

# Eduardas Budrys

## CONTACT INFORMATION

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Address Akademijos Str. 2, Vilnius LT-08412, Lithuania  
Tel. no.: +370 5 272 92 64  
E-mail: [eduardas.budrys@gamtc.lt](mailto:eduardas.budrys@gamtc.lt)  
[orcid.org/0000-0002-2632-0040](https://orcid.org/0000-0002-2632-0040)  
[www.researchgate.net/profile/Eduardas-Budrys](http://www.researchgate.net/profile/Eduardas-Budrys)  
[scholar.google.com/citations?user=IFK1CK8AAAAJ&hl=en](https://scholar.google.com/citations?user=IFK1CK8AAAAJ&hl=en)

## EDUCATION AND ACADEMIC DEGREE

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1985 – 1987 Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia  
Biology candidate, specialization – entomology.  
PhD thesis: "Digger wasps of the subfamily Pemphredoninae (Hymenoptera, Sphecidae) of the USSR fauna", supervisor –Dr. habil. V. I. Tobias. Defence 13-01-1989, degree awarded: 03-05-1989. Nostrified to PhD in 1993.  
Research area: zoology – 05B, N014; research branches: entomology – B250, animal taxonomy – B320.

1979 – 1984 Saint Petersburg State University, (Russia)  
Biology – Zoology / Bachelor – Master.  
MSc thesis: "Review of the digger wasps of the tribe Psenini (Hymenoptera, Sphecidae) of the USSR fauna". The study accomplished in the Faculty of Biology and Pedology, Entomology Dept. Research topic: insect taxonomy.

## PROFESSIONAL EXPERIENCE

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01 2023 – now **Chief researcher**  
Institute of Ecology, Nature Research Centre, Vilnius

09 2002 – 06 2022 **Assistant professor** (1/2 position)  
Life Sciences Center, Institute of Bioscience (formerly Faculty of Natural Sciences), Vilnius University.

09 2001 – 06 2002 **Lecturer** (1/2 position)  
Faculty of Natural Sciences, Vilnius University.

01 2001 – 12 2002 **Project consultant** (1/2 position)  
Science and Technology Park, Vilnius

03 1997 – 02 2003 **Deputy director for science**  
Institute of Ecology, Nature Research Centre, Vilnius.

09 1993 – 06 2001 **Senior assistant** (1/2 position)  
Faculty of Natural Sciences, Vilnius University.

05 1992 – 12 2022 **Senior researcher**  
Institute of Ecology of Lithuanian Academy of Sciences; since 2003 Institute of Ecology of Vilnius University;  
since 2010 Institute of Ecology, Nature Research Centre, Vilnius

07 1989 – 04 1992 **Research fellow**  
Ecology of Lithuanian Academy of Sciences, Vilnius

01 1988 – 06 1989 **Junior research fellow**  
Institute of Zoology and Parasitology, LSSR Academy of Sciences, Vilnius

01 1985 – 12 1987 **PhD student**  
Institute of Zoology, Russian Academy of Sciences, Saint Petersburg, Russia

08 1984– 12 1984 **Probationer-researcher**

Institute of Zoology and Parasitology, LSSR Academy of Sciences, Vilnius

## RESEARCH INTERESTS

My research topics:

- evolutionary ecology, taxonomy, genetic diversity, reconstruction of phylogeny using molecular data, and speciation in the order Hymenoptera;
- the applicability of neutral markers versus the markers under selection pressure for the reconstruction of speciation patterns in solitary wasps, with particular focus on the sting venom protein-coding genes;
- trophic network and niches of the trap-nesting taxocene of bees, predatory wasps and their natural enemies, their adaptation to the changes of ecosystems caused by the climate change and anthropogenic pressures;
- ecosystem services of pollination and pest control, provided by Hymenoptera;
- fauna of Hymenoptera and Orthoptera in Lithuania;
- genetic diversity in the surviving local dark European honey bee population in Lithuania.

## PUBLICATIONS

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

1. Olszewski P., Bogusch P., Hebda G., **Budrys E.** 2022. Nesting behaviour and description of mature larva of *Lindenius albilabris* (Fabricius, 1793) (Hymenoptera: Crabronidae). *The European Zoological Journal* 89(1): 1040-1048. DOI: (<https://doi.org/10.1080/24750263.2022.2105962>)
2. Budrienė A., **Budrys E.**, Orlovskytė S. 2021. A bilateral gynandromorph of *Discoelius dufourii* (Hymenoptera, Vespidae, Zethinae): morphology and mating behaviour. *Journal of Hymenoptera Research* 81: 23–41. (<https://doi.org/10.3897/jhr.81.61550>)
3. **Budrys E.**, Budrienė A., Orlovskytė S., Soon V. 2019. Two new species of *Diodontus* (Hymenoptera: Pemphredonidae) from Western Mediterranean and their phylogenetic relationships. *The Canadian Entomologist* 151(5): 558–583. (DOI: <https://doi.org/10.4039/tce.2019.46>)
4. Skrodenytė-Arbačiauskienė V., Budrienė A., Blažytė-Čereškienė L., **Budrys E.** 2019. Illumina 16S Metagenomic Sequencing for Comparison of indigenous gut microbiota biodiversity in cavity-nesting solitary bee and wasp. *Journal of Apicultural Research* 58(4): 587-590. (DOI: <https://doi.org/10.1080/00218839.2019.1614734>).
5. Väänänen S., Paukkunen J., Soon V., **Budrys E.** 2018. Occurrence and biology of *Pseudogonalos hahnii* (Spinola, 1840) (Hymenoptera: Trigonalidae) in Fennoscandia and the Baltic states. *Entomologica Fennica* 29: 86–96. (<https://journal.fi/entomolfennica/article/view/71220/33017>)
6. Orlovskytė S., **Budrys E.**, Budrienė A., Radzevičiūtė R. & Soon V. 2016. Sibling species in the *Chrysis ignita* complex: molecular, morphological and trophic differentiation of Baltic species, with a description of two new cryptic species (Hymenoptera: Chrysididae). *Systematic Entomology* 41: 771–793. (DOI: <https://doi.org/10.1111/syen.12190>)
7. Turčinavičienė J., Radzevičiūtė R., Budrienė A., **Budrys E.** 2016. Species identification and genetic differentiation of European cavity-nesting wasps (Hymenoptera: Vespidae, Pompilidae, Crabronidae) inferred from DNA barcoding data. *Mitochondrial DNA* 27 (1): 476–482. (DOI: <https://doi.org/10.3109/19401736.2014.905827>)
8. Soon V., **Budrys E.**, Orlovskytė S., Paukkunen J., Ødegaard F., Ljubomirov T., Saarma U. 2014. Testing the validity of Northern European species in the *Chrysis ignita* species group

