

DNA metabarcoding reveals that 200 µm size-fractionated filtering is unable to discriminate between planktonic microbial and large eukaryotes

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Supplementary Information

Summary

The supplementary information includes 5 figures and 8 tables.

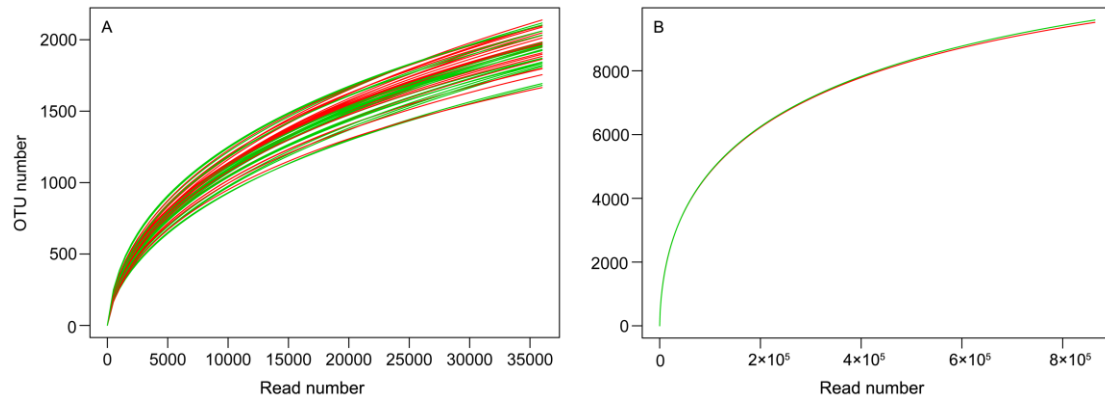


Fig. S1 Rarefaction curves of similarity-based operational taxonomic unit (OTU) at 97% sequence similarity threshold. A - the 48 replicate samples (12 replicate samples in both size fractions for each reservoir), B - the two sample pools that were from $> 0.2 \mu\text{m}$ and $0.2\text{--}200 \mu\text{m}$ communities, respectively. Colors indicate the different size fractions (red for $> 0.2 \mu\text{m}$, green for $0.2\text{--}200 \mu\text{m}$).

