YUCHEOL SHIN

E-mail: yshin@amnh.org / brongersmai2@gmail.com
Website: https://yucheols.github.io

EDUCATION

Ongoing **Ph.D. Comparative Biology** **Advisor: Dr. Frank T. Burbrink**
Richard Gilder Graduate School, American Museum of Natural History (AMNH), New York, NY, USA
Committee: Frank T. Burbrink, Brian T. Smith, J. Angel Soto-Centeno, Jessica L. Ware

2024 **B.S. Biological Sciences** **Advisor: Dr. Daesik Park**
Kangwon National University, Chuncheon, South Korea
Thesis: Pleistocene range dynamics of the two distantly related lungless salamanders endemic to the Korean Peninsula

2018 **Study Abroad, Biology** **Advisor: Dr. Jenny Duggan**
California State University, Monterey Bay, Seaside, CA, USA
Project: Comparing the efficiency of different survey methods for detecting herpetofauna at the UC Fort Ord Natural Reserve

FELLOWSHIPS, GRANTS, AND AWARDS

2026 Conference Travel Award (600 USD). Company of Biologists
2026 RGGS Sydney Anderson Travel Award (2,500 USD). American Museum of Natural History
2026 SSAR Student Travel Award (500 USD). Society for the Study of Reptiles and Amphibians
2025 SSB Graduate Student Research Award (3,000 USD). Society of Systematic Biologists
2025 Best Poster Award. Center for Biodiversity and Conservation, American Museum of Natural History
2025 RGGS Maxwell/Hanrahan Travel Award (3,000 USD). American Museum of Natural History
2025 ASIH Gaige Fund Award (1,000 USD). American Society of Ichthyologists and Herpetologists
2025 Howard McCarley Student Research Award (3,000 USD). Southwestern Association of Naturalists
2024 David L. Stephan Grants in Herpetology (1,000 USD). North Carolina Herpetological Society (Co-awarded with Neil Balchan)
2024 Richard Gilder Graduate Student Doctoral Fellowship. American Museum of Natural History
2024 President's Award for Academic Excellence (Ranked 1st in Graduating Class, Department of Biological Sciences), Kangwon National University
2023 Best Presentation Award (200,000 KRW). KNU College of Natural Sciences Undergraduate Research Competition
2022 SSAR Roger Conant Grant-in-Herpetology, Undergraduate Research (500 USD). Society for the Study of Reptiles and Amphibians
2022 KNU Foundation Scholarship (1,140,500 KRW). Kangwon National University
2022 Scholarship for Outstanding Academic Performance (862,000 KRW). Kangwon National University
2021 George B. Rabb Undergraduate Poster Award (250 USD). Society for the Study of Amphibians and Reptiles
2021 Best Poster Presentation Award. The Korean Society of Climate Change Research
2018 Undergraduate Summer Research Equipment Grant (390 USD). Undergraduate Research Opportunities Center, California State University, Monterey Bay
2018 KNU Learning Core Program Student Mentor Award (650,000 KRW). Kangwon National University
2018 BEST KNU Scholarship - Highest academic honors (2,101,000 KRW). Kangwon National University
2017 Scholarship for Outstanding Academic Performance (1,725,000 KRW). Kangwon National University
2017 BEST KNU Scholarship - Highest academic honors (2,101,000 KRW). Kangwon National University
2016 BEST KNU Scholarship - Highest academic honors (2,101,000 KRW). Kangwon National University
2016 Freshmen English Proficiency Award - 1st place (100,000 KRW). Kangwon National University

PUBLICATIONS

(All publications are available from: https://yucheols.github.io/publications)

Asterisk (*) indicates co-first authorship

Research articles

24. Y Zeng, J Park, **Y Shin,** D Park, S Deban. *In press*. Feeding in the Korean plethodontid salamander *Karsenia* and its evolutionary implications. *Journal of Morphology*.

23. Y Peng, C Yang, DB Kohler, W Yu, H Li, C Zhong, **Y Shin,** Z Piao, G Cao, W Zhu, A Borzée, Y Li**.** 2026. Environmental drivers of geographic isolation in three pika species in northeast Asia. *Integrative Zoology (Early View)*.

