Table S1 Distribution of *Raphidiopsis raciborskii* in Chinese freshwater bodies

Geographic origin	Latitude (N), Longitude (E)	Date of investigation	Abundance description	Reference
Haihe river basin				
Datun reservoir, Dezhou, Shandong [a]	37°16′, 116°12′	2015 – 2017	Occurrence	[1]
Fish pond, Beijing National Stadium, Beijing	39°59′, 116°24′	Aug., 2009	Occurrence	[2]
Five lakes/ponds, Beijing	39°53′ – 39°59′, 116°18′ – 116°29′	Sept., 2015	Occurrence	[3]
Yellow River Basin				
Jihongtan fish pond, Qingdao, Shandong [a]	36°20′, 120°13′	Nov., 2013	Dominant	[2]
Donghu reservoir, Jinan, Shandong [a]	36°52′, 117°20′	2017	Dominant	[1]
Shuangwangcheng reservoir, Weifang, Shandong [a]	37°08′, 118°43′	2017	Dominant	[1]
Jinyang lake, Taiyuan, Shanxi	37°46′, 112°30′	Aug., 2010	Occurrence	[2]
Huaihe river basin				
Nanwan reservoir, Xinyang, Henan	32°04′, 113°58′	Sept., 2018	Occurrence	[4]
Shaobo lake, Yangzhou, Jiangsu [a]	32°39′, 119°24′	Apr., 2013	0.01 – 0.06 mg L^{-1}	[5]
Gaoyou lake, Gaoyou, Jiangsu [a]	32°53′, 119°21′	Apr., 2013	0.01 – 0.02 mg L^{-1}	[5]
Baima lake, Huaian, Jiangsu [a]	33°14′, 119°07′	Apr., 2013	0.01 – 0.24 mg L^{-1}	[5]
Luoma lake, Suqian, Jiangsu [a]	34°03′, 118°13′	Apr., 2013	0 – 1.49 mg L^{-1}	[5]
Weishan lake, Xuzhou, Jiangsu [a]	34°34′, 117°17′	Apr., 2013	9.34 – 36 mg L^{-1}	[5]
Qiantang river basin				
Qiandao lake, Hangzhou, Zhejiang	29°35′, 118°59′	2012	Occurrence	[2]
Xianghu lake, Hangzhou, Zhejiang	30°08′, 120°13′	2012	Occurrence	[2]

Xihu lake, Hangzhou, Zhejiang	30°15′, 120°09′	2012	Occurrence	[2]
Yongjiang river basin				
Dongqian lake, Ningbo, Zhejiang	29°44′ – 29°47′, 121°37′ – 21°41′	2011	Dominant	[6]
Southeastern rivers				
13 reservoirs, Fujian	23°33′ – 28°20′, 115°50′ – 120°40′	2009 – 2010	Occurrence or Dominant	[7]
Shidou reservoir, Xiamen, Fujian	24°42′, 118°00′	2016 – 2018	Dominant, < 5 mg L^{-1} – > 7 mg L^{-1}	[8]
Tingxi reservoir, Xiamen, Fujian	24°48′, 118°08′	2016 – 2018	< 0.04 mg L^{-1}	[8]
Dongzhen reservoir, Putian, Fujian	25°28′ – 25°30′, 118°54′ – 118°59′	2009 – 2011	Dominant	[9,10]
Pond, Taipei, Taiwan	25°02′, 121°37′	2009 – 2011	Dominant from summer to autumn	[11]
Yangtze river basin				
Yilong lake, Shiping, Yunnan	23°39′ – 23°42′, 102°30′ – 102°38′	2013 – 2014	Dominant	[12]
Fish pond, Kunming, Yunnan	24°58′, 102°38′	Oct., 2006	Occurrence	[2]
Erhai lake, Dali, Yunnan	25°36′ – 25°58′, 100°05′ – 100°17′	2018 – 2019	0.00 – 2.49 mg L^{-1}	[13]
Xihu lake, Dali, Yunnan	26°01′, 100°03′	2018 – 2019	0.01 – 42.44 mg L^{-1}	[13]
Chenghai lake, Lijiang, Yunnan	26°33′, 100°39′	Dec. 2012	Occurrence	This study
Hongfeng reservoir, Guiyang, Guizhou	26°32′, 106°24′	2018 – 2019	Dominant	[14]
Nanpeng reservoir, Chongqing	29°19′, 106°41′	Apr. 2018 – Sept. 2018	Dominant, 2.53×10^8 cells L^{-1}	[15]
Junshan lake, Nanchang, Jiangxi	28°32′, 116°18′	Sept., 2013	0.06 – 0.92 mg L^{-1}	[5]
Poyang lake, Nanchang, Jiangxi	28°32′, 116°18′	Sept., 2013	Occurrence	[5]
Zhuhu lake, Nanchang, Jiangxi	29°09′, 116°41′	Sept., 2013	0.01 mg L^{-1}	[5]
Xinmiao lake, Jiujiang, Jiangxi	29°21′, 116°09′	Sept., 2013	Occurrence	[5]
Qili lake, Jiujiang, Jiangxi	29°40′, 115°55′	Sept., 2013	Occurrence	[5]

