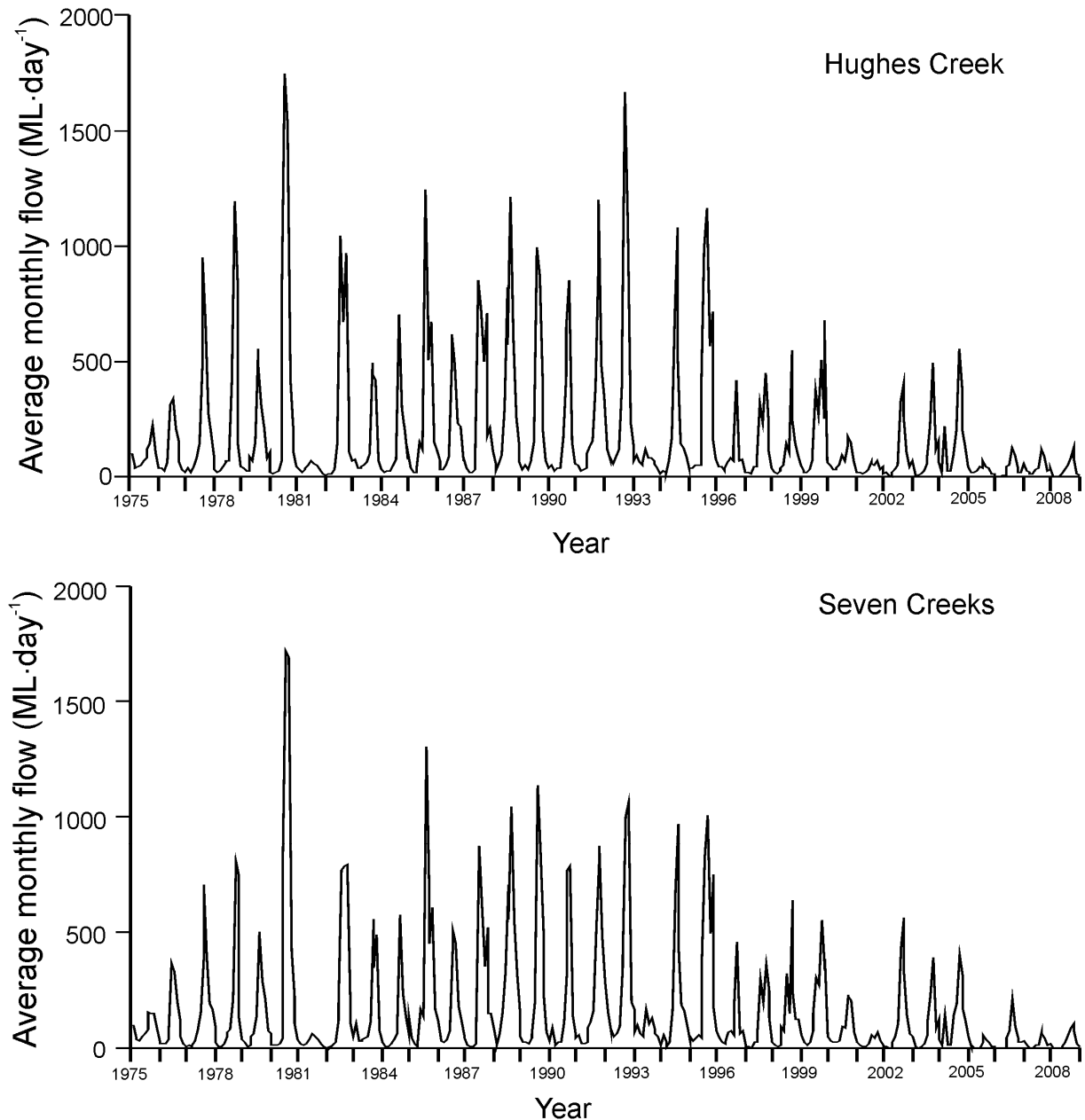


Accessory publication

Fig. 1 Hydrographs for each of the study streams, Hughes Creek and Seven Creeks, showing the average monthly flow (as  $\text{ML day}^{-1}$ ) from January 1976 to December 2009. Data from the Victorian Data Warehouse ([www.vicwaterdata.net](http://www.vicwaterdata.net), monitoring sites 405228 and 405237, respectively).



