

SIDDHARTH KULKARNI

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Department of Integrative Biology,
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EMPLOYMENT

Spring 2022-current. **Research Associate**. Department of Integrative Biology, University of Wisconsin-Madison, W.I., United States

EDUCATION

Spring 2022-current. **Research Associate**. Department of Integrative Biology, University of Wisconsin-Madison, W.I., United States.

Spring 2022. **Ph.D., Biological Sciences**. Department of Biological Sciences, George Washington University, Washington, D.C., United States. Thesis: Evolutionary trends in the Spider Tree of Life with appraisal of the miniature orb-weaving spiders

Summer 2017. Course: Tropical Biology: An Ecological Approach, Organization of Tropical Studies, Costa Rica.

2014. M.Sc., Zoology. Yashwantrao Chavan Institute of Science, Satara, India.

2012. B.Sc., Zoology. Yashwantrao Chavan Institute of Science, Satara, India.

PUBLICATIONS

*Equal contribution

30. **Siddharth Kulkarni**, Hugh Steiner, Erika Garcia, Hernán Iuri, Ryan Jones, Jesus Ballesteros, Guilherme Gainett, Matthew R Graham, Danilo Harms, Robin Lyle, Andrés A Ojanguren-Affilastro, Carlos E Santibañez-López, Gustavo Silva de Miranda, Paula E Cushing, Efrat Gavish-Regev and Prashant P Sharma. (*in review*) Neglected no longer: Phylogenomic resolution of higher-level relationships in Solifugae. *Molecular Biology and Evolution*. bioRxiv, 2022, <https://www.biorxiv.org/content/10.1101/2022.10.22.513338v2>]

29. Gustavo de Silva Miranda*, **Siddharth Kulkarni***, Jéssica Tagliatela, Caitlin M. Baker, Alessandro P. L. Giupponi, Facundo M. Labarque, Efrat Gavish-Regev, Michael G. Rix, Leonardo S. Carvalho, Livia Maria Fusari, Hannah M. Wood, Prashant P. Sharma. (*in review*) The rediscovery of a relict unlocks the first global phylogeny of whip spiders (Amblypygi). *Systematic Biology*. [bioRxiv, <https://www.biorxiv.org/content/10.1101/2022.04.26.489547v1>]

28. **Siddharth Kulkarni**, Hannah Wood, Gustavo Hormiga. (*in review*) Advances in the reconstruction of the Spider Tree of Life: a roadmap for spider systematics and comparative studies. *Cladistics*. [EcoEvoRxiv, <https://doi.org/10.32942/X28C7J>]

27. Jacob A. Gorneau, **Siddharth Kulkarni**, Franklyn Cala-Riquelme, Lauren A. Esposito (*in press*). Biodiversity catalogs reveal taxonomic effort and geographic bias: a case study. *Bioscience*.

26. Jacob A. Gorneau, William I. Ausich, Sandro Bertolino, Holly Bik, Marymegan Daly, Sebsebe Demissew, David A. Donoso, Ryan Folk, Alina Freire-Fierro, Shahina A. Ghazanfar, Olwen M. Grace, Ai-Qun Hu, **Siddharth Kulkarni**, Isaac H. Lichter-Marck, Lúcia G. Lohmann, Jagoba Malumbres-Olarte, A. Muthama Muasya, Abel Pérez-González, Yashica Singh, Carolina M. Siniscalchi, Chelsea D. Specht, Alycia L. Stigall, David C. Tank, Leilani A. Walker, David F. Wright, Alireza Zamani, Lauren A. Esposito. (2022) Framing the future for taxonomic monography: Improving recognition, support, and access. *Bulletin of the Society of Systematic Biologists*, 1(1):8328.

