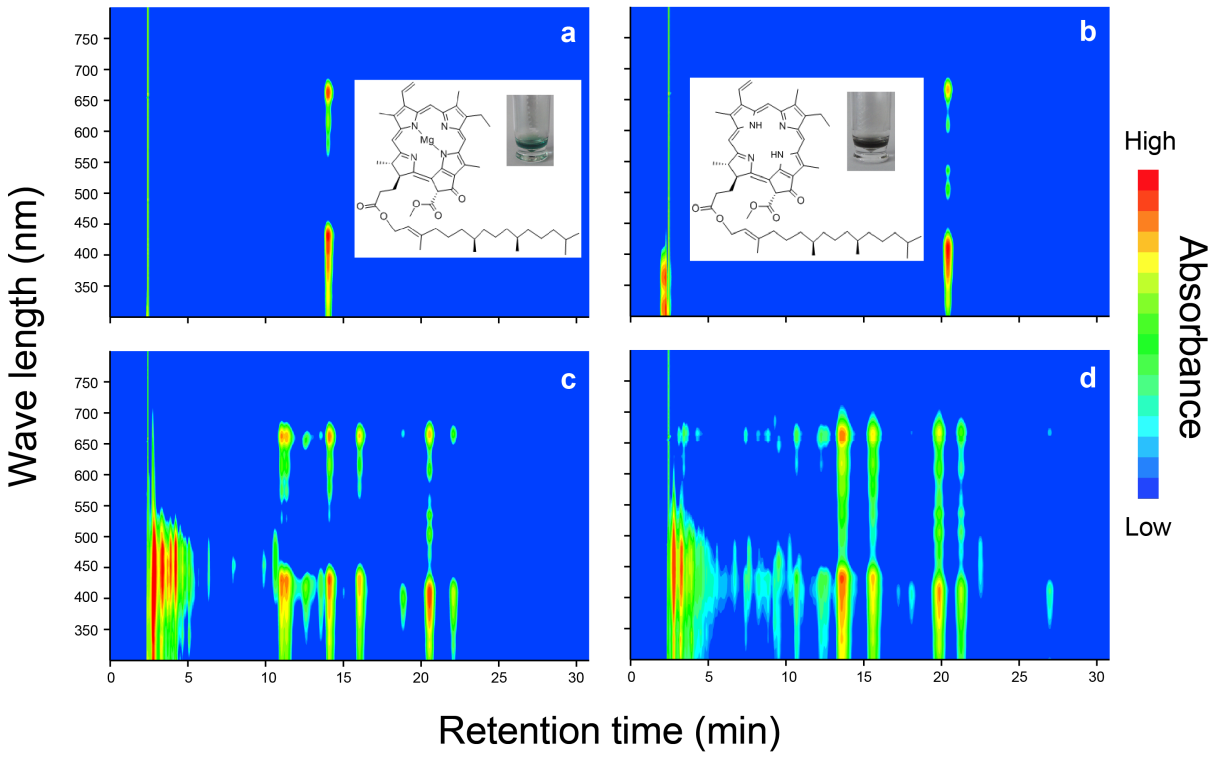

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