22. I-K Park, **Y Shin,** I-H Kim, D Park. 2026. Global climatic impact on the sea kraits living near the tectonic plate boundaries. *Ecological Informatics* 95: 103727.

21. Y Shin, A Borzée, D Park. 2025. Climatic data sources and limitations of ecological niche models impact the estimations of historical ranges and niche overlaps in distantly related Korean salamanders. *BMC Ecology and Evolution* 25: 105.

20. Y Shin, SN Othman, D Kohler, I Maslova, KR Messenger, A Borzée. 2025. Contributions to the knowledge of pitvipers (Viperidae: *Gloydius*) in the Democratic People's Republic of Korea: identification, description of specimens, and geographic distribution. *ZooKeys* 1249: 193-221.

19. A Borzée, A Angulo, H Meredith, J Groffen, ….., **Y Shin,** Y Bae, Z Wang, Z Qiu, R Pearce. 2024. Protecting Japanese Giant Salamanders (*Andrias japonicus*) in the Nawa River Basin, Japan: policy recommendations addressing water pollution and waterway disruption. *Frontiers in Amphibian and Reptile Science* 2: 1348251.

18. JY Jeon, **Y Shin**, AJ Mularo, X Feng, JA DeWoody. 2024. The integration of whole-genome resequencing and ecological niche modeling to conserve profiles of local adaptation. *Diversity and Distributions* 30: e13847.

17. I-K Park, **Y Shin,** H-J Baek, J Kim, D-I Kim, M Seok, Y Oh, D Park. 2024. Establishment potential across South Korea for two gecko species, *Gekko japonicus* and *G. swinhonis*, adapted to different climates. *NeoBiota* 93: 39-62.

16. A Borzée, **Y Shin**, Y Bae, D Jeong, H Amin, M-S Min, SN Othman. 2024. From Korean to northeast Asian endemicity: on the occurrence of *Pelophylax chosenicus* along the Eastern Coastal Yellow Sea. *Frontiers of Biogeography* 16: e62301.

15. Y Shin*, K Heo*, SN Othman, Y Jang, M-S Min, A Borzée. 2024. Tracing the geographic origin of a nonnative Red-banded Snake (Colubridae: *Lycodon rufozonatus*) found on Jeju Island, Republic of Korea. *Herpetologica* 80: 30-39.

14. Y Peng, Y Li, G Cao, H Li, **Y Shin**, Z Piao, F Perez, W Zhu, A Borzée. 2023. Estimation of habitat suitability and landscape connectivity for Liaoning and Jilin clawed salamanders (Hynobiidae: *Onychodactylus*) in the transboundary region between the People's Republic of China and the Democratic People's Republic of Korea. *Global Ecology and Conservation* 48: e02694.

13. J Li, **Y Shin**, M Hong, Y Jang, A Borzée. 2023. Is ultra-violet fluorescence a trait related to breeding in the Mongolian racerunner (*Eremias argus*; Lacertidae, Reptilia)? *Journal of Biological Research – Thessaloniki* 30: 3.

12. A Borzée, M Rodriguez, N Bhatri, YI Kim, ..., VK Prasad, Y Jang, **Y Shin**, SN Othman. 2023. Policy recommendation on the *Rana* trade towards the Republic of Korea. *Frontiers in Environmental Science* 11: 1097849.

11. D Jeong, **Y Shin**, B Lim, H Serret, Y Jang. 2023. Do Barn Swallows (*Hirundo rustica gutturalis*) prefer to breed in inhabited houses in South Korea? *The Wilson Journal of Ornithology* 134: 633-641.

10. Y Shin, K Kim, J Groffen, D Woo, E Song, A Borzée. 2022. Citizen science and roadkill trends in the Korean herpetofauna: the importance of spatially biased and unstandardized data. *Frontiers in Ecology and Evolution* 10: 944318.