25. Gustavo Hormiga, **Siddharth Kulkarni**, Thiago da Silva Moreira, Dimitar Dimitrov (2021) Molecular phylogeny of pimoid spiders and the limits of Linyphiidae, with a reassessment of male palpal homologies (Araneae, Pimoidae). *Zootaxa*, 5026(1):71-101.
24. **Siddharth Kulkarni**, Gustavo Hormiga (2021) Hooroo mates! Phylogenomic data suggest that the closest relatives of the iconic Tasmanian Cave Spider *Hickmania troglodytes* are in Australia and New Zealand, not in South America. *Invertebrate Systematics*, 2021, 35, 850–856.
23. Robert Kallal, **Siddharth Kulkarni**, Dimitar Dimitrov, Ligia Benavides, Miquel Arnedo, Gonzalo Giribet & Gustavo Hormiga (2021) Converging on the orb: denser taxon sampling elucidates spider phylogeny and new analytical methods support repeated evolution of the orb web. *Cladistics*. 1-19.
22. **Siddharth Kulkarni**, Robert Kallal, Hannah Wood, Dimitar Dimitrov, Gonzalo Giribet & Gustavo Hormiga (2021) Interrogating genomic-scale data to resolve recalcitrant nodes in the Spider Tree of Life. *Molecular Biology and Evolution*, 1-13.
21. **Siddharth Kulkarni**, Hannah Wood, Michael Lloyd, Gustavo Hormiga (2020) Spider-specific probe set for ultraconserved elements offers new perspectives on the evolutionary history of spiders (Arachnida, Araneae). *Molecular Ecology Resources*, 1-19.
20. Christopher John Thorpe, Todd Lewis, Matthew Fisher, Claudia Wierzbicki, **Siddharth Kulkarni**, Lewis Davies, David Pryce, Aparna Watve, Mairi Knight.(2018) Climate structuring of *Batrachochytrium dendrobatidis* infection in the threatened amphibians of the northern Western Ghats, India. *Royal Society Open Science*, 5(6):180211.
19. Christopher John Thorpe, Todd Lewis, **Siddharth Kulkarni**, Aparna Watve, David Pryce, Lewis Davies, Nikhil Gaitonde, David Bilton, Mairi Knight (2018) Micro-habitat distribution drives patch quality for sub-tropical rocky plateau amphibians in the northern Western Ghats, India. *PLOS ONE*, 13:3 e0194810.
18. Hemant Ghate, **Siddharth Kulkarni**, Suresh Benjamin (2018) Giant assassin in the cave: A new species of the genus *Myiophanes* from Sri Lanka (Hemiptera: Heteroptera: Reduviidae: Emesinae). *Zootaxa*, 4524 (2): 237–244.
17. **Siddharth Kulkarni**, Atul Vartak, Vishwas Deshpande, Dheeraj Halali (2017) The spiny theridiid genus *Meotipa* Simon, 1895 in India, with description of a strange new species with translucent abdomen and a phylogenetic analysis about the genus placement (Araneae, Theridiidae). *Zootaxa*, 4291 (3): 504-520.
16. Hemant Ghate, **Siddharth Kulkarni**, Vijay Anand Ismavel (2017). Illustrated redescriptions of two large coreid bugs from Assam including the first Indian record of *Schroederia feana* (Distant, 1902) (Coreidae, Coreinae, Mictini). *Entomon*, 42(2): 165-172.
15. **Siddharth Kulkarni**, Hemant Ghate (2016). A new cavernicolous assassin bug of the genus *Bagauda* Bergroth (Reduviidae, Emesinae) from Western Ghats, India. *Zootaxa*. 4127(2): 365-275.
14. David Pryce, C. John Thorpe, **Siddharth Kulkarni**, Todd Lewis (2016) *Amphiesma stolatum* (striped keelback): Habitat and reproduction. *The Herpetological Bulletin*, 136: 37-38.
13. Peter Jäger, **Siddharth Kulkarni** (2016) An unexpected new species of the genus *Pseudopoda* (Araneae, Sparassidae, Heteropodinae) from the Western Ghats in India. *ZooKeys*, 577: 55-62.
12. **Siddharth Kulkarni**, Hemant Ghate (2016) First record of the thread-legged assassin bug *Myiophanes greeni* Distant, 1903 (Heteroptera: Reduviidae: Emesinae) from India. *Biodiversity Data Journal*, BDJ.4.e7949.
11. Sameer Padhye, **Siddharth Kulkarni** (2016). Regulated animal dissections in Indian academia as a measure to control invasive species. *Current Science*, 110 (2): 129-130.

