

Brief Academic Curriculum Vitae, Valeria Lencioni Ph.D.
Chief-curator of the MUSE Invertebrate Zoology and Hydrobiology Section

Personal details:

Name: Valeria

Family name: Lencioni

Date and place of birth: September 21, 1970, Salò (BS), Italy

Affiliation: MUSE-Science Museum, Corso del Lavoro e della Scienza 3, 38122 Trento, Italy

Present Position: Chief-Curator of the Invertebrate Zoology and Hydrobiology Department, Science Museum of Trento, Italy

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Mendeley profile: <https://www.mendeley.com/profiles/valeria-lencioni/publications/>

Skills

I am an hydrobiologist with experience on invertebrate taxonomy and stream ecology. Fascinated by extreme habitats, I am studying the vulnerability to environmental changes (natural and of anthropogenic origin) of freshwaters at high altitudes (Alps, Hymalaia-Karakorum) and latitude (Arctic), with an holistic approach, from gene to ecosystems. She has two decades of experience in coordinating work packages or projects within national and international frameworks, mentoring PhDs and master students, writing scientific papers (60-ISI papers in WOS and Scopus databases) and organisation of public events (from international congresses to project meetings and events to non-experts and non-academic stakeholders).

Main areas of research

- Hydrobiology: ecology of headwaters (springs, lakes and streams); effects of climate changes and glacier retreating on freshwater ecosystems; taxonomy and autecology of invertebrates from cold freshwaters
- Molecular ecology: adaptive biology of aquatic insects (mainly Diptera Chironomidae)
- Ecotoxicology: biological response of invertebrates to environmental stressors (e.g., temperature variations, chemical contamination)
- Nature Conservation/Biodiversity Monitoring: presence and distribution of invertebrates in EU red list and alien invasive species

Education and job career

University of Milan, Milan, Italy	Limnology	1989-1996 Laurea (M.S.)
University of Milan, Milan, Italy	Hydrobiology, Zoology	1996-1997 Training and State examination for the qualify as Biologist Profession
University of Innsbruck, Austria	Stream ecology, Entomology	1997-2000 Ph.D. program
MUSE-Museo delle Scienze*, Italy	Stream ecology, Entomology	Research collaborator 2001-2003
MUSE-Museo delle Scienze, Italy	Physiological entomology	Postdoctoral Fellow 2003-2006

MUSE-Museo delle Scienze, Italy	Stream ecology, Physiological entomology	Permanent researcher 2003-2008
MUSE-Museo delle Scienze, Italy	Invertebrate Zoology and Hydrobiology	Chief-curator 2009

* Museo Tridentino di Scienze Naturali before 2013

Experience abroad

1997: Spitzbergen Island (Norway) scientific expedition within the EC framework AASER (ENV-CT95-0164), August 2003

2003: Spitzbergen Island (Norway) scientific expedition for field experiments in collaboration with the University of Oslo (Norway), August 2003

2005: Biochemical and physiological characteristics of chironomids in diapause: the mechanism of reactivation. Field work, laboratory experiments and data processing at the Russian Academy of Scienze, Museum of Zoology St. Petersburg and Cytology Institute of St. Petersburg (Russia), January-February 2005

2008: Karakorum, Pakistan, scientific expedition in collaboration with Ev-K2-CNR Brugherio (Italy), Gilgit University and Central Karakorum National Park (Pakistan), June-July 2008

2008: Karakorum, Pakistan, scientific expedition in collaboration with Ev-K2-CNR Brugherio (Italy), Gilgit University and Central Karakorum National Park (Pakistan), October-November 2008

Scientific awards

2001: Poster Prize (1st) in the XV Convegno Gadio (Trento, 2001): Lencioni V., Maiolini B. & Margoni S. - Il limite altitudinale di applicazione degli Indici I.B.E (Indice Biotico Estesio) e I.F.F. (Indice di Funzionalità Fluviale) in due sistemi fluviali Alpini (Amola e Cornisello, Trentino)

2003: Poster Prize (1st) in the XV International Symposium on Chironomidae, 2003, Minnesota, USA.: Marziali L., Casalegno C., Lencioni V. & Rossaro B. - Definition and assignment of indicator weights to different chironomid species

2003: Prize "Marcello La Greca" by the Unione Zoologica Italiana as the best young Italian Researcher in the field of Biogeography and Entomology (by check of 1.500,00 Euro).

2005: Poster Prize (within the first 10) in the SEFS4 – IV Symposium for European Freshwater Sciences, Cracovia, 22-26 August 2005: Marziali L., Lencioni V. & Rossaro B., 2005 - Pupal characters of Chironominae (Diptera: Chironomidae) as tools in biomonitoring.

