

Table S2 List of species used in the phylogenetic analyses and their references.

Species	Accession No.	References
<i>Danio rerio</i>	NC_002333	Broughton et al. 2001
<i>Cyprinus carpio</i>	NC_001606	Chang et al. 1994
<i>Myxocyprinus asiaticus</i>	AY986503	Peng et al.2006
<i>Gyrinocheilus aymonieri</i>	DQ026432	He et al.2008
<i>Lefua echigonia</i>	AB054126	Saitoh et al.2003
<i>Homaloptera leonardi</i>	AB242165	Saitoh et al.2006
<i>Misgurnus nikolskyi</i>	AB242171	Saitoh et al.2006
<i>Pangio anguillaris</i>	AB242168	Saitoh et al.2006
<i>Schistura balteata</i>	AB242172	Saitoh et al.2006
<i>Leptobotia mantschurica</i>	AB242170	Saitoh et al.2006
<i>Chromobotia macracanthus</i>	AB242163	Saitoh et al.2006
<i>Acantopsis choirorhynchos</i>	AB242161	Saitoh et al.2006
<i>Cobitis striata</i>	AP010782	Saitoh et al.2010
<i>Cobitis takatsuensis</i>	AP009306	Saitoh et al.2010
<i>Niwaella delicata</i>	AP009308	Saitoh et al.2010
<i>Crossostoma lacustre</i>	AP010774	Saitoh et al.2011
<i>Homatula variegatus</i>	JX144893	
<i>Cobitis choui</i>	EU656112	Kim et al.2008
<i>Koreocobitis naktongensis</i>	JN607252	Kim & Bang 2012
<i>Koreocobitis rotundicaudata</i>	JN607253	Kim & Bang 2012
<i>Leptobotia elongata</i>	JQ230103	Li et al.2012
<i>Cobitis sinensis</i>	AY526868	Wang et al. 2011
<i>Sinibotia superciliaris</i>	JX155735	Ye et al.2013
<i>Sinogastromyzon puliensis</i>	FJ605359	
<i>Sewellia lineolata</i>	AP011292	Tang et al.2010

<i>Triplophysa bleekeri</i>	JX135578	Tang et al.2013
<i>Triplophysa rosa</i>	JF268621	Wang et al.2012
<i>Triplophysa stoliczkai</i>	JQ663847	Li et al.2013
<i>Misgurnus anguillicaudatus</i> (WH)	NC_011209	He et al.2008
<i>Misgurnus anguillicaudatus</i> (PY)	HM856629	Zeng et al.2012
<i>Misgurnus anguillicaudatus</i> (Diploid)	KC884745	This study
<i>Misgurnus anguillicaudatus</i> (Triploid)	KC823274	This study
<i>Misgurnus anguillicaudatus</i> (Tetraploid)	KC762740	This study
<i>Misgurnus anguillicaudatus</i> (Pentaploid)	KC881110	This study
<i>Misgurnus anguillicaudatus</i> (Hexaploid)	KC734881	This study

Reference

1. Broughton RE, Milam JE, Roe BA (2001) The complete sequence of the zebrafish (*Danio rerio*) mitochondrial genome and evolutionary patterns in vertebrate mitochondrial DNA. *Genome Research* 11:1958-1967.
2. Chang Y, Huang F, Lo T (1994) The complete nucleotide sequence and gene organization of carp (*Cyprinus carpio*) mitochondrial genome. *Journal of Molecular Evolution* 38: 138-155.
3. Peng Z, Wang J, He X (2006) The complete mitochondrial genome of the helmet catfish *Cranoglanis boudierius* (Siluriformes: Cranoglanididae) and the phylogeny of otophysan fishes. *Gene* 376: 290-297.
4. He S, Gu X, Mayden RL, Chen WJ, Conway KW, et al. (2008) Phylogenetic position of the enigmatic genus *Psilorhynchus* (Ostariophysi: Cypriniformes): evidence from the mitochondrial genome. *Molecular Phylogenetics and Evolution* 47:419-425.
5. Saitoh K, Miya M, Inoue JG, Ishiguro NB, Nishida M (2003) Mitochondrial genomics of ostariophysan fishes: perspectives on phylogeny and biogeography. *Journal of Molecular Evolution* 56:464-472.
6. Saitoh K, Sado T, Mayden RL, Hanzawa N, Nakamura K, et al. (2006) Mitogenomic evolution and relationships of the Cypriniformes (Actinopterygii: Ostariophysi): the first evidence toward resolution of higher-level relationships of the world's largest freshwater fish clade based on 59 whole mitogenome sequences. *Journal of Molecular Evolution* 63:826-841.
7. Saitoh K, Chen WJ, Mayden RL (2010) Extensive hybridization and tetraploidy in spined loach fish. *Molecular Phylogenetics and Evolution* 56:1001-1010.

