Supplementary Materials

Rediscovery After Almost 120 Years: Morphological and Genetic Evidence Supporting the Validity of *Daphnia mitsukuri* (Crustacea: Cladocera)

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Species	Area	COI	Reference	12S	Reference
D. ambigua_MX	MEX	AF523687	Hebert et al. (2003)	AF523716	Hebert et al. (2003)
D. ambigua_SA	SA	AF523692	Hebert et al. (2003)	FJ427423	Adamowicz et al. (2009)
D. pileata	MEX	AY380453	Penton et al. (2004)	FJ427444	Adamowicz et al. (2009)
D. catawba	MEX	AY380454	Penton et al. (2004)	FJ427425	Adamowicz et al. (2009)
D. minnehaha	NA	FJ427497	Adamowicz et al. (2009)	FJ427430	Adamowicz et al. (2009)
D. obtusa s.s.	EU	FJ427498	Adamowicz et al. (2009)	FJ427432	Adamowicz et al. (2009)
D. obtusa group sp.2	EU	FJ427499	Adamowicz et al. (2009)	FJ427433	Adamowicz et al. (2009)
D. obtusa group sp.3	EU	FJ427500	Adamowicz et al. (2009)	FJ427434	Adamowicz et al. (2009)
D. obtusa group sp.4	NA	FJ427501	Adamowicz et al. (2009)	FJ427435	Adamowicz et al. (2009)
D. obtusa group sp.5	NA	FJ427502	Adamowicz et al. (2009)	FJ427436	Adamowicz et al. (2009)
D. obtusa_SA	SA	AY323051	Adamowicz et al. (2004)		•
D. oregonensis	NA	FJ427503	Adamowicz et al. (2009)	FJ427440	Adamowicz et al. (2009)
D. parvula	MEX, NA	FJ427504	Adamowicz et al. (2009)	FJ427441	Adamowicz et al. (2009)
D. puricalia s.s.	NA	FJ427505	Adamowicz et al. (2009)	FJ427448	Adamowicz et al. (2009)
D. tenebrosa	NA	FJ427506	Adamowicz et al. (2009)	FJ427450	Adamowicz et al. (2009)
D. villosa	NA	FJ427507	Adamowicz et al. (2009)	FJ427451	Adamowicz et al. (2009)
D. pulex s.s.	EU	EU152320	Mergeay et al. (2008)	FJ427446	Adamowicz et al. (2009)
D. pulex_CH	CHN	KT003819	Geng et al. (2016)	KT003819	Geng et al. (2016)
D. pulex_Ch1	CHN	KF993371	Xu et al. (2014)		•
D. pulex_Ch2	CHN	KF993372	Xu et al. (2014)		•
D. izpodavala 12D	ETH	GU595189	Kotov and Taylor (2010)	GU595181	Kotov and Taylor (2010)
Daphnia JPN sp.1	JPN	GU595190	Kotov and Taylor (2010)	GU595177	Kotov and Taylor (2010)
Daphnia JPN sp.2	JPN	GU595192	Kotov and Taylor (2010)	GU595176	Kotov and Taylor (2010)
D. mitsukuri	JPN	LC223743	This study	LC325497	This study

Supplementary Table S1. List of species names, collection areas, accession numbers of sequence data and their reference literatures used for phylogenetic analyses.

Abbreviations for collection areas of each specimen are given as follows: CHN, China; ETH, Ethiopia; EU, Europe; JPN, Japan; MEX, Mexico; NA, North America; SA, South America.



Supplementary Figure S1. Phylogenetic tree of Daphnia species constructed by a Bayesian analysis (Proportional CodonProportional model) based on the same data used for ML tree (Fig. 1). In this analysis, model with the lowest Bayesian Information Criterion (BIC) by the model selection using Kakusan4 (Tanabe 2011) was chosen as the best model. The tree was constructed with MrBayes 3.2.6 (Ronguist et al., 2012). Parameters for the analysis were as follows: NST=6 and Rates=Gamma for 1st base of each codon of COI, NST=1 and Rates=Equal for 2nd base of each codon of COI, NST=2 and Rates=Gamma for 3rd base of each codon of COI and 12S. The MCMC analysis was run for 1 million generations, and sampling from the chain was performed every 1,000 generations. The first 100,000 trees were discarded as the burn in phase, and then the remaining trees were used to construct a 50 % majority-rule consensus tree. Support values are shown above branches with greater than 0.95 Bayesian posterior probabilities. Daphnia mitsukuri (the same sequence with Daphnia JPN sp.2) is indicated by red color. Groups of the same species supported by the species delimitation analysis (PTP) are also shown by red-colored branch. The sequence source information of each species is shown in Supplementary Table S1.

Supplementary References

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