

Curriculum vitae

NATHAN K. LUJAN

ASSOCIATE CURATOR OF FISHES
DEPARTMENT OF NATURAL
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PROFESSIONAL APPOINTMENTS

2021–present Associate Curator of Fishes Royal Ontario Museum, Toronto, ON
2021–present Assistant Professor, Ecology and Evolutionary Biology University of Toronto

PROFESSIONAL PREPARATION

2019–2020 Gerstner Scholar American Museum of Natural History, New York, NY
• Phylogenomics and cranial diversification of the Neotropical catfish suborder Loricarioidei
• Mentor: Scott A. Schaefer

2015–2018 Canada DFO Postdoctoral Fellow University of Toronto Scarborough, Toronto, ON
• Riverscape genomics and metabarcoding of Great Lakes fishes
• Mentors: Nathan R. Lovejoy & Nicholas E. Mandrak

2014–2015 NSF Postdoctoral Fellow Academy of Natural Sciences, Philadelphia, PA
• Population genomics of an imperiled, rapids-dwelling fish community in the Amazon Basin
• Mentors: John G. Lundberg (ANSP) & Brice P. Noonan (University of Mississippi)

2011–2014 NSF International Research Fellow Royal Ontario Museum, Toronto, ON
• Molecular phylogenetics and biogeography of the Neotropical suckermouth armored catfishes
• Mentors: Hernán López-Fernández (ROM) & Nathan R. Lovejoy (UofT Scarborough)

2009–2011 Postdoctoral Fellow Texas A&M University, College Station, TX
• Taxonomic and trophic structure of river fish communities in Texas and South America
• Mentor: Kirk O. Winemiller

2000–2002 Field Entomologist Tennessee Valley Authority, Chattanooga, TN
• Application of macroinvertebrate- and fish-based Indices of Biotic Integrity

EDUCATION

2002–2009 Ph.D. in Evolutionary Biology Auburn University, Auburn, AL
• Dissertation: *Jaw morphofunctional diversity, trophic ecology, and historical biogeography of the Neotropical suckermouth armored catfishes (Siluriformes, Loricariidae)*
• Advisor: Jonathan W. Armbruster

1995–2000 B.Sc. in Biological Sciences Calvin College, Grand Rapids, MI
• Undergraduate theses: 1) *Fish trophic resource partitioning and ecomorphology in the Caves Branch River, Belize*; 2) *Woodland Period paleoecology of a Southwest Michigan pond based on 500-year-old fish osteological remains*

TEACHING EXPERIENCE

2022–present Diversity of Fishes 382 Lecture EEB Department, University of Toronto
2019 Tree-Thinking Workshop Lecture Richard Gilder Graduate School, AMNH

2006–09	Comparative Anatomy 3010	Laboratory	Biology Department, Auburn University
2007–08	Ecology 3060	Laboratory	Biology Department, Auburn University
2006	Principles of Biology 1020	Laboratory	Biology Department, Auburn University
2004	A Survey of Life 1010	Laboratory	Biology Department, Auburn University
2002–03	Genetics 3000	Laboratory	Biology Department, Auburn University
2001	Winter Stream Ecology 346	Laboratory	AuSable Institute

PEER-REVIEWED JOURNAL ARTICLES (CLICK TITLE TO ACCESS PDF; *TRAINEES)

