



Benthic Invertebrate Baseline Report
Jay Project
Appendix E2, Taxonomic Reference List
September 2014

ANNEX XIII: APPENDIX E2

ECOANALYSTS, INC. TAXONOMIC REFERENCE LIST

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E2 INTRODUCTION

The following is a standard list of taxonomic keys and references used by EcoAnalysts, Inc. (EcoAnalysts) for identifying macroinvertebrates. EcoAnalysts frequently uses more than 200 individual articles, papers, and handbooks to address taxonomy at the genus and species level. Collectively, the EcoAnalysts library consists of well over 5,000 taxonomy, ecology, and bioassessment references from around the globe.

E2.1 General

Brigham AR, Brigham WU, Gnilka A (eds). 1982. Aquatic Insects and Oligochaetes of North and South Carolina. Midwest Aquatic Enterprises, Mahomet, IL, USA.

Merritt RW, Cummins KW, Berg MB (eds). 2008. An Introduction to the Aquatic Insects of North America (4th ed.). Kendall/Hunt Publishing, Dubuque, IA, USA.

Peckarsky BL, Fraissinet PR, Penton MA, Conklin Jr DJ. 1990. Freshwater Macroinvertebrates of Northeastern North America. Cornell University Press, Ithaca, NY, USA.

Pennak RW. 1989. Freshwater Invertebrates of the United States (3rd ed.). John Wiley & Sons, Inc., New York, NY, USA.

Smith DG. 2001. Pennak's Freshwater Invertebrates of the United States (4th ed.). J. Wiley & Sons, Inc., New York, NY, USA.

Stehr FW (ed.). 1987. Immature Insects. Kendall/Hunt Publishing, Dubuque, IA, USA.

Stehr FW (ed.). 1991. Immature Insects: Volume 2. Kendall/Hunt Publishing, Dubuque, IA, USA.

Thorpe JH, Covich AP (eds). 2001. Ecology and Classification of North American Freshwater Invertebrates (2nd ed). Academic Press, San Diego, CA, USA.

E2.2 Ephemeroptera

Allen RK, Edmunds Jr GF. 1959. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). I. The subgenus *Timpanoga*. Can Entomol 91: 51-58.

Allen RK, Edmunds Jr GF. 1961. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). III. The subgenus *Attenuatella*. J Kansas Entomol Soc 34: 161-173.

Allen RK, Edmunds Jr GF. 1962. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). V. The subgenus *Drunella* in North America. Misc Publ Entomol Soc Am 3: 147-179.

Allen RK, Edmunds Jr GF. 1963. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). VI. The subgenus *Serratella* in North America. Ann Entomol Soc Am 56: 583-600.

Allen RK, Edmunds Jr GF 1965. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). V. The subgenus *Ephemerella* in North America. Misc Publ Entomol Soc Am 4: 244-282.

Bednarik AF, McCafferty WP. 1979. Biosystematic revision of the genus *Stenonema* (Ephemeroptera: Heptageniidae). Can Bull Fish Aquat Sci 201: 73 pp.



- Funk DH, Sweeney BW. 1994. The larvae of eastern North American *Eurylophella tiensuu* (Ephemeroptera: Ephemerellidae). *Tran Am Entomol Soc* 120: 209-286.
- Jacobus LM, McCafferty WP. 2006. A new species of *Acentrella bengtsson* (Ephemeroptera: Baetidae) from Great Smoky Mountains National Park, USA. *Aquat Insect* 28: 101-111.
- Lewis PA. 1974. Taxonomy and Ecology of Stenonema Mayflies (Heptageniidae: Ephemeroptera). National Environmental Research Center, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH, USA. EPA-670/4-74-006.
- Lugo-Ortiz CR, McCafferty WP. 1998. A new North American genus of Baetidae (Ephemeroptera) and key to Baetis complex genera. *Entomol News* 109: 345-353.
- McCafferty WP. 1975. The burrowing mayflies of the United States (Ephemeroptera: Ephemeroidea). *Trans Am Entomol Soc* 101: 447-504.
- McCafferty WP, Waltz RD. 1990. Reversionary synopsis of the Baetidae (Ephemeroptera) of North and Middle America. *Trans Am Entomol Soc* 116: 769-799.
- McCafferty WP, Waltz RD. 1995. *Labiobaetis* (Ephemeroptera: Baetidae): new status, new North American species, and related new genus. *Entomol News* 106: 19-28.
- McCafferty WP, Wigle MJ, Waltz RD. 1994. Systematics and biology of *Acentrella turbida* (McDunnough) (Ephemeroptera: Baetidae). *Pan-Pac Entomol* 70: 301-308.
- McCafferty WP, Randolph RP. 2000. Further contributions to the spatulate clawed Baetidae (Ephemeroptera). *Entomol News* 11: 259-264.
- McCafferty WP, Waltz RD, Webb JM, Jacobus LM. 2005. Revision of *Heterocloeon* (Ephemeroptera: Baetidae). *J Insect Sci* 5: 35.
- Morihara DK, McCafferty WP. 1979. The Baetis larvae of North America (Ephemeroptera: Baetidae). *Trans Am Entomol Soc* 105: 139-221.
- Morihara DK, McCafferty WP. 1979. The evolution of *Heterocloeon*, with the first larval description of *Heterocloeon frivulus* comb. n. (Ephemeroptera: Baetidae). *Aquat Insect* 1: 225-231.
- Muller-Liebenau I. 1974. *Rheobaetis*: A new genus from Georgia (Ephemeroptera: Baetidae). *Annals Entomol Soc Am* 67: 555-567.
- Provost, AV. 1990. A revision of the genus *Caenis* in North America (Ephemeroptera: Caenidae). *Trans Am Entomol Soc* 116: 801-884.
- Waltz RD, Baumgartner DE, Kennedy JH. 1996. An atypical larval color form of *Baetis intercalaris* (Ephemeroptera: Baetidae) from Pennsylvania and the Kiamichi River basin of southeastern Oklahoma. *Entomol News* 107: 83-87.
- Waltz RD, McCafferty WP. 1987. Systematics of *Psuedocloeon*, *Acentrella*, *Baetiella*, and *Liebebiella*, new genus (Ephemeroptera: Baetidae). *J New York Entomol Soc* 95: 553-568.

