

Andrius Steponėnas

CONTACT INFORMATION

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EDUCATION AND ACADEMIC DEGREE

- 2002 – 2010 Doctoral degree in ecology and environmental studies (03 B) in the field of biomedical sciences (Vilnius University and Institute of Ecology).
Dissertation topic: “Taxonomy and ecology of spined loaches (Cobitidae) in inland waters of Lithuania”, supervisors – dr. [J. Virbickas](#), dr. V. Kesminas.
Field of research: taxonomy of spined loaches, ecology of populations and cytogenetic (karyological) studies.
- 1998 – 2000 Vilnius University, Zoology / Master.
Master thesis topic: “Structure and condition of fish communities in various types of Lithuanian lakes”.
The work was carried out at the Institute of Ecology, Hydrobiont Ecology and Physiology Laboratory.
Field of research: ecology of lake ichthyofauna, studies of fish populations and communities, studies of accumulation of radionuclides and heavy metals in fish.
- 1994 – 1998 Vilnius University, Biology / Bachelor.
The topic of the work: “Structure and condition of fish communities in Lithuanian lakes of various trophic levels”.
The work was carried out at the Institute of Ecology, Hydrobiont Ecology and Physiology Laboratory.
Field of research: ecology of lake ichthyofauna, studies of fish populations and communities.

PROFESSIONAL EXPERIENCE

- 2021 10 – until now **Researcher**
Laboratory of Fish Ecology, Nature Research Center
- 2018 12 – 2021 09 **Senior specialist**
Hydrobiont Ecology and Physiology Laboratory (since 2019 01 15
Laboratory of Fish Ecology), Nature Research Center
- 2013 12 – 2018 11 **Junior Researcher**
Hydrobiont Ecology and Physiology Laboratory, Nature Research Center
- 2012 11 – 2013 11 **Investigator**
Hydrobiont Ecology and Physiology Laboratory, Nature Research Center
- 2007 – 2012 11 **Junior Researcher**
Hydrobiont Ecology and Physiology Laboratory, Institute of Ecology (since 2010 01 01 – Institute of Ecology, Nature Research Center)
- 2002 – 2007 **Doctoral student**
Hydrobiont Ecology and Physiology Laboratory, Institute of Ecology
- 2001 – 2002 **Assistant (Junior Researcher)**
Hydrobiont Ecology and Physiology Laboratory, Institute of Ecology

RESEARCH INTERESTS

Fish biodiversity, distribution, abundance, growth, migration, biotope selection strategy, cytogenetics, state of communities and populations, structure, change, anthropogenic impact and resources, spread of invasive species and possibilities of regulation, possibilities of preservation and restoration of rare and endangered species populations. Various equipment is used for field work (water vehicles, scientific electrofishing devices, various fishing nets, GPS and echolocation equipment, multimeters, photo equipment, etc.); microscopy, computer and other laboratory equipment are used for material and data analysis.

PUBLICATIONS

Scientific articles published in journals (books), indexed in „Clarivate Analytics Web of Science“ database (with citation index):

1. Kesminas V., **Steponėnas A.**, Pliūraitė V., Virbickas T. 2013. Ecological Impact of Eurasian Beaver (*Castor fiber*) Activity on Fish Communities in Lithuanian Trout Streams. *Annual Set The Environment Protection*. 15 (1): 59-80.
2. Virbickas T., Stakėnas S., **Steponėnas A.** 2015. Impact of Beaver Dams on Abundance and Distribution of Anadromous Salmonids in Two Lowland Streams in Lithuania. *PLoS ONE* 10(4): e0123107. doi: 10.1371/journal.pone.0123107.
3. Rakauskas V, Virbickas T, Stakėnas S, **Steponėnas A.** 2019. The use of native piscivorous fishes for the eradication of the invasive Chinese Sleeper, *Perccottus glenii*. *Knowl. Manag. Aquat. Ecosyst.*, 420, 21.
4. Barisevičiūtė R., Maceika E., Ežerinskis Ž., Šapolaitė J., Butkus L., Mažeika J., Rakauskas V., Juodis L., **Steponėnas A.**, Druteikienė R., Remeikis V. 2020. Distribution of radiocarbon in sediments of the cooling pond of RBMK type Ignalina Nuclear Power Plant in Lithuania. *PLoS ONE* 15(8): e0237605. <https://doi.org/10.1371/journal.pone.0237605>
5. Virbickas T., Vezza P., Kriaučiūnienė J., Akstinas V., Šarauškienė D., **Steponėnas A.** Impacts of low-head hydropower plants on cyprinid-dominated fish assemblages in Lithuanian rivers. *Sci Rep* 10, 21687 (2020). <https://doi.org/10.1038/s41598-020-78701-8>
6. Vytautas Rakauskas, Tomas Virbickas, and **Andrius Steponėnas** Several decades of two invasive fish species (*Perccottus glenii*, *Pseudorasbora parva*) of European concern in Lithuanian inland waters; from first appearance to current state. *Journal of Vertebrate Biology* 70(4), 21048.1-14, (22 October 2021). <https://doi.org/10.25225/jvb.21048>