9. SN Othman, **Y Shin**, H-T Kim, M-F Chuang, Y Bae, J Hoti, Y Zhang, Y Jang, A Borzée. 2022. Evaluating the efficiency of popular species identification methods, and comparative workflow using morphometry and barcoding bioinformatics for taxonomy and origin of traded cryptic brown frogs. *Global Ecology and Conservation* 38: e02253.

8. A Borzée, **Y Shin**, NA Poyarkov, JY Jeon, HJ Baek, CH Lee, J An, YJ Hong, M-S Min. 2022. Dwindling in the mountains: description of a critically endangered and microendemic *Onychodactylus* species (Amphibia, Hynobiidae) from the Korean Peninsula. *Zoological Research* 43: 750−755.

7. Y Shin, M-S Min, A Borzée. 2021. Driven to the edge: Species distribution modeling of a Clawed Salamander (Hynobiidae: *Onychodactylus koreanus*) predicts range shifts and drastic decrease of suitable habitats in response to climate change. *Ecology and Evolution* 11: 14669-14688.

6. A Borzée, SN Litvinchuk, K Ri, D Andersen, TY Nam, GH Jon, HS Man, JS Choe, S Kwon, SN Othman, K Messenger, Y Bae, **Y Shin**, A Kim, I Maslova, J Luedtke, L Hobin, N Moores, B Seliger, F Glenk, Y Jang. 2021. Update on distribution and threat status of amphibians in the Democratic People's Republic of Korea: conclusions based on field surveys, landscape modeling, molecular analyses, and call properties. *Animals* 11: 2057.

5. Y Shin, Y Jang, A Borzée. 2021. Snakebite envenomings in the Republic of Korea from the 1970s to the 2020s: a review. *Toxicon* 196: 8-18.

4. Y Shin*, KR Messenger*, KS Koo, SC Lee, M Hou, A Borzée. 2021. How threatened is *Scincella huanrenensis*? An update on threats and trends. *Conservation* 1: 58-72.

3. D Macias, **Y Shin**, A Borzée. 2021. An update on the conservation status and ecology of Korean terrestrial squamates. *Journal for Nature Conservation* 60: 125971.

2. Y Shin, Y Jang, SJR Allain, A Borzée. 2020. Catalogue of herpetological specimens of the Ewha Womans University Natural History Museum (EWNHM), Republic of Korea. *ZooKeys* 965: 103-139.

1. A Borzée, KR Messenger, S Chae, D Andersen, J Groffen, YI Kim, J An, SN Othman, K Ri, TY Nam, Y Bae, J-L Ren, J-T Li, M-F Chuang, Y Yi, **Y Shin**, T Kwon, Y Jang, M-S, Min. 2020. Yellow sea mediated segregation between North East Asian *Dryophytes* species. *PLoS ONE* 15: e0234299.

Book chapters

3. A Borzée, K Milto, L Borkin, X Ji, W Zhao, **Y Shin.** 2022. *Takydromus wolteri*. In: The IUCN Red List of Threatened Species 2022 : e.T47756012A214715587.

2. K Milto, L Borkin, X Ji, W Zhao, **Y Shin**. 2021. *Takydromus wolteri*. In: The IUCN Red List of Threatened Species 2021: e.T47756012A47756021.

1. V Orlova, K Milto, L Borkin, W Zhao, **Y Shin**. 2021. *Takydromus amurensis*. In: The IUCN Red List of Threatened Species 2021: e.T47755997A47756006.

Short communications

9. Y Shin. 2026. Predation of the Japanese Keelback, *Hebius vibakari* (Boie, 1826), by the Ussuri Pitviper, *Gloydius ussuriensis* (Emelianov, 1929) in South Korea, with remarks on prey size. *Herpetology Notes* 19: 201-203.

8. A Borzée, **Y Shin,** T Shiraishi. 2025. Tail movements as an anti-predatory behaviour in *Hynobius okiensis* Sato, 1940. *Herpetology Notes* 18: 225–227

7. I-K Park, **Y Shin,** D Park. 2024. Predation on a metamorphosing tadpole of the American Bullfrog, *Aquarana catesbeiana* (Shaw, 1802), by the fishing spider *Dolomedes sulfureus*, in the Republic of Korea. *Herpetology Notes* 17: 531-533.

