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Personal information

Born 13th November 1993 in Ljubljana, Slovenia

Citizen of Slovenia: Native Slovenian speaker, fluent English and Serbo-Croatian, basic Czech and German, passive Spanish

Education

2017- present	<p>PhD Zoology, Charles University in Prague, Czech Republic</p> <p><u>Project Title:</u> Transcriptomics and developmental plasticity of sensory systems in fishes (Fully funded by supervisor's grant (Swiss National Science Foundation), and Charles University scholarship)</p>						
2016-2017	<p>MSc Zoology (by research), National University of Ireland Galway, Ireland</p> <p><u>Project Title:</u> Evolution of cuttlefishes, family Sepiidae, and their radiation through the Indo-West Pacific (Fully funded by prestigious Government of Ireland Postgraduate Scholarship)</p>						
2013-2016	<p>BSc Biology, University of Ljubljana, Slovenia</p> <p><u>GPA:</u> 8.61/10 (grades are awarded on a scale 1 to 10, in which grades 6 to 10 are positive and 10 is the highest);</p>						
2013	<p>»Cum Laude«, graduated from High School with excellence (»zlati maturant«), High School Litija, Slovenia;</p> <p><u>Grade scores</u> (Leaving certificate):</p> <table style="width: 100%; border: none;"> <tbody> <tr> <td>Slovenian language: 7/8</td> <td>Maths: 8/8</td> </tr> <tr> <td>English language: 6/8</td> <td>Biology: 5/5</td> </tr> <tr> <td>Chemistry: 5/5</td> <td></td> </tr> </tbody> </table> <p>Σ: 31/34</p>	Slovenian language: 7/8	Maths: 8/8	English language: 6/8	Biology: 5/5	Chemistry: 5/5	
Slovenian language: 7/8	Maths: 8/8						
English language: 6/8	Biology: 5/5						
Chemistry: 5/5							

Awards and grants

- **Dec 2021** – Award “Best student paper of 2021”, Department of Zoology, Charles University in Prague, Czech Republic
- **Dec 2021** – Dean’s scholarship for research, development and innovation, Faculty of Science, Charles University in Prague, Czech Republic
- **Apr 2019** – Charles University in Prague grant (GAUK); collaborative project entitled “Molecular basis of adaptation to hypoxia in African cichlids”. project No. 1556119
- **Oct 2018** – Taming the BEAST Down Under workshop full fee waiver, University of Sydney, Australia
- **Mar 2017** – Marine Research Programme Networking & Travel Grant, Marine Institute, Ireland; Contribution towards the cost of the attendance at 2017 Congress of the European Society for Evolutionary Biology, Groningen, Netherlands
- **Feb 2017** – Zois award, Slovene Human Resources Development and Scholarship Fund; prestigious national award, based on academic and research merit
- **Feb 2017** – Ryan Institute Travel Support Scheme, Ryan Institute - NUIG, Ireland
- **2016-2017** – Irish Research Council Government of Ireland Postgraduate Scholarship 2016; Applicant success rate was 20%
- **Aug 2015** – Student award for the 2nd best poster in Taxonomy and Genetics, 29th European Congress of Arachnology, Brno, Czech Republic. Project title: Investigating relationships of body and genital size evolution in nephilid spiders
- **Aug 2015** – The 29th European Congress of Arachnology Organising committee student grant
- **Mar 2013** – Silver medal at the biology nationals, Ljubljana, Slovenia
- **Apr 2010** – License to conduct research on endemic herpetofauna, Slovenian Environment Agency, Ministry of the Environment and Spatial Planning, Republic of Slovenia
- **Dec 2009** – Passed Societas Herpetologica Slovenica – Slovenian Herpetological Society “licensed researcher” course with honours (sponsored by EEA Grants & Norway Grants)