Scientific articles published in journals (books), indexed in „Clarivate Analytics Web of Science“ database (without citation index):

1. **Steponėnas A.** 2003. Golden loach (*Sabanejewia aurata* (de Filippi, 1865)) – a new freshwater fish species in Lithuania. *Acta zoologica Lituanica*. 13 (3): 279-282.
2. **Steponėnas A.** 2009. Paprastoji kirtiklio (*Cobitis taenia* L.) buveinių pasirinkimo strategija. *Žuvininkystė Lietuvoje*. 10: 152-161.
3. Kesminas V., **Steponėnas A.** 2014. Fish community, *Zoology and Ecology. Special Issue: Transformation in Lake Drūkšiai ecosystem upon Ignalina Nuclear Power Plant decommissioning*. Volume 24, Issue 2. doi: 10.1080/21658005.2014.925243. 135-153 p.
4. Kesminas V., Vezhnavets V. V., Kasperovičienė J., Baichorov V. M., **Steponėnas A.**, Rakauskas V., Arbačiauskas K., Kaunelienė D. 2014. Recommendations on reintroduction of crustaceans and fish, use of fish stocks, and improvement of the state of Lake Drūkšiai, *Zoology and Ecology. Special Issue: Transformation in Lake Drūkšiai ecosystem upon Ignalina Nuclear Power Plant decommissioning*. Volume 24, Issue 2. doi: 10.1080/21658005.2014.925245. 185-186 p.

Other reviewed scientific publications (books, books' chapters, collections of articles, articles, textbooks and etc.):

1. Kesminas V., Virbickas T., Stakėnas S., **Steponėnas A.** 2001. Vokės upės ichtiofaunos apžvalga. *Acta hydrobiologica Lituanica*. 11: 252-266.
2. Arbačiauskas K. **et al.** 2009. Gyvūnijos monitoringo metodai. *Vilniaus Universiteto Ekologijos institutas*, Vilnius. 163 p.
3. Balčiauskas L., Baranauskas K., Ferenc R., Gudžinskas Z., Gurskas A., Ivinskis P., Kesminas V., Ložys L., Rimšaitė J. (sudarytoja), Sinkevičienė Z., Staponkus R., **Steponėnas A.**, Trakimas G., Virbickas T., 2016. Europos bendrijos svarbos rūšių monitoringo metodikos. Žinduoliai, žuvis, varliagyviai, ropliai, moliuskai, vabzdžiai ir augalai. Vilnius: Gamtos tyrimų centras, Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos. 404 p.

PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS

2020 – 2022	researcher in the project „Joint management of Latvian-Lithuanian transboundary river and lake water bodies” (TRANSWAT)
2020 – 2022	researcher in the project „Investigations of the Status of Invasive and Alien Species in Lithuania“
2020-2021	investigator in the project „Assessment of the impact of hydrotechnical structures on river runoff and sustainable management of water resources in order to preserve and restore aquatic ecosystems“ (ECODAM)
2019-2021	researcher in the project „Inventory of fish species of importance to the European Community: lake minnow (<i>Rhynchocypris percunurus</i>), spined loach (<i>Cobitis taenia</i>) and northern golden loach (<i>Sabanejewia baltica</i>)“ – part of the project “Optimizing the management of Natura 2000 network in Lithuania” (LIFE IP PAF-NATURALIT, Nr. LIFE16 IPE/LT/016).
2019-2020	researcher in the project „Advanced models, citizen science and big data for sustainable inland waters food production and ecosystem services“ (project No 01.2.2-LMT-K-718-02-0006)
2017-2018	researcher in the project “Preparation of the assessment and species descriptions of protected animals, plants and fungi of Lithuania according to IUCN categories”
2012-2014	researcher in the project „A study of the impact of the spread and reduction of the abundance of Chinese sleeper and round goby in Lithuania” (Nr. LEK-13/2012)
2011-2012	researcher in the project „The transformation of the fauna of the main water ecosystems in Lake Drūkšiai (Lithuania-Belarus border water body) after the suspension of the Ignalina NPP operation, preparation of recommendations, monitoring, conservation measures for stable use“
2010	researcher in the project „Elaboration of the Lielupe, Venta and Daugava River Basin Districts Management Plans”
2005-2006	investigator in the project „Protection of endangered species of flora and fauna and their habitats through implementation of CITES and the Bern and Bonn Conventions and the related EU legislation“
2004-2005	member in the international project supported by the UNDP WEF SPP „Restoration and protection of salmon stocks in the Neris-Vilnia and Šventoji-Širvinta River basins, with the participation of local communities“.