- (Hymenoptera: Chrysididae) with DNA barcoding. *Zootaxa* 3786(3): 301–330. (DOI: <https://doi.org/10.11646/zootaxa.3786.3.4>)
9. Budrienė A., **Budrys E.**, Nevronytė Ž. 2013. Sexual size dimorphism in the ontogeny of the solitary predatory wasp *Symmorphus allobrogus* (Hymenoptera: Vespidae). *Comptes Rendus Biologies* 336: 57–64. (DOI: <https://doi.org/10.1016/j.crvi.2013.03.001>)
  10. **Budrys E.**, Budriene A. 2012. Adaptability of prey handling effort in relation to prey size in predatory wasps (Hymenoptera: Eumeninae). *Annales Zoologici Fennici* 49 (1–2): 58–68. (DOI: <https://doi.org/10.5735/086.049.0106>)
  11. Hammen V.C., Biesmeijer J.C., Bommarco R., **Budrys E.**, Christensen T.R., Fronzek S., Grabaum R., Jaksic P., Klotz S., Kramarz P., Kroel-Dulay G., Kühn I., Mirtl M., Moora M., Petanidou T., Potts S.G., Rortais A., Schulze C.H., Steffan-Dewenter I., Stout J., Szentgyörgyi H., Vighi M., Vilà M., Vujic A., Wolf T., Zavala G., Settele J., Kunin W.E. 2010. Establishment of a cross-European field site network in the ALARM project for assessing large-scale changes in biodiversity. *Environmental Monitoring & Assessment* 164 (1–4): 337–348. (DOI <https://doi.org/10.1007/s10661-009-0896-7>)
  12. Schmeller D. S., Henry P.-Y., Julliard R., Gruber B., Clobert J., Dziock F., Lengyel S., Nowicki P., Déri E., **Budrys E.**, Kull T., Tali K., Bauch B., Settele J., van Swaay C., Kobler A., Babij V., Papastergiadou E., Henle K. 2009. Advantages of volunteer-based biodiversity monitoring in Europe. *Conservation Biology* 23 (2): 307–316. (DOI: <https://doi.org/10.1111/j.1523-1739.2008.01125.x>)
  13. Schmeller D. S., Bauch B., Gruber B., Juskaitis R., **Budrys E.**, Babij V., Lanno K., Sammul M., Varga Z., Henle K. 2008. Determination of conservation priorities in regions with multiple political jurisdictions. *Biodiversity and Conservation* 17 (14): 3623–3630. (DOI: <https://doi.org/10.1007/s10531-008-9446-9>)
  14. Schmeller D.S., Gruber B., Bauch B., Lanno K., **Budrys E.**, Babij V., Juškaitis R., Sammul M., Varga Z., Henle K. 2008. Determination of national conservation responsibilities for species conservation in regions with multiple political jurisdictions. *Biodiversity and Conservation* 17 (14): 3607–3622. (DOI: <https://doi.org/10.1007/s10531-008-9439-8>)
  15. Schmeller D. S., Gruber B., **Budrys E.**, Framsted E., Lengyel S., Henle K. 2008. National responsibilities in European species conservation: a methodological review. *Conservation Biology* 22 (3): 593–601. (DOI: <https://doi.org/10.1111/j.1523-1739.2008.00961.x>)
  16. Budriene A., **Budrys E.** 2005 (2004). Hunting behaviour of predatory wasps (Hymenoptera: Vespidae: Eumeninae): is the distribution of stinging effort phylogenetically inherited or dependent on the prey type? *Annales de la Société Entomologique de France* 40 (3–4): 259–268. (DOI: <https://doi.org/10.1080/00379271.2004.10697424>)
  17. **Budrys E.** 2001. *Mimumesa littoralis* (Bondroit), *M. oresterus* (van Lith), and *M. unicolor* (Vander Linden): notes on similarity, synonymy, and identification (Hymenoptera, Sphecidae). *Insect Systematics & Evolution* 32 (2): 177–190. (DOI: <https://doi.org/10.1163/187631201X00137>)

**Scientific articles published in conference proceedings, indexed in „Clarivate Analytics Web of Science“ database:**

1. **Budrys E.** 1999. The Biodiversity database – experience of applying in Lithuania. In K. Elberg (editor-in-chief). *Proceedings of the XXIV Nordic Congress of Entomology*. Tartu, 45–54.