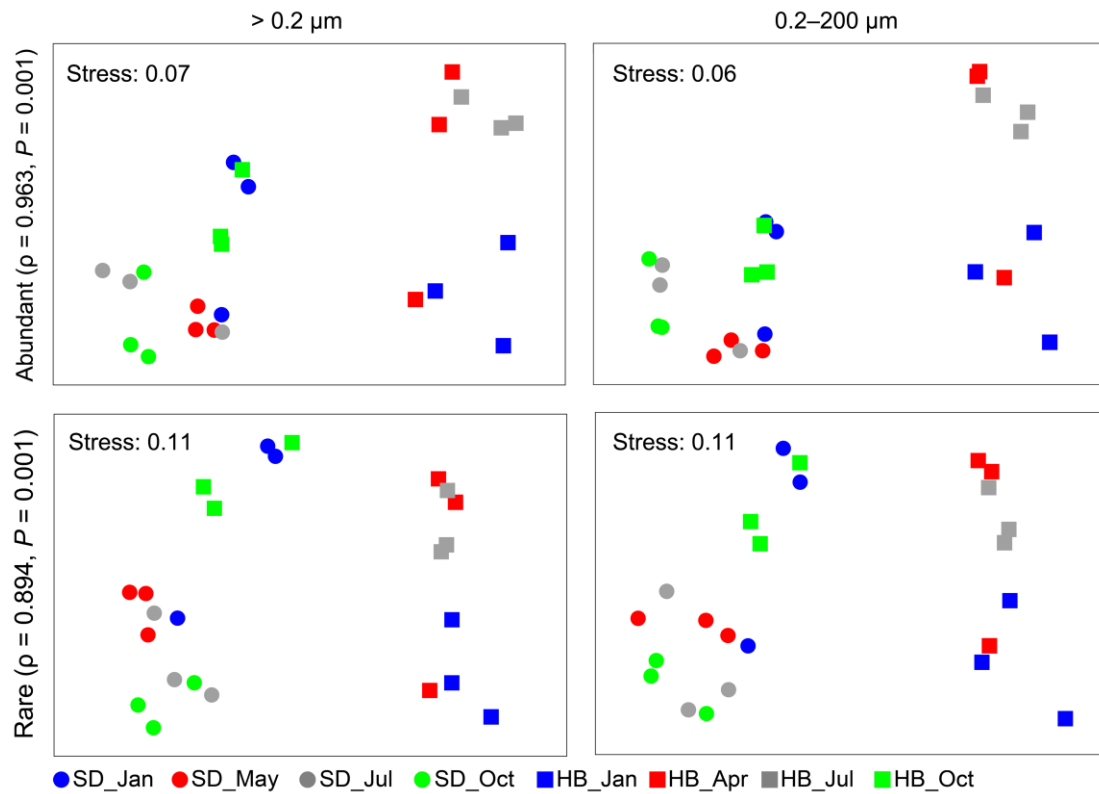


Fig. S2 NMDS ordination for $> 0.2 \mu\text{m}$ (left, $n = 24$) and $0.2\text{--}200 \mu\text{m}$ (right, $n = 24$) eukaryotic plankton communities from two subtropical reservoirs (Shidou and Hubian). Abundant – abundant taxa or OTUs, Rare – rare taxa or OTUs. The operational taxonomic units (OTUs) were defined at 97% sequence similarity threshold. The sample names are indicated using the format: reservoir_month (triplicate samples for each reservoir in each season). Two sampling reservoirs are shown in different shapes, while the sampling time is shown in different colors. The ρ value indicates the correlation coefficient of RELATE between the $> 0.2 \mu\text{m}$ and $0.2\text{--}200 \mu\text{m}$ eukaryotic plankton communities. Correlations were calculated as pair-wise comparisons of all similarity matrix data (i.e. 276 pairwise combinations for the 24 replicate samples in each size-fraction).

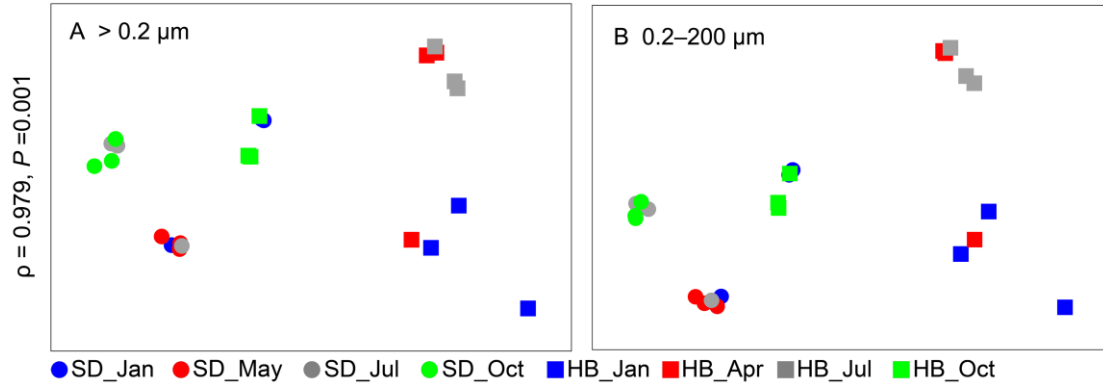


Fig. S3 NMDS ordination for $> 0.2 \mu\text{m}$ (A, $n = 24$) and $0.2\text{--}200 \mu\text{m}$ (B, $n = 24$) eukaryotic plankton communities from two subtropical reservoirs (Shidou and Hubian). The operational taxonomic units (OTUs) were defined at **99%** sequence similarity threshold. The sample names are indicated using the format: reservoir_month (triplicate samples for each reservoir in each season). Two sampling reservoirs are shown in different shapes, while the sampling time is shown in different colors. The ρ value indicates the correlation coefficient of RELATE between the $> 0.2 \mu\text{m}$ and $0.2\text{--}200 \mu\text{m}$ eukaryotic plankton communities. Correlations were calculated as pair-wise comparisons of all similarity matrix data (i.e. 276 pairwise combinations for the 24 replicate samples in each size-fraction).