60. Henschel, E, JN Baskin, R Collins, **NK Lujan**. A revised diagnosis of the blood-feeding candiru genus *Paravandellia* (Siluriformes: Trichomycteridae: Vandelliinae) with descriptions of three new species. *American Museum Novitates*. 4024:1–36
59. Evans*, A, ER Naylor, **NK Lujan**, SM Kawano, LP Hernandez. 2024. Deploy the proboscis!: Functional morphology and kinematics of a novel form of extreme jaw protrusion in the hingemouth, *Phractolaemus ansorgii* (Gonorynchiformes). *Journal of Anatomy*. 244:929–942.
58. Echevarría, G, **NK Lujan**, J Montoya, MG Granda-Albuja, J Valdaviezo-Rivera, F Sánchez, F. Cuesta, B. Ríos-Touma. 2024. Heavy metals, abiotic and biotic drivers of contamination, and daily human intake indices in food fisheries of the Western Amazon. *Science of the Total Environment*. 908:168506.
57. Neuhaus*, EB, V Meza-Vargas*, JR Herrera, **NK Lujan**. 2023. A new distinctively striped species of bushynose catfish (Siluriformes: Loricariidae: *Ancistrus*) from the Pachitea River drainage, Pasco, Peru. *Journal of Fish Biology*. 2023:1–10.
56. Gallage*, KS, A Van Nynatten, **NK Lujan**, NR Lovejoy, NE Mandrak. 2023. Identifying early life stages of Great Lakes fishes using a metabarcoding approach. *Canadian Journal of Fisheries and Aquatic Sciences* 80:1813–1823.
55. Poveda-Cuellar*, JL, CC Conde-Saldaña, FA Villa-Navarro, **NK Lujan**, JAD dos Santos. 2023. Phylogenetic revision of whisker-cheeked suckermouth catfishes (Loricariidae: *Lasiancistrus*) from east of the Andes: Five species where once there were two. *Zoological Journal of the Linnean Society* 199:688–712.
54. Nynatten, A, KS Gallage*, **NK Lujan**, NE Mandrak, NR Lovejoy. 2022. Ichthyoplankton metabarcoding: an efficient tool for early detection of invasive species establishment. *Molecular Ecology Resources* 23:1319–1333.
53. Taphorn, DC, E Liverpool, **NK Lujan**, C Donascimento, DD Hemraj, WGR Crampton, M Kolmann, JP Fontenelle, LS de Souza, DC Werneke, M Ram, DD Bloom, BL Sidlauskas, E Holm, JG Lundberg, MH Sabaj, C Bernard, H López-Fernández, JW Armbruster. 2022. Annotated checklist of the primarily freshwater fishes of Guyana. *Proceedings of the Academy of Natural Sciences of Philadelphia* 168:1–77.
52. **Lujan, NK**, JE Colm, JT Weir, F Montgomery, BP Noonan, NR Lovejoy, NE Mandrak. 2022. Genomic structure of Grass Pickerel (*Esox americanus vermiculatus*) in Canada: Management guidance for an at-risk species at its northern range limit. *Conservation Genetics*:1–13.
51. Meza-Vargas*, V, BB Calegari, **NK Lujan**, GA Ballen, O Oyakawa, L Sousa, L Rapp-Py Daniel, RE Reis. 2022. A new *Chaetostoma* species (Siluriformes: Loricariidae) expands the distribution of rubbernose plecos eastward into the lower Amazon basin of Brazil. *Ichthyology and Herpetology* 110:364–377.
50. Lehman A, P, **NK Lujan**, RE Reis. 2022. A new species of armored catfish (Loricariidae: Hypoptopomatinae) syntopic and superficially similar to *Parotocinclus collinsae*, from the Potaro River basin, Guyana. *Ichthyology and Herpetology* 110:69–76.
49. Cucalon, RV, J Valdiviezo-Rivera, P Jiménez-Prado, R Navarrete-Amaya, VR Shervette, A Torres-Noboa, N Wierzal, T Borders, **NK Lujan**, WE Aguire. 2021. Phylogeography of the Chocó endemic rainbow characin (Teleostei: *Rhoadsia*). *Ichthyology and Herpetology* 110:138–155.
48. Armbruster, JW, **NK Lujan**. 2021. Identification of the loricariid catfish fossil *Taubateia* as a member of the Rhinelepinae. *Journal of Paleontology* 96:729–733.
47. Henschel*, E, RE Schmidt, MJ Bernt, JN Baskin, **NK Lujan**. 2021. Osteology-focused redescription and description of two Guiana Shield candirus: *Paracanthopoma parva* and *Paravandellia alleynei* n.sp.

