

Table S1. List of taxa collected from 20 reservoirs in the Nakdong River catchment, South Korea.

Reservoir	Acronym	Location (GPS)	Elevation (m)	Sampled Year (No. sampling)
Andong	AnDn	36°7'48.51"N,128°50'12.18"E	155	2016(2)
Angye	AnGy	36°0'35.60"N,129°15'50.71"E	45	2016(2)
Bomun	BoMn	35°50'39.72"N,129°16'32.19"E	97	2009(2)
Bongsan	BnSn	35°26'2.93"N,128°29'28.77"E	8	2014(1);2017(1)
Daeam	DaAm	35°32'25.83"N,129°10'43.91"E	51	2016(2)
Deokdong	DkDn	35°50'15.86"N,129°18'40.38"E	167	2009(2)
Gucheon	GuCh	34°49'31.14"N,128°38'14.02"E	92	2009(2)
Gyeongcheon	GyCh	36°42'20.90"N,128°18'39.01"E	233	2014(2)
Hapcheon	HpCh	35°33'55.08"N,128°2'13.70"E	181	2009(2)
Hoeya	HoYa	35°28'15.87"N,129°16'11.64"E	30	2016(2)
Imha	ImHa	36°31'32.53"N,128°53'28.02"E	158	2009(2)
Jangcheok	JnCh	35°25'55.02"N,128°29'39.25"E	13	2014(1),2017(1)
Jinyang	JnYa	35°9'25.45"N,127°59'12.91"E	39	2017(2)
Otae	OoTa	36°29'29.13"N,128°7'17.49"E	82	2009(2)
Sayeon	SaYn	35°35'14.25"N,129°11'9.11"E	58	2016(2)
Seonam	SnAm	35°30'58.55"N,129°19'43.54"E	25	2016(2)
Unmun	WnMn	35°43'50.57"N,128°56'13.01"E	134	2017(2)
Yeoncho	YnCh	34°56'13.31"N,128°40'16.67"E	44	2009(2)
Yeongcheon	YnCn	36°4'16.09"N,129°1'36.09"E	153	2017(2)
Yongyeon	YoYn	36°07'38.01"N,129°17'45.06"E	57	2016(2)

Table S2. List of taxa collected from 20 reservoirs in the Nakdong River catchment, South Korea.

Class	Order	Taxa	Code
Insecta	Coleoptera	<i>Laccophilus difficilis</i>	C01
Insecta	Coleoptera	<i>Hydaticus grammicus</i>	C02
Insecta	Coleoptera	<i>Berosus lewisius</i>	C03
Insecta	Coleoptera	Haliplidae spp.	C04
Insecta	Coleoptera	Helodidae spp.	C05
Insecta	Coleoptera	<i>Amphiops mater</i>	C06
Insecta	Coleoptera	<i>Rhantus pulverosus</i>	C07
Insecta	Coleoptera	<i>Enochrus simulans</i>	C08
Insecta	Coleoptera	<i>Sternolophus rufipes</i>	C09
Insecta	Coleoptera	Elmidae spp.	C10
Insecta	Coleoptera	<i>Galerucella nipponensis</i>	C11
Insecta	Coleoptera	<i>Noterus japonicus</i>	C12
Insecta	Coleoptera	<i>Laccobius</i> spp.	C13
Insecta	Coleoptera	<i>Helochares striatus</i>	C14
Insecta	Coleoptera	<i>Peltodytes sinensis</i>	C15
Insecta	Diptera	<i>Tipula</i> sp. 1	D01
Insecta	Diptera	<i>Chironomus</i> spp.	D02
Insecta	Diptera	Stratiomyiidae spp.	D03
Insecta	Diptera	Ceratopogonidae spp.	D04
Insecta	Diptera	<i>Anopheles</i> spp.	D05
Insecta	Diptera	Ephydriidae spp.	D06
Insecta	Diptera	Dixidae spp.	D07
Insecta	Diptera	<i>Aedes</i> spp.	D08
Insecta	Diptera	<i>Anopheles</i> spp.	D09
Insecta	Diptera	Dolichopodidae spp.	D10
Insecta	Diptera	<i>Stratiomys japonica</i>	D11
Insecta	Diptera	<i>Culicini</i> spp.	D12
Insecta	Diptera	<i>Chaoborius</i> spp.	D13
Insecta	Ephemeroptera	<i>Procloeon pennulatum</i>	E01
Insecta	Ephemeroptera	<i>Baetis fuscatus</i>	E02
Insecta	Ephemeroptera	<i>Ephemerella orientalis</i>	E03
Insecta	Ephemeroptera	<i>Caenis</i> sp. 1	E04
Insecta	Ephemeroptera	<i>Cloeon dipterum</i>	E05
Insecta	Ephemeroptera	<i>Potamanthus formosus</i>	E06
Insecta	Ephemeroptera	<i>Ecdyonurus dracon</i>	E07
Insecta	Hemiptera	<i>Diplonychus esakii</i>	H01
Insecta	Hemiptera	<i>Ranatra chinensis</i>	H02
Insecta	Hemiptera	<i>Plea indistinguenda</i>	H03
Insecta	Hemiptera	<i>Micronecta sedula</i>	H04
Insecta	Hemiptera	<i>Micronecta</i> spp.	H05
Insecta	Hemiptera	<i>Muljarus japonicus</i>	H06
Insecta	Hemiptera	<i>Sigara substriata</i>	H07
Insecta	Hemiptera	<i>Aquarius paludum</i>	H08
Insecta	Lepidoptera	<i>Cataclysta</i> spp.	L01
Insecta	Odonata	<i>Trigomphus nigripes</i>	O01
Insecta	Odonata	<i>Nihonogomphus</i> sp. 1	O02
Insecta	Odonata	<i>Crocothemis servilia</i>	O03
Insecta	Odonata	<i>Ceriagrion melanurum</i>	O04