10. **Siddharth Kulkarni**, Rahul Khot (2015). Neosataria, replacement name for *Sataria* Annandale, 1920 (Mollusca: Gastropoda: Bithyniidae), preoccupied by *Sataria* Roewer, 1915 (Arachnida: Opiliones: Sclerosomatidae). *Zootaxa*, 3974 (4): 599-600.
9. **Siddharth Kulkarni**, Swara Yadav (2015). Bridging the distributional gap of *Tylorida striata* (Thorell, 1877) and new synonymy (Araneae: Tetragnathidae). *Biodiversity Data Journal*, BDJ.3.e4878
8. **Siddharth Kulkarni**, Todd Lewis (2015): Description of male *Tylorida sataraensis* Kulkarni, 2014 (Araneae, Tetragnathidae) with notes on habits and conservation status. *Biodiversity Data Journal*, BDJ.3.e4451
7. **Siddharth Kulkarni**, S. Joseph (2015). First record of genus *Siler* Simon, 1889 (Araneae: Salticidae) from India. *Journal of Threatened Taxa*, 7(10): 7701-7703.
6. **Siddharth Kulkarni** (2015). Comments on "A new species of genus *Thomisus* Walckenaer, 1805 (Araneae: Thomisidae) from Telangana, India and a detailed description of *Thomisus projectus* Tikader, 1960" by Pravalikha & Srinivasulu, 2015. *Journal of Threatened Taxa*, 7(9): 7605-7606.
5. Mihir Kulkarni, Sameer Padhye, Avinash Vanjare, Shirraj Jakhalekar, Yugandhar Shinde, Shruti Paripatyadar, Sayali Sheth, **Siddharth Kulkarni**, Samadhan Phuge, Kalyani Bhakare, Aboli Kulkarni, Kalpana Pai & Hemant Ghate (2015). Documenting the fauna of a small temporary pond from Pune, Maharashtra, India. *Journal of Threatened Taxa*, 7(6): 7196-7210.
4. **Siddharth Kulkarni** (2014): A new species of the genus *Tylorida* Simon, 1894 (Araneae: Tetragnathidae) from a rocky outcrop in the northern Western Ghats, India. *Journal of Threatened Taxa*, 6(3):5558-5561.
3. **Siddharth Kulkarni**, Helen Smith (2013): First record of *Polys columnaris* Thorell, 1890 (Araneae: Araneidae) from Western Ghats, India. *Journal of Threatened Taxa*, 5(10):4524.
2. **Siddharth Kulkarni**, Vishwas Deshpande (2012): New record of the spider *Arachnura angura* from Maharashtra with additional morphological description (Araneae: Araneidae). *Records of Zoological Survey of India*, 112 (2): 113-115.
1. **Siddharth Kulkarni**, Vishwas Deshpande (2012): A new species of the genus *Oxyopes* Latrielle (Araneae: Oxyopidae) from Sahyadri ranges of Western Ghats. *Records of Zoological Survey of India*, 112 (2): 35-37.

MANUSCRIPTS IN PREPARATION

Kulkarni, S., Sharma, P. Nailing the horseshoe: Reconciliation of Xiphosura gene tree-species tree source of its polyploidy.

Kulkarni, S., Wood, H. Hormiga, G. Evolutionary and biogeographic history of the world's smallest orb-weaving spiders (Araneae, Araneoidea).

BOOK

Mondal, A., Chanda, D., Vartak, A., Kulkarni, S. (2020) *A Field Guide to the Spider Genera of India*. Kolkata, West Bengal, India. 400 pp.