- (Trichomycteridae: Vandelliinae) *Journal of Fish Biology* 100:161–174.
46. Henschel*, E, **NK Lujan**. 2021. Range extension of the miniature pencil-catfish *Potamoglanis wapixana* (Siluriformes: Trichomycteridae) into the Essequibo River basin, Guyana. *Journal of Fish Biology* 99:1741–1745.
 45. Faustino-Fuster*, DR, V Meza-Vargas, NR Lovejoy, **NK Lujan**. 2021. Multi-locus phylogeny with dense Guiana Shield sampling supports new suprageneric classification of the Neotropical three-barbeled catfishes (Siluriformes: Heptapteridae). *Molecular Phylogenetics and Evolution*. 162:107186.
 44. Armbruster, JW, **NK Lujan**, DD Bloom. 2021. Redescription of the Guiana Shield darter species *Characidium crandellii* and *C. declivirostre* (Crenuchidae) with descriptions of two new species. *Copeia*. 109:102–122.
 43. Henschel*, E, **NK Lujan**, JN Baskin. 2020. *Ammoglanis natgeorum*, a new miniature pencil catfish (Siluriformes: Trichomycteridae) from the lower Atabapo River, Amazonas, Venezuela. *Journal of Fish Biology* 97:1481–1490.
 42. McCauley, M, DP German, **NK Lujan**, CR Jackson. 2020. Gut microbiomes of sympatric Amazonian wood-eating catfishes (Loricariidae) reflect host identity and little role in wood digestion. *Ecology and Evolution* 10:7117–7128.
 41. Bressman, NR, JW Armbruster, **NK Lujan**, I Udoh, MA Ashley-Ross. 2020. Evolutionary optimization of an anatomical suction cup: Lip collagen content and its correlation with flow and substrate in Neotropical suckermouth catfishes (Loricarioidei). *Journal of Morphology* 281:676–687.
 40. **Lujan, NK**, JT Weir, BP Noonan, NR Lovejoy, NE Mandrak. 2020. Is Niagara Falls a barrier to gene flow in riverine fishes? A test using genome-wide SNP data from seven native species. *Molecular Ecology* 29:1235–1249.
 39. Ortega-Lara*, A, **NK Lujan**. 2020. *Panaque nigrolineatus laurafabianae*, a new commercially exploited subspecies of wood-eating pleco (Loricariidae: Hypostominae) from the Guaviare River basin in Colombia. *Zootaxa* 4723:393–408.
 38. **Lujan, NK**, JW Armbruster, DC Werneke, TF Teixeira, NR Lovejoy. 2020. Phylogeny and biogeography of the Brazilian-Guiana Shield armored catfish *Corymbophanes* clade (Loricariidae). *Zoological Journal of the Linnean Society* 188:1213–1235.
 37. Roxo, FF, LE Ochoa, MH Sabaj, **NK Lujan**, R Covain, GSC Silva, J Chang, ME Alfaro, JS Albert, BF Melo, C Oliveira. 2019. Phylogenomic reappraisal of the suckermouth armored catfish family Loricariidae (Teleostei: Siluriformes) using ultraconserved elements. *Molecular Phylogenetics and Evolution* 135:148–165.
 36. Moody, EK, **NK Lujan**, KA Roach, KO Winemiller. 2019. Threshold elemental ratios and the temperature dependence of herbivory in fishes. *Functional Ecology* 33:913–923.
 35. Armbruster, JW, L Greene, **NK Lujan**. 2018. Using morphology to test DNA-based phylogenetic relationships within the Guiana Shield catfish tribe Lithoxini (Siluriformes: Loricariidae). *Copeia* 106:671–681.
 34. **Lujan, NK**, JW Armbruster, NR Lovejoy. 2018. Multilocus phylogeny, diagnosis and generic revision of the Guiana Shield endemic suckermouth armored catfish tribe Lithoxini (Loricariidae: Hypostominae). *Zoological Journal of the Linnean Society* 184:1169–1186.
 33. Geda, SR*, **NK Lujan**, MA Perkins, E Abernethy, MH Sabaj, MM Gangloff. 2018. Multilocus phylogeny of the zebra mussel family Dreissenidae (Mollusca: Bivalvia) reveals a fourth Neotropical genus sister to all other genera. *Molecular Phylogenetics and Evolution* 127:1020–1033. *equal contributions
 32. Collins, RA, AG Bifi, RR De Oliveira, ED Ribeiro, **NK Lujan**, LH Rapp Py-Daniel, T Hrbek. 2018. Biogeography and species delimitation of the rheophilic suckermouth-catfish genus *Pseudolithoxus* (Siluriformes: Loricariidae), with the description of a new species from the Brazilian Amazon. *Systematics and Biodiversity* 16:538–550.
 31. Fitzgerald, DB, MH Sabaj, LM Sousa, AP Gonçalves, L Rapp Py-Daniel, **NK Lujan**, J Zuanon, KO Winemiller, and JG Lundberg. 2018. Diversity and community composition of rapids-dwelling fishes of the Xingu River: Implications for conservation amid large-scale hydroelectric development. *Biological Conservation* 222:104–112.