Waltz RD, McCafferty WP. 1987. New genera of Baetidae for some Nearctic species previously included in *Baetis* Leach (Ephemeroptera). Ann Entomol Soc Am 80: 667-670.

Waltz RD, McCafferty WP. 1989. New species, redescriptions, and cladistics of the genus *Pseudocentroptiloides* (Ephemeroptera: Baetidae). J New York Entomol Soc 97: 151-158.

Waltz RD, McCafferty WP. 1999. Additions to the taxonomy of *Americabaetis* (Ephemeroptera: Baetidae): *A. lugoi*, n. sp., adult of *A. robacci*, and key to larvae. Entomol News 110: 39-44.

Wiersema NA, McCafferty WP. 2000. Generic revision of the North American and Central American *Leptohyphidae* (Ephemeroptera: Pannota). Trans Am Entomol Soc 126: 337-371.

Wiersema NA, Nelson CR, Kuehn KF. 2004. A new small minnow mayfly (Ephemeroptera: Baetidae) from Utah, USA. Entomol News 115: 139-145.

E2.3 Odonata

Needham JG, Westfall Jr MJ, May ML. 2000. Dragonflies of North America (Rev. ed.).
Scientific Publishers, Gainesville, FL, USA.

Westfall Jr MJ, May ML. 2006. Damselflies of North America (Revised Edition).
Scientific Publishers, Gainesville, FL, USA.

E2.4 Plecoptera

Fullington KE, Stewart KW. 1980. Nymphs of the stonefly genus *Taeniopteryx* (Plecoptera:
Taeniopterigidae) of North America. J Kansas Entomol Soc 53: 237-259.

Hitchcock SW. 1974. Guide to the Insects of Connecticut: Part VII. The Plecoptera or Stoneflies of Connecticut. State Geological and Natural History Survey of Connecticut, Department of Environmental Protection, Hartford, CT, USA.

Stark BP. 1986. The Nearctic species of *Agnetina* (Plecoptera: Perlidae). J Kansas Entomol Soc 59: 437-445.

Stark BP, Gaufin AR. 1976. The Nearctic genera of *Perlidae* (Plecoptera). Misc Publ Entomol Soc Am 10: 1-80.

Stark BP, Szczytko SW. 1981. Contributions to the systematics of *Paragnetina* (Plecoptera: Perlidae). J Kansas Entomol Soc 54: 625-648.

Stewart KW, Stark BP. 2002. Nymphs of North American Stonefly Genera (Plecoptera) (2nd ed.). Caddis Press, Columbus, OH, USA.

E2.5 Trichoptera

Flint Jr OS. 1984. The genus *Brachycentrus* in North America, with a proposed phylogeny of the genera of Brachycentridae (Trichoptera). Smithsonian Contributions to Zoology No. 398, Washington, DC, USA.

Floyd MA. 1995. Larvae of the caddisfly genus *Oecetis* (Trichoptera: Leptoceridae) in North America. Bull Ohio Biol Survey 10: 85 pp.

Prather AL, Morse JC. 2001. Eastern Nearctic *Rhyacophila* species, with revision of the *Rhyacophila invaria* group (Trichoptera: Rhyacophilidae). Trans Am Entomol Soc 127: 85-166.

