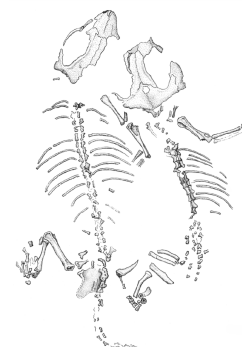


Curriculum Vitae – Laura K. Säilä

Gender: Female
Nationality: Finnish
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Research interests

Vertebrate palaeontology, macroevolution, phylogenetics, palaeobiogeography, palaeobiology, palaeoclimatology, taxonomy, developmental biology, and animal behaviour.

Present position

September 2014 – August 2017

Academy of Finland Postdoctoral Researcher, project '*Supertrees, fossil mammals and climate - Exploring taxon replacement and the palaeobiogeographic past of Cenozoic mammals.*'
Department of Geosciences and Geography, University of Helsinki.

December 2010 – present

Associate Coordinator of the NOW (New and Old Worlds) Database of Fossil Mammals.
University of Helsinki.

Past positions

December 2009 – August 2014 (*on maternal/parental leave Dec 2012 – Aug 2013*)

Postdoctoral researcher, Academy of Finland funded project '*Extinction dynamics of taxa in the fossil record*' (headed by Prof. Mikael Fortelius), Department of Geosciences and Geography, University of Helsinki.

February 2009 – November 2009

Postdoctoral researcher, Jernvall EVO-DEVO research group, Institute of Biotechnology, University of Helsinki. Participation, and on-going collaboration, on projects concerning phylogenetic dental data and developmental signals, origin of multicuspid teeth among terrestrial amniotes, and tooth development and morphology in procolophonoids.

Education and degrees awarded

2004 – 2008

Palaeontology PhD, University of Bristol (UK); thesis successfully defended in December 2008 (degree awarded in January 2009).

Dissertation: '*Leptopleuron, Anomoiodon and the Russian Permian procolophonoids: A study of the interrelationships, evolution and palaeobiogeography of Procolophonoidea.*' Supervisors: Prof. Mike Benton & Dr. Sean P. Modesto.

1998 – 2001, 2002 – 2004

Undergraduate degree leading to a Master (MSci) in Morphological and Ecological Zoology. University of Helsinki (Finland). Pass with excellent knowledge (3/3), dissertation grade: Magna cum laude.

Dissertation: '*Male mate choice in the livebearing peociliid fish Heterandria formosa*'.

2001 – 2002

MSc in Palaeobiology, University of Bristol, pass with Commendation (Highest Grade).

Dissertation: *The reptiles of Pant 4 – A re-description of the reptilian fauna of a Lower Jurassic fissure fill, Glamorgan, South Wales.*

Research grants and awards

- **Academy of Finland:** Postdoctoral Researcher funding for 2014 – 2017, project '*Supertrees, fossil mammals and climate - Exploring taxon replacement and the palaeobiogeographic past of Cenozoic mammals*' (270 600 €)
- **Emil Aaltonen Foundation:** Young Researcher grant 2014, 1st year (29 500 €; awarded but not used due to the Academy of Finland funding).
- **Otto A. Malm Foundation:** Research funding, 2014 (5000 €; awarded but not used due to the Academy of Finland funding).
- **Waldemar von Frencckells stiftelse:** A stipend for the project 'Phylobiogeography in deep time – the spatial dynamics of adaptive radiations', June 2009. (9000 €)
- **Oskari Huttunen Foundation:** Three-year funding for PhD studies in the University of Bristol for October 2004 – September 2007 (55 600 €).
- **NSERC** (Natural Sciences and Engineering Research Council of Canada): Funds towards museum visits, fieldwork in South Africa, attending conferences, and for completion of PhD thesis during 2008; as part of Dr. Sean Modesto's Discovery Grant.
- Winner of the **Patterson Memorial Award** (Best Student Poster) in the 2005 Society of Vertebrate Palaeontology meeting, Mesa, Arizona. (\$400)
- **R. Estes Memorial Award** (Society of Vertebrate Paleontology, USA; 2005): For a three-week visit to Moscow to study the Permian Russian procolophonoids. (\$1000)

Travel grants

- **Synthesys Access Grant** (EU): For visiting the Museum für Naturkunde, Berlin, to study the German procolophonid *Anomoidon liliensterni*. (All inclusive)
- **Samuel P. and Doris Welles Research Fund** (University of California, Berkeley, USA): For a visit to the Paleontological Museum, Berkeley to study their procolophonid collection. (\$734)
- **Bob Savage Memorial Fund Award** (University of Bristol, UK): For obtaining specimens of the procolophonid *Leptopleuron lacertinum* to Bristol from several museum collections. (£150); for visiting the Moscow Paleontological Institute. (£200)
- Funding towards conference attendance from the following sources: Society of Vertebrate Paleontology (USA); Society of Vertebrate Palaeontology and Comparative Anatomy (UK); Palaeontological Association (UK); Transferable Skills Fund (University of Bristol); Bristol University Alumni Foundation (UK); Chancellor's Travel Grant (University of Helsinki, Finland).