Scientific publications

1. **Lupše, N.**, Reid, A., Taite, M., Kubodera, T., Allcock, L. 2022. Cuttlefishes (Cephalopoda, Sepiidae) — the bare bones: an hypothesis of relationships. *Marine Biology (Accepted in Marine Biology)*
2. **Lupše, N.**, Kłodawska, M., Truhlářová, V., Košátko, P., Kašpar, V., Bitja Nyom, AR., Musilova, Z. 2022. Developmental changes of opsin gene expression in ray-finned fishes (Actinopterygii). *Proceedings of the Royal Society B: Biological Sciences* 289:20221855; <https://doi.org/10.1098/rspb.2022.1855>
3. **Lupše, N.**, Cortesi, F., Freese, M., Marohn, L., Pohlman, J.-D., Wysujack, K., Hanel, R., Musilova, Z. 2021. Visual gene expression reveals a cone to rod developmental progression in deep-sea fishes. *Molecular Biology and Evolution* 38(12):5664-5677, presented on the cover of the January issue (2022), <https://doi.org/10.1093/molbev/msab281>
4. Kuntner, M., Hamilton, C., Cheng, R-C., Gregorič, M., **Lupše, N.**, Lokovšek, T., Moriarty Lemmon, E., Lemmon, A., Agnarsson, I., Coddington, J., Bond, J. 2019. Golden orbweavers ignore biological rules: Phylogenomic and comparative analyses unravel a complex evolution of sexual size dimorphism. *Systematic biology* 68(4):555–572; *assigned a cover photo* <https://doi.org/10.1093/sysbio/syy082>
5. **Lupše, N.**, Cheng, R-C., Kuntner, M. 2016. Coevolution of female and male genital components to avoid genital size mismatches in sexually dimorphic spiders. *BMC Evolutionary Biology* 16:161; doi: 10.1186/s12862-016-0734-9

Presentations / Abstracts

1. **Lupše, N.**, Kłodawska, M., Truhlářová, V., Košátko, P., Kašpar, V., Bitja Nyom, AR., Musilova, Z. 2022. Opsin gene expression changes with development in ray-finned fishes (Actinopterygii). Oral presentation. ESEB 2022, Congress of the European Society for Evolutionary Biology, Prague, Czech Republic
2. **Lupše, N.**, Kłodawska, M., Truhlářová, V., Košátko, P., Kašpar, V., Bitja Nyom, AR., Musilova, Z. 2022. Developmental changes of opsin gene expression in ray-finned fishes (Actinopterygii). Oral presentation. Evolution 2022, the joint annual meeting of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists
3. **Lupše, N.**, Cortesi, F., Freese, M., Marohn, L., Pohlman, J.-D., Wysujack, K., Hanel, R., Musilova, Z. Visual gene expression reveals a cone to rod developmental progression in deep-sea fishes (poster presentation). 6th Deep-Sea Biology Symposium, Brest, France
4. **Lupše, N.**, Cortesi, F., Freese, M., Marohn, L., Pohlman, J.-D., Wysujack, K., Hanel, R., Musilova, Z. Visual gene expression reveals a cone to rod developmental progression in deep-sea fishes (oral presentation). Virtual Evolution 2021, the joint annual meeting of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists.
5. **Lupše, N.**, Cortesi, F., Freese, M., Marohn, L., Pohlman, J.-D., Wysujack, K., Hanel, R., Musilova, Z. The expression of deep-sea fish visual genes supports a conserved cone-to-rod vertebrate retinal development (poster presentation). Charles University PhD Zoology student conference, Prague, Czech Republic
6. **Lupše, N.**, Cortesi, F., Hanel, R., Salzburger, W., Musilová, Z. 2019. Evolution of the visual sensory system in the deep-sea fishes from the Sargasso Sea (oral presentation). XVI European Congress of Ichthyology, Lausanne, Switzerland
7. **Lupše, N.**, Taite, M., Kubodera, T., Allcock, L. 2019. A molecular phylogeny of cuttlefishes (family Sepiidae). (poster presentation). European Society for Evolutionary Biology, ESEB 2019 Meeting, Turku, Finland
8. Kuntner, M., Hamilton, C., Cheng, R-C., Gregorič, M., **Lupše, N.**, Moriarty Lemmon, E., Lemmon, A., Agnarsson, I., Coddington, J., Bond, J. 2019. Nephilid Spider Phylogenomics: Complex Evolution of Sexual Size Dimorphism. (oral presentation). Book of Abstracts, 21st International Congress of Arachnology, Canterbury, New Zealand
9. **Lupše, N.**, Taite, M. Reid, A., Kubodera, T., Allcock, L. 2018. A molecular phylogeny of cuttlefishes (family Sepiidae). (oral presentation). 20th Young Systematists' Forum, London, United Kingdom
10. **Lupše, N.**, Taite, M. Reid, A., Kubodera, T., Allcock, L. 2018. Molecular systematics of the family Sepiidae. (oral presentation). Book of Abstracts. Cephalopod International Advisory Council Symposium 2018, Florida, USA
11. **Lupše, N.**, Taite, M. Reid, A., Kubodera, T., Allcock, L. 2018. A molecular phylogeny of cuttlefishes (family Sepiidae). (oral presentation). Book of Abstracts. The National Meeting for Evolutionary Biology (ENBE), Lisbon, Portugal
12. **Lupše, N.**, Cortesi, F., Salzburger, W., Hanel, R., Musilová, Z. 2018. Now you see me, now you don't: Evolution of the visual sensory system in the deep-sea fishes from the Sargasso Sea (poster presentation). Book of Abstracts, The International Congress of Neuroethology, Brisbane, Australia: p. 53
13. Kuntner, M., Hamilton, C., Cheng, R-C., Gregorič, M., **Lupše, N.**, Moriarty Lemmon, E., Lemmon, A., Agnarsson, I., Coddington, J., Bond, J. 2017. Nephilid Spider Phylogenomics: Complex Evolution of Sexual Size Dimorphism. (oral presentation). Online Conference Proceedings, <https://www.asianarachnology.com/wp-content/uploads/2017/10/handbookASA2017.pdf>, The 4th Conference of the Asian Society of Arachnology, Chongqing, China
14. **Lupše, N.**, Taite, M. Reid, A., Kubodera, T., Allcock, L. 2017. A molecular phylogeny of cuttlefishes (family Sepiidae). (poster presentation). Book of Abstracts, 52nd European Marine Biology Symposium, Piran, Slovenia