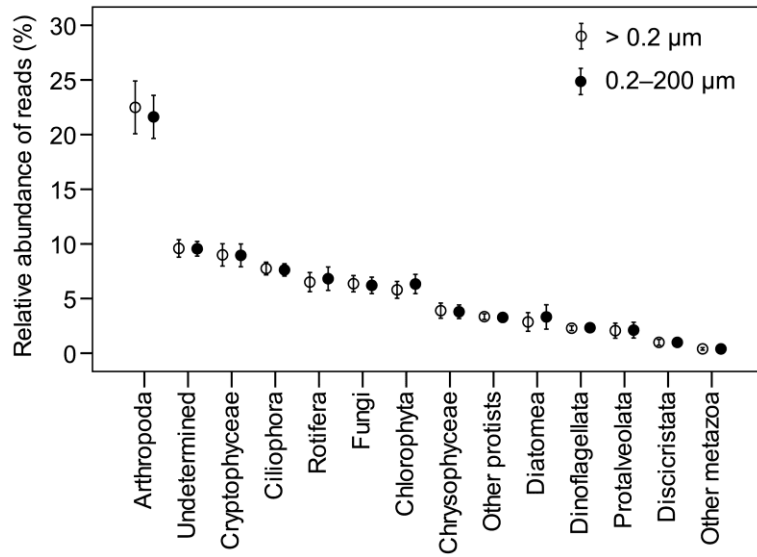


Fig. S4 The comparison of relative abundance of reads at phylum or higher taxonomic rank between the > 0.2 μm (n = 24) and 0.2–200 μm (n = 24) eukaryotic plankton communities based on a 99% OTU similarity threshold. Statistical analysis is nonparametric Mann-Whitney test, and all *P* values are > 0.05 in all comparisons between the > 0.2 μm and 0.2–200 μm fractions. Values and error bars indicate mean and standard error (n = 24), respectively. Undetermined – unclassified eukaryotes (sequence similarity > 80%). The eukaryotic plankton groups were classified according to Adl *et al.* (2012), note that the Silva annotation is not entirely identical with Adl *et al.* (2012).

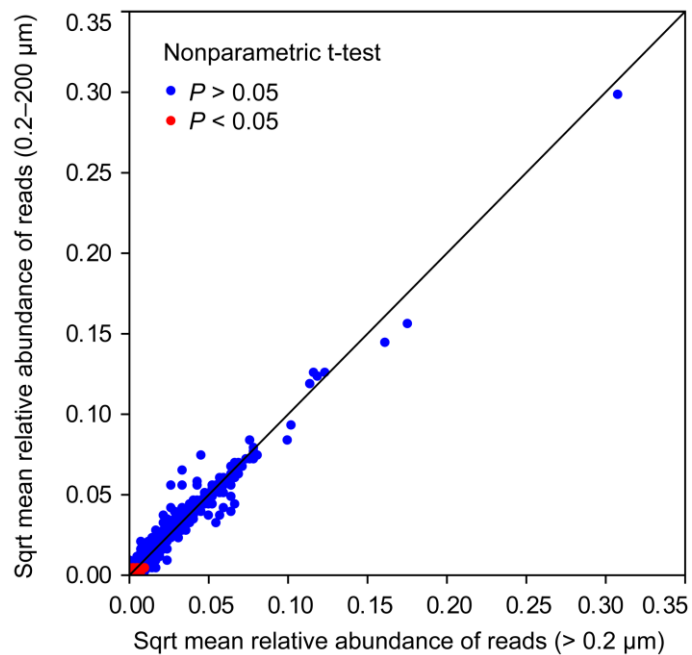


Fig. S5 Plot of square root-transformed mean relative abundances of reads at OTU level (99% similarity threshold) in the $> 0.2 \mu\text{m}$ ($n = 24$) and $0.2\text{--}200 \mu\text{m}$ ($n = 24$) eukaryotic plankton communities. Statistical analysis is nonparametric Mann-Whitney test. Data are presented as mean of 24 replicates for 17657 OTUs from both reservoirs. Only 85 (0.48%) OTUs had significant difference between the two size fractions with P value < 0.05 . The black line is $y = x$.

Table S1 Sample information of eukaryotic plankton communities from two subtropical reservoirs