Accessory publication:

Table 1. Summary of habitat associations, foraging mode and diet for each taxon based on survey results and from a literature review. Survey results: L = statistically significant association with leaves; S = with sand or other mineral substrate; G = generalist species (no association but adequate power for statistical test); P = no association and inadequate power; blank space indicates the species was absent, had a highly patchy distribution (i.e. present at < 3 sites with < 20 individuals per site) or failed Tukey's test of non-additivity (typically caused by high variation in densities among sites). Taxa had to have at least one L, S or G in the field survey to be included and consequently 17 taxa were not included in the table. Literature review: S/L = no substrate association based on literature; "." indicates no published information available. Published papers ranked according to quality, Q, of information regarding substrate association: 1 = good data at species level, replicated in space and time; 2 = Good information at species level, but missing some elements of replication; 3 = information for genus only, or anecdotal at species level. Note, no papers reviewed were classified as Q = 1, so this column has been omitted from the table for brevity. Numbers in the "Reference" column refer to publications used in literature review and listed in Accessory publication Table 2.

Taxon	Survey results			Literature review		Foraging mode	Diet	Reference
	Sevens Summer	Hughes Summer	Hughes Spring	Q = 2	Q = 3			
<b>Mollusca</b>								
<i>Ferrissia petterdi</i> <sup>An</sup>		G	G	S, S/L	S, S/L	grazer/scrapper	detritus, algae	17, 18
<i>Ferrissia tasmanica</i> <sup>An</sup>	G	L		.	S, S/L	grazer/scrapper	detritus, algae	5, 18
<i>Glyptophysa gibbosa</i> <sup>Pb</sup>		G			L	grazer/scrapper	leaves/detritus & algae	2, 8
<i>Physa acuta</i> <sup>P</sup>	L	G		L	L, S	grazer/scrapper	leaves/detritus & algae	17, 18, 20
Planorbidae /Physidae small	G	P	L	.	.	grazer/scrapper	?	
Hydrobiidae unidentified		G	G	.	.	grazer/scrapper	detritus, algae	2, 5
<b>Plecoptera</b>								
<i>Dinotoperla fontana</i> <sup>Gr</sup>			G			shredder/collector	detritus, benthic algae	4
<i>Dinotoperla serricauda</i> <sup>Gr</sup>			L	.	.	shredder/collector	fine detritus, algae & vascular plants	4, 5, 21
<i>Illiesoperla</i> sp. <sup>Gr</sup>			L	.	.	wandering	invertebrates, detritus	4, 5, 21

<i>Riekoperla tuberculata</i> <sup>Gr</sup>			L	.	.	predator/omnivore		
Gripopterygidae small			G	.	.	collector/gatherer	leaves, fine detritus & algae	4
						wandering	?	
						predator/omnivore		
<b>Ephemeroptera</b>								
<i>Tasmanocoenis tillyardi</i> <sup>Ca</sup>	S		G	S, S/L	S, S/L	collector/gatherer	fine detritus, algae	4, 10, 12, 17, 18, 24
<i>Offadens</i> MVsp. 4 <sup>B</sup>	G	G	G	S	S/L	grazer/collector	fine detritus, algae	4, 17, 18
Baetidae small		S	G	.	S	grazer/collector	detritus, algae	14
<i>Nousia</i> sp. AV15 <sup>Lb</sup>	P	G		.	S, S/L	collector/ gatherer	detritus, vascular plants	3, 4, 12, 15, 17
Leptophlebiidae small	G		G	.	.	grazer/collector	fine detritus, algae	4
<b>Odonata</b>								
Gomphidae small unidentified	G	S		.	.	ambush predator	invertebrates	9
<b>Megaloptera</b>								
<i>Archichauliodes</i> sp. <sup>Co</sup>		G		.	.	predator	invertebrates	2
<b>Trichoptera</b>								
<i>Taschorema</i> complex <sup>Hb</sup>			L	.	L	wandering predator	invertebrates	3, 4
<i>Hydroptila scamandra</i> <sup>Ht</sup>		P	L	.	S/L	piercing/ grazing	algae, diatoms	25, 26
Hydroptilidae juv. unidentified	G			.	.	piercing/ grazing	algae, diatoms	26
<i>Ecnomus continentalis</i> <sup>Ec</sup>	G	G	L	L, S/L		net-spinner	invertebrates, fine detritus, algae	12, 17
<i>Ecnomus pansus</i> <sup>Ec</sup>	G	G	G	.	S, S/L	net-spinner	invertebrates, fine detritus, algae	3, 4, 13, 18
<i>Cheumatopsyche</i> sp. AV2 <sup>Hs</sup>		G	G	.	L	net-spinner/filter-feeder	fine detritus, algae, wood fragments & some invertebrates	3, 4
<i>Cheumatopsyche</i> sp. AV4 <sup>Hs</sup>	G	G	L	S	S, S/L	net-spinner/ filter-feeder	fine detritus, algae & some invertebrates	3, 17, 18
Hydropsychidae small unidentified	G	G		.	.		?	
<i>Notalina fulva</i> <sup>L</sup>		G		L	L	shredder	detritus, leaves, macrophytes	3, 4, 6, 23
<i>Oecetis</i> sp. <sup>L</sup>	G	L	L	.	L	wandering predator or collector	fine detritus & algae	3, 4, 5
<i>Triaenodes</i> sp. <sup>L</sup>	P	G			L	shredder	macrophytes	7, 26
<i>Triplectides ciuskus ciuskus</i> <sup>L</sup>	P	L	L	L	L	shredder	Leaves, detritus, macrophytes, wood fragments	4, 5, 17, 22, 23
<i>Atriplectides</i> sp. <sup>At</sup>		G	P	L	L	collector/gatherer	fine detritus	2, 4, 8
<i>Coenoria</i> sp. AV1 <sup>C</sup>	G		L	.	S	collector/gatherer	detritus, wood fragments & algae	17
<b>Coleoptera</b>								