Selection of invited for academic conferences

- "Ecological valency of zoobenthos from Alpine streams", Russian Academy of Science – Museum of Zoology, 1st February 2005, St. Petersburg (Russia)

- "Adaptation of alpine insect to climate change", 6th February 2007, University of Modena-Reggio Emilia, Italy

- "Headwaters: benthos and climate change", University of Milan, 8th May 2008, Milan, Italy

- "Study on Biodiversity of CKNP (Central Karakorum National Park) and surrounding areas", University of Gilgit (Pakistan), 9th November 2008, Gilgit (Pakistan)

- "Biodiversity changes in a changing world" (EU summer school). University of Trento, 24th June 2013, Trento, Italy

- "Insects from extreme habitats: sensitivity to climate change" University of Padova, 6th May 2016, Padova, Italy.

Most important Editor and Reviewer activities

Journal of Limnology (associate Editor)

Waters (Guest editor and Reviewer)

Aquatic Insects, Aquatic Science, Aquatic Toxicology, Bulletin of Insectology, Chemosphere, Environmental Entomology, Environmental Pollution, Environmental Monitoring and Assessment, Freshwater Science, Fundamental and Applied Limnology, Hydrobiologia, Insects, Journal of Freshwater Ecology, Journal of Limnology, Knowledge and management of aquatic ecosystems, Limnologica, PLOS One, Science of The Total Environment (Reviewer)

The 5 most important research projects funded in the past

1. "Arctic and Alpine Stream Ecosystem Research" (AASER), EC project (n. ENV-CT95-0164) (1996-1999)
2. "Health and Integrity of Glacial Headwater Ecosystems in Trentino" (HIGHEST), Autonomous Province of Trento-European Commission (2001-2004)
3. "The assessment of the ecological status of lakes by macroinvertebrates in Trentino" (LESMA), project funded by the "European Commission-Joint Research Centre, Institute for Environment and Sustainability" (JRC), Varese, Italy (2005)
4. "Ecosistemi Alpini e Cambiamento Ambientale: Sensibilità e Potenziale Adattativo della biodiversità/Alpine Ecosystems in a Changing Environment: Biodiversity Sensitivity and Adaptive Potential" (ACE-SAP); regulation number 23, June 12, 2008, of the University of Trento and Scientific Research Service of Autonomous Province of Trento (2008-2012).
5. RACE-TN (Environmental Risk assessment of emerging contaminants in Trentino rivers: effects on wildlife and human health) (2015-2017) is a research project funded by the Caritro Foundation of Trento (Italy) (Grant 2015 "Management and protection of the environment, territory and sustainable development")

Selection of collaborations in the last 5 years

- Alexander Milner: School of Geography, Earth and Environmental Sciences, University of Birmingham, UK
- John E. Brittain: Freshwater Ecology-Inland Fisheries Laboratory (LFI) and Entomology R&D (LFI), Zoological Museum, Oslo, Norway
- Brigitte Lods-Crozet, Muséecantonal de zoologie, Lausanne, Switzerland
- Len Ferrington Jr.: University of Minnesota, St. Paul, MN, USA
- José Luis MartínezGuitarte: Grupo de Biología y ToxicologíaAmbientaleDepartamento de FísicaMatemática y de FluidosFacultad de Ciencias – UNED, Spain.

Selection of media interviews and TV documentaries

- o OggiScienza, 13 February 2017: "Emerging contaminants in alpine freshwaters", http://www.trentotoday.it/cronaca/studio-pesticidi-rio-gola-muse.html?utm_source=newsletter&utm_medium=email
- o OggiScienza, 26 December 2017: "Invertebrates, sentinels of global change", <https://oggiscienza.it/2017/12/26/invertebrati-alpi-ghiacciai-scioglimento/>
- o TV programme "Geo", Rai 3, 13 March 2015: "Antifreeze proteins in aquatic insects from glacier-fed streams", <http://www.rai.tv/dl/RaiTV/programmi/media/ContentItem-985c11ee-a805-4ada-a964-362fb98d5631.html#p=0> [Documentary]
- o TV programme "Nautilus", Rai Scuola, 13/5/2015: "Cold adaptation in alpine insects", <http://www.raiscuola.rai.it/articoli-programma-puntate/esplorare-lignoto/30744/default.aspx> [Documentary]

List of peer reviewed scholarly publications in the last 5 years (2014-2018)

