

An extended mtDNA phylogeography for the alpine newt illuminates the provenance of introduced populations

Jody Robbemont^{1,2,*}, Sam van Veldhuijzen^{1,2,*}, Steven J.R. Allain³, Johanna Ambu⁴, Ryan Boyle⁵, Daniele Canestrelli⁶, Éinne Ó Cathasaigh⁷, Chris Cathrine⁸, Andrea Chiochio⁶, Dan Cogalniceanu⁹, Milena Cvijanović¹⁰, Christophe Dufresnes⁴, Collie Ennis¹¹, Rob Gandola¹¹, Daniel Jablonski¹², Angela Julian¹³, Daria Kranželić¹⁴, Simeon Lukanov¹⁵, Iñigo Martínez-Solano¹⁶, Ryan Montgomery^{5,13}, Borislav Naumov¹⁵, Matthew O'Neill¹⁷, Alexandra North^{18,19}, Maciej Pabijan²⁰, Robert Pushendorf¹⁸, Daniele Salvi²¹, Bruno Schmidt¹⁴, Konstantinos Sotiropoulos²², Florina Stanescu^{9,23}, David Stanković²⁴, Sarah Stapleton²⁵, Emina Šunje^{26,27,28}, Márton Szabolcs²⁹, Emiliya Vacheva¹⁵, David Willis³⁰, Adnan Zimić^{27,31}, James France^{1,2}, Willem R.M. Meilink^{1,2}, Tariq Stark³², Richard P.J.H. Struijk³², Anagnostis Theodoropoulos^{1,2}, Manon C. de Visser^{1,2}, Ben Wielstra^{1,2,**}

1 - Naturalis Biodiversity Center, P.O. Box 9517, 2300 RA Leiden, The Netherlands

2 - Institute of Biology Leiden, Leiden University, P.O. Box 9505, 2300 RA Leiden,

The Netherlands

- 3 - Durrell Institute of Conservation and Ecology, School of Anthropology and Conservation, University of Kent, Canterbury, CT2 7NR, UK
- 4 - Laboratory for Amphibian Systematic and Evolutionary Research (LASER), College of Biology & Environment, Nanjing Forestry University, Nanjing, China
- 5 - Northern Ireland Amphibian and Reptile Group, Belfast, UK
- 6 - Department of Ecological and Biological Sciences, Tuscia University, Largo dell'Università snc, 01100, Viterbo, Italy
- 7 - Herpetological Society of Ireland, Munster, Ireland
- 8 - Caledonian Conservation Ltd, Office 2 and 3, Craigarnhall, Bridge of Allan, Stirling, FK9 4NG, Scotland, UK
- 9 - Faculty of Natural Sciences and Agricultural Sciences, Ovidius University Constanța, Al. Universității 1, 900470 Constanța, Romania
- 10 - Institute for Biological Research “Siniša Stanković”, National Institute of Republic of Serbia, University of Belgrade, Bul. Despota Stefana 142, 11060 Belgrade, Serbia
- 11 - Herpetological Society of Ireland, Wicklow, Ireland
- 12 - Department of Zoology, Comenius University in Bratislava, Ilkovičova 6, 842 15 Bratislava, Slovakia
- 13 - Amphibian and Reptile Groups of UK (ARG UK), 82 Gidley Way, Horspath, Oxford, OX33 1TG, UK
- 14 - Association Hyla, Lipovac I no. 7, 10000 Zagreb, Croatia

- 15 - Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences,
2 Gagarin Street, 1113 Sofia, Bulgaria
- 16 - Museo Nacional de Ciencias Naturales (MNCN-CSIC), c/ José Gutiérrez Abascal,
2, 28006 Madrid, Spain
- 17 - Atlantic Technological University, Freshwater and Marine Biology Program, Old
Dublin Rd, H91 T8NW Galway, Ireland
- 18 - School of Biological and Marine Science, University of Plymouth, Plymouth PL4
8AA, UK
- 19 - Institute of Zoology, Zoological Society London, London, NW1 4RY, UK
- 20 - Institute of Zoology and Biomedical Research, Faculty of Biology, Jagiellonian
University, Gronostajowa 9, 30-387 Kraków, Poland
- 21 - Department of Health, Life and Environmental Sciences, University of L'Aquila,
Via Vetoio, 67100 Coppito, L'Aquila, Italy
- 22 - Department of Biological Applications and Technology, University of Ioannina,
45110 Ioannina, Greece
- 23 - Black Sea Institute for Development and Security Studies (BSIDSS) and Center for
Morphological and Genetic Studies of Malignant Pathology (CEDMOG), Ovidius
University Constanța, Al. Universității 1, 900470 Constanța, Romania
- 24 - National Institute of Biology (NIB), Department of Organisms and Ecosystems
Research, Večna pot 111, 1000 Ljubljana, Slovenia
- 25 - National Parks and Wildlife Service, Dublin, D07 N7CV, Ireland

26 - Evolutionary Ecology Group, Faculty of Science, University of Sarajevo, Zmaja od Bosne 33-35, Sarajevo, Bosnia and Herzegovina

27 - Herpetological Association in Bosnia and Herzegovina – ATRA, Urijan Dedina
137, 71 000 Sarajevo, Bosnia and Herzegovina

28 - Laboratory of Functional Morphology, University of Antwerpen, Universiteitsplein
1, 2610 Wilrijk, Belgium

29 - Department of Tisza Research, Institute of Aquatic Ecology, Centre for Ecological
Research, Bem tér 18/C, 4026 Debrecen, Hungary

30 - Hertfordshire Amphibian and Reptile Group, Hetfield, UK

31 - National Museum of Bosnia and Herzegovina, Zmaja od Bosne 3, 71 000 Sarajevo,
Bosnia and Herzegovina

32 - Reptile, Amphibian and Fish Conservation Netherlands (RAVON), P.O. Box 1413,
6501 BK Nijmegen, The Netherlands

*These authors contributed equally to this work.

**Corresponding author; e-mail: ben.wielstra@naturalis.nl

ORCID iDs: Robbemont: 0009-0000-7111-5110; van Veldhuijzen: 0000-0002-3641-071X; Allain: 0000-0002-5669-0149; Ambu: 0000-0002-8072-7677; Canestrelli: 0000-0001-9351-4972; Cathasaigh: 0000-0001-8027-0905; Cathrine: 0009-0009-2069-7320; Chiocchio: 0000-0002-0067-7025; Cogalniceanu: 0000-0003-2959-014X; Dufresnes: 0000-0002-8497-8908; Ennis: 0000-0002-8714-9793; Gandola: 0000-0002-0550-1707; Jablonski: 0000-0002-5394-0114; Kranzelic: 0000-0001-6291-0593; Lukanov: 0000-0002-2546-6590; Martinez-Solano: 0000-0002-2260-226X; North: 0000-0002-2942-

3467; Pabijan: 0000-0001-5557-2338; Puschendorf: 0000-0002-8105-171X; Salvi:
0000-0002-3804-2690; Schmidt: 0000-0003-3544-4739; Sotiropoulos: 0000-0002-
3622-7907; Stanescu: 0000-0001-6872-664X; Stankovic: 0000-0002-3312-382X;
Sunje: 0000-0003-3050-8545; Vacheva: 0000-0002-3008-6648; Meilink: 0009-0006-
4451-1779; Theodoropoulos: 0009-0003-0272-6358; de Visser: 0000-0003-3681-6151;
Wielstra: 0000-0002-7112-5965

Supplementary material