Scheffter PW, Wiggins GB. 1986. A systematic study of the Nearctic larvae of the *Hydropsyche morosa* group (Trichoptera: Hydropsychidae). Misc Publ Royal Ontario Museum, 100 pp.

Schuster GA, Etnier DA. 1978. A Manual for the Identification of the Larvae of the Caddisfly Genera *Hydropsyche pictet* and *Symphitopsyche ulmer* in Eastern and Central North America (Trichoptera: Hydropsychidae). Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency. EPA-600/4-78-060.

Smith SD. Unpublished draft. *Rhyacophila pictet*: Key to Larvae of Nearctic Species Groups. Eastern Washington University, Ellensburg, WA, USA.

Wiggins GB. 1996. Larvae of the North American Caddisfly Genera (Trichoptera) (2nd ed). University of Toronto Press, Toronto, ON, Canada.

E2.6 Coleoptera

Archangelsky M. 1997. Studies on the Biology, Ecology, and Systematics of the Immature Stages of New World Hydrophiloidea (Coleoptera: Staphyliniformia). Ohio Biological Survey, Columbus, OH, USA.

Brown HP. 1976. Aquatic Dryopoid Beetles (Coleoptera) of the United States. U.S. Environmental Protection Agency, Water Pollution Control Series 18050 ELD04/72.

Brown HP, White DS. 1978. Notes on separation and identification of North American riffle beetles (Coleoptera: Dryopoidea: Elmidae). Entomol News 89: 1-13.

Ciegler JC. 2003. The Water Beetles of South Carolina. Clemson University Public Service Publishing, Clemson University, Clemson, SC, USA.

Larson DJ, Alarie Y, Roughley RE. 2000. Predaceous Diving Beetles (Coleoptera: Dytiscidae) of the Nearctic Region. NRC Research Press, Ottawa, ON, Canada.

White DS. 1978. A revision of the Nearctic *Optioservus* (Coleoptera: Elmidae), with descriptions of new species. Syst Entomol 3: 59-74.

E2.7 Diptera

Adler PH, Currie DC, Wood DM. 2004. The Blackflies (Simuliidae) of North America. Comstock Publishing, Cornell University Press, Ithaca, NY, USA.

Gelhaus JK. 2008. Manual for the Identification of Aquatic Crane Fly Larvae for North America. Prepared for the North American Benthic Society, Salt Lake City, UT, USA.

McAlpine JR, Wood DM (coords). 1989. Manual of Nearctic Diptera: Volume 3. Research Branch, Agriculture Canada, Monograph No. 32.

McAlpine JR, Peterson BV, Shewell GE, Teskey HJ, Vockeroth JR, Wood DM (coords). 1981. Manual of Nearctic Diptera: Volume 1. Research Branch, Agriculture Canada, Monograph No. 27.

McAlpine JR, Peterson BV, Shewell GE, Teskey HJ, Vockeroth JR, Wood DM (coords). 1987. Manual of Nearctic Diptera: Volume 2. Research Branch, Agriculture Canada, Monograph No. 28.

E2.8 Chironomidae

Bode RW. 1983. Larvae of North American *Eukiefferiella* and *Tvetenia* (Diptera: Chironomidae). New York State Museum Bulletin No. 452: 1-40.

Epler JH. 1987. Revision of the Nearctic *Dicotendipes* Kieffer, 1913 (Diptera: Chironomidae). Evolut Mono 9: 102 pp.

Epler JH. 1988. Biosystematics of the genus *Dicotendipes* Keiffer, 1913 (Diptera: Chironomidae) of the world. Memoirs Am Entomol Soc 36: 1-214.

Epler JH. 2001. Identification Manual for the Larval Chironomidae (Diptera) of North and South Carolina (Version 1.0). John H. Epler, PhD, Crawfordville, FL, USA.

Grothaus G. 1987. *Endochironomus* Kieffer, *Tribelos* Townes, *Synendotendipes*, n. gen., and *Endotribelos*, n. gen. (Diptera: Chironomidae) of the Nearctic region. J Kansas Entomol Soc 49: 167-247.

LeSage L, Harrison AD. 1980. Taxonomy of *Cricotopus* species (Diptera: Chironomidae) from Salem Creek, Ontario. Proc Entomol Soc Ontario 111: 57-114.

Oliver DR, Bode RW. 1985. Description of the larva and pupa of *Cardiocladius albipilumus* Saether (Diptera: Chironomidae). Can Entomol 117: 803-809.

Roback SS. 1971. The subfamily Tanypodinae in North America. Monographs of the Academy of Natural Sciences, Philadelphia, PA, USA.

Saether OA. 1975. Nearctic and Palaearctic *Heterotri ssocladius* (Diptera: Chironomidae). Bull Fish Resour Bd Canada 193: 1-67.

