Schriever, Bogan, Boersma, Cañedo-Argüelles, Jaeger, Olden, and Lytle. Hydrology shapes taxonomic and functional structure of desert stream invertebrate communities. *Freshwater Science* Vol. 34, No. 2

Appendix S1. References for trait state determination.

Order	Family	Taxon	Body size	Voltinism	Dispersal	Respiration	FFG	Diapause	Locomotion	Source
Amphipoda	Crustacea	*Hyalella*	3	3	1	2	2	2	3	1, 2
Annelida	Hirudinea	*Hirudinea*	2	2	3	3	6	2	5	3
Anostraca	Anostraca	*Anostraca*	2	3	3	2	4	1	5	1, 3
Basommatophora	Ancylidae	*Ferrissia*	1	2	1	1	3	3	4	1
	Ancylidae	Ancylidae	1	2	1	1	3	3	4	3, 4
Class:Arachnida	subclass:Acari	*Acari*	1	2	3	1	5	1	3	5,6
Coleoptera	Dryopidae	*Helichus lithophilus*	1	2	4	3	3	3	4	1,7, 8
		Helichus suturalis	1	2	4	3	3	3	4	1 ,7, 9, 8
		Helichus triangularis	1	2	4	3	3	3	4	1 ,7, 9,8
		Postelichus confluentus	1	2	4	3	3	3	4	7,9,10, 8
		Postelichus immsi	1	2	4	3	3	3	4	7,9, 10,8
	Dytiscidae	*Agabus*	1	2	4	3	6	1	5	1,11
		Desmopachria portmanni	1	3	4	3	6	3	5	1,7,10,11,12
		Hydroporinae	1	3	4	3	6	3	5	1 ,7,9, 11
		Hygrotus patruelis	1	3	4	3	6	3	5	1,11
		Hygrotus wardi	1	3	4	3	6	3	5	1,11
		Laccophilus fasciatus	1	2	4	3	6	3	5	1, 11,13
		Laccophilus maculosus	1	3	4	3	6	3	5	1, 11,13
		Laccophilus mexicanus	1	2	4	3	6	3	5	1, 11,13
		Laccophilus oscillator	1	2	4	3	6	3	5	1, 11,13
		Laccophilus pictus	1	2	4	3	6	3	5	1, 11,13
		Liodessus obscurellus	1	3	4	3	6	3	5	1 ,7,11
		Neoclypeodytes cinctellus	1	3	4	3	7	3	5	14,15,1,10,11
		Neoclypeodytes fryi	1	3	4	3	7	3	5	14,15,1,10,11
		Neoporus	1	3	4	3	7	3	5	14,15,1,10,11
		Rhantus atricolor	2	2	4	3	6	3	5	1,16

	Rhantus gutticollis gutticollis	2	2	4	3	6	3	5	1,16
	Sanfilippodytes	1	3	4	3	6	3	5	1,7,9,10,11
	Stictotarsus aequinoctialis	1	3	4	3	6	3	5	1,16
	Stictotarsus corvinus	1	3	4	3	6	3	5	1,16
	Stictotarsus roffi	1	3	4	3	6	3	5	1,16
	Stictotarsus striatellus	1	3	4	3	6	3	5	1,16
	Thermonectus marmoratus	2	2	4	3	6	3	5	15,14,1,17
	Thermonectus nigrofasciatus	2	2	4	3	6	3	5	15,14,1,17
Elmidae	*Heterelmis*	1	1	4	3	1	3	4	8,7,1
	Microcylloepus pusillus	1	2	4	3	1	3	4	18,1,8,7, 9
	Optioservus	1	1	4	3	1	3	4	18,15,7,1 ,19
	Zaitzevia	1	2	4	3	1	3	4	18,1,7,15,1, 20
Gyrinidae	*Dineutus sublineatus*	2	2	4	2	7	3	5	14,15,21
	Gyrinus plicifer	1	2	4	2	7	3	5	1 ,9,21, 22
Haliplidae	*Peltodytes callosus*	1	3	4	3	5	3	5	1,7,9,21
	Peltodytes dispersus	1	3	4	3	5	3	5	1 ,7,9,21
Hydraenidae	*Gymnochthebius*	1	2	4	3	3	3	4	14,10,1 ,21
	Hydraena	1	2	4	3	3	3	4	1,10,21
Hydrophilidae	*Anacaena (signaticollis)*	1	2	4	3	2	3	1	1,9
	Berosus miles	1	2	4	3	7	3	5	1,10,21,23
	Berosus punctatissimus	1	2	4	3	7	3	5	1,10,21,23
	Berosus rugulosus	1	2	4	3	7	3	5	1,10,21,23
	Berosus salvini	1	2	4	3	7	3	5	1,10,21,23
	Chaetarthria	1	2	4	3	2	3	5	1,10,21
	Cymbiodyta	1	2	4	3	2	3	5	1,24
	Enochrus aridus	2	2	4	3	2	3	3	1,10,25,26
	Enochrus piceus glabrus	2	2	4	3	2	3	3	1,10,25,26
	Enochrus pygmaeus pectoralis	2	2	4	3	2	3	3	1,10,25,26
	Helophorus	1	2	4	3	3	3	5	1,27

