



# EUROPEAN ASSOCIATION OF ZOOS AND AQUARIA

## Annual Reports 2024

### ANNEX – RESEARCH PUBLICATIONS

Please find below some of the scientific papers co-authored by members of TAGs and their collaborators that have been published in 2024 and mentioned in the TAGs' annual reports. Visit the Zoo Science Library ([www.zoosciencelibrary.org](http://www.zoosciencelibrary.org)) for more publications.

|                        |   |
|------------------------|---|
| FRESHWATER TELEOST TAG | 2 |
| AMPHIBIAN TAG          | 2 |
| REPTILE TAG            | 3 |
| RAPTOR TAG             | 6 |
| HORNBILL TAG           | 7 |
| SONGBIRD TAG           | 7 |
| GREAT APE TAG          | 7 |
| BEAR TAG               | 7 |
| SMALL CARNIVORE TAG    | 7 |
| EQUID TAG              | 7 |
| CAPRINAE TAG           | 8 |

## FRESHWATER TELEOST TAG

Kapakos, Y. et al. (2024). *Embryonic and larval development of a highly threatened killifish: ecological and conservation implications*. Environ Biology Fish, 107: 293-305

## AMPHIBIAN TAG

Aravind, C. K. et al. (2024). *Revisiting current distribution and future habitat suitability models for the endemic Malabar Tree Toad (Pedostibes tuberculosus) using citizen science data*. Scientific Reports, 14 (18856): 1-20

Borgwerth, M. et al. (2024). *Gaps in the protection of the amphibians of Myanmar—threat status, endemism, protected area coverage and One Plan Approach conservation*. Integrative Conservation, 2024: 1-15

Böning, P. et al. (2024). *Alpine salamanders at risk? The current status of an emerging fungal pathogen*. PLOS ONE, 19(5): e0298591

Calatayud, N.E. et al. (2024). *Amphibian assisted reproductive technologies and biobanking*. In Wren, S. et al. (eds). *Amphibian conservation action plan: a status review and roadmap for global amphibian conservation*

De Padova, J. et al. (2024). *Acute hypoxia exposure rapidly triggers behavioral changes linked to cutaneous gas exchange in Lake Titicaca frogs*. Behavioural Processes, 219: 105047

Gumbs, R. et al. (2024). *Global conservation status of the jawed vertebrate Tree of Life*. Nature Communications, 15(1): 1101

Hoang, C.V. et al. (2024). *A new species of Leptobrachella Smith 1925 (Anura, Megophryidae) from Lai Chau Province, Vietnam*. Biodiversity Data Journal, 12: e136491

Isa, H.R., Tapley, B. and Michaels, C.J. (2024). *How many Data Deficient amphibians are threatened? IUCN Red List assessments for amphibian species previously classed as Data Deficient*. The Herpetological Bulletin, 169: 12-17

Mangiamele, L.A. et al. (2024). *How new communication behaviors evolve: Androgens as modifiers of neuromotor structure and function in foot-flagging frogs*. Hormones and Behavior, 161: 105502

Mao, J. et al. (2024). *A conservation action plan for Chinese giant salamanders*. Green Camel Bell

Mao, J. et al. (2024). *Workshop for the protection of Chinese giant salamanders*. Oryx, 58(2): 148

Marquis, D. et al. (2024). *Spatial ecology of the endangered and endemic Sagalla caecilian (Boulengerula niedeni) in the Eastern Arc Mountains of Kenya*. The Herpetological Journal, 34: 163-171

Marr, M.M. et al. (2024). *What's in a name? Using species delimitation to inform conservation practice for Chinese giant salamanders (Andrias spp.)*. Evolutionary Journal of the Linnean Society, 3(1): kzae007

Nguyen, L.T. et al. (2024). *A new Oreolalax (Anura: Megophryidae) from the Hoang Lien Range, northwest Vietnam*. Zootaxa, 5514: 501-524