1. Cantonati M., Guella G., Spitale D., Angeli N., Borsato A., LENCIONI V., & Filippi M.L., 2014 - The contribution of lake benthic algae to the sediment record in a carbonate mountain lake influenced by marked natural water-level fluctuations. *Freshwater Science* 33(2):499-512.
2. Gobbi M., Ballarin F., Compostella C., LENCIONI V., Seppi R., Tampucci D., Caccianiga M., 2014 - Physical and biological features of an active rock glacier of the Italian Alps. *The Holocene*, 24(11): 1624–1631.
3. Pauls S.U., Alp M., Bálint M., Bernabò P., Čiampor F. Jr, Čiamporová-Zaťovičová Z., Finn D.S., J. Kohout, F. Leese, V. LENCIONI, I. Paz-Vinas, M.T. Monaghan, 2014. Integrating molecular tools into freshwater ecology: developments and opportunities. *Freshwater Biology* 59:1559–1576.
4. Bernabò P., L. Lunelli, A. Quattrone, O. Jousson, V. LENCIONI and G. Viero, 2015 - Purification of polysomal mRNAs to study translational control in non-model organisms under environmental stress conditions. *Journal of Insect Physiology*, 76: 30–35.
5. LENCIONI V. & Spitale D., 2015 - Diversity and distribution of benthic and hyporheic fauna in different stream types on an Alpine glacial floodplain. *Hydrobiologia*, 751: 73-87.
6. LENCIONI V., Bernabò P., Jousson O. & Guella G., 2015 - Cold adaptive potential of chironomids overwintering in a glacial stream. *Physiological Entomology*, 40: 43–53.
7. Chiogna G., B. Majone, K. Cano Paoli, E. Diamantini, S. Mallucci; E. Stella; V. LENCIONI; F. Zandonai; A. Bellin, 2016 - A review of hydrological and chemical stressors in the Adige catchment and its ecological status. *Science of the Total Environment* 540: 429-443.
8. Grazioli V., Rossaro B., Parenti P., Giacchini R., LENCIONI V., 2016 - Hypoxia and anoxia effects on alcohol dehydrogenase activity and hemoglobin amount in *Chironomus riparius* Meigen, 1804. *Journal of Limnology*, 75(2): 347-354.
9. LENCIONI V., Grazioli, V., Rossaro B., Bernabò P., 2016 - Gene expression profiling of responses induced by pesticides employed in organic agriculture in a wild population of the midge *Chironomus riparius*. *Science of the Total Environment*, 557–558: 183–191.
10. Montagna M., Mereghetti V., LENCIONI V., Rossaro B., 2016 - Integrated Taxonomy and DNA Barcoding of Alpine Midges (Diptera: Chironomidae). *PLoS ONE* 11(3): e0149673. doi:10.1371/journal
11. Rossaro B., Montagna M., LENCIONI V., 2016- Environmental traits affect chironomid communities in glacial areas of the Southern Alps: evidence from a long-lasting case study. *Insect Conservation and Diversity*, 9: 192–201.
12. Bernabò P., Gaglio M., Bellamoli F., Viero G., LENCIONI V., 2017 - DNA damage and translational response rule the detoxification from copper exposure in a wild population of *Chironomus riparius*. *Chemosphere*, 173: 235–244.
13. LENCIONI V. & Bernabò P. 2017 - Thermal survival limits of young and mature larvae of a cold stenothermal chironomid from the Alps (Diamesinae: Pseudodiamesa branickii [Nowicki, 1873]). *Insect Science*, 24(2): 314-324.
14. Milner A.M., Khamis K., Battin T.J., Brittain J.E., Barrand N.E., Fuehrer L., Cauvy-Fraunié S., Gislason G.M., Jacobsen D., Hannah D.M., Hodson A.J., Hood E., LENCIONI V., Olafsson J.S., Robinson C.T., Tranter M., Brown L.E., 2017 - Glacier shrinkage driving global changes in downstream systems. *Proceedings of the National Academy of Sciences* Vol. 114, N. 37: 9770-9778.
15. Brown L., K. Khamis, M. Wilkes, P. Blaen, J. Brittain, J. Carrivick, S. Fell, N. Friberg, L. Fuehrer, G. Gislason, S. Hainie, D. Hannah, W. James, V. LENCIONI, J. Olafsson, C. Robinson, S. Saltveit, C. Thompson, A. Milner, 2018- Globally consistent responses of invertebrates to environmental change. *Nature Ecology and Evolution*, 2(2): 325-333.