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

1. Jong Y., Kouwenberg J., Boumans L., Hussey C., Hyam R., Nicolson N., Kirk P., Paton A., Michel E., Guiry M.D., Boegh P.S., Pedersen H.Æ., Enghoff H., Raab-Straube E., Güntsch A., Geoffroy M., Müller A., Kohlbecker A., Berendsohn W., Appeltans W., Arvanitidis C., Vanhoorne B., Declerck J., Vandepitte L., Hernandez F., Nash R., Costello M.J., Ouvrard D., Bezard-Falgas P., Bourgoïn T., Wetzell F.T., Glöckler F., Korb G., Ring C., Hagedorn G., Häuser C., Aktaç N., Asan A., Ardelean A., Vieira Borges P.A., Dhora D., Khachatryan H., Malicky M., Ibrahimov S., Tuzikov A., De Wever A., Moncheva S., Spassov N., Chobot K., Popov A., Boršić I., Sfenthourakis S., Kõljalg U., Uotila P., Olivier G., Dauvin J.-C., Tarkhnishvili D., Chaladze G., Tuerkay M., Legakis A., Peregovits L., Gudmundsson G., Ólafsson E., Lysaght L., Galil B.S., Raimondo F.M., Domina G., Stoch F., Minelli A., Spungis V., **Budrys E.**, Olenin S., Turpel A., Walisch T., Krpach V., Gambin M.T., Ungureanu L., Karaman G., Kleukers R.M.J.C., Stur E., Aagaard K., Valland N., Moen T.L., Bogdanowicz W., Tykarski P., Węśławski J.M., Kędra M., Frias Martins A.M., Domingos Abreu A., Silva R., Medvedev S., Ryss A., Šimić S., Marhold K., Stloukal E., Tome D., Ramos M.A., Valdés B., Pina F., Kullander S., Telenius A., Gonseth Y., Tschudin P., Sergejeva O., Vladymyrov V., Rizun V.B., Raper C., Lear D., Stoev P., Penev L., Rubio A.C., Backeljau T., Saarenmaa H., Ulenberg S. 2015. PESI – a taxonomic backbone for Europe. *Biodiversity Data Journal* 3: 1–51 (doi: <https://doi.org/10.3897/BDJ.3.e5848>)
2. **Будрис Э. П.**, Казенас В. Л. 1992. Новые виды роющих ос рода *Diodontus* (Hymenoptera, Sphecidae). *Зоологический журнал* 71 (8): 24–31.

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

1. Hammen V.C., Biesmeijer J.C., Bommarco R., **Budrys E.**, Christensen T.R., Fronzek S., Grabaum R., Jaksic P., Klotz S., Kramarz P., Kröel-Dulay G., Kühn I., Mirtl M., Moora M., Petanidou T., Pino J., Potts S.G., Rortais A., Schulze C.H., Steffan-Dewenter I., Stout J., Szentgyörgyi H., Vighi M., Vujic A., Westphal C., Wolf T., Zavala G., Zobel M., Settele J., Kunin W.E. 2010. The ALARM Field Site Network, FSN. In: Settele J., Penev L., Georgiev T., Grabaum R., Grobelnik V., Hammen V., Klotz S., Kotarac M., Kühn I. (eds). *Atlas of Biodiversity Risk*. Sofia & Moscow: Pensoft, pp. 42–45.
2. Dvořák L., **Budrys E.**, Cetkovic A. & Springate S. 2010. Assemblages of Social Wasps in Forests and Open Land Across Europe – an ALARM-FSN Study. In: Settele J., Penev L., Georgiev T., Grabaum R., Grobelnik V., Hammen V., Klotz S., Kotarac M., Kühn I. (eds) *Atlas of Biodiversity Risk*. Sofia & Moscow: Pensoft, pp. 50–51.
3. Auger-Rozenberg M.-A., **Budrys E.**, Petanidou T., Glavendekic M., Bommarco R., Bonzini S., Kröel-Dulay G., Andreu Ureta J., Moora M., Potts S.G., Rortais A., Stout J., Torres I., Westphal C., Szentgyörgyi H., Desbois S., Lorme P.; Raimbault J.-P., Pineau P., Roques A. 2010. The ALARM Field Site Network, an outstanding tool for the survey of invasive insects infesting seeds of wild roses in Europe. In: Settele J., Penev L., Georgiev T., Grabaum R., Grobelnik V., Hammen V., Klotz S., Kotarac M., Kühn I. (eds) *Atlas of Biodiversity Risk*. Sofia & Moscow: Pensoft, pp. 156–157.
4. **Budrys E.**, Andreu Ureta J., Briliūtė A., Cetkovic A., Heinrich S., Kroel-Dulay G., Moora M., Potts S.G., Rortais A., Sjödin E., Szentgyörgyi H., Torres I., Vighi M., Westphal C., Budrienė A. 2010. Cavity-nesting Hymenoptera across Europe: a study in ALARM project field site network sites using small trap-nests on trees and buildings. In: J. Settele et al. (eds) *Atlas of Biodiversity Risk*. Sofia & Moscow: Pensoft, pp. 172–173.
5. Антропов А.В., Белокобыльский С.А., **Будрис Э.П.**, Вшивкова Т.С., Горбатовский В.В., Казенас В.Л., Козлов М.А., Купьянская А.Н., Курзенко Н.В., Лелей А.С., Макаркин В.Н., Немков П.Г., Осычнюк А.З., Плутенко А.В., Пономаренко Н.Г., Романькова Т. Г. 1995. *Определитель насекомых Дальнего Востока России в шести томах. Том IV. Сетчатокрылообразные, скорпионницы, перепончатокрылые*. "Наука", Санкт-

Перепыгр, 606 p. [Nemkov P.G., Kazenas V.L., Budrys E., Antropov A.V. 1995. Sphecidae. In: Ler P.A. (ed) *Key to the insects of Russian Far East. Vol. IV: Neuroptera, Mecoptera, Hymenoptera. Part 1.* Sanct Petersburg, “Nauka”; in Russian]