Dongting lake, Yueyang, Hunan	29°17′, 112°36′	May, 2013	0.01 mg L^{-1}	[5]
Southern lake, Yueyang, Hunan	29°20′, 113°07′	May, 2013	0.03 mg L^{-1}	[5]
Lushui reservoir, Chibi, Hubei	29°41′, 113°55′	May, 2006; 2012	Occurrence	[2]
Honghu lake, Honghu, Hubei	29°55′, 113°25′	Jun., 2013	0.14 mg L^{-1}	[5]
Xiliang lake, Xianning, Hubei	29°58′, 114°04′	Jun., 2013	0.11 mg L^{-1}	[5]
Futou lake, Xianning, Hubei	30°00′, 114°16′	Jun., 2013	0.08 mg L^{-1}	[5]
Kuzhu lake, Wuhan, Hubei	30°06′, 114°12′	2013 – 2017	21.71 mg L^{-1}	[4]
Chidong lake, Qichun, Hubei	30°07′, 115°24′	2006.08	Occurrence	[2]
Liangzi lake, Ezhou, Hubei	30°10′, 114°36′	2006; Sept., 2011	Occurrence	[2]
		2013 – 2017	52.03 mg L^{-1}	[4]
Wan lake, Wuhan, Hubei	30°19′, 114°01′	2013 – 2017	3.92 mg L^{-1}	[4]
Niushan lake, Wuhan, Hubei	30°19′, 114°33′	Jun., 2013	0.12 – 0.91 mg L^{-1}	[5]
Sanshan lake, Ezhou, Hubei	30°19′, 114°46′	Jun., 2013	0.38 – 1.07 mg L^{-1}	[5]
Wangjia lake, Wuhan, Hubei	30°21′, 113°53′	2013 – 2017	2.69 mg L^{-1}	[4]
Guojia lake, Wuhan, Hubei	30°22′, 114°11′	2013 – 2017	0.14 mg L^{-1}	[4]
Guanlian lake, Wuhan, Hubei	30°23′, 114°02′	2013 – 2017	0.18 mg L^{-1}	[4]
Jindui lake, Wuhan, Hubei	30°23′, 113°57′	2013 – 2017	0.62 mg L^{-1}	[4]
Tangxun lake, Wuhan, Hubei	30°24′, 114°22′	2013 – 2017	0.8 mg L^{-1}	[4]
Wulang lake, Wuhan, Hubei	30°24′, 114°05′	2013 – 2017	0.17 mg L^{-1}	[4]
Zhulin lake, Wuhan, Hubei	30°26′, 114°09′	2013 – 2017	1.2 mg L^{-1}	[4]
Changhu lake, Jingzhou, Hubei	30°27′, 112°26′	Jun., 2013	0.38 mg L^{-1}	[5]
Wanjia lake, Wuhan, Hubei	30°28′, 114°10′	2013 – 2017	2.14 mg L^{-1}	[4]
Nanhu lake, Wuhan, Hubei	30°29′, 114°21′	Aug., 2006	Occurrence	[2]
Houguan lake, Wuhan, Hubei	30°31′, 114°00′	2013 – 2017	2.4 mg L^{-1}	[4]
Yanxi lake, Wuhan, Hubei	30°32′, 114°28′	2013 – 2017	1.1 mg L^{-1}	[4]