INTERNSHIP AND TRAINING

- 2005 08 Internship in spined loach karyology in Poland at the Loach karyology laboratory of the Faculty of Biology of the University of Warmia and Mazury in Olsztyn.

PARTICIPATION IN SCIENTIFIC CONFERENCES

International scientific conferences:

1. Rakauskas V., **Steponėnas A.**, Kesminas V., Audzijonytė A. Predicting future from artificially heated water systems: will fish get smaller?. *151st American Fisheries Society Annual Meeting*, 2021 November (virtual oral presentation).
2. Kesminas V., **Steponėnas A.**, Kaminskas O. Dynamics of fish community conditioned by thermal pollution in Lake Drūkšiai as a cooler of the Ignalina nuclear power plant (INPP). *V Международная научная конференция „ОЗЕРНЫЕ ЭКОСИСТЕМЫ: БИОЛОГИЧЕСКИЕ ПРОЦЕССЫ, АНТРОПОГЕННАЯ ТРАНСФОРМАЦИЯ, КАЧЕСТВО ВОДЫ“*. Белорусский государственный университет. Минск-Нарочь, Беларусь. 2016 m. rugsėjo 12-17 d.
3. Stakėnas S., Virbickas T., Rakauskas V., **Steponėnas S.** Latest Findings From Study about Dispersion, impact and abundance mitigation of round goby (*Neogobius melanostomus*) and Chinese sleeper (*Perccottus glenii*) in Lithuania. *4th AQUATIC BIODIVERSITY INTERNATIONAL CONFERENCE*. „Lucian Blaga“ University of Sibiu. Sibiu, Romania. 2013 m. spalio 08-12 d.
4. Kesminas V., **Steponėnas A.**, Pliūraitė V., Virbickas T. Ecological Impact of Eurasian Beaver (*Castor fiber*) Activity on Fish Communities in Lithuanian Trout Streams. *XI Ogólnopolska Konferencja Naukowa „KOMPLEKSOWE I SZCZEGÓŁOWE PROBLEMY INŻYNIERII ŚRODOWISKA“*. Katedra Techniki Wodno-Mulowej i Utylizacji Odpadów, Wydział Inżynierii Łądowej, Środowiska i Geodezji, Politechnika Koszalińska, Sekcja Wykorzystania Surowców Mineralnych Komitetu Górnictwa PAN. Koszalin – Darłówek, Poland. 2013 m. gegužės 23-26 d.
5. Stakėnas S., Virbickas T., Rakauskas V., **Steponėnas S.** Dispersion, impact and abundance mitigation study of round goby (*Neogobius melanostomus*) and Chinese sleeper (*Perccottus glenii*) in Lithuania. *18th International Conference on Aquatic Invasive Species*. Invasive Species Centre. Niagara Falls, Ontario, Canada. 2013 m. balandžio 21-25 d.
6. Kesminas V., Virbickas T., **Steponėnas A.** Impact of hydropower plants on fish communities in the rivers of Lithuania. *8th international conference “ENVIRONMENTAL ENGINEERING”*. Vilniaus Gedimino Technikos Universitetas. Vilnius, Lithuania. 2011 m. gegužės 19-20 d.
7. **Steponėnas A.** Northern golden loach (*Sabanejewia aurata baltica* (*Sabanejewia baltica*)) in Rivers of Lithuania. *4th international student conference „Biodiversity and functioning of aquatic ecosystems in the Baltic sea region“*. Vilniaus universiteto Ekologijos institutas. Dubingiai, Lithuania. 2009 m. spalio 2-4 d. 8 p.
8. Kesminas V., Virbickas T., **Steponėnas A.**, Repečka R. NATURA 2000 fish species conservation in Lithuania. *2nd European Congress of Conservation Biology “Conservation biology and beyond: from science to practice“*. Society for Conservation Biology, Faculty of Environmental Sciences, Czech University of Life Sciences. Prague, Czech Republic. 2009 m. rugsėjo 1-5 d. 184 p.
9. Kesminas V., Stakėnas S., Virbickas T., Virbickas J., Balkuvienė G., **Steponėnas A.** Мониторинг параметров рыбных сообществ и популяций в озёрах Литвы. *Озерные экосистемы: биологические процессы, антропогенная трансформация, качество воды*. Белорусский государственный университет. Минск-Нарочь. 2003.09.22-26.
10. **Steponėnas A.** Некоторые особенности мониторинга рыбных сообществ в озёрах Литвы. *VIII Съезд гидробиологического общества РАН*. Г. Светлогорск, Калининградская область, Россия. 2001 m. rugsėjo 17-21 d.