6. Y Shin, J Miller, JM Duggan. 2021. Observations on the year-round communal use of an artificial structure by Northern Pacific rattlesnakes (*Crotalus oreganus oreganus*) in coastal Central California. *Herpetological Bulletin* 155: 25-27.

5. Y Shin, A Borzée. 2020. Melanism in the Ussuri pitviper (*Gloydius ussuriensis*) from the Republic of Korea, with remarks on color variations. *Jordan Journal of Natural History* 7: 60-63.

4. Y Shin, J Ambu, A Borzée. 2020. Observations on heterospecific amplexus in Asiatic toads (Anura: Bufonidae: *Bufo gargarizans*) in the Republic of Korea. *Herpetology Notes* 13: 411-413.

3. Y Shin, D Jeong, A Borzée. 2020. Mass displacement of Korean clawed salamanders (*Onychodactylus koreanus*) and the threat of road-kill. *Herpetological Bulletin* 151: 28-31.

2. Y Shin, Y Jang, T Kim, A Borzée. 2020. A specimen of *Karsenia koreana* (Caudata: Plethodontidae) misidentified as *Hynobius leechii* 27 years before the species' description and additional historical record. *Current Herpetology* 39: 75-79.

1. Y Shin, Y Jang, A Borzée. 2020. Limb malformations in *Bombina orientalis* (Anura; Bombinatoridae) in the Republic of Korea based on museum specimens. *Herpetology Notes* 13: 29-31.

Natural history & distribution notes

8. J-J Strydom, **Y Shin**. 2022. *Gloydius brevicauda* (Short-tailed Pitviper). Diet. *Herpetological Review* 53: 697-698.

7. K Heo, **Y Shin**, K Messenger. 2022. *Hynobius notialis* (Southern Korean Salamander). Behavior. *Herpetological Review* 53: 642.

6. D Jeong, B Lim, **Y Shin**. 2022. *Dryophytes japonicus* (Japanese Treefrog). Predation. *Herpetological Review* 53: 467-468.

5. Y Shin, D Jeong, B Lim. 2021. *Kaloula borealis* (Boreal Digging Frog). Hibernaculum. *Herpetological Review* 52: 828-829.

4. Y Shin, MD Cho, A Borzée. 2021. *Gloydius ussuriensis* (Ussuri Pitviper). Diet. *Herpetological Review* 52: 157-158.

3. K Messenger, H Dahn, D Andersen, **Y Shin**, Y Yi, Y Bae, A Borzée. 2020. *Bufo stejnegeri* (Korean Water Toad). Geographical distribution. *Herpetological Review* 51: 532.

2. Y Shin, Y Jang, A Borzée. 2020. *Gloydius saxatilis* (Rock Mamushi). Dicephalism. *Herpetological Review* 51: 143-144.

1. Y Shin, Y Jang, A Borzée. 2020. *Gloydius ussuriensis* (Ussuri Mamushi). Disease. *Herpetological Review* 51: 144.

PRESENTATIONS

Asterisk (*) denotes the presenter. All delivered in English unless stated otherwise.

2026 NR Balchan, OM Edwards, **Y Shin**, KM Banks, MS Reichert, LN Barrow, D Esquerré. Biogeographic history and Bergmann's Rule, not genetic isolation, drive genetic and morphological differentiation in Crawfish Frogs (*Rana areolata*). 53rd Annual Meeting of the Kansas Herpetological Society. Wichita, Kansas, USA.

2026 **Y Shin,** J Park, J-B Jeong, D Park, FT Burbrink. The genomic basis of insular phenotypes in the Ussuri Pitviper (*Gloydius ussuriensis*). Oral presentation (invited). Nanjing Forestry University. Nanjing, China.