Reservoir	Sample ID	Latitude (° N)	Longitude (° E)	Sampling date (YY/MM/DD)	Size (µm)
Shidou	SD_Jan1A	118.001	24.702	13/01/13	> 0.2
Shidou	SD_Jan1B	118.001	24.702	13/01/13	0.2–200
Shidou	SD_Jan2A	118.009	24.693	13/01/13	> 0.2
Shidou	SD_Jan2B	118.009	24.693	13/01/13	0.2–200
Shidou	SD_Jan3A	118.014	24.685	13/01/13	> 0.2
Shidou	SD_Jan3B	118.014	24.685	13/01/13	0.2–200
Shidou	SD_May1A	118.001	24.702	13/05/08	> 0.2
Shidou	SD_May1B	118.001	24.702	13/05/08	0.2–200
Shidou	SD_May2A	118.009	24.693	13/05/08	> 0.2
Shidou	SD_May2B	118.009	24.693	13/05/08	0.2–200
Shidou	SD_May3A	118.014	24.685	13/05/08	> 0.2
Shidou	SD_May3B	118.014	24.685	13/05/08	0.2–200
Shidou	SD_Jul1A	118.001	24.702	13/07/11	> 0.2
Shidou	SD_Jul1B	118.001	24.702	13/07/11	0.2–200
Shidou	SD_Jul2A	118.009	24.693	13/07/11	> 0.2
Shidou	SD_Jul2B	118.009	24.693	13/07/11	0.2–200
Shidou	SD_Jul3A	118.014	24.685	13/07/11	> 0.2
Shidou	SD_Jul3B	118.014	24.685	13/07/11	0.2–200
Shidou	SD_Oct1A	118.001	24.702	13/10/28	> 0.2
Shidou	SD_Oct1B	118.001	24.702	13/10/28	0.2–200
Shidou	SD_Oct2A	118.009	24.693	13/10/28	> 0.2
Shidou	SD_Oct2B	118.009	24.693	13/10/28	0.2–200
Shidou	SD_Oct3A	118.014	24.685	13/10/28	> 0.2
Shidou	SD_Oct3B	118.014	24.685	13/10/28	0.2–200
Hubian	HB_Jan1A	118.162	24.501	13/01/11	> 0.2
Hubian	HB_Jan1B	118.162	24.501	13/01/11	0.2–200
Hubian	HB_Jan2A	118.161	24.496	13/01/11	> 0.2
Hubian	HB_Jan2B	118.161	24.496	13/01/11	0.2–200
Hubian	HB_Jan3A	118.154	24.497	13/01/11	> 0.2
Hubian	HB_Jan3B	118.154	24.497	13/01/11	0.2–200
Hubian	HB_Apr1A	118.162	24.501	13/04/18	> 0.2
Hubian	HB_Apr1B	118.162	24.501	13/04/18	0.2–200
Hubian	HB_Apr2A	118.161	24.496	13/04/18	> 0.2
Hubian	HB_Apr2B	118.161	24.496	13/04/18	0.2–200
Hubian	HB_Apr3A	118.154	24.497	13/04/18	> 0.2
Hubian	HB_Apr3B	118.154	24.497	13/04/18	0.2–200
Hubian	HB_Jul1A	118.162	24.501	13/07/10	> 0.2
Hubian	HB_Jul1B	118.162	24.501	13/07/10	0.2–200
Hubian	HB_Jul2A	118.161	24.496	13/07/10	> 0.2
Hubian	HB_Jul2B	118.161	24.496	13/07/10	0.2–200
Hubian	HB_Jul3A	118.154	24.497	13/07/10	> 0.2
Hubian	HB_Jul3B	118.154	24.497	13/07/10	0.2–200
Hubian	HB_Oct1A	118.162	24.501	13/10/29	> 0.2
Hubian	HB_Oct1B	118.162	24.501	13/10/29	0.2–200
Hubian	HB_Oct2A	118.161	24.496	13/10/29	> 0.2
Hubian	HB_Oct2B	118.161	24.496	13/10/29	0.2–200
Hubian	HB_Oct3A	118.154	24.497	13/10/29	> 0.2
Hubian	HB_Oct3B	118.154	24.497	13/10/29	0.2–200

The sample IDs are indicated using the format: reservoir_month (3 replicates in each sample).

Table S2 Diversity, predicted richness and Good's coverage of eukaryotic plankton communities

	Sample	No. of OTU	Chao1	ACE	Good's coverage
> 0.2 μm	SD_Jan	2002 \pm 59	3083 \pm 136	3087 \pm 121	0.978 \pm 0.001
	SD_May	2010 \pm 71	2998 \pm 201	3021 \pm 145	0.979 \pm 0.001
	SD_Jul	1956 \pm 53	2928 \pm 73	2953 \pm 55	0.979 \pm 0.000
	SD_Oct	1856 \pm 58	2847 \pm 127	2870 \pm 122	0.979 \pm 0.001
	HB_Jan	1830 \pm 84	3052 \pm 215	3089 \pm 189	0.977 \pm 0.001
	HB_Apr	1887 \pm 31	3032 \pm 55	3066 \pm 74	0.978 \pm 0.001
	HB_Jul	2021 \pm 82	3249 \pm 109	3257 \pm 127	0.976 \pm 0.001
	HB_Oct	2026 \pm 33	3175 \pm 91	3192 \pm 79	0.977 \pm 0.001
0.2–200 μm	SD_Jan	2018 \pm 43	3220 \pm 41	3154 \pm 14	0.977 \pm 0.000
	SD_May	1941 \pm 57	2911 \pm 87	2949 \pm 111	0.979 \pm 0.001
	SD_Jul	1935 \pm 27	2929 \pm 48	2938 \pm 48	0.979 \pm 0.000
	SD_Oct	1839 \pm 132	2735 \pm 195	2757 \pm 166	0.98 \pm 0.001
	HB_Jan	1816 \pm 77	2962 \pm 128	2989 \pm 136	0.978 \pm 0.001
	HB_Apr	1908 \pm 38	3158 \pm 104	3176 \pm 61	0.977 \pm 0.000
	HB_Jul	2039 \pm 38	3150 \pm 109	3233 \pm 120	0.976 \pm 0.001
	HB_Oct	1997 \pm 17	3100 \pm 25	3145 \pm 32	0.977 \pm 0.000