15. Kuntner, M., Hamilton, C., Cheng, R-C., Gregorič, M., **Lupše, N.**, Moriarty Lemmon, E., Lemmon, A., Agnarsson, I., Coddington, J., Bond, J. 2017. Nephilid Spider Phylogenomics: Complex Evolution of Sexual Size Dimorphism. (oral presentation). Book of Abstracts, 30th European Congress of Arachnology, Nottingham, United Kingdom: p.158
16. **Lupše, N.**, Taite, M. Reid, A., Kubodera, T., Allcock, L. 2017. A molecular phylogeny of cuttlefishes (family Sepiidae). (poster presentation). Online Conference Proceedings, <https://www.eventure-online.com/eventure/public/publicSearch.form?congressId=12607>, European Society for Evolutionary Biology, ESEB XVI Meeting, Groningen, The Netherlands
17. **Lupše, N.**, Reid, A., Kubodera, T., Allcock, L. 2017. Does size matter? Morphological investigations into the evolution of cuttlefishes (family Sepiidae). (poster presentation). Online Conference Proceedings, <https://nuigulresearchday2017.wordpress.com/abstracts/>, National University of Ireland Galway-University of Limerick Alliance, 7th Postgraduate Research Day, Galway, Ireland
18. **Lupše, N.**, Reid, A., Kubodera, T., Allcock, L. 2017. Cladistic analyses of cuttlefishes (family Sepiidae): How informative are morphometrics? (poster presentation). Book of Abstracts, Cephalopod International Advisory Council (CIAC) & *CephsInAction* Meeting, Heraklion, Crete, Greece: p. 77
19. **Lupše, N.**, Cheng, R-C., Kuntner, M. 2015. Investigating relationships of body and genital size evolution in nephilid spiders (poster presentation). Book of Abstracts, 29th European Congress of Arachnology, Brno, Czech Republic: p. 109

Invited seminars/workshops/symposia

- Oral presentation at the Evolution and Ecology seminar at the Biotechnical Faculty, University of Ljubljana (22.ii.2023): "Seeing in the realm of darkness? Developmental changes of opsin gene expression in deep-sea fishes"
- Data collection on cetacean population genetics in the ACCOBAMS area, workshop (20.ix. – 21.ix.2022), ACCOBAMS - Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area, Monaco
- Presenter at the Open day for new students (vii. 2019), Charles University, Prague, CZ
- Taming the BEAST Down Under, Workshop (17.ii. – 22.ii.2019), University of Sydney, Australia
- Unix and genomic data, Workshop (1.ii. – 3.ii.2019), Charles University, Czech Republic
- Mohelno Field Station, Institute of Vertebrate Biology, Academy of Sciences CR – Oral presentation at the workshop (1.x. – 3.x.2018): "Evolutionary workshop for PhD students"
- Petnica Science Center, Petnica, Serbia – Workshop (3.viii. – 10.viii.2018): "Molecular and Phenotypic Evolution (MolPhE): theoretical and practical approaches", organized jointly by the Serbian Evolutionary Society and the European Society for Evolutionary Biology (ESEB)
- Muséum National d'Histoire Naturelle, Paris, France – Workshop (5.iii. – 9.iii.2018): "Integrative taxonomy and taxonomic expertise: DNA barcodes in the genomic era"
- Charles University in Prague, Czech Republic – Oral presentation at the seminar for the Division of Animal Evolutionary Biology (3.x.2017): "Evolution of cuttlefishes (family Sepiidae) through molecular and morphological investigations"
- Charles University in Prague, Czech Republic – Oral presentation at the seminar for the Division of Animal Evolutionary Biology (21.xi.2017): "Transcriptomics and Developmental Plasticity of Sensory Systems in Fishes"
- National History Museum, London, United Kingdom – Symposium jointly organised by the NHM London and the Malacological Society of London (27.iv.2017): "Molluscan Colour and Vision"