		Laccobius hardyi	1	2	4	3	3	3	5	1,28
		Tropisternus affinus	2	2	4	3	3	3	5	9,1,29
		Tropisternus lateralis	2	2	4	3	3	3	5	1,9,29
Decapoda	Cambaridae	*Procambarus*	3	2	2	2	1	2	1	1,3
Diplostraca	Limnadiidae	*Eulimnadia*	1	2	1	3	4	1	5	30,3
Diptera	Ceratopogonidae	*Atrichopogon*	1	2	1	2	7	2	3	1,7
		Forcipomyia	1	2	4	2	1	2	3	1 ,7
		Ceratopogonidae	1	2	1	2	7	2	3	1,7
	Culicidae	*Aedes*	1	3	4	3	1	1	5	15,10
		Anopheles	1	2	4	3	7	1	5	1,10
		Culiseta	1	3	4	3	1	1	5	1,9,10
		Culex	1	3	4	3	1	1	5	1,9,10
	Dixidae	*Dixa*	1	2	1	3	4	1	5	1,10
		Dixella	1	2	1	3	1	1	5	1, 9
	Dolichopodidae	Dolichopodidae	1	2	4	3	5	3	1	1,10
	Empididae	*Empididae*	1	2	4	1	7	3	3	1,7
		Ephydridae	1	2	4	3	2	3	3	1,9,10
	Muscidae	*Muscidae*	1	3	2	3	6	3	3	1,15
	Psychodidae	*Maruina*	1	2	1	3	2	3	4	7
		Pericoma	1	3	1	3	2	3	1	1,7
	Ptychopteridae	*Ptychoptera*	3	2	1	3	1	1	1	1,10
	Simuliidae	*Prosimulium*	1	2	4	1	4	1	4	1,10,31
		Simulium	1	3	4	1	4	1	4	1
	Stratiomyidae	*Caloparyphus*	2	2	4	3	2	1	3	1,10
		Euparyphus	2	2	4	3	2	1	3	1,10
	Syrphidae	*Syrphidae*	2	2	4	3	1	2	1	1,9
	Tabanidae	*Tabanus*	3	2	4	3	6	2	1	1,10,9
	Thaumaleidae	Thaumaleidae	2	2	1	3	3	2	3	1,9
	Tipulidae	*Dicranota*	3	2	4	3	2	3	1	1,9