National scientific conferences:

1. **Steponėnas A.** Distribution of spined loach (*Cobitis taenia*) in Lithuanian rivers. Xth Conference of Lithuanian Young Hydroecologists “Diversity, Functioning and Change of Water Ecosystems”. Institute of Botany, Institute of Ecology of Vilnius University, Faculty of Natural Sciences of Vilnius University. Molėtai, Lithuania. in 2007 September 28-29.
2. **Steponėnas A.** Population status of loaches *Cobitis taenia* and *Sabanejewia aurata* (Pisces, Cobitidae) in Lithuanian waters. VIIIth Conference of Lithuanian Young Hydroecologists “Diversity, Functioning and Change of Water Ecosystems”. Vilnius University Faculty of Natural Sciences. Vilnius, Lithuania. in 2005 October 15-16.
3. **Steponėnas A.** Golden loach (*Sabanejewia aurata* (De Filippi, 1865)) is a new species of freshwater fish in Lithuania. VIth Conference of Lithuanian Young Hydroecologists “Diversity, Functioning and Management of Water Ecosystems”. Vilnius University Faculty of Natural Sciences. Vilnius, Lithuania. in 2003 October 4-5.
4. **Steponėnas A.** Dynamics of the structure and condition of fish communities in various types of Lithuanian lakes in 1994-1999. 3rd Conference of Lithuanian Young Hydroecologists “Water Ecosystem Research in Lithuania”. Klaipėda University, Faculty of Natural and Mathematical Sciences. Klaipėda, Lithuania. in 2000 November 20-22.
5. **Steponėnas A.** Perch and roach production parameters in Lithuanian lakes of various trophic levels. Conference of young scientists “Animal ecology-2”. Institute of Ecology. Vilnius, Lithuania. in 2000 May 25-26.
6. **Steponėnas A.** The structure and condition of fish communities in various types of Lithuanian lakes. 2nd Conference of Lithuanian Young Hydroecologists “Water Ecosystem Research in Lithuania”. Vilnius University Faculty of Natural Sciences. Vilnius, Lithuania. in 1999 October 21-23.
7. **Steponėnas A.** The structure and condition of fish communities of various trophic levels in Lithuanian lakes. Conference of young scientists “Animal Ecology”. Institute of Ecology. Vilnius, Lithuania. in 1999 May 27.

OTHERS

Expert activities in various researches and trainings:

1. 1998-2022 – Ichthyological expertises of dozens of various lakes and ponds in Lithuania;
2. 2019-2021 – Assessment of fish resources in state inland water bodies 2019-2021 m.;
3. 2019 – Implementation of the 2019 monitoring plan for fish and lamprey species of European Community importance, except for salmon, for the protection of which it is necessary to establish territories;
4. 2019 – Research and evaluation of the state of the population of migratory fish in the rivers of Eastern Lithuania in 2019;
5. 2018 – Research and evaluation of the state of the population of migratory fish in the rivers of Eastern Lithuania in 2019;
6. 2017-2018 – Assessment of the impact of climate change and other abiotic environmental factors on aquatic ecosystems;
7. 2017-2018 – Preparation of fish stock assessment, fish stock use and restoration plans in state inland water bodies in 2017-2021;
8. 2016-2017 – Research and assessment of the state of the population of migratory fish in Lithuanian rivers in 2017;
9. 2016 – Collecting of fish samples in Lithuanian lakes and rivers for chemical analysis;
10. 2015-2016 – Assessment of fish resources in state inland water bodies, preparation of fish resource use and recovery plans for 2016-2020;
11. 2011-2014 – Research on the condition of migratory fish in Lithuanian rivers;