TEACHING EXPERIENCE

Years	Subject	Institute
2018	Methods of Study of Evolution BISC 6210 (2 lectures)	George Washington University, Washington, D.C.
2016-18	Introduction to Biology BISC 1111, 1112, 1125, 1126 for Majors	George Washington University, Washington, D.C.

MENTORING EXPERIENCE

2022	Students at the Hebrew University of Jerusalem, Israel. Three-day course on Bioinformatics and utility in phylogenomics.
2019	Brooke Pellegrini, George Washington University- Identifying and curating spiders.
2016	Dheeraj Halali, Parvatibai Chowgule College, Goa, India

JOURNAL REVIEW

Arachnology, Acta Arachnologica, Biodiversity Data Journal, Check List, Diversity, Evolutionary Systematics, Insect Systematics and Diversity, Journal of Bombay Natural History Society, Journal of Natural History, Journal of Zoological Systematics and Evolutionary Research, Molecular Ecology Resources, PloSOne, Proceedings of the Royal Society B, Subterranean Biology, ZooKeys, Zoological Research, Zoosystematics and Evolution and Zootaxa.

FELLOWSHIPS, GRANTS AND AWARDS

- 2021 (€ 15,378) Biodiversity Information Fund for Asia. Ministry of the Environment, Government of Japan. Project: Small animals, big data: Mobilizing citizen science for data on the spiders of Asia [co-principal investigator].
- 2021 (USD 515) Mortensen Endowment Award from the George Washington University, Washington D.C.
- 2021 (NIS 160,000) Israel Academy of Sciences and Humanities (IASH) and Council for Higher Education (CHE) Excellence Fellowship for International Researchers. [Declined]
- 2021 (USD 7,000) Harlan Summer Fund. Project: Systematics of the miniature orb-weaving spiders.
- 2021 (USD 13,000) Dean's Dissertation Completion Fellowship. The George Washington University, USA.
- 2020 (USD 26,560) Harlan Fellowship, The George Washington University, USA.
- 2020 (EUR 600) Oscar and Jan Francke Student Research Award offered by the International Society of Arachnology. Project: Systematics of the miniature orb-weaving spiders.
- 2020 (USD 1,000) Mortensen Endowment Award from the George Washington University, Washington D.C. Project: Systematics of the miniature orb-weaving spiders.
- 2020 (USD 2,850) Harlan Summer Fund. Project: Systematics of the miniature orb-weaving spiders.
- 2020 (USD 12,800) Smithsonian Institution Predoctoral fellowship. Project: Systematics and Evolution of miniature orb-weaving spiders.
- 2019 (USD 26,000) Weintraub Fellowship, The George Washington University, USA.
- 2019 (USD 7,000) Harlan Summer Research Fellowship. The George Washington University, USA.
- 2019 (USD 1,166) Mortensen Endowment Award from the George Washington University, Washington D.C. Project: Systematics of Chilean anapids (Araneoidea, Anapidae).
- 2019 Presentation Award, 21st International Congress of Arachnology, Christchurch, New Zealand. Title: Big data, small spiders: analysis of ultraconserved elements give new perspectives on spider phylogeny and evolution of miniature orb-weavers.
- 2018 (USD 9,484) National Geographic Early Career Grant. Project: Trans-Pacific colonization, diversification and web evolution of miniature anapid spiders.
- 2018 (USD 1,400) Columbian College of Arts & Sciences Dean's conference travel grant.
- 2018 (USD 1,300) Lakeside Grants, California Academy of Sciences, California, USA. Project: Systematics of the miniature orb-weaving spiders (Araneae, Araneoidea, "symphytognathoids").
- 2018 (USD 600) International Society of Arachnology Student Grant to participate in the International Congress of Arachnology for the year 2019 organized in New Zealand.