	Limnophila	3	2	4	3	2	3	1	1,9
	Limonia	3	2	4	3	2	3	1	1,9
	Pedicia	3	2	4	3	2	3	1	1,9
	Tipula	3	2	2	3	2	3	1	1,7, 9
Chironomidae	*Ablabesmyia*	1	3	4	1	7	3	3	32, 38, 40, 47, 53
	Acricotopus	1	3	4	1	1	3	3	32, 38, 40, 47, 53, 56
	Apedilum	1	3	4	1	1	2	3	32, 38, 40, 47, 51, 53
	Apsectroptanypus	1	3	4	1	7	3	1	32, 38, 40, 47, 53
	Brillia	1	3	4	1	2	3	1	32, 38, 40, 41, 47, 53
	Bryophaenocladius	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Chaetocladius	1	3	4	1	1	2	3	32, 35, 36, 38, 40, 47, 53
	Chironomus	1	3	4	1	1	1	1	32, 33, 38, 39, 40, 47, 49, 51, 53, 54, 56
	Corynoneura	1	3	4	1	1	2	3	32, 36, 38, 39, 40, 47, 50, 53
	Cricotopus/ Orthocladius	1	3	4	1	1	2	4	32, 36, 38, 40, 46,47, 53, 56
	Cryptochironomus	1	3	4	1	6	3	2	32, 38, 40, 47, 53
	Demicryptochironomus	1	3	4	1	1	2	1	32, 38, 40, 46, 47, 53
	Diamesa	1	3	4	1	1	2	3	32, 38, 40, 46, 47, 50, 53
	Dicrotendipes	1	3	4	1	1	2	1	32, 38, 40, 41, 47, 49, 53
	Eukiefferiella rectangularis grp.	1	3	4	1	1	2	3	32, 38, 40, 41, 47, 50, 53, 56
	Eukiefferiella brehmi grp.	1	3	4	1	1	2	3	32, 38, 40, 41, 47, 50, 53, 56
	Eukiefferiella claripennis grp.	1	3	4	1	1	2	3	32, 36, 38, 40, 47, 48, 50, 53, 56
	Eukiefferiella coerulescense grp.	1	3	4	1	1	2	3	32, 38, 40, 46, 47, 50, 53, 56
	Eukiefferiella devonica grp.	1	3	4	1	1	2	3	32, 38, 40, 41, 47, 50, 53, 56
	Eukiefferiella gracei grp.	1	3	4	1	1	2	3	32, 38, 40, 41, 47, 50, 53, 56
	Heleniella	1	3	4	1	1	3	3	32, 38, 40, 41, 47, 53
	Heterotrissocladius	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Hydrobaenus	1	3	4	1	3	1	3	32, 34, 36, 37, 38, 39, 40, 45, 47, 52, 53, 56
	Krenosmittia	1	3	4	1	1	2	3	32, 38, 40, 46, 47, 53
	Labrundinia	1	3	4	1	7	2	3	32, 38, 40, 42, 47, 53
	Larsia	1	3	4	1	7	2	3	32, 36, 38, 40, 47, 53
	Limnophyes	1	3	4	1	1	2	4	32, 34, 36, 38, 39, 40, 46, 47, 53, 56

	Lopescladius	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Mesosmittia	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Micropsectra	1	3	4	1	1	1	7	32, 36, 38, 40, 47, 50, 53, 54, 55
	Microtendipes pedellus grp.	1	3	4	1	4	3	4	32, 38, 40, 47, 53
	Nanocladius	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Nilotanypus	1	3	4	1	7	3	3	32, 38, 40, 47, 53
	Orthocladius (Symposiocladius)	1	2	4	1	1	3	1	32, 36, 38, 40, 47, 53
	Parachaetocladius	1	3	4	1	1	3	3	32, 36, 38, 40, 47, 53
	Paracladopelma	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Paracricotopus	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Parakiefferella	1	3	4	1	1	2	3	32, 36, 38, 40, 47, 53
	Paramerina	1	3	4	1	7	3	3	32, 38, 40, 47, 53
	Parametriocnemus	1	3	4	1	1	2	4	32, 38, 40, 42, 46, 47, 50, 53
	Parasmittia	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Paratanytarsus	1	3	4	1	1	2	4	32, 34, 38, 40, 43, 47, 49, 53, 56
	Paratendipes	1	3	4	1	1	2	1	32, 36, 38, 40, 47, 49, 53
	Parochlus	1	3	4	1	1	3	3	32, 38, 40, 47, 53
	Pentaneura	1	3	4	1	7	3	3	32, 38, 40, 47, 53
	Phaenopsectra	1	3	4	1	3	2	4	32, 38, 39, 40, 43, 46, 47, 53
	Polypedilum	1	3	4	1	1	2	4	32, 38, 40, 42, 44, 47, 51, 52, 53, 56
	Procladius	1	3	4	1	7	3	3	32, 38, 40, 47, 53
	Psectrocladius	1	3	4	1	1	3	4	32, 38, 40, 47, 53, 56
	Pseudochironomus	1	3	4	1	1	3	1	32, 38, 40, 47, 53
	Pseudosmittia	1	3	4	1	1	2	3	32, 36, 38, 40, 47, 53
	Rheocricotopus	1	3	4	1	1	3	4	32, 38, 40, 47, 53
	Rheotanytarsus	1	3	4	1	4	2	4	32, 38, 40, 47, 49, 53
	Saetheria	1	3	4	1	1	3	1	32, 38, 40, 47, 53
	Smittia	1	3	4	1	1	2	1	32, 38, 40, 47, 53, 56
	Stempellinella	1	3	4	1	1	3	1	32, 38, 40, 47, 53
	Stenochironomus	1	3	4	1	2	2	1	32, 38, 40, 47, 49, 53
	Stictochironomus	1	3	4	1	1	2	1	32, 36, 38, 40, 47, 49, 53
	Tanytarsus	1	3	4	1	1	1	4	32, 38, 40, 43, 46, 47, 52, 53, 56