SD – Shidou Reservoir, HB – Hubian Reservoir. The sample names are indicated using the format: reservoir_month (3 replicates in each sample). The operational taxonomic units (OTUs) were defined at 97% sequence similarity threshold. Data are means \pm s.e. (n = 3).

Table S3 Comparison of OTU number, Chao 1, ACE, Shannon-Wiener, Simpson and Pielou indices between two size fractions (> 0.2 μm vs 0.2–200 μm) of **all** eukaryotic plankton communities from Shidou and Hubian reservoirs (3 replicates in each sample)

	OTU		<i>P</i>	Chao 1		<i>P</i>
	> 0.2	0.2–200		> 0.2	0.2–200	
SD_Jan	2002±59	2018±43	> 0.05	3083±136	3220±41	> 0.05
SD_May	2010±71	1941±57	> 0.05	2998±201	2911±87	> 0.05
SD_Jul	1956±53	1935±27	> 0.05	2928±73	2929±48	> 0.05
SD_Oct	1856±58	1839±132	> 0.05	2847±127	2735±195	> 0.05
HB_Jan	1830±84	1816±77	> 0.05	3052±215	2962±128	> 0.05
HB_Apr	1887±31	1908±38	> 0.05	3032±55	3158±104	> 0.05
HB_Jul	2021±82	2039±38	> 0.05	3249±109	3150±109	> 0.05
HB_Oct	2026±33	1997±17	> 0.05	3175±91	3100±25	> 0.05
	ACE		<i>P</i>	Shannon-Wiener		<i>P</i>
	> 0.2	0.2–200		> 0.2	0.2–200	
SD_Jan	3087±121	3154±14	> 0.05	5.42±0.09	5.55±0.15	> 0.05
SD_May	3021±145	2949±111	> 0.05	5.24±0.43	4.82±0.18	> 0.05
SD_Jul	2953±55	2938±48	> 0.05	5.23±0.25	5.21±0.09	> 0.05
SD_Oct	2870±122	2757±166	> 0.05	4.82±0.30	4.77±0.49	> 0.05
HB_Jan	3089±189	2989±136	> 0.05	5.07±0.16	5.13±0.11	> 0.05
HB_Apr	3066±74	3176±61	> 0.05	5.11±0.05	5.19±0.08	> 0.05
HB_Jul	3257±127	3233±120	> 0.05	5.44±0.07	5.43±0.05	> 0.05
HB_Oct	3192±79	3145±32	> 0.05	5.48±0.08	5.40±0.09	> 0.05
	Simpson		<i>P</i>	Pielou		<i>P</i>
	> 0.2	0.2-200		> 0.2	0.2-200	
SD_Jan	0.98±0.00	0.99±0.00	> 0.05	0.71±0.01	0.73±0.02	> 0.05
SD_May	0.96±0.03	0.94±0.01	> 0.05	0.69±0.05	0.64±0.02	> 0.05
SD_Jul	0.97±0.02	0.97±0.01	> 0.05	0.69±0.03	0.69±0.01	> 0.05
SD_Oct	0.95±0.02	0.93±0.03	> 0.05	0.64±0.04	0.63±0.06	> 0.05
HB_Jan	0.98±0.00	0.98±0.00	> 0.05	0.67±0.02	0.68±0.01	> 0.05
HB_Apr	0.97±0.00	0.98±0.00	> 0.05	0.68±0.01	0.69±0.01	> 0.05
HB_Jul	0.99±0.00	0.98±0.00	> 0.05	0.72±0.01	0.71±0.01	> 0.05
HB_Oct	0.98±0.00	0.98±0.00	> 0.05	0.72±0.01	0.71±0.01	> 0.05

SD - Shidou Reservoir, HB - Hubian Reservoir. The operational taxonomic units (OTUs) were defined at 97% sequence similarity threshold. Data are means \pm s.e. (n = 3). Statistical analysis is nonparametric Mann-Whitney test, and all *P* values are higher than 0.05.