<i>Australphilus</i> sp (larva) <sup>D</sup>		G				predator	invertebrates	2, 17
<i>Berosus</i> sp. (larva) <sup>Hp</sup>		S	G	.	S	predator	invertebrates	1, 2, 13, 16
<i>Berosus</i> sp. (adult) <sup>Hp</sup>	G	S		.	.	collector/gatherer, scavenger	dead & decaying vegetable matter	1, 2, 16
<i>Laccobius</i> / <i>Helochares</i> sp. (larva) <sup>Hp</sup>	P	G			L, S	predator	invertebrates	1, 11, 19
<i>Austrolimnius resa</i> (larva) <sup>E</sup>	P	G	P	.	.	scraper/ gatherer	detritus, algae	2
<i>Austrolimnius waterhousei</i> (adult) <sup>E</sup>	S	S	S	.	.	scraper/ gatherer	detritus, algae	2
<i>Austrolimnius waterhousei</i> (larva) <sup>E</sup>		S	G	S	.	scraper/ gatherer	fine detritus, algae	4, 17
<i>Notriolus victoriae</i> (larva) <sup>E</sup>		G		.	.	wood gouger	fine detritus, leaves, wood fragments	4
<i>Notriolus</i> immature (larva) <sup>E</sup>	G	P	P	.	.	scraper/ gatherer	fine detritus	2, 15
<i>Sclerocyphon</i> sp. <sup>P<sub>s</sub></sup>	S			.	L	scraper	detritus, algae	3, 4

Ancyliidae<sup>An</sup>, Atriplectididae<sup>At</sup>, Baetidae<sup>B</sup>, Caenidae<sup>Ca</sup>, Conoesucidae<sup>C</sup>, Corydalidae<sup>Co</sup>, Dytiscidae<sup>D</sup>, Ecnomidae<sup>Ec</sup>, Elmidae<sup>E</sup>, Gripopterygidae<sup>Gr</sup>, Hydrobiosidae<sup>Hb</sup>, Hydrophilidae<sup>Hp</sup>, Hydropsychidae<sup>Hs</sup>, Hydroptilidae<sup>Ht</sup>, Leptoceridae<sup>L</sup>, Leptophlebiidae<sup>Lb</sup>, Physidae<sup>P</sup>, Planorbidae<sup>Pb</sup>, Psephenidae<sup>Ps</sup>

### Accessory publication

Table 2. Publications used to provide literature review information on habitat associations listed in Table 1. Total of 135 publications reviewed, but only 26 provided useable information for one or more taxa.

1. Anderson, J.M.E. (1976) Aquatic Hydrophilidae (Coleoptera). The biology of some Australian species with descriptions of immature stages reared in the laboratory. *Journal of the Australian Entomological Society* 15: 219-228.
2. Boulton, A.J. & P.S. Lake. (1992) The macroinvertebrate assemblages in pools and riffles in two intermittent streams (Werribee and Lerederg Rivers, southern central Victoria) *Occasional Papers from the Museum of Victoria* 5: 55-67
3. Cheshire, K., L. Boyero & R.G. Pearson. (2005) Food webs in tropical Australian streams: shredders are not scarce. *Freshwater Biology* 50: 748-769.
4. Chessman, B.C. (1986) Dietary studies of aquatic insects from two Victorian rivers. *Australian Journal of Marine and Freshwater Research* 37: 129-146.
5. Closs, G.P. & P.S. Lake. (1994) Spatial and temporal variation in the structure of an intermittent-stream food-web. *Ecological Monographs* 64: 1-21.
6. Dean, J.C. & D.I. Cartwright (1987) Trichoptera of a Victorian forest stream - species Composition and life histories. *Australian Journal of Marine and Freshwater Research* 38(6): 845-860
7. Ferro, M.L. & R.W. Sites (2007) The Ephemeroptera, Plecoptera, and Trichoptera of Missouri State Parks, with notes on biomonitoring, mesohabitat associations, and distribution. *Journal of the Kansas Entomological Society* 80: 105-129.
8. Fulton, W. (1983) Qualitative and quantitative variation in the macrobenthic fauna of the Original Lake and New Lake areas of Great Lake and Arthurs Lake, Tasmania. *Australian Journal of Marine and Freshwater Research* 34: 787-803.
9. Hawking, J.H. & T.R. New. (1995) The diet of anisopteran larvae from two streams in north-eastern Victoria, Australia. *Odonatologica* 24: 115-122.
10. Hearnden, M.N. & R.G. Pearson. (1991) Habitat partitioning among the mayfly species (Ephemeroptera) of Yuccabine Creek, a tropical Australian stream. *Oecologia* 87: 91-101.
11. Hebauer, F., L. Hendrich, et al. (1999) A contribution to the knowledge of the water beetle fauna (Col. Hydradephaga, Hydrophiloidea and Staphylinioidea) of a tropical