Insecta	Odonata	<i>Macromia daimoji</i>	O05
Insecta	Odonata	<i>Pseudothemis zonata</i>	O06
Insecta	Odonata	<i>Paracercion calamorum</i>	O07
Insecta	Odonata	<i>Paracercion hieroglyphicum</i>	O08
Insecta	Odonata	<i>Orthetrum albistylum</i>	O09
Insecta	Odonata	<i>Deielia phaon</i>	O10
Insecta	Odonata	<i>Platycnemis phillopoda</i>	O11
Insecta	Odonata	<i>Epophthalmia elegans</i>	O12
Insecta	Odonata	Coenagrionidae spp.	O13
Insecta	Odonata	<i>Ischnura asiatica</i>	O14
Insecta	Odonata	<i>Anax parthenope julius</i>	O15
Insecta	Trichoptera	<i>Cheumatopsyche brevilineata</i>	T01
Insecta	Trichoptera	<i>Molanna moesta</i>	T02
Insecta	Trichoptera	<i>Ecnomus tenellus</i>	T03
Insecta	Trichoptera	<i>Mystacides</i> sp. 1	T04
Bivalvia	Unionoida	<i>Unio douglasiae</i>	N01
Bivalvia	Veneroida	<i>Corbicula fluminea</i>	N02
Clitellata	Arhynchobdellida	<i>Erbobdella lineata</i>	N03
Clitellata	Arhynchobdellida	<i>Hirudo nipponia</i>	N04
Clitellata	Rhynchobdellida	<i>Glossiphonia complanata</i>	N05
Clitellata	Rhynchobdellida	<i>Alboglossiphonia lata</i>	N06
Clitellata	Tubificida	<i>Limnodrilus</i> spp.	N07
Clitellata	Tubificida	<i>Branchiura sowerbyi</i>	N08
Gastropoda	Architaenioglossa	<i>Sinotaia quadrata</i>	N09
Gastropoda	Architaenioglossa	<i>Cipangopaludina chinensis</i>	N10
Gastropoda	Architaenioglossa	<i>Pomacea canaliculata</i>	N11
Gastropoda	Littorinimorpha	<i>Parafossarulus manchouricus</i>	N12
Gastropoda	Systellommatophora	<i>Gyraulus chinensis</i>	N13
Gastropoda	Systellommatophora	<i>Radix auricularia</i>	N14
Gastropoda	Systellommatophora	<i>Laevapex nipponica</i>	N15
Gastropoda	Systellommatophora	<i>Polypylis hemisphaerula</i>	N16
Gastropoda	Systellommatophora	<i>Hippeutis cantori</i>	N17
Gastropoda	Systellommatophora	<i>Austropeplea ollula</i>	N18
Gastropoda	Systellommatophora	<i>Physa acuta</i>	N19
Gastropoda	Unassigned	<i>Semisulcospira gottschei</i>	N20
Gastropoda	Unassigned	<i>Semisulcospira libertina</i>	N21
Gastropoda	Unassigned	<i>Semisulcospira forticosta</i>	N22
Malacostraca	Decapoda	<i>Caridina denticulata</i>	N23
Malacostraca	Decapoda	<i>Palaemon paucidens</i>	N24
Malacostraca	Decapoda	<i>Macrobrachium nipponense</i>	N25
Malacostraca	Isopoda	Asellidae spp.	N26
Rhynchobdellida	Rhynchobdellida	<i>Torix tagoi</i>	N27

Table S3. A list of references used for functional traits. References are given in References in the main text.

Trait	Reference
Voltinism	[30], [31], [32], [94], [95], [96], [97], [98], [99], [100], [101]
Adult life span	[30], [31], [32], [94], [95], [98], [99], [100]
Size at maturity	[30], [31], [32], [97]
Functional feeding groups	[30], [31], [33], [34], [35]