Nguyen, T.T. et al. (2024). *Zhangixalus thaoae sp. nov., a new green treefrog species from Vietnam (Anura, Rhacophoridae)*. ZooKeys, 1197: 93-113

Nguyen, T.T. et al. (2024). *It's VIETNAMAZING: First successes in the EAZA conservation campaign 2024-25 for the flagship species mossy frogs*. Amphibian Ark Newsletter, 67: 9-10

Ninh, H.T. et al. (2024). *A new species of bug-eyed tree frog, genus Theloderma (Amphibia: Anura: Rhacophoridae) from Vietnam*. Raffles Bulletin of Zoology, 72: 252-267

Ninh, H.T. et al. (2024). *A new leaf-litter frog of Leptobrachella (Anura: Megophryidae) from Tay Con Linh mountain, northern Vietnam*. Russian Journal of Herpetology, 31(4): 191-224

Pasmans, F. et al. (2024). *Tylototriton ziegleri Nishikawa, Matsui & Nguyen, 2013 – Ziegler's crocodile newt*. Mertensiella, 35: 188-197

Pham, A.V. et al. (2024). *Feeding ecology of the Jingdong frog Odorrana jingdongensis from Vietnam*. Herpetological Journal, 34: 188-196

Pham, A.V., et al. (2024). *The herpetofauna of Copia Nature Reserve, Vietnam*. Amphibian & Reptile Conservation, 18(1&2): 20-47

Pham, A.V., et al. (2024). *Variation in dietary composition of the Banna fanged frog (Limnonectes bannaensis Ye, Fei, Xie & Jiang, 2007) from Vietnam*. Animal Biology, 74(3): 237-253

Pham, A.V. et al. (2024). *New record and dietary ecology of a poorly-known treefrog, Zhangixalus pachyproctus Yu, Hui, Hou, Wu, Rao & Yang, 2019 (Anura, Rhacophoridae) in Vietnam*. Biodiversity Data Journal, 12: e137528

Talavera, A. et al. (2024). *Integrative systematic revision of the Montseny brook newt (Calotriton arnoldi), with the description of a new subspecies*. PeerJ, 12: e17550

## REPTILE TAG

Borgwerth, M. et al. (2024). *Gaps in the protection of the amphibians of Myanmar—threat status, endemism, protected area coverage and One Plan Approach conservation*. Integrative Conservation, 2024: 1-15

Chmelař, J. et al. (2024). *Microhabitat preferences in the European green lizard (Lacerta viridis): implications for conservation management of isolated populations*. Herpetozoa, 37: 287-294