**Reviewed scientific articles, published in Lithuania:**

1. Lazauskaitė M., Budrienė A., **Budrys E.**, Skujienė G. 2022. Records of two southern bee species, *Anthidium oblongatum* (Illiger, 1806) and *Xylocopa valga* (Gerstaecker, 1872) (Hymenoptera: Megachilidae, Apidae), in Lithuania. *Bulletin of the Lithuanian Entomological Society* 6 (34): 106–110.
2. Orlovskytė S., **Budrys E.**, Budrienė A. 2021. Records of spider wasps of the subfamily Pompilinae (Hymenoptera: Pompilidae) in Lithuania. *Bulletin of the Lithuanian Entomological Society* 5 (33): 100–110.
3. Lazauskaitė M., **Budrys E.**, Ferenc R., Steiblys G. 2021. First records of *Andrena fulva* (Müller, 1766) and *Megachile rotundata* (Fabricius, 1787) in Lithuania (Hymenoptera: Andrenidae, Megachilidae). *Bulletin of the Lithuanian Entomological Society* 5 (33): 96–99.
4. Orlovskytė S., **Budrys E.** 2019. First records of *Chrysis splendidula* Rossi, 1790 (Hymenoptera: Chrysididae), and other corrections of the cuckoo wasp check-list of Lithuanian fauna. *Bulletin of the Lithuanian Entomological Society* 3 (31): 124–129.
5. **Budrys E.**, Orlovskytė S., Petrašiūnas A., Budrienė A. 2019. First records of *Mimumesa wuestneii* (Faester, 1951) and other rare apoid wasps in Lithuania (Hymenoptera: Psenidae, Crabronidae, Bembicidae). *Bulletin of the Lithuanian Entomological Society* 3 (31): 118–123.
6. **Budrys E.**, Martinaitis K., Valinčienė K., Ferenc R. 2019. First records of *Aiolopus thalassinus* (Fabricius, 1781) and *Euthystira brachyptera* (Ocskay, 1826) (Orthoptera: Acrididae) in Lithuania. *Bulletin of the Lithuanian Entomological Society* 3 (31): 8–10.
7. Orlovskytė S., **Budrys E.**, Budrienė A. 2018. Check-list of gasteruptiid wasps (Hymenoptera: Gasteruptiidae) of Lithuania, with new data on trophic interactions. *Bulletin of the Lithuanian Entomological Society* 2 (30): 119–126.
8. **Budrys E.**, Orlovskytė S. 2017. Unexpected record of *Diodontus brevilabris* (Hymenoptera: Crabronidae) in Lithuania. *Bulletin of the Lithuanian Entomological Society* 1 (29): 121–123.
9. **Budrys E.**, Budrienė A. 2017. Occurrence and conservation status of *Scolia* wasps (Hymenoptera: Scoliidae) in Lithuania. *Bulletin of the Lithuanian Entomological Society* 1 (29): 117–120.
10. Paukkunen J., Biström O., **Budrys E.**, Helve E., Lagercrantz C.-G., Mannerkoski I., Orlovskytė S., Tähtinen M. 2016. Entomological excursion to the Curonian spit in August 2016. *New and rare for Lithuania insect species* 28: 97–120.
11. **Budrys E.**, Orlovskytė S. 2016. First record of alien mud dauber wasp *Sceliphron curvatum* in Lithuania (Hymenoptera: Sphecidae). *New and rare for Lithuania insect species* 28: 94–96.
12. Orlovskytė S., **Budrys E.** 2015. First record of *Symmorphus fuscipes* in Lithuania (Hymenoptera: Vespidae). *New and rare for Lithuania insect species* 27: 122–123.
13. **Budrys E.**, Našlėnienė A., Winkler C. 2015. First records of *Conocephalus fuscus* and *Omocestus rufipes* (Orthoptera: Conocephalidae, Acrididae) in Lithuania. *New and rare for Lithuania insect species* 27: 12–14.
14. **Budrys E.**, Bačianskas V., Budrienė A., Ferenc R., Gliwa B., Ūsaitis T. 2015. Recent expansion of *Phaneroptera falcata* in Lithuania (Orthoptera: Phaneropteridae). *New and rare for Lithuania insect species* 27: 7–11.
15. **Budrys E.** 2014. *Melitturga clavicornis* (Latreille, 1806) still survives in Lithuania (Hymenoptera: Apidae). *New and rare for Lithuania insect species* 26: 84–85.
16. **Budrys E.**, Budrienė A., Orlovskytė S. 2014. Records of spider wasps of the subfamily Pepsinae (Hymenoptera: Pompilidae) in Lithuania. *New and rare for Lithuania insect species* 26: 73–83.
17. **Budrys E.**, Budrienė A., Gliwa B. 2013. Distribution of paper wasps (*Polistes* Latreille, 1802) in Lithuania (Hymenoptera: Vespidae). *New and rare for Lithuania insect species* 25: 79–82.

18. **Budrys E.**, Budrienė A. 2012. New records of three rare Orthoptera species from Lithuania. *New and rare for Lithuania insect species* 24: 49–51.
19. Radzevičiūtė R., Budrienė A., **Budrys E.**, Orlovskytė S., Turčinavičienė J. 2012. A panel of microsatellite markers developed for solitary trap-nesting wasp *Ancistrocerus trifasciatus* (Müller, 1776) by cross-species amplification. *Ekologija* 58 (1): 1–7.
20. Orlovskytė S., Budrienė A., **Budrys E.** 2010. Check-list of cuckoo-wasps (Hymenoptera: Chrysididae) of Lithuania. *New and rare for Lithuania insect species* 22: 141–156.
21. **Budrys E.** 2010. Ten Crabroninae wasp species new to the Lithuanian fauna (Hymenoptera: Crabronidae). *New and rare for Lithuania insect species* 22: 137–140.
22. **Budrys E.**, Budrienė A., Nevronytė Ž. 2010. Dependence of brood cell length on nesting cavity width in xylicolous solitary wasps *Ancistrocerus* and *Symmorphus* (Hymenoptera: Vespidae). *Acta Zoologica Lituanica* 20 (1): 68–76.
23. **Budrys E.**, Budrienė A., Nevronytė Ž. 2009. Check-list of Eumeninae wasp species (Hymenoptera: Vespidae) collected in Lithuania using trap-nests. *New and rare for Lithuania insect species* 21: 140–149.
24. **Budrys E.** 2009. Records of four bee species new to the fauna of Lithuania (Hymenoptera: Apidae). *New and rare for Lithuania insect species* 21: 138–139.
25. **Budrys E.**, Bačianskas V., Budrienė A., Dapkus D., Švitra G., Ūsaitis T. 2008. Distribution of four species of Oedipodinae grasshoppers in Lithuania (Orthoptera: Acrididae). *New and rare for Lithuania insect species* 20: 14–19.
26. **Budrys E.** 2008 (2007). New records of *Scolia hirta* in Lithuania (Hymenoptera: Scoliidae). *New and rare for Lithuania insect species* 19: 67–68.
27. **Budrys E.** 2008 (2007). Records of three new for the Lithuanian fauna and four rare wasp species (Hymenoptera: Apoidea: Ampulicidae & Crabronidae). *New and rare for Lithuania insect species* 19: 63–66.
28. Briliūtė A., **Budrys E.** 2008 (2007). New record of damselfly *Lestes barbarus* in the South of Lithuania (Odonata: Lestidae). *New and rare for Lithuania insect species* 19: 10–12.
29. **Budrys E.**, Pakalniškis S. 2007. Orthoptera of Lithuania. *Acta Zoologica Lituanica* 17 (2): 105–115.
30. Budrienė A., **Budrys E.** 2007. Comparison of mating of ten Eumeninae wasp species with a brief review of sexual selection theories: a framework for future research. *Acta Zoologica Lituanica* 17 (2): 87–104.
31. **Budrys E.** 2006. Five new for Lithuanian fauna crabronid wasp species (Hymenoptera: Apoidea: Crabronidae). *New and rare for Lithuania insect species* 17: 80–82.
32. **Budrys E.** 2005. Three new for Lithuania crabronid wasp species (Hymenoptera: Apoidea: Crabronidae). *New and rare for Lithuania insect species* 16: 51–52.
33. Budrienė A., **Budrys E.** 2005. Effect of prey size and number of prey specimens on stinging effort in predatory wasps. *Acta Zoologica Lituanica* 15 (4): 330–340.
34. **Budrys E.**, Budrienė A., Pakalniškis S. 2004. Population size assessment using mark-release-recapture of 12 species of Orthoptera, Diptera and Hymenoptera: a comparison of methods. *Latvijas Entomologs* 41: 32–43.
35. Budrienė A., **Budrys E.**, Nevronytė Ž. 2004. Solitary Hymenoptera Aculeata inhabiting trap-nests in Lithuania: nesting cavity choice and niche overlap. *Latvijas Entomologs* 41: 19–31.
36. Budrienė A., **Budrys E.** 2004. Applicability of the 'locomotor ganglia' hypothesis to the stinging behaviour of *Symmorphus allobrogus*, a predatory wasp hunting chrysomelid larvae. *Acta Zoologica Lituanica* 14 (4): 23–33.
37. Budrienė A., **Budrys E.** 2004. Behavioural elements influencing mating success of *Symmorphus allobrogus* (Hymenoptera: Eumeninae). *Acta Zoologica Lituanica* 14 (2): 39–47.
38. **Budrys E.** 2001. On the origin of nest building behaviour in digger wasps (Hymenoptera, Apoidea). *Norwegian Journal of Entomology* 48: 45–49.
39. **Budrys E.** 2001. Five new for Lithuanian fauna species of Sphecidae and Crabronidae (Hymenoptera, Apoidea). *Acta Zoologica Lituanica* 11 (4): 388–390.