Professional memberships, service, and awards

Memberships

- Palaeontological Association (UK), 2001 – present.
- Society of Vertebrate Paleontology (US), 2004 – present.
- International Biogeography Society, 2014 – present.
- The Finnish Society for Development Biology, 2008 – 2011.

Service

- Member of the Colbert Student Poster Prize Panel, SVP, 2014.
- Member of the Organising Committee for the SVP Annual Meeting Benefit Auction, 2009, 2011, and 2014.
- Member of the Organising Committee for the Progressive Palaeontology conference, 2007.
- Peer-review for *Journal of Vertebrate Paleontology*, *Comptes Rendus Palevol*, and *Acta Paleontologica Polonica*.

Awards

- Patterson Memorial Award (Best Student Poster) in the 2005 Society of Vertebrate Palaeontology meeting, Mesa, Arizona. (\$400)
- R. Estes Memorial Award (Society of Vertebrate Paleontology, USA): For a three-week visit to Moscow to study the Permian Russian procolophonoids. (\$1000)

Other contributions

- Organiser of the Palaeontological Discussion Group (PDG) lunchtime seminars in the department of Earth Sciences, University of Bristol, academic year 2004 – 2005.
- Student tutor for new biology students at University of Helsinki, Autumn 2003.
- A host for Helix, the Helsinki University Bioscience Society, 1999 – 2001.

Professional skills

Palaeontological skills

Screen washing, acid matrix dissolution and picking of micro-vertebrate remains; stratigraphic sectioning/logging; digital and photographic imaging of fossils; casting natural moulds of fossils with silicone rubber to produce high quality casts; illustrating extinct and extant animals and habitats with line drawings and paintings; coding and testing phylogenetic hypotheses.

Computer skills

Competent in multiple applications and platforms; Word, Pages, EndNote, Excel, PAST, PowerPoint, Keynote, Dream Weaver, PhotoShop, Illustrator, PAUP, MacClade, TreeRot, TreeView, RadCon, Ghosts, R, BayesTraits, Supertree Tool Kit; on PC and Apple Macintosh.

Language skills

Fluent in Finnish and English, intermediate in Swedish, beginner in French and Portuguese.

Academic teaching

2012, 2014

Lecturer for 'Advanced methods in Palaeoecology and Palaeoclimatology', lecture and practical on '*Systematic methods and supertrees in palaeontological research*'.

2010

Lecturer for 'Earth' course, lecture title '*Mesozoic land ecosystems and tetrapods, and return to the sea*'.

2007

Teaching assistant 'Research Methods', a Palaeobiology MSc course module, University of Bristol.

2004 – 2007

Teaching assistant for the MSc level 'Palaeobiology' course and the 1st year level 'Fossil Record' course, University of Bristol. Duties also included marking the students' coursework.

Academic Supervision

2014 –

Third supervisor for the bachelor thesis project of Kataja Kirjuri, about phylogenetic relationships of Mesozoic crocodyliforms.

2012 –

Second supervisor for the PhD thesis project of Aino Tuomola, titled: *Phylogeny of Scincomorpha*.

2012 –

Second supervisor for the MSc thesis project of Eevi Ruusu, about predator-prey body mass correlation in Cenozoic mammals of Eurasia.

2011

Second supervisor for the MSc thesis project of Aino Tuomola, titled: *A new lizard species from Upper Cretaceous of Ukhaa Tolgod, Mongolia*.

2008

Second supervisor for BSc thesis project of Mathew Pound, titled: *Archosauromorph teeth from Pant fissure fills, Jurassic of South Wales*.

Outreach activities

Educational

2007 – 2008

Part of the 'Ask A Biologist' interactive web initiative, which encourages school children to ask questions relating to natural sciences and gives them answers by professional biologists/palaeontologist who have joined the 'Ask A Biologist' online community. I designed the 'Ask A Biologist' flier, which was distributed to schools in the UK.

August 2003

'@Bristol' Science Museum/University of Bristol, UK.

Acted as palaeontological expert for Dinosaur Summer School, a week-long science experience for children aged 11 to 14 years. Aim: to teach the children about dinosaurs, palaeontology, and the scientific method. My responsibilities included giving lectures; overseeing group assignments and projects such as making a model dinosaur and its habitat; teaching children presentation techniques to enable them to present their 'dino-dioramas' and the research behind them to their peers, parents, and judges; discussing palaeontology with children and parents.