- 2018 (USD 24,000) Weintraub Fellowship, The George Washington University, USA.
- 2018 (USD 7000) Harlan Summer Research Funding, The George Washington University, USA.
- 2017 (USD 7,000) Harlan Summer Research Funding, The George Washington University, USA.
- 2016-18 (USD 24,000/ year) Scholarship and Teaching Assistantship (four semesters) at the George Washington University, USA.
- 2014 (USD 1500) Grant: Ernst Mayr Travel Grant, Harvard University, USA, visited the Miller lab, Naturalis Biodiversity Center, Lieden to study systematics of black-widow spider genus *Latrodectus* (Araneae, Theridiidae).
- 2014 (INR 57,000) Grant: Salim Ali Nature Conservation Fund (SANCF) by Bombay Natural History Society (BNHS), Mumbai, India to study spider diversity in northern Western Ghats.
- 2014 Silver medal: Rayat Best Student, awarded by the organization Rayat Shikshan Sanstha.
- 2014 (INR 98,000) Grant: India Biodiversity Portal, The French Institute of Pondicherry, India.
- 2012 Award: Best Student Award, by Yashavantrao Chavan Institute of Science, Satara, India.
- 2012 Prize: First rank at the Shivaji University, Kolhapur, India for the play titled “Hostel: A host’s tale” published in the college magazine ‘*Parijatak* 2011-12’.
- 2010 Prize: Third rank at the Shivaji University, Kolhapur, India for the play titled “Hide and Seek” published in the college magazine ‘*Parivartan* 2009-10’.

ORAL PRESENTATIONS/ CONFERENCE ROLES

Evolutionary trends in arachnids and potential of community science. Lawrence

University. October, 2022.

Siddharth Kulkarni. Big data, small crawlers: Evolutionary trends in the arachnid tree of life *Evolution seminar series* . University of Wisconsin-Madison. October, 2022.

Siddharth Kulkarni, Hannah Wood, Gustavo Hormiga. Phylogenomics illuminate the evolution of orb webs, respiratory systems and the biogeographic history of the world’s smallest orb-weaving spiders (Araneae, Araneoidea). American Arachnological Virtual Meeting, June-July 2021.

Siddharth Kulkarni, Jimmy Cabra-Garcia, Gustavo Hormiga. Evolutionary trends in the Spider Tree of Life: the search for the final nail. VI Latin American Congress of Arachnology (Virtual). December, 2020.

Siddharth Kulkarni, Hannah Wood, Michael Lloyd, Gustavo Hormiga. Big data, small spiders: analysis of ultraconserved elements give new perspectives on spider phylogeny and evolution of miniature orb-weavers. 21st International Congress of Arachnology, Christchurch, New Zealand, February, 2019.

Siddharth Kulkarni: Spider systematics and citizen science. 2nd SpiderIndia meet, Gibbon Wildlife Sanctuary, Assam India, December, 2017.

Siddharth Kulkarni: Indian Arachnology: What do we know, what do we lack, what to do?, 1st SpiderIndia meet, Kolkata (web talk), March, 2017.

Siddharth Kulkarni, Atul Vartak: Araneofauna Sahyadri: A taxonomic initiative. 3rd Asian Society of Arachnology, Amravati, Maharashtra, India; November, 2015.

Siddharth Kulkarni: Spider fauna of rocky outcrops in northern Western Ghats, India. 2nd Asian Society of Arachnology, Chiang Mai, Thailand; July, 2014.

OUTREACH

- 2023 (*forthcoming*) SpiderIndia community scientist meet. 1-3 March, 2023, Rajasthan, India.
- 2022 [International SpiderWeek](#) -27 August- 3 September, 2022.
- 2022 Development of a database on Amblypygi on the India Biodiversity Portal.
- 2021 Organized International SpiderWeek -14-22 August, 2021 documenting more than 5,000 observations.
- 2021 Organized SpiderWeek (INDIA) during 15-23 August, 2020 as of SpiderIndia which documented more than 5,500 spider observations by 225 participants from across India.
- 2014- onwards Coordinator for [SpiderIndia](#), a citizen science initiative with more than 8,000 members from South Asia. Organized [meetings](#) annually since 2017.
- 2012-14 Development of a database on spiders on the [India Biodiversity Portal](#).