2026 **Y Shin,** J Park, J-B Jeong, D Park, FT Burbrink. The genomic basis of insular phenotypes in the Ussuri Pitviper (*Gloydius ussuriensis*). Oral presentation (invited). First World Congress on Snakes. Kandy, Sri Lanka.

2026 **Y Shin,** H-J Jang, D Park, FT Burbrink. Testing the influence of late Quaternary sea-level changes on the species richness of herpetofauna across the islands of South Korea. Poster. International Herpetological Symposium. Portal, Arizona, USA.

2026 **Y Shin,** H-J Jang, D Park, FT Burbrink. Testing the influence of late Quaternary sea-level changes on the species richness of herpetofauna across the islands of South Korea. Poster. Joint Meeting of Ichthyologists and Herpetologists. New Orleans, Louisiana, USA.

2025 **Y Shin***. Snake collecting across the islands of South Korea – observations and adventures. Oral presentation. 52nd Annual Meeting of the Kansas Herpetological Society. Manhattan, Kansas, USA.

2025 L Garikipati*, **Y Shin,** J Rivera, JL Ware. The soothsayer far afield: Population dynamics of the invasive European mantis, *Mantis religiosa* (Mantodea: Mantidae). Poster. Annual Meeting of the Entomological Society of America. Portland, Oregon, USA.

2025 **Y Shin***, L Garikipati, J Rivera, JL Ware. Testing the accuracy of niche models for the range prediction of non-native mantises. Poster. 16th Student Conference on Conservation Science-New York (SCCS-NY). American Museum of Natural History, New York, USA **(Best Poster Award)**.

2024 **Y Shin***, A Borzée. Establishment potential of non-native brown frogs (*Rana*) in the Republic of Korea. Oral presentation. 15th Student Conference on Conservation Science-New York (SCCS-NY). American Museum of Natural History, New York, USA.

2024 **Y Shin***, A Borzée, D Park. Climatic data sources influence the prediction of past habitat suitability and niche comparisons for two distantly related lungless salamanders. Oral presentation. 10th World Congress of Herpetology. Kuching, Sarawak, Borneo.

2024 **Y Shin***, SN Othman, DB Kohler, I Maslova, K Messenger, A Borzée. Contributions to the knowledge of pitvipers (genus *Gloydius*) in the Democratic People's Republic of Korea. Poster. 10th World Congress of Herpetology. Kuching, Sarawak, Borneo.

2024 H Amin*, SN Othman, **Y Shin**, M-S Min, KR Messenger, A Movahedi, D Ghosh, DB Kohler, VK Prasad, X Zhang, Y Yi, Y Jang, H Ruan, A Borzée. An integrative analysis for the reconsideration of species boundaries in East Asian *Pelophylax* species. Oral presentation. 10th World Congress of Herpetology. Kuching, Sarawak, Borneo.

2024 VK Prasad*, A Ramachandran, X Zhang, **Y Shin**, R Rastogi, M Rais, B Shrestha, D Andersen, D Kohler, G Shahabuddin, KP Dinesh, A Borzée. Climatic modeling predicts high-elevation endemic amphibians habitat replacement by expanding generalist widespread amphibians in the Himalayas. Oral presentation. 10th World Congress of Herpetology. Kuching, Sarawak, Borneo.

2023 **Y Shin***. Where did you come from? Using molecular phylogenetics to trace the geographic origin of a non-native Red-banded Snake (*Lycodon rufozonatus*) found on Jeju Island, Republic of Korea. Oral presentation [in Korean]. KNU College of Natural Sciences Undergraduate Research Competition.

2023 **Y Shin***. Pleistocene range dynamics of the two distantly related lungless salamanders endemic to the Korean Peninsula. Oral presentation [in Korean]. KNU Department of Biological Sciences Senior Research Thesis Presentation.

2023 **Y Shin***, D Park. Pleistocene range dynamics of the two distantly related lungless salamanders endemic to the Korean Peninsula. Poster. The 10th EAFES International Congress. Jeju, Republic of Korea.