Saether OA. 1976. Revision of *Hydrobaenus*, *Trissocladius*, *Zalutschia*, *Paratrisocladius*, and some related genera. Bull Fish Resour Bd Canada 195: 1-287.

- Saether OA. 1977. Taxonomic studies on Chironomidae: *Nanocladius*, *Psuedochironomus*, and the *Harnischia* complex. Bulletin of the Fisheries Resource Board of Canada.
- Saether OA., J.E. Sublette. 1983. A review of the genera *Doithrix* n. gen., *Georthocladius* Strenzke, *Paracheatocladius* Wulker, and *Psuedorthocladius* Goetghebuer (Diptera: Chironomidae; Orthocladiinae). Entomoliga Scandinavica Supplement 20: 100 pp.
- Simpson KW. 1982. A guide to basic chironomid literature for the genera of North American Chironomidae (Diptera). New York State Museum Bulletin No. 447.
- Simpson KW, Bode KW. 1980. Common larvae of Chironomidae (Diptera) from New York State streams and rivers with particular reference to the fauna of artificial substrates. New York State Museum Bulletin No. 439: 1-105.
- Simpson KW, Bode RW, Albu P. 1982. Keys for the genus *Cricotopus* adapted from "Revision der Gattung *Cricotopus* van der Wulp und ihrer Verwandten" (Diptera: Chironomidae) by M. Hirvenoja. New York State Museum Bulletin 450: 1-133.
- Soponis AR. 1977. A revision of the Nearctic species of *Orthocladius* van der Wulp (Diptera: Chironomidae). Memoirs Entomol Soc Canada 102: 187 pp.
- Soponis AR. 1990. A revision of the Holarctic species of *Orthocladius* (Euorthocladius) (Diptera: Chironomidae). Spixiana Supplement 13: 65 pp.
- Wiederholm T (ed). 1983. Chironomidae of the Holarctic Region. Part 1: Larvae. Entomologica Scandinavica Supplement No 19.
- Wiederholm T (ed). 1986. Chironomidae of the Holarctic Region. Part 2: Pupae. Entomologica Scandinavica Supplement No. 28.

E2.9 Mollusca

- Burch JB. 1972. Freshwater sphaeriacean clams (Mollusca: Pelecypoda) of North America. Biota of Freshwater Ecosystems Identification Manual No. 3: 31 pp.
- Burch JB. 1973. Freshwater unionacean clams (Mollusca: Pelecypoda) of North America. Biota of Freshwater Ecosystems Identification Manual No. 11: 176 pp.
- Burch JB. 1982. Freshwater Snails (Mollusca: Gastropoda) of North America. Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH, USA. EPA-600/3-82-026.
- Howells RG, R.W. RW, Murray HD. 1996. Freshwater Mussels of Texas. Texas Parks and Wildlife Dept., Austin, TX, USA.
- Jokinen EH. 1992. The Freshwater Snails (Mollusca: Gastropoda) of New York State. New York State Museum Bulletin 482: 112pp.
- Mackie GL. 2007. Biology of Freshwater Corbiculid and Sphaeriid Clams of North America. Ohio Biological Survey 15 (3): 436pp.



Nedeau NJ, McCollough MA, Swartz BI. 2000. The Freshwater Mussels of Maine. Maine Dept. of Inland Fisheries and Wildlife, Augusta, MA, USA. 118pp.

Parmalee PW, Bogan AE. 1998. The Freshwater Mussels of Tennessee. The University of Tennessee Press, Knoxville, TN, USA. 328pp.

Strayer DL, Jirka KJ. 1997. The Pearly Mussels of New York State. New York State Museum Memoir 26: 102pp.

E2.10 Crustacea and Other Arthropods

Cook DR. 1974. Water mite genera and subgenera. Memoirs Am Entomol Inst 21: 1-860.

Hobbes HH. 1972. Biota of Freshwater Ecosystems identification Manual #9: Crayfishes (Astacidae) of North and Middle America. US Environmental Protection Agency. Chicago, IL, USA. 178 pp.

Rogers DC. 2008. Key to the Freshwater Malacostraca (Crustacea) of US EPA Region Three. Prepared by EcoAnalysts, Inc. Moscow, ID, USA for the US Environmental Protection Agency, Office of Environmental Information, Environmental Analysis Division, Washington, DC, USA. 50 pp.

E2.11 Annelida

Kathman RD, Brinkhurst RO. 1999. Guide to the Freshwater Oligochaetes of North America. Aquatic Resources Center, College Grove, TN, USA.

Klemm DJ. 1972. Freshwater Leeches (Annelida: Hirudinea) of North America. Biota of Freshwater Ecosystems Identification Manual No. 8. US Environmental Protection Agency. Washington, DC, USA. 54 pp.