RESEARCH ACTIVITIES (FIELDWORK/LAB WORK/MUSEUM VISITS)

- 2022 Field work in Israel to study evolution of cave-dwelling arachnids in collaboration with the Hebrew University of Jerusalem, Israel.
- 2021 Sequencing low-coverage of spiders- California Academy of Sciences, San Francisco, USA, funded by the Lakeside Grants.
- 2019 Field work in Chile for collecting specimens of the family Anapidae. Project: Trans- Pacific colonization, diversification, and web evolution of miniature anapid spiders.
- 2019 Studying specimens of the family Anapidae- California Academy of Sciences, San Francisco, USA, funded by the Lakeside Grants.
- 2019 Field work in New Zealand and Australia- collecting specimens and studying web architecture of miniature orb-weaving spiders.
- 2017-2020 Research student- Smithsonian Institution, National Museum of Natural History, Washington DC, USA. Project: Target enrichment of ultra-conserved elements in spiders.
- 2017 Visiting student- Giribet Lab, Organismic and Evolutionary Biology, Harvard University, Cambridge, USA. Project: Transcriptomics for reconstructing the Spider Tree of Life.
- 2016- 2017 Researcher- Smithsonian Institution, National Museum of Natural History, Washington DC, USA. Project: Systematics of the spider genera *Orsinome* and *Tylorida* (Araneae, Tetragnathidae).
- 2016 Visiting Researcher: National Institute of Fundamental Studies (NIFS), Kandy, Sri Lanka with Dr. Suresh Benjamin. Project: Systematics of leucaugine spiders (Araneae, Tetragnathidae) of Sri Lanka.
- 2015 Visiting Researcher- Jeremy Miller lab, Naturalis Biodiversity Center, Leiden, The Netherlands Project: Systematics of the black widow spider genus *Latrodectus* Walckenaer, 1805 (Araneae, Theridiidae).

SKILLS

UNIX, Bash, Python, R, Adobe Photohop, Adobe Illustrator, Microsoft Office, Mesquite, Geneious, PartitionFinder, MrBayes, BEAST, TNT, RAxML, IQ-TREE, MP-BOOT, FigTree, DIVA, Genomics software (PHYLUCE pipeline, transcriptome, genome assembly, cleaning, orthology, etc.), GIS softwares, PAST, RASP, Corel Draw, CombineZP, Helicon Focus, EndNote, Leica M205A stereomicroscope with a Leica DFC420 camera, Scanning Electron Microscope (LEO1430VP and Zeiss EVO10). Olympus Mark II, EM10 Mirrorless with twin flash for fieldwork.

BIOINFORMATIC SCRIPTS

[NOrthGen](#)- Nucleotide Ortholog Generator, DUPS- Gene Duplicate Locator (*in prep*)

PROFESSIONAL AFFILIATIONS

- International Union for Conservation of Nature (IUCN)-Species Survival Commission
- World Spider Catalog Association (Country Coordinator for India)
- American Arachnological Society
- Asian Society of Arachnology
- International Society of Arachnology
- American Association for the Advancement of Science
- DiversityIndia
- SpiderIndia (coordinator)
- George Washington University (Research Associate)
- California Academy of Sciences (Research Fellow)
- National Museum of Natural History, Smithsonian Institution, USA (Researcher)

OTHERS

Languages: Marathi, Hindi, English, Spanish (beginner level), Sanskrit (*kinchitmatra*).

Interests: Networking spider enthusiasts to monitor patterns of global spider diversity and distribution .

REFERENCES

Prof. Prashant Sharma (University of Wisconsin-Madison, United States; postdoctoral mentor)

prashant.sharma@wisc.edu

Prof. Gustavo Hormiga (George Washington University, United States; doctoral advisor) hormiga@gwu.edu

Dr. Hannah Wood (Smithsonian Institution, United States; doctoral co-advisor) woodh@si.edu

Prof. Gonzalo Giribet (Harvard University, United States; research collaborator) ggiribet@g.harvard.edu