June 2003

Vantaan Luonnon Ystävät (Vantaa's Natures Friends), Vantaa, Finland.

Nature camp counsellor for children aged 13 to 14 years. Teaching about different aspects of nature by means of camping in the wood, outdoor activities and collecting and analysing plant and insect samples.

June 2001

Suomen Luonto Liitto (Finnish Nature Organisation), Helsinki, Finland.

Nature club counsellor for children aged 5 to 7 years. Teaching children to know and appreciate the Finnish nature by means of games, quizzes and outdoor activities. Planned visits to and activities at a bird swamp, woodlands and the seashore.

Media

- Prisma Studio TV program, interview (2011): Discussing the new earliest woolly rhino found in Tibet.
- Hämeen Sanomat newspaper interview (2010), titled: *Finland at the time of Dinosaurs*.

Museum exhibits and collections

2005 – 2011

Acted as scientific consultant for an update of the Elgin Museum (Scotland) display of the Triassic reptiles of Elgin. In addition, my fossil illustrations and silicone casts of the natural moulds of the procolophonid *Leptopleuron lacertinum* are a part of the display.

2011

Donated silicone casts of the natural moulds the Scottish procolophonoid *Leptopleuron lacertinum*, which I had made during my PhD (2004 – 2008), to the London Natural History Museum and Bristol University Geology Museum collections. Prior to this, the NHM did not have any high detail silicone casts of its procolophonoid natural moulds.

2001 – 2002

Participated in breaking down Jurassic fissure fill blocks with acid, sieved the remaining matrix in order to find microfossils, and deposited, labelled, and catalogued the found mammal, tritylodontid, and reptile remains into the Bristol University Geology / London NNM collections. Some of the reptile specimens were described in my Bristol MSc thesis and a paper in *Palaeontology*, and other specimens have been published on in collaborative papers or by other authors.

Most important foreign visits and fieldwork

November – December 2006: Three-week visit to the Paleontological Institute, Moscow (PIN), to study their Permian (and Triassic) procolophonoid collections, resulting in my two publications on Russian Permian 'Procolophonomorpha'.

July – August 2005: Four-week visit to South Africa. Trip included two weeks of fieldwork, prospecting previously unstudied Permian and Triassic fossil localities, and visits to fossil collections of the Bernard Price Institute (Johannesburg), South African Museum (Cape Town) and Bloemfontein Museum (Bloemfontein).

2001 – 2012: Various smaller fossil collecting trips in the UK, including collecting marine crustacean, mammal, and fish fossils on Isle of Wight, exploring newly found Jurassic fissure fills in South Wales, and visiting fossil localities in North Scotland and the West and South coast of England.

Publications

Refereed Journal Articles (A1)

1. Saarinen, J., Kärme, A., Cerling, T., Uno, K., **Säilä, L. K.**, Kasiki, S., Ngene, S., Obari, T., Mbua, E., Manthi, F., Fortelius, M. A new tooth wear -based dietary analysis method for Proboscidea (Mammalia) *Journal of Vertebrate Paleontology*, in press.
2. Uhen, M. D., Barnosky, A. D., Bills, B., Blois, J., Carrano, M. T., Carrasco, M. A., Erickson, G. M., Eronen, J. T., Fortelius, M., Graham, R. W., Grimm, E. C., O'Leary, M. A., Mast, A., Piel, W. H., Polly, P. D., **Säilä, L. K.** 2013. From card catalogs to computers: Databases in vertebrate paleontology. *Journal of Vertebrate Paleontology*, 33: 13-28.
3. Deng, T., Wang, X., Fortelius, M., Li, Q., Wang, Y., Tseng, Z. J., Takeuchi, G. T., Saylor, J. E., **Säilä, L. K.**, and Xie, G. 2011. Out of Tibet: Pliocene woolly rhino suggests high-plateau origin of Ice Age megaherbivores. *Science*, 333 no. 6047: 1285-1288.
4. **Säilä, L. K.** 2010. Osteology of *Leptopleuron lacertinum* Owen, a procolophonoid parareptile from the Upper Triassic of Scotland, with remarks on ontogeny, ecology and affinities. *Earth and Environmental Science Transactions of the Royal Society of Edinburgh*, 101: 1-25.
5. **Säilä, L. K.** 2010. The phylogenetic position of *Nyctiphruretus acudens*, a parareptile from the Permian of Russia. *Journal of Iberian Geology*, 36: 123-143.
6. Ala-Honkola, O., **Säilä, L.**, and Lindström, K. 2010. Males prefer small females in dichotomous choice test in the poeciliid fish *Heterandria formosa*. *Ethology*, 166: 736-743.
7. **Säilä, L. K.** 2009. The alpha taxonomy of the Russian Permian procolophonoids. *Acta Paleontologica Polonica*, 54: 599-608.
8. **Säilä, L. K.** 2008. The osteology and phylogenetic relationships of *Anomoiodon liliiensterni*, a procolophonoid reptile from the Middle Triassic Buntsandstein of Germany. *Journal of Vertebrate Paleontology* 28: 1199–1205.
9. **Säilä, L. K.** 2005. A new species of the sphenodontian reptile *Clevosaurus* from the Lower Jurassic of South Wales. *Palaeontology* 48: 817–831.