12. 2011-2014 – Ichthyofauna research and assessment of the ecological condition according to fish indicators in Lithuanian rivers and lakes;
13. 2009-2011 – Preparation of conservation action plans for 23 protected and rare species;
14. 2010 – Research of ichthyofauna in the rivers and lakes of eastern Lithuania;
15. 2010 – Investigations of the status of migratory fish in the rivers of Eastern Lithuania;
16. 2008-2009 – Research on the state of commercial fish populations;
17. 2008-2009 – Assessment of the state of fish and lamprey species of European Community importance, for the protection of which it is necessary to establish territories;
18. 2008 – Study of the impact of beavers and beaver dams in salmon-type rivers;
19. 2008-2009 – Research of ichthyofauna in the rivers and lakes of eastern Lithuania and creation of a preliminary method for assessing the ecological condition of lakes based on fish indicators;
20. 2008-2009 – Monitoring of the condition of migratory fish in the rivers of Eastern Lithuania;
21. 2007 – Study of the state of the Venta and Virvytė rivers under the conditions of a changed hydrological regime;
22. 2007 – Monitoring of ichthyofauna in Lithuanian rivers, lakes and selection of fish indicators to assess the ecological condition of lakes;
23. 2007 – Organization of training for II and III level students and increasing the scientific competence of researchers by creating prerequisites for the implementation of EU legislation related to the study and monitoring of global change and anthropogenic impact on ecosystems;
24. 2005-2007 – Monitoring of the condition of migratory fish;
25. 2006 – Research of ichthyofauna in the rivers and lakes of eastern Lithuania and preparation of criteria for determining the ecological condition of rivers based on fish indicators;
26. 2005 – Monitoring of rivers;
27. 2005-2009 – Monitoring of commercial fish population status and resource use;
28. 2005 – Assessment of the impact of fishing on the structure of river communities and populations;
29. 2004 – Survey research of fish diversity in the water bodies of the Dzūkija National Park;
30. 2003 – Ichthyological researches in Balsis, Gulbinas, Mažasis Gulbinas, Alsas, Raistelis and Baraukos Akis Lakes and in Riešė and Vilnelė streams and recommendations for ichthyofauna protection and stocking;
31. 1998-2010 – Monitoring of salmon and sea trout juveniles and spawning grounds;
32. 1999, 2001-2004 – Monitoring of the condition of fish communities and populations in the studied water bodies;
33. 1999 – Assessment of rare and endangered fishes of the Vokė River;
34. 1999 – Assessment of valuable and endangered fish resources and their condition in the Nemunas middle river and the Neris River;
35. 1998-1999 – Status and monitoring of vimba bream resources in the middle of Nemunas River;
36. 1998 – Monitoring of the status and dynamics of fish population parameters and the accumulation of toxic substances and radionuclides in fish;
37. 1997 – Assessment of the state of Lithuanian ichthyological reserves;
38. 1997 – Fish resources and condition in the Neris River;

Delivered lectures:

1. Kesminas V., Steponėnas A. 2007. Monitoring of fish communities and populations: salmonids, commercial fish and Natura 2000 fish species. Lecture from the project „Organization of training for II and III level students and increasing the scientific competence of researchers by creating prerequisites for the implementation of EU legislation related to the study and monitoring of global change and anthropogenic impact on ecosystems“.
2. Steponėnas A. 2005. Biology, ecology and features of spawning grounds of salmonids. Lecture for the students of the Main School of the Upinkai ward of the Jonava district from international project supported by the UNDP WEF SPP „Restoration and protection of salmon

stocks in the Neris-Vilnia and Šventoji-Širvinta River basins, with the participation of local communities“.

3. Steponėnas A. 2005. Biology of salmon fish and restoration of their population in Širvinta River. Lecture for the community of Upninkai ward of Jonava district from international project supported by the UNDP WEF SPP „Restoration and protection of salmon stocks in the Neris-Vilnia and Šventoji-Širvinta River basins, with the participation of local communities“.
4. Steponėnas A. 2003-2005. Ecology of salmonids and their spawning grounds. A lecture in an international project for students of the Vilnius City Naturalists' Society.
5. Steponėnas A. 2003. Balsis, Gulbinas, Mažasis Gulbinas, Alsas, Raistelis and Baraukos Akis Lakes and Riešės and Vilnelė streams. Lecture at the Verkiai and Pavilniai Regional Parks Directorate.

Science popularization articles:

1. Steponėnas A. 2003. A new species of freshwater fish in Lithuania – golden loach (*Sabanejewia aurata*). Fishing. 2: P. 61.