40. **Budrys E.** 2000. Notes on the synonymy and distribution of Asiatic *Psen* Latr. and *Psenulus* Kohl (Hymenoptera, Sphecidae, Psenini). *Acta Zoologica Lituanica* 10 (1): 63–69.
41. **Budrys E.** 1998. Two 'rare' wasps, *Diodontus brevilabris* and *Polemistus abnormis* (Hymenoptera, Sphecidae), from south-west Russia. *Acta Zoologica Lituanica* 8 (3): 81–85.
42. Balčiauskas L., Auglys J., Balčiauskienė L., Balvočiūtė J., **Budrys E.**, Juškaitis R., Kulbis A., Makavičius D., Monsevičius V., Pakalniškis S., Pauža D.H., Paužienė N., Stukonis V., Stratford J., Trakimas G., Ulevičius A. 1997. Biodiversity evaluation at the local level: methodological and territorial aspects. *Acta Zoologica Lituanica* 7 (Biodiversity): 50–108.
43. Balčiauskas L., **Budrys E.** 1997. The Biodiversity database in Lithuania – distributional and environmental applications. *Acta Zoologica Lituanica* 7 (Biodiversity): 3–10.
44. **Budrys E.** 1996. Morphometric similarity and summary of measurements of Palearctic species of the genus *Diodontus* Curtis (Hymenoptera, Sphecidae). In V. Jonaitis (ed.). *Lietuvos entomologų darbai (Lietuvos entomologų draugijos 30-mečiui)*. Lietuvos Entomologų Draugija, Ekologijos institutas, Vilnius, 35–47.
45. **Budrys E.** 1993. Digger wasps of the subfamily Pemphredoninae (Hymenoptera, Sphecidae) from the Baltic and Taimyr Amber. *Acta entomologica Lituanica* 11: 34–56.
46. **Budrys E.** 1992. Digger wasps (Hymenoptera, Sphecidae) of Lithuania: check-list of species. *New and rare for Lithuania insect species. Records and descriptions of 1992*: 20–39.

## **PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS**

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- 2022 "Distribution of nuclear DNA markers specific to the families of native dark honey bee used for selection". National Payment Agency at the Ministry of Agriculture of Lithuania, Applied scientific research program for beekeeping, **project leader** (budget 15519€).
- 2021 "Identification of nuclear intron haplotypes specific to the Lithuanian native dark honey bee population". National Payment Agency at the Ministry of Agriculture of Lithuania, Applied scientific research program for beekeeping, **project leader** (budget 15672€).
- 2020 "Possibilities of assessment of hybridization between the of native dark honey bees and alien bee subspecies using intron sequences". National Payment Agency at the Ministry of Agriculture of Lithuania, Applied scientific research program for beekeeping, **project leader** (budget 10263€).
- 2020–2022 "Genes under natural selection pressure: the evolutionary rate in speciation and the applicability for identification of cryptic species". Research Council of Lithuania, **project leader** (budget 150000€).
- 2017–2019 "Assessment of the survival likelihood of gene pool of the native dark honey bee *Apis mellifera mellifera* in Lithuania". Ministry of Agriculture of Lithuania, **researcher** (budget 80000€).
- 2014–2016 "Trophic networks and ecosystem functions of Hymenoptera in forest and in clear cut areas". Research Council of Lithuania, **researcher** (budget 84019€).
- 2011–2012 "Effect of species adaptation to anthropogenic environments on genetic diversity of its populations". Research Council of Lithuania, **project leader** (budget 50423€).
- 2010–2011 "Effect of landscape fragmentation on genetic diversity of pollinating and predatory Hymenoptera". Research Council of Lithuania, **project leader** (budget 51813€).
- 2009–2014 "Securing the Conservation of biodiversity across Administrative Levels and spatial, temporal, and Ecological Scales" (SCALES; <http://www.scales-project.net>, [http://cordis.europa.eu/project/rcn/91260\\_en.html](http://cordis.europa.eu/project/rcn/91260_en.html)). EC Framework Programme 7, **researcher** (budget 77130€).
- 2008–2011 "Pan-European Species directories Infrastructure" (PESI; <http://www.eu-nomen.eu/portal>, [http://cordis.europa.eu/project/rcn/86662\\_en.html](http://cordis.europa.eu/project/rcn/86662_en.html)). EC Framework