		Thienemanniella xena	1	3	4	1	1	1	3	32, 38, 40, 46, 47, 52, 53
		Thienemanniella fusca	1	3	4	1	1	1	3	32, 38, 40, 46, 47, 52, 53
		Thienemannimyia grp.	1	3	4	1	7	2	3	32, 38, 39, 40, 47, 50, 53
		Tvetenia bavarica grp.	1	3	4	1	1	3	1	32, 38, 40, 47, 50, 53
		Virgatanytarsus	1	3	4	1	1	3	7	32, 38, 40, 47, 53
Ephemeroptera	Ameletidae	*Ameletus*	2	2	4	2	3	2	5	1
	Baetidae	*Acentrella*	1	2	4	2	3	2	3	1
		Baetis	1	3	4	2	3	2	3	1
		Callibaetis	1	3	4	2	3	2	5	7,10
		Camelobaetidius maidu	1	3	4	2	3	2	5	7
		Fallceon	1	3	4	2	3	2	5	1,7
	Caenidae	*Caenis*	1	3	1	2	1	2	3	1
	Heptageniidae	*Ecdyonourus*	1	2	4	2	3	2	4	1,7
	Leptohyphidae	*Homoleptohyphes*	1	2	4	2	1	1	4	7,9
		Tricorythodes	1	2	2	2	1	2	3	1,7
	Leptophlebiidae	*Choroterpes*	1	2	1	2	1	2	3	1
		Farrodes	1	2	1	2	1	2	4	15,7
Gastropoda	Lymnaeidae	*Lymnaeidae*	2	2	3	2	3	2	3	3
	Hydrobiidae	*Pyrgulopsis*	1	2	1	2	3	3	4	57, 3,1,10,58
	Physidae	*Physidae*	2	2	2	1	3	1	7	10
	Planorbidae	*Planorbidae*	1	2	1	2	3	3	7	1,3
Hemiptera	Belostomatidae	*Abedus herberti*	3	2	2	3	6	3	7	7
		Lethocerus medius	3	2	4	3	6	3	7	7,10,59
	Corixidae	*Graptocorixa abdominalis*	2	3	4	3	6	3	5	15,7,60,61
		Graptocorixa gerhardi	1	3	4	3	6	3	5	15,7,61
		Graptocorixa serrulata	1	3	4	3	6	3	5	1,7,61
		Hesperocorixa	2	3	4	3	6	3	5	1,7,61
		Rhamphocorixa acuminata	1	3	4	3	6	3	5	15,10,61
		Trichocorixa uhleri	1	3	4	3	6	3	5	7,15,61
	Gerridae	*Aquarius remigis*	2	2	4	3	6	3	6	1,10,21
	Hebridae	*Hebrus*	1	2	4	3	6	3	6	15,21
	Nepidae	*Curicta pronotata*	3	2	4	3	6	3	7	15,1,7,10,62,63