Table S4 Comparison of OTU number, Shannon-Wiener, Simpson and Pielou indices between two size fractions of **abundant** eukaryotic plankton subcommunities from Shidou and Hubian reservoirs

	OTU		<i>P</i>	Shannon-Wiener		<i>P</i>
	> 0.2	0.2-200		> 0.2	0.2-200	
SD_Jan	99±2	96±2	> 0.05	3.41±0.04	3.54±0.06	> 0.05
SD_May	100±1	99±0	> 0.05	3.13±0.41	2.73±0.08	> 0.05
SD_Jul	95±0	94±1	> 0.05	3.31±0.29	3.40±0.19	> 0.05
SD_Oct	93±2	89±5	> 0.05	3.02±0.33	2.84±0.45	> 0.05
HB_Jan	90±1	88±2	> 0.05	3.47±0.10	3.51±0.05	> 0.05
HB_Apr	86±3	84±4	> 0.05	3.25±0.10	3.40±0.02	> 0.05
HB_Jul	83±4	84±2	> 0.05	3.52±0.04	3.47±0.07	> 0.05
HB_Oct	97±1	97±1	> 0.05	3.53±0.10	3.48±0.10	> 0.05

	Simpson		<i>P</i>	Pielou		<i>P</i>
	> 0.2	0.2-200		> 0.2	0.2-200	
SD_Jan	0.94±0.00	0.95±0.00	> 0.05	0.74±0.01	0.78±0.01	> 0.05
SD_May	0.89±0.06	0.84±0.01	> 0.05	0.68±0.09	0.60±0.02	> 0.05
SD_Jul	0.92±0.04	0.93±0.03	> 0.05	0.73±0.06	0.75±0.04	> 0.05
SD_Oct	0.88±0.04	0.85±0.06	> 0.05	0.67±0.07	0.63±0.09	> 0.05
HB_Jan	0.95±0.01	0.95±0.00	> 0.05	0.77±0.02	0.78±0.01	> 0.05
HB_Apr	0.92±0.01	0.94±0.00	> 0.05	0.73±0.02	0.77±0.01	> 0.05
HB_Jul	0.96±0.00	0.95±0.01	> 0.05	0.80±0.01	0.79±0.02	> 0.05
HB_Oct	0.95±0.01	0.94±0.01	> 0.05	0.77±0.02	0.76±0.02	> 0.05

SD - Shidou Reservoir, HB - Hubian Reservoir. The operational taxonomic units (OTUs) were defined at 97% sequence similarity threshold. Data are means ± s.e. (n = 3). Statistical analysis is nonparametric Mann-Whitney test, and all *P* values are higher than 0.05.

Table S5 Comparison of OTU number, Shannon-Wiener, Simpson and Pielou indices between two size fractions of **rare** eukaryotic plankton subcommunities from Shidou and Hubian reservoirs

	OTU		<i>P</i>	Shannon-Wiener		<i>P</i>
	> 0.2	0.2–200		> 0.2	0.2–200	
SD_Jan	522±21	541±12	> 0.05	6.15±0.04	6.17±0.02	> 0.05
SD_May	495±40	452±21	> 0.05	6.08±0.07	5.99±0.05	> 0.05
SD_Jul	504±39	492±33	> 0.05	6.09±0.07	6.06±0.08	> 0.05
SD_Oct	463±37	464±75	> 0.05	6.03±0.07	6.01±0.14	> 0.05
HB_Jan	652±31	653±28	> 0.05	6.33±0.08	6.31±0.08	> 0.05
HB_Apr	631±51	635±2	> 0.05	6.32±0.08	6.34±0.01	> 0.05
HB_Jul	695±49	711±20	> 0.05	6.41±0.07	6.44±0.03	> 0.05
HB_Oct	527±24	533±22	> 0.05	6.15±0.05	6.16±0.04	> 0.05

