

# YUCHEOL SHIN

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## EDUCATION

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- 2024**      **B.S. Biological Sciences (CGPA: 4.41 / 4.5)**      **Advisor: Dr. Daesik Park**  
Kangwon National University, Chuncheon, South Korea  
*Thesis title:* Pleistocene range dynamics of the two distantly related lungless salamanders endemic to the Korean Peninsula
- 2018**      **Study Abroad, Biology (CGPA: 3.789 / 4.0)**      **Advisor: Dr. Jenny Duggan**  
California State University, Monterey Bay, USA  
*Project title:* Comparing the efficiency of different survey methods for detecting herpetofauna at the UC Fort Ord Natural Reserve

## PUBLICATIONS

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(All publications are available from: [https://www.researchgate.net/profile/Yucheol\\_Shin](https://www.researchgate.net/profile/Yucheol_Shin))

\* denotes co-first author papers

### Manuscripts in press

1. **Y Shin\***, K Heo\*, SN Othman, Y Jang, M-S Min, A Borzée. *In press*. Tracing the geographic origin of a non-native Red-banded Snake (Colubridae: *Lycodon rufozonatus*) found on Jeju Island, Republic of Korea. *Herpetologica*.

### Research articles

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 Bhatari, 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**, N 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**

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**

7. I-K Park, **Y Shin**, D Park. *In press*. 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*.
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. *Gloydus 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. *Gloydus 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. *Gloydus saxatilis* (Rock Mamushi). Dicephalism. *Herpetological Review* 51: 143-144.
1. **Y Shin**, Y Jang, A Borzée. 2020. *Gloydus ussuriensis* (Ussuri Mamushi). Disease. *Herpetological Review* 51: 144.

### **PRESENTATIONS**

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\* denotes presenter. All delivered in English unless stated otherwise.

- 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 10<sup>th</sup> 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. 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

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**2022 - present**      **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 – present**      **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.

## GRANTS AND AWARDS

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**2023**    Excellent Presentation Award. 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

## **RESEARCH SKILLS**

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- Ecological niche modeling and niche analyses in R
- Data processing, statistical analyses, and data visualization in R
- Geospatial analyses and visualization in QGIS and ArcMap
- Phylogenetic analyses