Media coverage

- **Czech Television (Česká televize):** Deep-sea fish's vision changes dramatically during life, Czech research has shown (Hlubokomořským rybám se během života zásadně mění zrak, ukázal český výzkum). 30th Sep 2021, <https://ct24.ceskatelevize.cz/veda/3378360-hlubokomorskym-rybam-se-behem-zivota-zasadne-meni-zrak-ukazal-cesky-vyzkum>

Popular science publications and opinions

- **Lupše, N.** 2022. Vidne sposobnosti delfinov (Visual capabilities of dolphins). Potapljač – revija Slovenske potapljaške zveze. 21:122
- **Lupše, N.** 2022. Kako dobro pravzaprav vidijo delfini? (How well do dolphins really see?) Bilten Trdoživ 11:1
- **Lupše, N.** 2022. Slovensko morje kot naravovarstveni in ne zgolj ekonomski ponos, Uvodnik v Podnebni novičnik, Junij, Mreža Plan B za Slovenijo
- Kuntner, M., Gregorič, M., Čandek, K., Lokovšek, T., Kostanjšek, R., Puhek, M., Knapič, T., Pristovšek, U., Kuralt, Ž., Golobinek, R., Velkavrh, M., **Lupše, N.**, Sivec, N., Horvat, D. 2015. Nestrokovno napisana knjiga o pajkih je prikrit kreacionistični pamflet (comment on 2015 book Pajki): <http://ezlab.zrc-sazu.si/uploads/2015/11/Pajki-Slovenije-Obvestilo-javnosti.pdf>

Work, internships and volunteering

Year	Position and Institution
Mar 2023 – present	Research Assistant – Jovan Hadži Institute of Biology, Research Centre of the Slovenian Academy of Sciences and Arts
Mar 2022 – Mar 2023	Employed as a researcher, Morigenos – Slovenian Marine Mammal Society
Oct 2017 – Dec 2021	Employed as a student researcher, Faculty of Science, Charles University, Prague, Czech Republic
Oct 2017 – Dec 2021	External collaboration. BIOCEV - Biotechnology and Biomedicine Center of the Czech Academy of Sciences
Apr 2021 – May 2021	Volunteer-based research on the fossil fauna (The Slovenian Museum of Natural History)
Feb 2018	Fieldwork in Cameroon (Barombi Mbo crater lake, Sanaga river)
Feb 2017	Student Researcher (MSc Research visit). National Museum of Nature and Science, Tokyo, Japan
Jan/Feb 2017	Student Researcher (MSc Research visit). Department of Malacology, Australian Museum Research Institute, Sydney, Australia
2014-2016	Student researcher. Evolutionary Zoology Lab, Institute of Biology, Slovenian Academy of Arts and Sciences, Slovenia
2011	Volunteer. Herpetology section, Ljubljana Zoo, Slovenia
2009-2010	Student researcher. Slovenian Herpetological Society

Skills

Laboratory methods:

- Histology and light microscopy
- Fish eye dissection
- DNA & RNA extraction, PCR and electrophoresis
- Transcriptome library preparation for next-generation sequencing on Illumina platform
- High-Performance Liquid Chromatography (HPLC)
- Morphometrics
- Fish breeding

IT methods:

- Phylogenetic analyses of sequence alignments (RAxML, Mr Bayes, BEAST, MEGA, Geneious) and morphological characters (TNT, PAST, XLSTAT)
- Phylogenetic comparative methods including independent contrasts in Mesquite/PDAP
- Database management

Systematics and taxonomy:

- Cetaceans
- European herpetofauna
- Nephilidae spiders
- Sepiidae cuttlefish
- Cichlidae fishes
- Deep sea fishes
- Fossil Syngnathiformes fishes

Professional services

- Memberships: European Society for Evolutionary Biology (2018 – 2019, 2022 – 2023), The Research Coordinated Network for Evolution in Changing Seas, funded by the NSF (2018 – present)
- Academic peer reviewing for: *Journal of Fish Biology*, *Journal of Oceanology and Limnology*