		Ranatra quadridentata	3	2	4	3	6	3	4	1,21,63
	Notonectidae	*Buenoa arida*	1	3	4	3	6	3	5	1,10,64
		Buenoa arizonis	1	3	4	3	6	3	5	1,10,64
		Notonecta hoffmanni	2	2	4	3	6	3	5	1,10,81
		Notonecta lobata	2	2	4	3	6	3	5	1,10,81
	Veliidae	*Microvelia*	1	3	4	3	6	1	6	1,10,65
		Rhagovelia	1	3	2	3	6	2	6	1,7,66
Lepidoptera	Crambiidae	*Petrophila*	1	2	4	2	2	3	4	15
Megaloptera	Corydalidae	*Corydalus texanus*	3	1	4	2	7	2	4	7,10,67
		Neohermes filicornis	3	1	4	2	7	1	4	1,7,10,68
Odonata	Aeshnidae	*Oplonaeschna armata*	3	1	4	2	7	3	4	1,7,69
	Calopterygidae	*Hetaerina*	2	2	4	2	7	2	7	7,70
	Coenagrionidae	*Argia*	2	2	4	2	7	3	4	7,70
		Coenagrion / Enallagma	3	2	4	2	7	3	3	1
	Cordulegastridae	*Cordulegaster diadema*	3	1	4	2	7	3	1	1,10
	Gomphidae	*Erpetogomphus*	3	1	4	2	7	2	1	7,1,10,69
	Lestidae	*Archilestes grandis*	3	2	4	1	7	3	7	7,10,70
	Libellulidae	*Brechmorhoga*	3	1	4	2	7	3	3	15,69
		Libellula saturata	3	1	4	2	7	3	3	1,69
		Paltothemis lineatipes	3	1	4	2	7	3	3	1,7,69
		Pantala hymenaea	3	1	4	2	7	3	3	7,15,1, 69
Plecoptera	Capniidae	Capniidae	1	2	4	1	2	1	3	7,71,72
		Mesocapnia	1	2	4	1	2	1	3	7,39
	Chloroperlidae	Chloroperlidae	2	2	4	1	7	3	3	1,15, 7
		Sweltsa	2	1	4	1	7	3	3	7,73
	Nemouridae	*Malenka/Amphinemura*	1	2	4	1	2	1	3	1,7,73
Podocopida	Ostracoda	Ostracoda	1	2	3	3	4	1	5	74, 3,75
Trichoptera	Brachycentridae	*Micrasema*	1	2	4	1	2	3	4	1,76
	Calamoceratidae	*Phylloicus mexicanus*	2	2	4	2	2	3	3	1,7,77

	Helicopsychidae	*Helicopsyche*	1	2	4	1	1	2	4	1,7,76,78
	Hydrobiosidae	*Atopsyche*	2	2	4	2	7	3	4	1,7,15,76
	Hydropsychidae	*Cheumatopsyche*	1	2	4	2	4	3	4	1,10,76,78
		Hydropsyche/Ceratopsyche	2	2	4	2	4	3	4	1,7,76,78
	Hydroptilidae	*Culoptila*	1	3	4	1	3	3	4	1,7,76
		Hydroptila	1	2	4	2	5	3	4	1,10,76
		Metrichia	1	3	4	1	5	3	4	1,76
		Ochrotrichia	1	3	4	1	3	2	4	1,76
		Oxyethira	1	3	4	1	5	3	4	1,64
	Lepidostomatidae	*Lepidostoma - sp. A*	1	2	4	2	2	3	3	1,64
		Lepidostoma acarolum	2	2	4	2	2	3	3	1,7,79
	Leptoceridae	*Nectopsyche*	2	2	4	2	1	3	7	1,15,7,76
		Oecetis	1	2	4	2	2	3	3	1,7,76
	Limnephilidae	*Hesperophylax magnus*	3	2	4	2	2	3	3	1,7
	Philopotamidae	*Wormaldia*	1	1	4	1	4	3	4	1,10,7,78
	Polycentropidae	*Polycentropus*	2	2	4	1	7	3	4	1,7
	Psychomyiidae	*Tinodes*	1	3	4	1	3	3	4	1,76
Tricladida	Platyhelmenthies	Platyhelmenthies	2	2	1	3	6	2	7	3
Veneroida	Sphaeriidae	*Pisidium*	1	2	1	2	4	1	1	1,80,10

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