	Simpson		<i>P</i>	Pielou		<i>P</i>
	> 0.2	0.2–200		> 0.2	0.2–200	
SD_Jan	0.9989±0.0000	0.9989±0.0001	> 0.05	0.9826±0.0006	0.9805±0.0018	> 0.05
SD_May	0.9988±0.0001	0.9987±0.0001	> 0.05	0.9815±0.0021	0.9807±0.0010	> 0.05
SD_Jul	0.9987±0.0002	0.9986±0.0004	> 0.05	0.9792±0.0039	0.9778±0.0056	> 0.05
SD_Oct	0.9989±0.0001	0.9988±0.0001	> 0.05	0.9827±0.0025	0.9827±0.0023	> 0.05
HB_Jan	0.9989±0.0004	0.9987±0.0004	> 0.05	0.9767±0.0076	0.9743±0.0076	> 0.05
HB_Apr	0.9990±0.0001	0.9991±0.0001	> 0.05	0.9812±0.0005	0.9822±0.0013	> 0.05
HB_Jul	0.9991±0.0000	0.9991±0.0000	> 0.05	0.9804±0.0008	0.9804±0.0003	> 0.05
HB_Oct	0.9990±0.0001	0.9989±0.0001	> 0.05	0.9819±0.0006	0.9819±0.0017	> 0.05

SD - Shidou Reservoir, HB - Hubian Reservoir. The operational taxonomic units (OTUs) were defined at 97% sequence similarity threshold. Data are means ± s.e. (n = 3). Statistical analysis is nonparametric Mann-Whitney test, and all *P* values are higher than 0.05.

Table S6 The OTUs that are unique and shared between the > 0.2 μm and 0.2–200 μm fraction communities in different seasons and reservoirs

		> 0.2 unique	> 0.2 shared	0.2–200 unique	0.2–200 shared
1 ^a	SD_Jan	1039 (28.1%)	2655 (71.9%)	1041 (28.2%)	2655 (71.8%)
	SD_May	822 (25.8%)	2365 (74.2%)	722 (23.4%)	2365 (76.6%)
	SD_Jul	902 (26.2%)	2538 (73.8%)	872 (25.6%)	2538 (74.4%)
	SD_Oct	758 (25.8%)	2178 (74.2%)	769 (26.1%)	2178 (73.9%)
	HB_Jan	932 (29.5%)	2223 (70.5%)	864 (28.0%)	2223 (72.0%)
	HB_Apr	1087 (29.2%)	2635 (70.8%)	1105 (29.5%)	2635 (70.5%)
	HB_Jul	870 (26.5%)	2418 (73.5%)	898 (27.1%)	2418 (72.9%)
	HB_Oct	854 (26.4%)	2377 (73.6%)	846 (26.2%)	2377 (73.8%)
10 ^b	SD_Jan	533 (17.3%)	2546 (82.7%)	500 (16.4%)	2546 (83.6%)
	SD_May	407 (15.9%)	2154 (84.1%)	354 (14.1%)	2154 (85.9%)
	SD_Jul	435 (15.4%)	2393 (84.6%)	424 (15.1%)	2393 (84.9%)
	SD_Oct	373 (15.8%)	1985 (84.2%)	396 (16.6%)	1985 (83.4%)
	HB_Jan	406 (17.7%)	1884 (82.3%)	364 (16.2%)	1884 (83.8%)
	HB_Apr	507 (17.6%)	2369 (82.4%)	506 (17.6%)	2369 (82.4%)
	HB_Jul	330 (13.8%)	2064 (86.2%)	393 (16.0%)	2064 (84.0%)
	HB_Oct	439 (16.7%)	2192 (83.3%)	453 (17.1%)	2192 (82.9%)
50 ^c	SD_Jan	133 (7.0%)	1767 (93.0%)	127 (6.7%)	1767 (93.3%)
	SD_May	114 (7.1%)	1491 (92.9%)	95 (6.0%)	1491 (94.0%)
	SD_Jul	113 (6.6%)	1612 (93.4%)	108 (6.3%)	1612 (93.7%)
	SD_Oct	124 (8.3%)	1367 (91.7%)	126 (8.4%)	1367 (91.6%)
	HB_Jan	143 (11.0%)	1159 (89.0%)	127 (9.9%)	1159 (90.1%)
	HB_Apr	119 (7.2%)	1532 (92.8%)	152 (9.0%)	1532 (91.0%)
	HB_Jul	128 (9.3%)	1247 (90.7%)	132 (9.6%)	1247 (90.4%)
	HB_Oct	122 (7.4%)	1527 (92.6%)	124 (7.5%)	1527 (92.5%)

a: the singleton OTUs were removed, b: the OTUs with < 10 sequences were removed, c: the OTUs with < 50 sequences were removed. The operational taxonomic units (OTUs) were defined at 97% sequence similarity threshold. The relative contributions (percent) of OTUs richness or reads number in each size fraction are given in parentheses.