Donghu lake, Wuhan, Hubei	30°33′, 114°23′	Nov., 2006; 2012	Occurrence	[2]
Dongyin lake, Wuhan, Hubei	30°38′，114°12′	2013 – 2017	0.03 mg L^{-1}	[4]
Dongda lake, Wuhan, Hubei	30°39′, 114°10′	2013 – 2017	0.50 mg L^{-1}	[4]
Chaipo lake, Wuhan, Hubei	30°41′, 114°33′	2013 – 2017	0.02 mg L^{-1}	[4]
Mejiao lake, Wuhan, Hubei	30°43′, 114°08′	2013 – 2017	0.07 mg L^{-1}	[4]
Wu lake, Wuhan, Hubei	30°47′, 114°29′	2013 – 2017	0.08 mg L^{-1}	[4]
Huanghu lake, Susong, Anhui	30°01′, 116°19′	Jun., 2013	0.05 – 0.06 mg L^{-1}	[5]
Hengshan reservoir, Yixing Jiangsu	31°14′, 119°34′	2010 – 2011	Dominant in summer	[16]
Gucheng lake, Nanjing, Jiangsu	31°18′, 118°53′	Apr., 2013	6.24 – 8.99 mg L^{-1}	[5]
Yangcheng lake, Suzhou, Jiangsu	31°25′, 120°48′	2013 – 2017	0.01 mg L^{-1}	[4]
Shijiu lake, Nanjing, Jiangsu	31°28′, 118°52′	Apr., 2013	2.82 – 7.43 mg L^{-1}	[5]
Shijiu lake, Nanjing, Jiangsu	31°30′, 118°56′	2013 – 2017	4.47 mg L^{-1}	[4]
Wulihu, Wuxi, Jiangsu	31°32′, 120°14′	Oct., 2013	Occurrence	This study
Kuncheng lake, Changshu, Jiangsu	31°34′, 120°44′	Apr., 2013	0.01 mg L^{-1}	[5]
Changdang lake, Liyang, Jiangsu	31°37′, 119°33′	Apr., 2013	0.11 mg L^{-1}	[5]
Yueliangwan fish pond, Nanjing, Jiangsu	32°03′, 118°50′	Nov., 2007	Occurrence	This study
Zhujiang river basin				
Fish pond, Zhuhai, Guangdong	21°59′ – 22°25′, 113°05′ – 113°25′	2002 – 2003	Dominant	[17]
Hedi reservoir, Zhanjiang, Guangdong	21°46′, 110°19′	2003	Dominant in raining season	[18]
Fusha reservoir, Zhongshan, Guangdong	22°24′, 113°28′	Sept., 2006	Dominant	[2]
5 reservoirs, Shenzhen, Guangdong	22°24′ – 22°52′, 113°43′ – 114°38′	2006 – Jun., 2007	Occurrence or Dominant	[2]
Donghu, Guangzhou, Guangdong	23°14′, 113°14′	Sept., 2007	Occurrence	This study
20 reservoirs around Guangdong	20°09′ – 25°31′, 109°45′ – 117°20′	2010	0. 02% – 97. 07%, in total phytoplankton biomass	[19]

21 reservoirs, Dongguan, Guangdong	22°39′ – 23°09′, 113°31′ – 114°15′	2011 – 2012	0.1% – 90.3% in total phytoplankton biomass	[20]
Fish pond, Panyu, Guangdong	22°57′, 113°19′	May, 2012	Dominant	[2]
Zhenhai reservoir, Jiangmen, Guangdong	22°34′, 112°33′	Nov. 2014 – Oct. 2015	Dominant, 5.9 – 15.5 mg L^{-1}	[21]
Dashahe reservoir, Jiangmen, Guangdong	22°32′, 112°24′	2018	Dominant	[22]
Qiandeng lake, Foshan Guangdong	23°03′, 113°08′	2017 – 2018	Occurrence	[23]
115 reservoirs around Guangdong	20°09′ – 25°31′, 109°45′ – 117°20′	2016; 2018	3.73×10^6 – 1.83×10^7 cells L^{-1}	[24]
More than 40% of 120 reservoirs around Guangdong	20°09′ – 25°31′, 109°45′ – 117°20′	Summer, 2018	Occurrence or Dominant	[25]
Hongchaojiang, Beihai, Guangxi	21°49′, 109°09′	2018 – 2019	Dominant	[26]

Note: a, East Route of South-North Water Diversion Project.

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