- Clarac, F., Campos, Z. and Marquis, O. (2024). *The extended osteoderm shield in Paleosuchus sp.: a dwarf crocodylian adaptation to the equatorial forest ecosystem?* Comptes Rendus Palevol, 2024(12): 161-170
- Harrer, S. et al. (2024). *Disappearing archosaurs – an assessment of established protected areas in the Philippines to save the critically endangered, endemic Philippine Crocodile (Crocodylus mindorensis)*. Salamandra, 60(1): 29-41
- Hoang, C. V. et al. (2024). *A new species of Leptobrachella Smith 1925 (Anura, Megophryidae) from Lai Chau Province, Vietnam*. Biodiversity Data Journal, 12: e136491
- Hughes, D.F. et al. (2024). *Taxonomy of the Rhampholeon boulengeri Complex (Sauria: Chamaeleonidae): Five new species from Central Africa's Albertine Rift*. Zootaxa, 5458 (4): 451–494
- Jain, A. et al. (2024). *Using local ecological knowledge to determine the status of Cantor's giant softshell turtle Pelochelys cantorii in Kerala, India*. Oryx, 58(3): 300-309
- Kane, D. et al. (2024). *Effects of prey-based and non-prey-based scent enrichment on two zoo-housed monitor lizards*. Herpetological Bulletin, 170: 14-18
- Kane, D. et al. (2024). *Diploderma chapaense (Chapa Mountain Lizard) predation and clutch size*. Herpetological Review, 54(3): 465-466
- Langner, C. and Wagner, P. (2024). *20 Jahre erfolgreiche Erhaltungszucht im Internationalen Zentrum für Schildkrötenschutz (IZS) – eine Hommage an Ingrid & Elmar Meier*. ZGAP Mitteilungen, 1: 20–23
- Le, M. D. et al. (2024). *Climatic niche modelling and genetic analyses highlight conservation priorities for the Spotted Softshell Turtle (Pelodiscus variegatus)*. Nature Conservation, 55: 67–82
- LeBlanc, A.R. et al. (2024). *Iron-coated Komodo dragon teeth and the complex dental enamel of carnivorous reptiles*. Nature Ecology & Evolution, 8(9): 1711-1722
- Meier, E. et al. (2024). *Terrarianer als Artenretter: Haltung und Nachzucht der Vietnamesischen Dreistreifen-Scharnierschildkröte, Cuora cyclornata, in menschlicher Obhut*. Reptilia, 29(3): 34–41
- Ngo, H. T. et al. (2024). *Another new species of Cyrtodactylus (Squamata: Gekkonidae) from Binh Dinh Province, south-central Vietnam*. Zootaxa, 5446 (1): 105–120
- Ngo, H. N. et al. (2024). *Dietary niche of the endangered Psychedelic Rock Gecko (Cnemaspis psychedelica) in southern Vietnam*. Animal Biology, 74(2): 151-162
- Ngo, H. N. et al. (2024). *Distinct sexual dimorphism in a vulnerable lizard, Physignathus cocincinus, in Vietnam: an indirect cause for male-biased exploitation?* Salamandra, 60(4): 254–262
- Nguyen, T.T. et al. (2024). *It's VIETNAMAZING: First successes in the EAZA conservation campaign 2024-25 for the flagship species mossy frogs*. Amphibian Ark Newsletter, 67: 9-10
- Nguyen, T. T. et al. (2024). *Zhangixalus thaoae sp. nov., a new green treefrog species from Vietnam (Anura, Rhacophoridae)*. ZooKeys, 1197: 93–113

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- Ninh, H. T. et al. (2024). *A new species of bug-eyed tree frog, genus Theloderma (Amphibia: Anura: Rhacophoridae) from Vietnam*. Raffles Bulletin of Zoology, 72: 252–267
- Pasmans, F. et al. (2024). *Tylototriton ziegleri Nishikawa, Matsui & Nguyen, 2013 – Ziegler's crocodile newt*. Mertensiella, 35: 188–197
- Pham, A. V. et al. (2024). *Feeding ecology of the Jingdong frog Odorrana jingdongensis from Vietnam*. Herpetological Journal, 34(July): 188–196
- Pham, A. V. et al. (2024). *The herpetofauna of Copia Nature Reserve, Vietnam*. Amphibian & Reptile Conservation, 18(1&2): 20–47
- Pham, A. V. et al. (2024). *A new skink of the genus Scincella Mittleman, 1950 (Squamata: Scincidae) from Hoa Binh Province, northern Vietnam*. Zootaxa, 5428 (1): 091–106
- Pham, A. V. et al. (2024). *Variation in dietary composition of the Banna fanged frog (Limnonectes bannaensis Ye, Fei, Xie & Jiang, 2007) from Vietnam*. Animal Biology, 74(3), 237–253
- Pham, A.V. et al. (2024). *New record and dietary ecology of a poorly-known treefrog, Zhangixalus pachyproctus Yu, Hui, Hou, Wu, Rao & Yang, 2019 (Anura, Rhacophoridae) in Vietnam*. Biodiversity Data Journal, 12: e137528
- Rakotondrina, A.J. et al. (2024). *New distribution records and population density of the Critically Endangered Tarzan Chameleon (Calumma tarzan), eastern Madagascar*. African Journal of Herpetology, 73(1): 36–47
- Rehák, I. et al. (2024). *Želva obrovská a člověk / The Aldabra Giant Tortoise and Human*. Živa (Academia, Praha), 1: 41–44
- Riedel, J. et al. (2024). *Ecologically-related variation of digit morphology in Cyrtodactylus (Gekkota, Squamata) reveals repeated origins of incipient adhesive toepads*. Functional Ecology, 38(7): 1630–1648
- Riedel, J. et al. (2024). *Ecomorphology of the locomotor apparatus in the genus Cyrtodactylus (Gekkota, Squamata)*. Evolutionary Biology, 51: 106–123
- Tran, T. T. et al. (2024). *A new species of the Cyrtodactylus chauquangensis species group (Squamata, Gekkonidae) from Lao Cai Province, Vietnam*. ZooKeys, 1192: 83–102
- Rogers, T. et al. (2024). *Using recent genetic history to inform conservation options of two Lesser Caymans iguana (Cyclura nubila caymanensis) populations*. Conservation Genetics, 25: 711–724
- Völkl, W., Beran, H. and Wagner, P. (2024). *Coronella austriaca Laurenti, 1768 (Squamata, Colubridae) im nördlichen Frankenjura – Verbreitungsmuster, Habitateinbindung und Schutzmöglichkeiten*. Mertensiella, 31: 68–79