30. Castiglione, GM, FE Hauser, BS Liao, **NK Lujan**, A Van Nynatten, JM Morrow, RK Schott, N Bharracharyya, SZ Dungan, BSW Chang. 2017. Evolution of nonspectral rhodopsin function at high altitudes. *Proceedings of the National Academy of Sciences* 114:7385–7390.
29. Roxo, FF, **NK Lujan**, VA Tagliacollo, BT Waltz, GSC Silva, C Oliveira, JS Albert. 2017. Shift from slow- to fast-water habitats accelerates lineage and phenotype evolution in a clade of Neotropical suckermouth catfishes (Loricariidae: Hypoptopomatinae). *PLoS ONE* 12:1511–1529.
28. **Lujan, NK**, CA Cramer, R Covain, S Fisch-Muller, H López-Fernández. 2017. Multilocus molecular phylogeny of the ornamental wood-eating catfishes (Siluriformes, Loricariidae, *Panaqolus* and *Panaque*) reveals undescribed diversity and parapatric clades. *Molecular Phylogenetics and Evolution* 109:321–336.
27. Silva, GSC, FF Roxo, **NK Lujan**, VA Tagliacollo, CH Zawadski, C Oliveira. 2016. Transcontinental dispersal, ecological opportunity and origins of an adaptive radiation in the Neotropical catfish genus *Hypostomus* (Siluriformes: Hypostominae). *Molecular Ecology* 25:1511–1529.
26. Armbruster, JW, **NK Lujan**. 2016. A new species of *Peckoltia* from the Upper Orinoco (Siluriformes: Loricariidae). *ZooKeys* 569:105–121.
25. Winemiller, KO, P McIntyre, L Castello, E Fluet-Chouinard, T Giarrizzo, S Nam, IG Baird, W Darwall, **NK Lujan**, I Harrison, MLJ Stiassny, RAM Silvano, DB Fitzgerald, FM Pelicice, AA Agostinho, LC Gomes, JS Albert, E Baran, M Petrere Jr, C Zarfle, M Mulligan, JP Sullivan, C Arantes, LM Sousa, AA Koning, DJ Hoeinghaus, MH Sabaj, JG Lundberg, JW Armbruster, ML Thieme, P Petry, J Zuanon, G Torrente Vilara, J Snoeks, C Ou, W Rainboth, CS Pavanelli, A Akama, A van Soesbergen, L Sáenz. 2016. Balancing hydropower and biodiversity in the Amazon, Congo, and Mekong: Basin-scale planning is needed to minimize impacts in mega-diverse rivers. *Science* 351:128–129.
24. **Lujan, NK**, V Meza-Vargas, V Astudillo-Clavijo, R Barriga-Salazar, H López-Fernández. 2015. Multilocus molecular phylogeny for *Chaetostoma* Clade genera and species with a review of *Chaetostoma* (Siluriformes: Loricariidae) from the central Andes. *Copeia* 103:664–701. [Copeia's 2015 Best Paper by a Young Scholar in Ichthyology]
23. **Lujan, NK**, V Meza-Vargas, R Barriga-Salazar. 2015. Two new *Chaetostoma* group (Loricariidae: Hypostominae) sister genera from opposite sides of the Andes Mountains in Ecuador, with the description of one new species. *Copeia* 103:651–663.
22. **Lujan, NK**, JW Armbruster, NR Lovejoy, H López-Fernández. 2015. Multilocus molecular phylogeny of the Loricariidae (Pisces: Siluriformes) with a focus on subfamily Hypostominae. *Molecular Phylogenetics and Evolution* 82A:269–288.
21. Londoño-Burbano, A, S Lefebvre, **NK Lujan**. 2014. A new species of *Limatulichthys* Isbrücker & Nijssen (Loricariidae: Loricariinae) from the western Guiana Shield. *Zootaxa*. 3884:360–370.
20. **Lujan, NK**, S Steele, M Velasquez. 2013. A new distinctively banded species of *Panaqolus* (Siluriformes: Loricariidae) from the western Amazon Basin in Peru. *Zootaxa* 3691:192–198.
19. **Lujan, NK**, KA Roach, D Jacobsen, KO Winemiller, V Meza Vargas, V Rimarachín Chang, J Arana Maestre 2013. Aquatic community structure across an Andes-to-Amazon fluvial gradient. *Journal of Biogeography* 40:1715–1728.
18. **Lujan, NK**, H Agudelo-Zamora, DC Taphorn, PN Booth, H López-Fernández. 2013. Description of a new, narrowly endemic South American darter (Characiformes: Crenuchidae) from the central Guiana Shield highlands of Guyana. *Copeia* 2013:454–463.
17. **Lujan, NK**, KO Winemiller, JW Armbruster. 2012. Trophic diversity in the evolution and community assembly of loricariid catfishes. *BMC Evolutionary Biology* 12:124. [Highly Accessed]
16. Conway, KW, **NK Lujan**, JG Lundberg, RL Mayden, DS Siegel. 2012. Microanatomy of the paired-fin pads of ostariophysan fishes (Teleostei: Ostariophysi). *Journal of Morphology* 273:1127–1149.
15. **Lujan, NK**, JW Armbruster. 2012. Morphological and functional diversity of the mandible in suckermouth armored catfishes (Siluriformes: Loricariidae). *Journal of Morphology* 273:24–39.
14. **Lujan, NK**, DP German, KO Winemiller. 2011. Do wood-grazing fishes partition their niche?: morphological and isotopic evidence for trophic segregation in Neotropical Loricariidae. *Functional Ecology* 25:1327–1338.
13. **Lujan, NK**, JW Armbruster. 2011. A new basal Ancistrini genus and species from the Andes of Northern