2022 **Y Shin***, K Kim, J Groffen, A Borzée. Citizen science and roadkill trends in the Korean herpetofauna. Poster. 13th Student Conference on Conservation Science-New York (SCCS-NY). American Museum of Natural History, New York, USA.

2021 **Y Shin***, M-S Min, A Borzée. Distribution modeling of *Onychodactylus koreanus* predicts drastic decrease of suitable habitats in response to climate change. Poster. Joint Meeting of Ichthyologists and Herpetologists. Phoenix, Arizona, USA **(SSAR George B. Rabb Undergraduate Poster Award)**.

2021 JY Jeon*, **Y Shin**, M-S Min, DK Lee. The effects of climate change on the distribution of Gori Salamander (*Hynobius yangi*). Oral presentation [in Korean]. Meetings of the Korean Society of Climate Change Research. Suwon, Republic of Korea **(Best Poster Presentation Award)**.

2020 **Y Shin***, Y Jang, A Borzée. A metanalysis of snakebites in South Korea: bridging the knowledge gap in snakebite envenomation. Poster. 9th World Congress of Herpetology. Dunedin, New Zealand.

2018 **Y Shin***, JM Duggan. Comparing survey methods and habitat associations for herpetofauna at the UC Fort Ord Natural Reserve. Poster. The Wildlife Society Annual Wildlife Symposium. San Luis Obispo, California, USA.

2018 **Y Shin***, JM Duggan. Comparing efficiency of different survey methods for detecting snakes at the UC Fort Ord Natural Reserve: preliminary observations. Poster. 5th Annual Summer Research Symposium, California State University, Monterey Bay. Seaside, California, USA.

RESEARCH EXPERIENCES

2024 – present **Ph.D. Student** **Advisor: Dr. Frank T. Burbrink**
Department of Herpetology, Division of Vertebrate Zoology, American Museum of Natural History (AMNH)

2022 – 2024 **Undergraduate Researcher** **Advisor: Dr. Daesik Park**
Laboratory of Herpetology, Kangwon National University

- Investigation of contemporary niche overlaps, Pleistocene range dynamics, and range formation processes of Korean endemic salamanders *Onychodactylus koreanus* and *Karsenia koreana*.
- Investigation of courtship behaviors in the Asian plethodontid *Karsenia koreana*.
- Participated in herpetological surveys across South Korea.

2019 – 2024 **Research Assistant** **Advisor: Dr. Amaël Borzée**
Laboratory of Animal Behaviour and Conservation, Nanjing Forestry University

- Ecological niche modeling of northeast Asian herpetofauna.
- Collaboration in multiple projects on the systematics, ecology, and conservation of northeast Asian herpetofauna.

2019 **Herpetology Curatorial Assistant** **Advisors: Dr. Amaël Borzée, Dr. Yikweon Jang**
Ewha Womans University Natural History Museum (EWNHM)

- In charge of photographing and cataloging 1554 formalin-fixed specimens deposited in the herpetological collection.

2019 **Research Intern** **Advisors: Dr. Amaël Borzée, Dr. Yikweon Jang**
Laboratory of Animal Communication, Ewha Womans University

- Collaboration in multiple projects on the systematics, ecology, and conservation of northeast Asian herpetofauna.
- Participated in herpetological surveys across South Korea.

2018 **Undergraduate Researcher** **Advisor: Dr. Jenny Duggan**
Terrestrial Wildlife Ecology Lab, California State University, Monterey Bay

- Conducted herpetofauna surveys using coverboards and drift fence arrays on the UC Fort Ord Natural Reserve during 193 survey days.

TEACHING EXPERIENCES

Fall 2025	Evolution	Teaching Assistant, AMNH	Instructors: Brian Smith, Roger Benson
Summer 2026	Field Herpetology of the Southwest	Teaching Assistant, AMNH-SWRS	Instructors: Stephen Mullin

ACADEMIC AND PROFESSIONAL SERVICES

2025 - Member, IUCN Species Survival Commission (SSC) Snake Specialist Group (SSG)
2024 - Member, IUCN Species Survival Commission (SSC) Amphibian Specialist Group (ASG)