Refereed articles in conference proceedings (A4)

1. **Säilä, L. K.** 2009. The interrelationships, palaeobiogeography, and the P-Tr extinction event survival rate of the parareptile clade Procolophonoidea; pp 65-67 in *Proceedings of the 10th Symposium of Mesozoic Terrestrial Ecosystems*. Dinopolis, Teruel.
2. Gill, P. G., **Säilä, L. K.**, Corfe, I. J., Challands, T., Williams, M. and Clemens, W. A. 2006. The fauna and palaeoenvironment of St. Bride's Island: evidence from the Lower Jurassic fissure fills

of South Wales; pp. 48–51 in *Proceedings of the 9th Symposium of Mesozoic Terrestrial Ecosystems and Biota*. Natural History Museum, London.

Article in a professional journal (D1)

Säilä, L. K. Progressive Palaeontology 2006 (Bristol, UK) – meeting report. *Palaeontological Association Newsletter*, 67, 49-53.

Scientific Illustrations

In addition to my own publications, my illustrations have been published in the following books, journals, and papers:

1. Benton, M. (in press). *Vertebrate Palaeontology*. 4th Edition. Blackwell-Wiley. – Reconstruction of the skull and skeleton, and a life-reconstruction of the procolophonid *Leptopleuron lacertinum*.
2. Trewin, N. 2013. *Scottish fossils*. 144 pp. Dunedin Academic Press. – Photograph and stipple-drawing of a fossil specimen, and a life-reconstruction of the procolophonoid *Leptopleuron lacertinum*.
3. The cover of *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* issue 101 – Stipple drawing of a fossil specimen and a life-reconstruction of the procolophonoid *Leptopleuron lacertinum*.
4. Eronen, J. T. Evans, A. R., Jernvall, J, and Fortelius, M. 2009. The impact of regional climate of the evolution of mammals. A case study using fossil horses. *Evolution*, 64: 398-408. – Life-reconstruction of the fossil horse *Anchytherium*.
5. Gill, Pam G. 2005. *Kuehneotherium* from the Mesozoic fissure fillings of South Wales. PhD thesis, University of Bristol. – Reconstruction of the lower jaw bone of *Kuehneotherium*.
6. Keskinen E. and Meyer-Rochow V. B. 2004. Post-embryonic photoreceptor development and dark/light adaptation in the spittle bug *Philaenus spumarius* (L.) (Homoptera, Cercopidae). *Arthropod Structure & Development* 33: 405–417. – Various figures showing the eye structures of *Philaenus spumarius*.
7. Keskinen E. and Meyer-Rochow V. B. 2004. Post-embryonic photoreceptor development in the fishlouse *Argulus coregoni* Thorell, 1865 (Crustacea: Branchiura). *Acta Parasitologica* 49: 336–347. – Various figures showing the eye structures of *Argulus coregoni*.

Five most recent conference papers

- *Blood is thicker than water: Replacement patterns in Eurasian feliform carnivores*; Säilä L.K., M. Fortelius, E. Oikarinen, L. Werdelin, and I. Corfe. SVP 2014 meeting, Berlin (Germany).
- *Fossil mammals, phylogenies and climate: the effects of phylogenetic relatedness on range sizes and replacement patterns in changing environments*; Säilä L.K., M. Fortelius, E. Oikarinen, L. Werdelin, and I. Corfe. SVPCA 2012 meeting, Oxford (UK).
- *Taxon replacement: Invasion or speciation? First results for a supertree of Neogene Mammals*; Säilä L.K., M. Fortelius, L. Werdelin, E. Oikarinen, I. Corfe, and A. Tuomola. SVP 2011 meeting, Las Vegas (USA).
- *Patterns in the origin of multicuspid teeth among terrestrial amniotes – early adopters from Devon*; Säilä L.K., I. Corfe (presenter), A. Kallonen, K. Hämäläinen and J. Jernvall. SVPCA 2011 meeting, Lyme Regis (UK).
- *A new procolophonoid parareptile from Australia (Arcadia Formation, Early Triassic)*; Säilä L.K. and S. Evans. SVPCA 2011 meeting, Lyme Regis, (UK).