Table S7 The OTUs and reads that are unique and shared between the > 0.2 μm (n = 24) and 0.2–200 μm (n = 24) eukaryotic plankton communities from Shidou and Hubian reservoirs

		> 0.2 unique	> 0.2 shared	0.2–200 unique	0.2–200 shared
OTUs	1 ^a	2295 (15.06%)	12944 (84.94%)	2418 (15.74%)	12944 (84.26%)
	10 ^b	146 (1.61%)	8899 (98.39%)	165 (1.82%)	8899 (98.18%)
	50 ^c	1 (0.03%)	3406 (99.97%)	2 (0.06%)	3406 (99.94%)
Reads	1	4564 (0.63%)	715436 (99.37%)	4821 (0.67%)	715179 (99.33%)
	10	733 (0.10%)	712619 (99.90%)	751 (0.11%)	712601 (99.89%)
	50	26 (0.00%)	681502 (100.00%)	76 (0.01%)	681452 (99.99%)

a: the singleton OTUs were removed, b: the OTUs with < 10 sequences were removed, c: the OTUs with < 50 sequences were removed. The operational taxonomic units (OTUs) were defined at 99% sequence similarity threshold. The relative contributions (percent) of OTUs richness or reads number in each size fraction are given in parentheses.

Table S8 Comparison of OTU number, Shannon-Wiener, Simpson and Pielou indices between the > 0.2 μm (n = 3) and 0.2–200 μm (n = 3) eukaryotic plankton samples

	OTU		<i>P</i>	Shannon-Wiener		<i>P</i>
	> 0.2	0.2–200		> 0.2	0.2–200	
SD_Jan	2594 \pm 172	2486 \pm 186	> 0.05	5.52 \pm 0.30	5.56 \pm 0.34	> 0.05
SD_May	2834 \pm 13	2802 \pm 97	> 0.05	5.82 \pm 0.27	5.56 \pm 0.17	> 0.05
SD_Jul	2641 \pm 60	2594 \pm 44	> 0.05	5.53 \pm 0.26	5.50 \pm 0.07	> 0.05
SD_Oct	2496 \pm 44	2604 \pm 110	> 0.05	5.10 \pm 0.25	5.39 \pm 0.33	> 0.05
HB_Jan	2344 \pm 189	2414 \pm 154	> 0.05	5.27 \pm 0.28	5.42 \pm 0.15	> 0.05
HB_Apr	2632 \pm 13	2675 \pm 95	> 0.05	5.37 \pm 0.17	5.57 \pm 0.05	> 0.05
HB_Jul	2837 \pm 136	2897 \pm 33	> 0.05	5.79 \pm 0.18	5.85 \pm 0.05	> 0.05
HB_Oct	2637 \pm 56	2627 \pm 51	> 0.05	5.70 \pm 0.13	5.63 \pm 0.03	> 0.05
	Simpson		<i>P</i>	Pielou		<i>P</i>
	> 0.2	0.2–200		> 0.2	0.2–200	
SD_Jan	0.98 \pm 0.01	0.98 \pm 0.00	> 0.05	0.70 \pm 0.03	0.71 \pm 0.04	> 0.05
SD_May	0.97 \pm 0.02	0.96 \pm 0.01	> 0.05	0.73 \pm 0.03	0.70 \pm 0.02	> 0.05
SD_Jul	0.96 \pm 0.02	0.97 \pm 0.01	> 0.05	0.70 \pm 0.03	0.70 \pm 0.01	> 0.05
SD_Oct	0.93 \pm 0.03	0.94 \pm 0.02	> 0.05	0.65 \pm 0.03	0.69 \pm 0.04	> 0.05
HB_Jan	0.98 \pm 0.01	0.98 \pm 0.00	> 0.05	0.68 \pm 0.03	0.70 \pm 0.01	> 0.05
HB_Apr	0.97 \pm 0.01	0.98 \pm 0.00	> 0.05	0.68 \pm 0.02	0.71 \pm 0.00	> 0.05
HB_Jul	0.98 \pm 0.01	0.99 \pm 0.00	> 0.05	0.73 \pm 0.02	0.73 \pm 0.01	> 0.05
HB_Oct	0.98 \pm 0.00	0.98 \pm 0.00	> 0.05	0.72 \pm 0.01	0.72 \pm 0.00	> 0.05

SD – Shidou Reservoir, HB – Hubian Reservoir. The operational taxonomic units (OTUs) were defined at 99% sequence similarity threshold. Statistical analysis is nonparametric Mann-Whitney test, and all *P* values are higher than 0.05. Data are means \pm s.e. (n = 3).