Willis, J. et al. (2024). *Confiscation and rehabilitation of native and alien turtle species (Malayemys spp.) intended for prayer animal release in the Angkor Landscape*. Cambodian Journal of Natural History, 2: 95–100

Wagner, P. (2024). *20 Jahre Schutz asiatischer Schildkröten im Allwetterzoo*. Die Aquarien- und Terrarienzeitschrift, 77 (3): 74–81

Wagner, P. (2024). Echsen. S. 184–305. –In: Engelmann, W.E. & A. Jacken (Hrsg.): *Reptilien und Amphibien – Zootierhaltung*. 2. vollständig und aktualisierte Auflage, Verlag Europa-Lehrmittel, Haan-Gruiten, 630 S

Wagner, P. and Griffioen, C. (2024). *Artgerecht ist nur die Freiheit“? – Schildkrötenschutz am Beispiel Kambodscha*. Reptilia, 29(3): 34–41

Wagner, P. et al. (2024). *Have stories to tell – not things to show: Der neue Artenschutz Campus im Allwetterzoo*. ZGAP Mitteilungen, 1: 24–27

Ward, R.J. et al. (2024). *Three decades of recovery efforts for the agile frog (Rana dalmatina) in Jersey: Evaluating the effectiveness of interventions*. In: Walls, S.C & K.M. O'Donnell (eds.): *Strategies for Conservation Success in Herpetology*. SSAR

Zahradníčková, V. et al. (2024). *Postnatal dentition changes in the Cuban false chameleons: adaptation to a dietary shift*. Journal of Vertebrate Biology, 73 (24063): 1-20

Ziegler, T. et al. (2024). *„Vietnamazing“ – die EAZA-Artenschutz-Kampagne 2024*. ZGAP Mitteilungen, 1: 29-30

Ziegler, T. et al. (2024). *The 'VIETNAMAZING' EAZA conservation campaign 2024–2025*. WAZA (World Association of Zoos and Aquaria) News, 1: 42-47

Ziegler, T. et al. (2024). *„Vietnamazing“ – die EAZA-Artenschutz-Kampagne 2024–2025*. Arbeitsplatz Zoo, 35(1): 31-42

Ziegler, T. et al. (2024). *The freshwater fish flagship species of the “Vietnamazing” EAZA Conservation Campaign 2024-2025*. IUCN Freshwater Fish Specialist Group newsletter, 2: 18-19