- Peru (Siluriformes: Loricariidae). *Copeia* 2011:397–502.
12. **Lujan, NK**, J Birindelli. 2011. A new distinctively banded species of *Pseudolithoxus* (Siluriformes: Loricariidae) from the upper Orinoco River. *Zootaxa* 2941:38–46.
 11. **Lujan, NK**, JW Armbruster. 2011. Two new genera and species of Ancistrini (Siluriformes: Hypostominae) from the western Guiana Shield. *Copeia* 2011(2):216–225.
 10. **Lujan, NK**, M Hidalgo, DJ Stewart. 2010. Revision of *Panaque* (*Panaque*), with descriptions of three new species from the Amazon Basin (Siluriformes, Loricariidae). *Copeia* 2010(4):676–704. [Cover]
 9. **Lujan, NK**, M Arce, JW Armbruster. 2009. A new black *Baryancistrus* with blue sheen from the upper Orinoco (Siluriformes: Loricariidae). *Copeia* 2009(1):50–56.
 8. **Lujan, NK**, C Chamon. 2008. Two new species of Loricariidae (Teleostei: Siluriformes) from main channels of the upper and middle Amazon Basin, with discussion of deep water specialization in loricariids. *Ichthyological Exploration of Freshwaters* 19:271–282.
 7. **Lujan, NK**. 2008. Description of a new *Lithoxus* (Siluriformes: Loricariidae) from the Guayana Highlands with a discussion of Guiana Shield biogeography. *Neotropical Ichthyology* 6:413–418.
 6. Rengifo, B, **NK Lujan**, D Taphorn, P Petry. 2008. A new species of *Gelanoglanis* (Siluriformes: Auchenipteridae) from the Marañon River (Amazon Basin), northeastern Peru. *Proceedings of the Academy of Natural Sciences of Philadelphia* 157:181–188.
 5. **Lujan, NK**, JW Armbruster, MH Sabaj. 2007. Two new species of *Pseudancistrus* from southern Venezuela (Siluriformes: Loricariidae). *Ichthyological Exploration of Freshwaters* 18:163–174. [Cover]
 4. Armbruster, JW, LA Tansey, **NK Lujan**. 2007. *Hypostomus rhanthos* (Siluriformes: Loricariidae), a new species from southern Venezuela. *Zootaxa* 1553:59–68.
 3. Armbruster, JW, **NK Lujan**, DC Taphorn. 2007. Four new *Hypancistrus* (Siluriformes: Loricariidae) from Amazonas, Venezuela. *Copeia* 2007(1):62–79.
 2. Werneke, DC, MH Sabaj, **NK Lujan**, JW Armbruster. 2005. *Baryancistrus demantoides* and *Hemiancistrus subviridis*, two new uniquely colored species of catfishes from Venezuela (Siluriformes: Loricariidae). *Neotropical Ichthyology* 3:533–542.
 1. Werneke, DC, JW Armbruster, **NK Lujan**, DC Taphorn. 2005. *Hemiancistrus guahiborum*, a new suckermouth armored catfish from Southern Venezuela (Siluriformes: Loricariidae). *Neotropical Ichthyology* 3:543–548.

PEER-REVIEWED BOOK CHAPTERS (CLICK TITLE TO DOWNLOAD PDF)

5. Armbruster, JW, P van der Sleen, **NK Lujan** 2017. Subfamily Rhinelepininae – pineapple plecos. pp. 259–287. *In*: P van der Sleen, J Albert, eds. *A Field Guide to the Fishes of the Amazon – Fish Genera of the Amazon, Orinoco and Guianas*. Princeton University Press, Princeton.
4. Armbruster, JW, P van der Sleen, **NK Lujan** 2017. Subfamily Lithogeninae – climbing armored catfishes. pp. 286–287. *In*: P van der Sleen, J Albert, eds. *A Field Guide to the Fishes of the Amazon – Fish Genera of the Amazon, Orinoco and Guianas*. Princeton University Press, Princeton.
3. Armbruster, JW, P van der Sleen, **NK Lujan** 2017. Subfamily Hypostominae – plecos and relatives. pp. 259–286. *In*: P van der Sleen, J Albert, eds. *A Field Guide to the Fishes of the Amazon – Fish Genera of the Amazon, Orinoco and Guianas*. Princeton University Press, Princeton.
2. **Lujan, NK**, K Conway. 2015. Life in the fast lane: a review of rheophily in freshwater fishes. 2015 *in*: R Riesch, M Plath, M Tobler, eds. *Extremophile Fishes*. Springer, Dordrecht.
1. **Lujan, NK**, JW Armbruster. 2011. The Guiana Shield. pp. 211–224 *In*: J Albert, R Reis, eds. *Historical Biogeography of Neotropical Freshwater Fishes*. University of California Press, Berkeley.

EDITORIALS (CLICK TITLE TO DOWNLOAD PDF)

8. **Lujan, NK**. 2019. Fishes that hold their breath?. *Journal of Fish Biology* 95: 347.
7. **Lujan, NK**. 2019. Shining light on larval fish diversity on reefs. *Journal of Fish Biology* 94: 209.
6. **Lujan, NK**. 2019. After 175 years, a species proposed by Darwin and Jenyns is tested. *Journal of Fish Biology* 94:4.