- Programme 6, **leader** of working group of the Institute of Ecology of Vilnius University (budget 2996€).
- 2006–2010 "Developing the EU Biodiversity Research Strategy" (Biostrat, [http://cordis.europa.eu/project/rcn/81275\\_en.html](http://cordis.europa.eu/project/rcn/81275_en.html)). EC Framework Programme 6, **leader** of working group of the Institute of Ecology of Vilnius University (budget 30100€).
- 2004–2008 "EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest" (EUMon, <http://eumon.ckff.si/index1.php>, [http://cordis.europa.eu/project/rcn/73860\\_en.html](http://cordis.europa.eu/project/rcn/73860_en.html)). EC Framework Programme 6, **leader** of working group of the Institute of Ecology of Vilnius University (budget 82000€).
- 2003–2005 "European platform for biodiversity (Bioplatform, <http://www.cgmdesign.net/BioPlatform/>). EC Framework Programme 5, **leader** of working group of the Institute of Ecology of Vilnius University (budget 25200€).
- 2003–2004 "Fauna Europaea – extension to the member states" (<https://fauna-eu.org/about>). EC Framework Programme 5, **leader** of working group of the Institute of Ecology of Vilnius University (budget 23900€).
- 2002 "MRR assessment of insect population abundance". Lithuanian State Science and Studies Foundation, **project leader** (budget 4779€).

## **INTERNSHIP AND TRAINING**

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- 2001 11–2002 02 Detached National Expert at the EC, Directorate-General for Research and Innovation (Brussels, Belgium). Topic: Preparation and management of EU Framework programme projects.
- 1995 10–12 Post-doc research grant of the Royal Society at the Natural History Museum (London, U.K.). Project: "Taxonomic review of *Diodontus* wasps (Hymenoptera, Sphecidae)".
- 1993 07–09 EU JRC Grant for Training and Mobility of Researchers at the Museum of Natural History (Leiden, The Netherlands). Project "Review of genera of the tribe Psenini (Hymenoptera, Sphecidae)".
- 1992 11–12 Short term visitor fellowship of Smithsonian Institution in the National Museum of Natural History (Washington, USA) and Californian Academy of Sciences (San Francisco, USA).

## **PARTICIPATION IN SCIENTIFIC CONFERENCES**

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### ***International scientific conferences:***

1. Lazauskaitė M., Budrienė A., Orlovskytė S., **Budrys E.** 2022. *Ancistrocerus* wasps (Vespidae) in the centre of Europe: a common new cryptic species, and their confusing phylogeny // #Hymenathon2022. A 24 hour virtual symposium from the International Society of Hymenopterists. 31 March - 1 April 2022, 17. [https://www.hymenopterists.org/wp-content/uploads/2022/03/Hymathon2022\\_program.pdf](https://www.hymenopterists.org/wp-content/uploads/2022/03/Hymathon2022_program.pdf)
2. **Budrys E.**, Orlovskytė S., Budrienė A., Lazauskaitė M. 2022. How to find a cryptic species? A case of Baltic wasp // *University of Latvia 80th scientific conference: Zoology and Animal Ecology. Abstract book. 3 February 2022*. Nature House University of Latvia, Riga, Latvia, 8.
3. Orlovskytė S., **Budrys E.**, Budrienė A. 2016. Sibling species of *Chrysis ignita* complex: molecular, morphological and trophic differentiation of North European species and description of new species (Hymenoptera: Chrysididae) // *XXV International Congress of Entomology. Orlando, Florida, 2016*. doi: 10.1603/ICE.2016.113232.
4. **Budrys E.**, Budrienė A. 2010. What do the trap-nesting wasp and bee communities tell us about the habitat naturalness? In: Petrašiūnas A. (ed) *XXVIII Nordic – Baltic Congress of Entomology. Abstract book. Birštonas, 2<sup>nd</sup> – 7<sup>th</sup>, 2010*. Vilnius, 7.



