

## **Annual report 2007**

### **Department of Zoology ('Overige Zoology') - Reptiles and Amphibians**

#### **Staff**

##### Researcher / Curator:

Arntzen, Dr. J. W. (Pim)

##### Associates:

Michels, Mr. J. P. (Pieter)

Ross, Mr. F. D. (Franklin)

Sparreboom, Prof. M. (Max)

##### PhD-students:

Themudo, Mr. G., (Goncalo) PhD-student in combination with University of Porto, Portugal (co-supervisor Dr. N. Ferrand)

Wielstra, Mr. B. (Ben) - per December 1, PhD-student in combination with the ITC, Enschede (co-supervisor Dr. B. Toxopeus and Prof. A. Skidmore)

##### Student trainees:

Bosman, Mr. N. (Niels), MSc-student at the University of Tilburg (co-supervisors Dr. A. van den Bosch and Dr. C. Sporleder), project finished in 2007

Curado, Mr. N. (Nuno), MSc-student at the IBL, University of Leiden (co-supervisor Dr. K. Musters)

Gelder, Mrs. I. van (Iris), MSc-student from University of Leiden, project finished in 2007

Loman, Mrs. J. (Juke), MSc-student from University of Leiden, project finished in 2007

Negga, Mr. H. (Henok), MSc-student at the ITC, Enschede (co-supervisor Dr. B. Toxopeus & Dr. K. de Bie), project finished in 2007

Poot, Mrs. F. (Floor), MSc-student at the IBL, University of Leiden (co-supervisors Prof. M. Richardson), project finished in 2007

Ramaelo, Mr. A. (Abel), MSc-student at the ITC, Enschede (co-supervisors Dr. B. Toxopeus & Dr. K. de Bie), project finished in 2007

Rotteveel, Mr. E. (Erik), MSc-student from University of Leiden, project finished in 2007

Vonk, Mr. F. (Freeck), BSc-student from University of Leiden, project finished in 2007

Wielstra, Mr. B. (Ben), MSc-student from University of Leiden, graduated cum laude in 2007

## **Activities**

### Teaching:

Arntzen supervised four students for their practical work in the IBED201 course of the Institute for Biodiversity & Ecosystem Dynamics, University of Amsterdam from November 5-23 and another four students in the IBL/NHN course 'Biodiversiteit', from November 28 - December 21.

Internal supervisor at Naturalis for the NWO-'MITCH' (Mining for Information in Texts from the Cultural Heritage) project that aims to extract and make available information from field books and registers from the Reptile and Amphibian collections of Naturalis, from January up to and including November.

Member of the IUCN/SSC Amphibian Specialist Group.

### Meetings and conferences:

Population Genetics Group, Manchester, UK, January 10-12

British Ecological Society, Speciation meeting, Sheffield, UK, March 29-30

World Congress Landscape Ecology, Wageningen, July 7

European Society Evolutionary Biology, Uppsala, Sweden, August 20-25

Linnaeus Symposium KNAW, Amsterdam, September 2

Every other week a 'Moleculair Overleg' was held with alternately the discussion of techniques and current progress and the discussion of scientific research papers

### Fieldwork:

Abrantes, Portugal, March 31 - April 17

Mayenne, France, April 28 - May 6

Valongo, Portugal, October 18-22

### Thesis examinations:

Negga, Mr. H., MSc, ITC, Enschede, March 7

Ramaelo, Mr. A., MSc, ITC, Enschede, March 7

Müller, H. PhD, University of Leiden, Leiden, November 8

### Visitors:

Dr. J. Vörös from Hungarian National History Museum, Budapest, from July 8-12

Editorial, review and support services:

Associate Scientific Editor of the 'Herpetological Journal', member of the editorial Board of the 'Zeitschrift fur Feldherpetologie' and 'Contributions to Zoology'.

Manuscripts were reviewed for colleagues and for the following journals: Acta Zoologica Hungarica, Aquatic Conservation, Biologia, EEE, Evolution, Genetica, Global Ecology Biogeography, Heredity, Journal Zoology, Molecular Ecology (n=3), Revista Espanola Herpetologia, Turkish Journal Zoology, Zoological Journal Linnean Society, Zoologica Scripta and Zoology.

Reviewer for the Global Amphibian Assessment.

Grant applications were assessed for the Flemish 'Fonds voor Wetenschappelijk Onderzoek'.

Evaluation of nine PhD-candidates for the Flemish 'Instituut voor Innovatie door Wetenschap en Technologie' in Brussels on November 19.