5. Thomson, SA, RL Pyle, S Ah Yong, and 181 signatories. 2018. Taxonomy based on science is necessary for global conservation. *PLoS Biology* 16:e2005075.
4. Harrison, IJ, J Arroyave, **NK Lujan**, JF Craig. 2017. Correct procedure for uploading information on new taxonomic names to ZooBank. *Journal of Fish Biology* 90:1167–1169.
3. Ceriaco, LM, EE Gutiérrez, A Dubois, and 490 signatories. 2016. Photography-based taxonomy is inadequate, unnecessary, and potentially harmful for biological sciences. *Zootaxa* 4196:435–445.
2. **Lujan, NK**, L Page. 2015, February 27. Libraries of Life. *New York Times* OpEd highlighting the value of natural history museums and the need for greater public support.
1. **Lujan, NK**, D Bloom, C Watson. 2013, January 17. Rumble in the Jungle. *New York Times* OpEd highlighting the impacts of artisanal gold mining in South America.

MANUSCRIPTS IN REVIEW OR PREPARATION (*TRAINEES)

1. Foster*, K, **NK Lujan**, RM Everts, JW Armbruster, H López-Fernández, DD Bloom. Multilocus phylogeny of South American darters (Characiformes: Crenuchidae) reveals widespread paraphyly among genera and accelerated cladogenesis in benthic lineages. *Molecular Phylogenetics and Evolution* **In revision**.
2. Meza-Vargas*, V, JL Ramirez, **NK Lujan**. The ornate rubbernose pleco (Siluriformes: Loricariidae: *Chaetostoma*), a new species from the Ucayali River Basin, Peru. *Vertebrate Zoology* **In press**.
3. Donascimento, C, A Ortega-Lara, JG Albornoz-Garzón, C Román-Valencia, **NK Lujan**. A new candiru genus and species from the Magdalena basin, Colombia, representing the first trans-Andean Stegophilinae (Siluriformes: Trichomycteridae). **In prep**.
4. **Lujan, NK**, E Henschel, C Donascimento. A new species of ectoparasitic catfish from the Essequibo River Basin, Guyana, South America (Siluriformes: Trichomycteridae: Stegophilinae: *Ochmacanthus*). **In prep**.
5. Albornoz, JG, B Li Ludena*, **NK Lujan**. A new species of *Creagrutus* tetra from the upper Marañon River in northern Peru (Characiformes: Characidae: Stevardiinae). **In prep**.

AGENCY REPORTS (CLICK TO DOWNLOAD PDF)

- 2017 **Lujan, NK**. A Metabarcoding Laboratory and Bioinformatics Protocol for the Identification of Early Life Stages of At-Risk and Invasive Fishes. Department of Fisheries and Oceans Canada.
- 2010 Winemiller, KO, **NK Lujan**, RN Wilkins, RT Snelgrove, AM Dube, KL Skow, AG Snelgrove. Status of Freshwater Mussels in Texas. Texas A&M Institute of Renewable Natural Resources. Texas A&M University.

INVITED SEMINARS

- 2023 Peel Regional Aquarium Club, Toronto, ON
- 2023 Music City Aquarium Society, Nashville, TN
- 2023 University of Alabama in Huntsville, Biology Department
- 2021 Smithsonian Virtual Ichthyology Seminar
- 2019 American Museum RGGG Comparative Biology Seminar Series, New York, NY
- 2019 XV Congreso Colombiano de Ictiología, Medellín, Colombia
- 2019 Natural History Museum of Los Angeles, Los Angeles, CA
- 2017 II Symposium on Phylogeny and Classification of Neotropical Fishes, Londrina, Brazil
- 2017 XIV Congreso Colombiano de Ictiología, Cali, Colombia
- 2016 Aldrich Contemporary Art Museum, Ridgefield, CT
- 2016 University of Washington School of Aquatic and Fisheries Sciences, Seattle, WA
- 2016 Sacramento and San Francisco Aquarium Societies, CA
- 2016 Durham Region Aquarium Society, Toronto, Canada
- 2015 University of Mississippi Biology Department, Oxford, MS
- 2015 4th International L-Number Days, Hannover, Germany
- 2015 Catfish Cataclysm Convention, Madison, WI
- 2015 Catfish Study Group Convention, Wigan, United Kingdom

- 2012 University of Toronto Ecology and Evolutionary Biology Department, Toronto, Canada
 2010 University of San Marcos Natural History Museum, Lima, Peru
 2010 University of the Llanos Ezequiel Zamora, Guanare, Venezuela
 2010 Texas A&M University Wildlife and Fisheries Sciences Department, College Station, TX
 2010 Brazos Valley Aquarium Society, College Station, TX
 2007 Midwest Cichlid Association, Des Moines, IA
 2005 U.S. Embassy Lecture Series, Georgetown, Guyana
 2004 Cumberland River Compact, Nashville, TN