5. Budrienė A., Nevronytė Ž., **Budrys E.** 2010. Body weight change during the development of predatory wasp *Symmorphus allobrogus* (Hymenoptera: Vespidae: Eumeninae). In: Petrašiūnas A. (ed) *XXVIII Nordic – Baltic Congress of Entomology. Abstract book. Birštonas, 2<sup>nd</sup> – 7<sup>th</sup>, 2010.* Vilnius, 41.
6. **Budrys E.**, Budrienė A., Nevronytė Ž. 2010. Dependence of brood cell length on nesting cavity width in solitary wasps of genera *Ancistrocerus* and *Symmorphus* (Hymenoptera: Vespidae: Eumeninae). In: Petrašiūnas A. (ed) *XXVIII Nordic – Baltic Congress of Entomology. Abstract book. Birštonas, 2<sup>nd</sup> – 7<sup>th</sup>, 2010.* Vilnius, 42.
7. Nevronytė Ž., **Budrys E.**, Budrienė A. 2010. The effects of prey abundance on nesting behaviour of predatory wasp *Symmorphus allobrogus* (Hymenoptera: Vespidae: Eumeninae). In: Petrašiūnas A. (ed) *XXVIII Nordic – Baltic Congress of Entomology. Abstract book. Birštonas, 2<sup>nd</sup> – 7<sup>th</sup>, 2010.* Vilnius, 58.
8. Orlovskytė S., Budrienė A., **Budrys E.** 2010. Morphometric differences between the European cuckoo wasp sibling species of the *Chrysis ignita* group (Hymenoptera: Chrysididae). In: Petrašiūnas A. (ed) *XXVIII Nordic – Baltic Congress of Entomology. Abstract book. Birštonas, 2<sup>nd</sup> – 7<sup>th</sup>, 2010.* Vilnius, 59.
9. Radzevičiūtė R., Budrienė A., **Budrys E.**, Turčinavičienė J. 2010. Mitochondrial CO1 gene sequence in European Eumeninae wasps (Hymenoptera: Vespidae): intra-specific diversity and applicability for species identification. In: Petrašiūnas A. (ed) *XXVIII Nordic – Baltic Congress of Entomology. Abstract book. Birštonas, 2<sup>nd</sup> – 7<sup>th</sup>, 2010.* Vilnius, 67.
10. Auger-Rozenberg M.-A., **Budrys E.**, Petanidou T., Glavendekić M., Roques A. 2009. Impact of invasive rose seed chalcids on native wild roses and associated entomofauna in Europe. International Congress on Biological invasions. Fuzhou, China, 2–6 November 2009 [Symposium S2 "Interactions between IAS and native species"]
11. **Budrys E.** 2005. Lizdavietėse-gaudyklėse apsigyvenantys plėviasparniai kaip miško buveinių būklės indikatoriai. *Vabzdžių tyrimai: dabartis ir perspektyvos. Vilnius, 2005 m. spalio mėn. 14–15 d. Tarptautinės mokslinės konferencijos dalyvių pranešimų santrauka.* Vilnius, 46–49. [Trap-nesting Hymenoptera as indicators of forest habitat status. *Research of insects: present and future. 14–15 October, 2005, Vilnius. Abstracts of the international scientific conference.* Vilnius, 46–49 (in Lithuanian)]
12. **Budrys E.** 2005. Successional scales of ecosystem and conservation. In: Young, J., Báldi, A., Benedetti-Cecchi, L., Bergamini, A., Hiscock, K., van den Hove, S., Koetz, T., van Ierland, E., Lányi, A., Pataki, G., Scheidegger, C., Török, K. and Watt, A.D. (Editors). *Landscape scale biodiversity assessment: the problem of scaling. Report of an electronic conference. Institute of Ecology and Botany of the Hungarian Academy of Sciences, Vacratot, Hungary*, p. 101–102. [https://nora.nerc.ac.uk/id/eprint/9407/1/Scaling\\_V5.pdf](https://nora.nerc.ac.uk/id/eprint/9407/1/Scaling_V5.pdf).
13. Budrienė A., **Budrys E.** 2003. Solitary Hymenoptera Aculeata inhabiting trap-nests in Lithuania: fauna and nesting preferences. *XXVI Nordic-Baltic Congress of Entomology. Skalupes, Latvia, July 8th to 13th, 2003.* Latvia, Skalupes, 11.
14. **Budrys E.**, Budrienė A., Pakalniškis S. 2003. Population size assessment using mark-release-recapture for 12 species of Orthoptera, Diptera and Hymenoptera: comparison of methods. *XXVI Nordic-Baltic Congress of Entomology. Skalupes, Latvia, July 8th to 13th, 2003.* Latvia, Skalupes, 11–12.
15. **Budrys E.** 2003. Problems of reconciling unique aspects of the local habitat diversity with implementation of the EU Habitat Directive. *Priorities in biodiversity conservation and research in the Acceding and Candidate Countries and their integration in the European Research Area: proceedings of an electronic conference, 3–31 February 2003.* Białowieża, Poland, p. 61–62.
16. **Budrys E.** 2000. Phylogeny of the digger wasps of the subfamily Pemphredoninae (Hymenoptera: Sphecidae). *XXV Nordic-Baltic Congress of Entomology. Melsomvik, Norway, 27 June – 2 July 2000.* Oslo, 16–17.

17. **Budrys E.** 2000. Some aspects of the ethological evolution of digger wasps and the problem of the origin of bees (Hymenoptera: Apoidea). *XXV Nordic-Baltic Congress of Entomology. Melsomvik, Norway, 27 June – 2 July 2000.* Oslo, 34.
18. **Budrys E.** 1997. The Biodiversity database in Lithuania. *EIS colloquium. Aspects of biodiversity: survey, monitoring, conservation. Abstracts of lectures and posters. Debrecen, 22–25 October 1997.* Regional Committee of the Hungarian Academy of Sciences, L. Kossuth-University, 2.
19. **Budrys E.** 1997. Successional model of ecosystem and the biodiversity. *“Ecologia Europaea”, October 1997 – Strasbourg – France. Abstracts of posters.* Le Conseil Scientifique de VIVENDI, L’Academie des Sciences, Paris, 27–31.
20. **Budrys E.** 1997. Biodiversity database: experience in Lithuania and possibilities of applying. *XXIV Nordic Congress of Entomology. Tartu, Estonia, 8 – 11 August 1997.* University of Tartu, Institute of Zoology and Hydrobiology & Estonian Naturalists’ Society, 12–13.
21. **Budrys E.** 1995. The influence of disturbance on biodiversity. *Workshop “Biodiversity management: Theoretical and methodological problems”.* Satakunta Environmental research centre, Pori, Finland, 23-26 08 1995.
22. **Budrys E.** 1995. "Phylogenetic relationships of the 'subfamily Pemphredoninae' (Hymenoptera, Sphecidae)". *Third Annual Conference of the International Society of Hymenopterists.* University of California, Davis, 12-17 August 1995.