- freshwater lake: Tasek Cini, Pahang, West Malaysia. *Raffles Bulletin of Zoology* 47: 333-348.
12. Lancaster, J., B.J. Downes & A. Glaister. (2009) Interacting environmental gradients, trade-offs and reversals in the abundance-environment relationships of stream insects: when flow is unimportant. *Marine and Freshwater Research* 60: 259-270.
  13. Marchant, R., A. Graesser, L. Metzling, P. Mitchell, R. Norris & P. Suter. (1984) Life histories of some benthic insects from the La-Trobe River, Victoria. *Australian Journal of Marine and Freshwater Research* 35: 793-806.
  14. Marchant, R., Metzeling, A., Graesser, A. & Suter, P. (1985) The organization of macroinvertebrate communities in the major tributaries of the La Trobe River, Victoria, Australia. *Freshwater Biology* 15: 315-331.
  15. McKie, B.G.L. & P.S. Cranston. (1998) Keystone coleopterans? Colonization by wood-feeding elmids of experimentally immersed woods in south-eastern Australia. *Marine and Freshwater Research* 49: 79-88.
  16. Merritt, R. W. and Cummins, K.W. (1996) An Introduction to the Aquatic Insects of North America. Dubuque, Iowa, U.S.A., Kendall Hunt Publishing Company.
  17. O'Connor, N.A. (1993) Resource enhancement of grazing mayfly nymphs by retreat-building caddisfly larvae in a sandbed stream. *Australian Journal of Marine and Freshwater Research* 44: 353-362.
  18. O'Connor, N.A. & P.S. Lake. (1994) Long-term and seasonal large-scale disturbances of a small lowland stream. *Australian Journal of Marine and Freshwater Research* 45: 243-255.
  19. Perkins, P. D. (1976) Psammophilous aquatic beetles in Southern California: a study of microhabitat preferences with notes on responses to stream alteration (Coleoptera: Hydraenidae and Hydrophilidae). *The Coleopterists Bulletin* 30(4): 309-324.
  20. Reid, D. J., G. P. Quinn, P. S. Lake, and P. Reich (2008) Terrestrial detritus supports the food webs in lowland intermittent streams of south-eastern Australia: a stable isotope study. *Freshwater Biology* 53: 2036-2050.
  21. Sephton, D.H. & H.B.N. Hynes. (1983) Food and mouthpart morphology of the nymphs of several Australian Plecoptera. *Australian Journal of Marine and Freshwater Research* 34: 893-908.
  22. St Clair, R.M. (1993) Life-Histories of 6 species of Leptoceridae (Insecta, Trichoptera) in Victoria. *Australian Journal of Marine and Freshwater Research* 44: 363-379.

23. St Clair, R.M. (1994) Diets of some larval Leptoceridae (Trichoptera) in South-Eastern Australia. *Australian Journal of Marine and Freshwater Research* 45: 1023-1032.
24. Suter, P. J., Conrick, D., Cockayne, B. & Choy, S. (2002) Habitat profiles of Queensland mayflies, families Baetidae, Caenidae and Prosopistomatidae. CRCFE / MDFRC Identification Guide No 41, Taxonomy Workshop, Lake Hume Resort, Lake Hume, NSW.
25. Wells, A. (1985) Larvae and pupae of Australian Hydroptilidae (Trichoptera), with observations on general biology and relationships. *Australian Journal of Zoology*.: 1-69. Suppl.113.
26. Wiggins, G. B. (1996) Larvae of the North America caddisfly genera (Trichoptera). London, University of Toronto Press.