8. Saitoh K, Sado T, Doosey MH, Bart HL, Jr Inoue JG, et al. (2011) Evidence from mitochondrial genomics supports the lower Mesozoic of South Asia as the time and place of basal divergence of cypriniform fishes (Actinopterygii: Ostariophysi). *Zoological Journal of the Linnean Society* 161:633-662.
9. Kim KY, Lee SY, Bang IC, Nam YK (2008) Complete mitogenome sequence of an endangered freshwater fish, *Iksookimia choui* (Teleostei; Cypriniformes; Cobitidae). *Mitochondrial DNA* 19:438-445.
10. Kim KY, Bang IC (2012) Phylogeny and speciation time estimation of two *Koreocobitis* species (Teleostei; Cypriniformes; Cobitidae) endemic to Korea inferred from their complete mitogenomic sequences. *Genes Genomics* 34:35-42.
11. Li P, Yang C, Tu F, Liu G (2012) The complete mitochondrial genome of the Elongate loach *Leptobotia elongata* (Cypriniformes: Cobitidae). *Mitochondrial DNA* 23:352-354.
12. Wang JL, Shen T, Ju JF, Yang GA (2011) The complete mitochondrial genome of the Chinese longsnout catfish *Leiocassis longirostris* (Siluriformes: Bagridae) and a time-calibrated phylogeny of ostariophysan fishes. *Molecular Biology Reports* 38: 2507-2516.
13. Ye H, Huang Y, Wang J, Peng Z, Zhang Y (2013) Determination and comparison of two complete mitochondrial genomes of golden Chinese loach, *Sinibotia superciliaris* (Teleostei, Cypriniformes). *Mitochondrial DNA* 24:34-36.
14. Tang KL, Agnew MK, Hirt MV, Sado T, Schneider LM, et al. (2010) Systematics of the subfamily Danioninae (Teleostei: Cypriniformes: Cyprinidae). *Molecular Phylogenetics and Evolution* 57:189-214.
15. Tang Q, Huang Y, Wang J, Huang J, Wang Z, et al. (2013) The complete mitochondrial genome sequence of *Triplophysa bleekeri* (Teleostei, Balitoridae, Nemacheilinae). *Mitochondrial DNA* 24:25-27.
16. Wang J, Tang Q, Wang Z, Zhang Y, Wu Q, et al. (2012) The complete mitogenome sequence of a cave loach *Triplophysa rosa* (Teleostei, Balitoridae, Nemacheilinae). *Mitochondrial DNA* 23:366-368.
17. Li T, Gao C, Cui Y, Xie Q, Bu W (2013) The Complete Mitochondrial Genome of the Stalk-Eyed Bug *Chauliops fallax* Scott, and the Monophyly of Malcidae (Hemiptera: Heteroptera). *PLoS ONE* 8(2): e55381.
18. Zeng L, Wang J, Sheng J, Gu Q, Hong Y (2012) Molecular characteristics of mitochondrial DNA and phylogenetic analysis of the loach (*Misgurnus anguillicaudatus*) from the Poyang Lake. *Mitochondrial DNA* 23: 187-200.