CONFERENCE PRESENTATIONS (*TRAINEE PRESENTOR)

- 2023 Hessels*, AJ, JV Montoya, J Valdaviezo, **NK Lujan**. Assaying fish richness and distribution using eDNA in the Ecuadorian Amazon. American Fisheries Society Annual Meeting, Grand Rapids, MI.
- 2022 Evans*, AJ, **NK Lujan**, LP Hernandez. A novel mechanism of premaxillary protrusion in the hingemouth, *Phractolaemus ansorgii*. Society of Integrative and Comparative Biology, Phoenix, AZ.
- 2021 Fontenelle*, JP, F Marques, **NK Lujan**, NR Lovejoy. Evolution and diversity in the Neotropical freshwater stingrays: A phylogenomic perspective. Joint Meeting American Society of Ichthyologists and Herpetologists (JMIH), Phoenix, AZ.
- 2019 Gallage*, KS, **NK Lujan**, NR Lovejoy, NE Mandrak. Identifying Great Lakes fish species at their early life stages using metagenomics. International Association of Great Lakes Research (IAGLR), Brockport, NY.
- 2019 Gallage*, KS, **NK Lujan**, NR Lovejoy, NE Mandrak. Identifying Great Lakes fish species at their early life stages using metagenomics. American Fisheries Society Ontario Chapter, Orillia, ON.
- 2019 Gallage*, KS, N Mandrak, N Lovejoy, **NK Lujan**. Metagenomic approach to identify and quantify juvenile fish and eggs from the Great Lakes Basin. Canadian Conference for Fisheries Research, London, ON.
- 2018 **Lujan, NK**, J Weir, B Noonan, N Lovejoy, N Mandrak. Is Niagara Falls a barrier to gene flow in native fishes?. International Association of Great Lakes Research (IAGLR), Scarborough, ON.
- 2018 Ortega-Lara*, A, **NK Lujan**, A Giraldo, FA Villa-Navarro. Sistemática de los bagres sapos de la familia Pseudopimelodidae (Siluriformes: Pimelodidae) en Colombia. V Congreso Colombiano de Zoología, Bogotá, Colombia.
- 2018 Meza-Vargas*, VM, **NK Lujan**, RE Reis. How many genera are *Hemiancistrus*? JMIH, Rochester, NY.
- 2017 **Lujan, NK**, MH Sabaj, LM Sousa, M Santos, L Rapp Py-Daniel, JG Lundberg, BP Noonan. Comparative population genomics of seven fish taxa spanning rapids of the lower Xingu River, Amazonas Basin, Brazil. JMIH, Austin, TX.
- 2017 Armbruster, JW, **NK Lujan**, DC Werneke, DD Bloom. The *Characidium declivirostre* group with description of two new species (Characiformes: Crenuchidae), JMIH, Austin, TX.
- 2016 Armbruster, JW, **NK Lujan**, L de Souza. The Proto-Berbice, an ancient river that influenced the modern distributions and conservation challenges of freshwater fishes throughout the western Guiana Shield. IV International Congress on Biodiversity of the Guiana Shield, Georgetown, Guyana.
- 2014 **Lujan, NK**, J Armbruster, N Lovejoy, H López-Fernández. Multilocus molecular phylogeny of the Loricariidae (Pisces: Siluriformes) with a focus on subfamily Hypostominae, JMIH, Chattanooga, TN.
- 2013 Lefebvre, SL, **NK Lujan**, H López-Fernández. Morphology and diet correlations in Neotropical suckermouth armoured catfishes of the Hypostominae (Siluriformes: Loricariidae), JMIH, Albuquerque, NM.
- 2013 Castiglione, GM, **NK Lujan**, BSW. Chang. Complex patterns of selection in Andean mountain catfish rhodopsin, Society for Molecular Biology and Evolution, Chicago, IL.
- 2013 **Lujan, NK**, V Meza, R Barriga. Systematic revision of *Chaetostoma* group genera and species (Loricariidae), Meeting of the Brazilian Society of Ichthyology, Maringá, Brazil.
- 2012 **Lujan, NK**, KO Winemiller, JW Armbruster. Trophic diversity in the evolution and community assembly of loricariid catfishes, Joint Congress on Evolutionary Biology, Ottawa, ON.