Presentations:

'Molecular genetic testing of landscape ecological hypotheses: the dynamics of species distributions' at Bielefeld University, Bielefeld, Germany on July 4.

'Molecular genetic testing of landscape ecological hypotheses: the dynamics of species distributions' at the World Congress Landscape Ecology, Wageningen on July 7.

'Dispersal at the range edge. I. *Triturus* salamanders in Portugal' colloquium at Naturalis on December 11.

Posters:

Vörös, J., Arntzen J. W. & A. Major (2007) Molecular diversity and newt population genetic structure of the Danube crested newt (*Triturus dobrogicus* Kiritzescu, 1903) in the Pannonian lowlands. Poster presented at the General Meeting of the Societas Europaea Herpetologica, Porto, Portugal, September 19-13.

Espregeira Themudo, G. & J. W. Arntzen (2007) Nuclear introns aimed to elucidate the phylogeny and historical biogeography of newts in the genus *Triturus*. Poster presented at the Meeting of the European Society Evolutionary Biology, Uppsala, Sweden, August 20-25, and the General Meeting of the Societas Europaea Herpetologica, Porto, Portugal, September 13-19.

Wielstra, B., Espregueira Themudo, G. & J. W. Arntzen (2007) The mitochondrial DNA phylogeography of the crested newt *Triturus karelinii*. Poster presented at the Meeting of the European Society Evolutionary Biology, Uppsala, Sweden, August 20-25, and the General Meeting of the Societas Europaea Herpetologica, Porto, Portugal, September 13-19.

### List of publications

#### SCI-listed journals:

- Steinfartz, S., S. Vicario, J. W., Arntzen & A. Caccone (2007) A Bayesian approach on molecules, morphology and behavior: reconsidering phylogenetic and evolutionary patterns of the Salamandridae with emphasis on *Triturus* newts. *Journal Experimental Zoology (Mol. Devol. Evol.)*. 308B: 139-162.
- Espregueira Themudo, G. & J. W. Arntzen (2007) Molecular identification of marbled newts and a justification of the *Triturus marmoratus* and *T. pygmaeus* species status. *Herpetological Journal* 17: 24-30.
- Gassó i Miracle, E., L. W. van den Hoek Ostende & J. W. Arntzen (2007) Type specimens of amphibians in the National Museum of Natural History, Leiden, The Netherlands. *Zootaxa* 1482: 25-68.
- Arntzen, J.W., D.S.J. Groenenberg, J. Alexandrino, N. Ferrand & F. Sequeira (2007). Geographical variation in the Golden-striped salamander, *Chioglossa lusitanica* Bocage, 1864 and the description of a newly recognized subspecies. *Journal of Natural History* 41: 925-936.
- Espregueira Themudo, G. & J. W. Arntzen (2007) Newts under siege: Range expansion of *Triturus pygmaeus* isolates population of its sister species. *Diversity and Distributions* 13: 580-586.
- Arntzen, J. W., G. Espregueira Themudo & B. Wielstra (2007) The phylogeny of crested newts (*Triturus cristatus* superspecies): nuclear and mitochondrial genetic characters suggest a hard polytomy, in line with the paleogeography of the centre of origin. *Contributions to Zoology* 76: 261-278.
- Arntzen, J. W. & G. Espregueira Themudo (in press) Environmental parameters that determine species geographical range limits as a matter of time and space. *Journal of Biogeography*.

#### Book chapters:

Arntzen, J. W. & P. Sá-Sousa (2007) Morphological and genetical differentiation of lizards (*Podarcis bocagei* and *P. hispanica*) in the Ria de Arosa archipelago (Galicia, Spain) resulting from vicariance and occasional dispersal. Pp. 365-401 in: Biogeography, Time and Place. Distributions, Barriers and Islands. Editor W. Renema. Springer, Dordrecht, The Netherlands.

Not-SCI-listed journals:

- IUCN (2004) The IUCN list of threatened species. Species accounts: *Alytes cisternasii*, *Alytes dickhilleni*, *Alytes muletensis*, *Chioglossa lusitanica*, *Proteus anguinus*, *Triturus boscai*, *Triturus dobrogicus* and *Triturus pygmaeus*. [Http://www.iucnredlist.org](http://www.iucnredlist.org).
- Ross, F. D. (2007) *Crocodylus niloticus vulgaris* Cuvier retracted. IUCN-SSC Crocodile Specialist Group Newsletter 26 (2): 21.
- Ross, F. D. (2007) Nilekroko map for hypothesis testing. IUCN-SSC Crocodile Specialist Group Newsletter 26 (2): 21-22.
- Ross, F. D. (2007) Nilekroko-Pedomorp-Chad and NK-P Mauritania. IUCN-SSC Crocodile Specialist Group Newsletter 26 (2): 23.
- Ross, F. D. (2007) *Crocodylus rhombifer*, *C. acutus* and *C. moreletii* sometimes key wrong. IUCN-SSC Crocodile Specialist Group Newsletter 26 (3): 17-18.
- Sparreboom, M. (2007) Website 'Salamanders of the Old World'. See <http://science.naturalis.nl/research/people/cv/sparreboom/salamanders-of-the-old-world.aspx>

Submitted:

- Arntzen, J. W. & G. Themudo (2007) Distribution of *Triturus marmoratus* and *T. pygmaeus*. In 'Atlas of the amphibians and reptiles of Portugal' (ed. A. Loureiro *et al.*).
- Arntzen, J.W. & G. Smit (2007) *Triturus cristatus* (Laurenti 1768) - noordelijke kamsalamander. RAVON atlas amfibieën en reptielen van Nederland.
- Lanza, B., E. Gentile & J. W. Arntzen (in press) Vertebral numbers in the Caudata of the western Palaearctic (Amphibia). Atti Museum Milano N. S.
- Laurin, M., J. W. Arntzen, A. M. Bauer, S. E. Evans, A. Kupfer, D. Marjanović, H. Müller, L. Olsson, J.-C. Rage & D. San Mauro (submitted). Amphibia C. Linnaeus 1758, converted clade name.
- Laurin, M., J. W. Arntzen, A. M. Bauer, S. E. Evans, A. Kupfer, D. Marjanović, H. Müller, L. Olsson, J.-C. Rage & D. San Mauro (submitted). Lissamphibia E. Haeckel 1866, converted clade name.

By third parties:

at least in part based upon Naturalis-material (including older publications not listed previously)

- Bour, R. (2006) Identity of *Testudo gigantea* Schweigger, 1812 and rediscovery of the type specimen. *Emys* 13 : 12-23.
- Brophy, T. R. (2006) Allometry and sexual dimorphism in the snail-eating turtle *Malayemys macrocephala* from the Chao Phraya river basin of central Thailand. *Chelonian Conservation Biology* 5: 159-165.
- Delfino, M., Böhme, M. & L. Rook (2007) First European evidence for transcontinental dispersal of *Crocodylus* (late Neogene of southern Italy). *Zoological Journal Linnean Society* 149: 293-307.
- Malhotra, A. & R. S. Thorpe (2004) Maximizing information in systematic revisions: a combined molecular and morphological analysis of a cryptic green pitviper complex (*Trimeresurus stejnegeri*). *Biological Journal Linnean Society* 82: 219-235.
- Ohler, A. & A. Dubois (2006) *Hyla reinwardtii* Schlegel, 1840 as a nomen protectum. *Alytes* 23: 123-132.
- Sanders, K. L., Malhotra, A. & R. S. Thorpe (2004) Ecological diversification in a group of Indomalayan pitvipers (*Trimeresurus*): convergence in taxonomically important traits has implications for species identification. *Journal Evolutionary Biology* 17: 721-731.
- Sanders, K. L., Malhotra, A. & R. S. Thorpe (2006). Combining molecular, morphological and ecological data to infer species boundaries in a cryptic tropical pitviper. *Biological Journal Linnean Society* 87: 343-364.
- Sanders, K. L., Malhotra, A., Gumprecht, A., Thorpe, R. S. & U. Kuch (2004) *Popeia inornata*, a new species of pitviper from west Malaysia (Squamata: Viperidae: Crotalinae). *Russian Journal Herpetology* 11: 171-184.

**Grants**

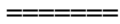
A grant was allocated by NWO/ALW to Prof. M. Richardson and J. W. Arntzen to study 'Developmental mechanisms of body plan evolution in a morphocline of salamanders'. The grant will allow the appointment of a postdoctoral worker for three years.

A Naturalis Martin-fellowship was awarded to Mr. N. Poyarkov from Moscow State University, Moscow, Russia for the duration of 12 months and a short-term Naturalis Temminck-fellowship was awarded to Dr. G. Wallis from the University of Otago, Dunedin, New Zealand.

**Citations**

J. W. Arntzen: 1312 (increase of 188 relative to the same time last year)

Web-of-Science Hirsch-Index: 21



Compiled by J. W. Arntzen, Leiden, December 21, 2007