## RAPTOR TAG

Ings, R., Brereton, J. E. and Dick, G. (2024). *Liver and Let Die? A Retrospective Analysis of Secretary bird Mortality in European Zoos*. Zoo Biology, 44(1): 49-56

Schwehn, R. et al. (2024). *Blood vessel topography of the feet in selected species of birds of prey and owls*. Veterinary Sciences, 11(2): 88

Schopf, F. et al. (2024). *Circulation of West Nile Virus and Usutu Virus in Birds in Germany, 2021 and 2022*. Journal of Infectious Diseases, 57(3): 256–277

## HORNBILL TAG

Groot, K. et al. (2024). A preliminary global investigation into potential impacts on successful captive breeding for two species of *Rhyticeros* hornbill. *Zoo Biology*, 3(5): 405-415

## SONGBIRD TAG

Shepherd, C.R. et al. (2024). *A newly emerging trade in New Guinea's butcherbirds (Cracticinae) in Indonesia*. *Eur J Wildl Res*, 70(66)

Shepherd, C.R. et al. (2024). *Observation of threatened pinyon jays *Gymnorhinus cyanocephalus* in the EU pet market as a potential additional threat*. *Eur J Wildl Res*, 70(97)

Jürgens, J. and Bruslund, S. (2024). *From South America to Southeast Asia: Exploring the consequences of international trade on seedeaters and leafbirds*. Book of abstracts 7th European Congress of Conservation Biology "Biodiversity positive by 2030".

<https://doi.org/10.6092/unibo/amsacta/7995>

Jürgens, J. et al. (2024). *Cites Appendix Iii Matters: Hidden Impacts of Cites Deletion on Global Bird Trade*. Available at SSRN: <https://ssrn.com/abstract=5037385>

## GREAT APE TAG

Laméris, D.W. et al. (2024). *Qualitative Behavioural Assessment of bonobo emotional expressivity across observer groups and zoo housing environments*. *Animal Welfare*, 33:e28

## BEAR TAG

Vineyard, T. and Kok, J. (2024). *Zoos: An Economic Instrument of Bear Conservation*. *International Bear News*, 33(3): 46-48

## SMALL CARNIVORE TAG

Boylan, J. and Balcazar-Vargas, M. P. (2024). *Managing Meerkats - shrinking suricates and boosting Malagasy carnivores: a novel management approach for the meerkat EEP*. *Zooquaria*, 121: 20

Bista, D. et al. (2024). *Red pandas on the move: weather and disturbance effects on habitat specialists*. *Wildlife Biology*, e01384

## EQUID TAG

Bernátková, A. et al. (2024). *Social networks of reintroduced Przewalski's horses in the Great Gobi B Strictly Protected Area (Mongolia)*. *Current Zoology*, 70(2): 182-194

Bobek, M. and Dobiášová, B. (2024). *Back to the wilderness: A new chapter is being written in the story of the wild horse, as Przewalski's horses return to the steppes of Kazakhstan*. Zooquaria, 124: 14-15

Kerekes, V. (2024). *Population processes in a Przewalski's horse herd in the Hortobagy National Park*. Doctoral dissertation, Debreceni Egyetem, Hungary

Stejskalova, K. et al. (2024). *Twelve toll-like receptor (TLR) genes in the family Equidae – comparative genomics, selection and evolution*. Veterinary Research Communications, 48(2): 725-741

## CAPRINAE TAG

Locatelli, Y. et al. (2024). *Successful transposition of sperm freezing, in vitro fertilization and artificial insemination methodologies in the Tadjik markhor species (Capra falconeri heptneri)*. Animal Reproduction, 21: e20240071

Locatelli, Y. (2024). *L'assistance médicale à la procréation au service de la biodiversité*. Médecine de la Reproduction, 26: 55-70

Pizzigalli, C. et al. (2024). *Assessment of population structure and genetic diversity of wild and captive populations of Ammotragus lervia provide insights for conservation management*. Conservation Genetics, 25: 59-73