16. Gobbi Mauro, Natalia Bragalanti, Valeria LENCIONI, Luca Pedrotti, 2018- Red deer (*Cervus elaphus* Linnaeus, 1758) increasing density effects on species assemblage of ground beetles (Coleoptera: Carabidae) in Alpine forests. *European Journal of Wildlife Research* 64: 32. <https://doi.org/10.1007/s10344-018-1194-x>
17. LENCIONI V., 2018 - Glacial influence and macroinvertebrate biodiversity under climate change: lessons from the Southern Alps. *Science of the Total Environment*, 622-623: 563-575.
18. LENCIONI V., E. Mezzanotte, C. Spagnol, L. Latella, 2018 - Effects of human impacts on diversity and distribution of chironomids (Diptera: Chironomidae) in prealpine springs. *Journal of Limnology* 77(s1): 203-212.
19. LENCIONI V., F. Bellamoli, P. Bernabò, F. Miari, A. Scotti, 2018 - Response of *Diamesa* spp. (Diptera: Chironomidae) from Alpine streams to emerging contaminants and pesticides. *Journal of Limnology* 77(s1): 131-140.
20. LENCIONI V., Gobbi M. 2018. Are carabids (Coleoptera: Carabidae) and chironomids (Diptera: Chironomidae) experiencing similar diversity and distributional patterns along a glacier forelands? *Journal of Limnology* 77(s1): 187-195.
21. LENCIONI V., P.S. Cranston, E.A. Makarchenko, 2018. Recent advances in the study of Chironomidae: An overview. *Journal of Limnology* 77(1): 1-6.
22. LENCIONI V., D. Fattori, G. Nardi, L. Latella, 2018 (online) - Spatio-temporal dynamic of invertebrate community in two ponds in a livestock Alpine wetland. *Aquatic Insects* <https://doi.org/10.1080/01650424.2018.1523434>
23. Thomson SA, et al. 2018 - Taxonomy based on science is necessary for global conservation. *PLoS Biol* 16(3): e2005075: 1-12. <https://doi.org/10.1371/journal.pbio.2005075>
24. Villa S., Di Nica V., Pescatore T., Bellamoli F., Miari F., Finizio A., LENCIONI V., 2018. Comparison of the behavioural effects of pharmaceuticals and pesticides on *Diamesa zernyi* larvae (Chironomidae). *Environmental Pollution*, 238: 130-139.
25. Villa S., V. Di Nica, F. Bellamoli, T. Pescatore, C. Ferrario, A. Finizio, V. LENCIONI, 2018 - Effects on behaviour traits of a treated sewage effluent in *Diamesa cinerella* and *Daphnia magna*. *Journal of Limnology*; 77(s1): 121-130.

The 10 most important scientific/scholarly publications in the entire career on Stream Ecology (Scopus h-index= 16; Google Scholar h-index= 21)

1. Chiogna G., B. Majone, K. Cano Paoli, E. Diamantini, S. Mallucci; E. Stella; V. LENCIONI; F. Zandonai; A. Bellin, 2016 - A review of hydrological and chemical stressors in the Adige catchment and its ecological status. *Science of the Total Environment* 540: 429-443.
2. LENCIONI V. & Rossaro B., 2005 - Microdistribution of chironomids (Diptera: Chironomidae) in Alpine streams: an autoecological perspective. *Hydrobiologia*, 533 (1): 61-76.
3. LENCIONI V. & Spitale D., 2015 - Diversity and distribution of benthic and hyporheic fauna in different stream types on an Alpine glacial floodplain. *Hydrobiologia*, 751: 73-87.
4. LENCIONI V., 2018 - Glacial influence and macroinvertebrate biodiversity under climate change: lessons from the Southern Alps. *Science of the Total Environment*, 622-623: 563-575.
5. LENCIONI V., Maiolini B., Marziali L., Lek S. & Rossaro B., 2007 - Macroinvertebrate assemblages in glacial stream systems: A comparison of linear multivariate methods with artificial neural networks. *Ecological modelling*, 203: 119-131.

6. LENCIONI V., Marziali L. & Rossaro B., 2012 – Chironomids as bioindicators of environmental quality in mountain springs. *Freshwater Science*, 31(2): 525–541.
7. Maiolini B, Lencioni V (2001). Longitudinal distribution of macroinvertebrate assemblages in a glacially influenced stream system in the Italian Alps. *FRESHWATER BIOLOGY*, 46: 1625-1639.
8. Milner A.M., Khamis K., Battin T.J., Brittain J.E., Barrand N.E., Fuehrer L., Cauvy-Fraunié S., Gislason G.M., Jacobsen D., Hannah D.M., Hodson A.J., Hood E., LENCIONI V., Olafsson J.S., Robinson C.T., Tranter M., Brown L.E., 2017 - Glacier shrinkage driving global changes in downstream systems. *Proceedings of the National Academy of Sciences* Vol. 114, N. 37: 9770-9778.
9. Pauls S.U., Alp M., Bálint M., Bernabò P., Čiampor F. Jr, Čiamporová-Zaťovičová Z., Finn D.S., J. Kohout, F. Leese, V. LENCIONI, I. Paz-Vinas, M.T. Monaghan, 2014. Integrating molecular tools into freshwater ecology: developments and opportunities. *Freshwater Biology* 59:1559–1576.
10. Rossaro B., Montagna M., LENCIONI V., 2016- Environmental traits affect chironomid communities in glacial areas of the Southern Alps: evidence from a long-lasting case study. *Insect Conservation and Diversity*, 9: 192–201.