#### **National scientific conferences:**

1. **Budrys E.**, Orlovskytė S., Budrienė A., Lazauskaitė M. 2022. Kaip įsitikinti, kad radome slapią (*cryptic*) naują mokslui rūšį? *Lietuvos entomologų draugijos metinė konferencija.* Kaunas, Tado Ivanausko zoologijos muziejus, 2022 gruodžio 10 d.
2. Orlovskytė S., **Budrys E.** 2015. Rūšys antrininkės: molekuliniai, morfologiniai ir mitybiniai *Chrysis ignita* (Hymenoptera: Chrysididae) komplekso rūšių skirtumai // *Bioateitis: gamtos ir gyvybės mokslų perspektyvos: 2015 m. jaunujų mokslininkų konferencija.* Vilnius, 2015 m., 3.
3. Orlovskytė S., **Budrys E.** 2015. Rūšys-antrininkės: molekuliniai, morfologiniai ir mitybiniai *Chrysis ignita* (Hymenoptera: Chrysididae) komplekso rūšių skirtumai. *X-osios nacionalinės mokslinės konferencijos “Lietuvos biologinė įvairovė: būklė, struktūra, apsauga” pranešimų santrauka.* Vilnius, 25–26.
4. **Budrys E.** 1997. "Morphometric methods in the research of wasps of the genus *Diodontus* Curtis". *Conference of the Lithuanian entomological society.* Vilnius, 14 March 1997.
5. **Budrys E.** 1989. Some aspects of behavioural evolution in digger wasps and the problem of the origin of bees (Hymenoptera, Sphecoidea, Apoidea). *X съезд Всесоюзного энтомологического общества.* Saint Petersburg, Russia, 12–15 September 1989.
6. **Будрис Э. Р.** 1989. Типы ареалов роющих ос подсемейства Pemphredoninae фауны СССР. In *Всесоюзное совещание по проблеме кадастра и учета животного мира. Тезисы докладов, часть IV.* Уфа, 107–108.
7. **Будрис Э.**, Буткус Е., Вайнилайтис М., Варнас Г., Драсутис Э., Шважас С. 1978. Орнитофауна озера Бальтис. In *Тезисы II конференции молодых ученых.* Институт зоологии и паразитологии АН Литовской ССР, Вильнюс, 97–100.

## **PARTICIPATION IN THE STUDY PROCESS**

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### **Supervision of PhD students:**

Science area: Natural sciences(N000). Research field: Ecology ir environmental science (N012)

Žygmantas PhD topic: "Leaf beetles (Coleoptera: Chrysomelidae) feeding 2017 – 2022  
Obelevičius on planted willows: trophic networks in Lithuania"

Evelina Vžesniauskaitė	PhD topic: "Assessment of inter-dependence between the adaptivity to anthropogenic environments, variability of parts of genome evolving at different rate and morphological, ecological and behavioural traits in Hymenoptera"	2016 – now
Svetlana Orlovskytė	PhD topic: "Insects inhabiting the trap-nests for Hymenoptera and effects of anthropogenic factors on it". Defence of the thesis 05-05-2017 at Vilnius University.	2013 – 2016
Žaneta Nevronytė	PhD topic: "Development and nesting behaviour of trap-nesting wasps (Hymenoptera: Vespidae: Eumeninae)". Defence of the thesis 23-12-2009 at Vilnius University.	2006 – 2009
Virginija Podėnienė	PhD topic: "Morphology and ecology of the last larval stage of Tipulidae (Diptera, Tipulomorpha) of Lithuania". Defence of the thesis 14-03-2003 at Vilnius University.	2000 – 2003

**Member of PhD jury:**

J. Lynikienė (2005), D. Dapkus (2006), A. Petrašiūnas (2009), J. Bašilova (2010), R. Butkus (2016), D. Aleknavičius (2019)

**PhD thesis opposition:**

V. Baužienė (2006), S. Radžiūtė (2009), M. Biteniekytė (2011), P. Starkevič (2012), M. Kalniņš (2012), A. Ivanauskas (2014)

**Lecturing at university (in Lithuanian)**

Year	University	Course
2016 – 2021	VU Gyvybės mokslų centro Biomokslų institutas	Master cycle. Biologinės įvairovės studijos: įvadas (28 val.)
2017 – 2021	VU Gyvybės mokslų centro Biomokslų institutas	Master cycle. Biologinės įvairovės stebėsena (16 val.)
2019 – 2020	VU Gyvybės mokslų centro Biomokslų institutas	Master cycle. Biologinių duomenų bazės ir jų valdymas (48 val.)
2017 – 2021	VU Gyvybės mokslų centro Biomokslų institutas	Master cycle. Statistiniai metodai biologinės įvairovės tyrimuose (48 val.)
2004 – 2016	VU Gamtos fakulteto Zoologijos katedra	Master cycle. Magistrinis praktikumas: zoologinių duomenų valdymas ir statistinė analizė (136 val.)
1996 – 2015	VU Gamtos fakulteto Zoologijos katedra	Master cycle. Bestuburių gyvūnų lyginamoji anatomija (64 val.)
2004 – 2016	VU Gamtos fakulteto Zoologijos katedra	Master cycle. Bestuburių gyvūnų lyginamoji fiziologija (32 val.)
1994 – 2017	VU Gamtos fakulteto Zoologijos katedra	Bachelor cycle. Bestuburių gyvūnų lauko praktika (45 val.)

**Manuals (in Lithuanian):**

- Budrys E.** 2020. Plėviasparniai vabzdžiai Lietuvoje. Kn.: K. Černiauskas ir kt.(red.). *Alergija plėviasparnių vabzdžių nuodams: paciento ištyrimas ir gydymas. Mokomoji knyga.* Vilniaus universiteto leidykla, Vilnius.
- Budrys E.** 2004. *Nariuotakojų lyginamosios anatomijos pagrindai. Paskaitų santrauka.* 98 p. (ISBN 9955-592-80-X).

3. Rakauskas R., Podėnas S., Arbačiauskas K., **Budrys E.** 1997. *Bestuburių zoologijos mokomosios lauko praktikos programa. Biologijos specialybės studentams.* Vilniaus universiteto leidykla, Vilnius. 25 p.

## **OTHERS**

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### ***Expert activities:***

Evaluation of international scientific research projects (113 projects in total).

Peer-reviewing of scientific articles (among them: 27 in international scientific periodicals).

### ***Public lectures (in Lithuanian):***

- "Brandus antropocenas. Metas keisti tikėjimą." (2020-08-29)  
(<https://www.youtube.com/watch?v=TTLIvV1GCvw&t=245s>)
- "Antropocenas: ar mūsų karta suvokia savo vietą Žemėje?" (2021-01-04)  
(<https://www.youtube.com/watch?v=iERLZxndiXE&t=356s>)
- "Ganymasis – prarastasis mūsų gamtos veiksnys" (2021-07-18)  
(<https://youtu.be/DnyeWTOBoHo>)