- 2009 **Lujan, NK.** The physics and chemistry of the loricariid trophic radiation, JMIH, Portland, OR.
- 2008 **Lujan, NK.** Lower jaw functional and morphological diversity within Loricariidae, JMIH, Montreal, QC.
- 2007 **Lujan, NK.** Biogeography and geology of the Venezuelan Guiana Shield, JMIH, St Louis, MO.
- 2007 Armbruster, JW, L de Souza, **NK Lujan.** Repeated trends in the biogeography of loricariid catfishes, JMIH, St Louis, MO.
- 2007 Hidalgo, M, B Rengifo, **NK Lujan,** JW Armbruster, H Ortega. Remarkable new loricariids from the Northern and Central Peruvian Amazon, JMIH, St Louis, MO.
- 2006 **Lujan, NK.** New catfishes from the western Guiana Shield, JMIH, New Orleans, LA.
- 2006 **Lujan, NK & J.W. Armbruster.** Phylogenetically informative new loricariid genera from the Western Guyana Shield, JMIH, New Orleans, LA.
- 2005 **Lujan, NK.** Catfishes of the Rio Ventuari, JMIH, Tampa, FL.
- 2005 Smith, ME, **NK Lujan,** J Humphries, K Luckenbill. Acoustic function of the encapsulated swimbladder of loricariid catfishes, JMIH, Tampa, FL.
- 2000 **Lujan, NK.** Woodland Period paleoecology of a southwest Michigan pond reconstructed using 500-year-old fish osteological remains, Michigan Academy of Sciences, Lansing, MI.

POPULAR VIDEOS, INTERVIEWS, ARTICLES, WEBSITES AND MEDIA COVERAGE (CLICK TO ACCESS)

- 2020 **Is Niagara Falls a barrier against fish movement?:** ScienceDaily article reporting on my recently published *Molecular Ecology* paper in which genomic evidence suggests that native fishes rarely or never use the Welland Canal to bypass Niagara Falls.
- 2018 **Leave taxonomy to the taxonomists and biologists: Q and A with Nathan Lujan:** Interview with the University of Toronto Scarborough regarding a *PLoS Biology* paper in which coauthors and I argue for the importance to biodiversity conservation of a traditional approach to taxonomic research.
- 2018 **Undiscovered Amazon: The Unexplored and Threatened Andean Headwater:** YouTube video produced by Krista DeMille about my research and conservation work in the Marañon River; >1,000 views in first six months.
- 2017 **Amazonas Magazine** (September/October): *Rediscovering a Lost Loricariid* article about a 2016 expedition I led to the upper Ireng River in southern Guyana, published in [English](#) and [German](#).
- 2016 **IUCN-Freshwater Fish Specialist Group Newsletter** (October): Article on field work, discoveries, and conservation threats from dams in the Marañon River of northern Peru.
- 2016 **International Rivers NGO:** River Guardian interview and profile by Margaret Zhou.
- 2015 **Amazonas Magazine** (May/June): Article entitled *New findings on the genetic relationships of the Hypostominae* by Ingo Seidel about my molecular phylogenetic research on the Loricariidae.
- 2014 **PBS Program Art21:** Online documentary on my collaboration with artist David Brooks, focusing on evolution, ecology, and conservation themed artwork displayed in New York and Switzerland.
- 2012-13 **PlanetXingu:** Public outreach and crowdfunding of field research in the Xingu River, Brazil with iXingu Project co-PIs Mark Sabaj, Leandro Sousa.
- 2007-13 **Practical Fishkeeping Magazine:** Thirteen online articles and interviews about my research with a cumulative total of over 41,000 page views.
- 2012 **ROM Magazine:** Article about a 2012 expedition I led to Ecuador.
- 2011 **Eddie Bauer First Ascent Blog:** Blog describing an Explorer's Club supported expedition that I led to Bolivia.
- 2005 **Fishes of Amazonas Website:** Online catalog of ichthyological discoveries in the upper Orinoco watershed of southern Venezuela (collaboration with M. H. Sabaj at ANSP).

PROFESSIONAL SERVICE

- 2018-present Taxonomy Advisor, IUCN-Species Survival Commission, Freshwater Fish Specialist Group.
- 2015-present Member, IUCN-Species Survival Commission, Freshwater Fish Specialist Group.
- 2017-2022 Associate Editor of Taxonomy, Morphology and Biogeography, *Journal of Fish Biology*.
- 2015-2017 Assistant Editor of Taxonomy and Morphology, *Journal of Fish Biology*.

- 2005-present Approximately one review per month for journals including: *African Journal of Ecology*, *Animals*, *Aquatic Conservation: Marine and Freshwater Ecosystems*, *Biological Journal of the Linnean Society*, *Checklist*, *Copeia*, *Environmental Biology of Fishes*, *Evolution*, *Freshwater Biology*, *Hydrobiologia*, *Journal of Fish Biology*, *Journal of Biogeography*, *Molecular Phylogenetics and Evolution*, *Neotropical Ichthyology*, *Physiology & Behavior*, *PLOS ONE*, *Scientific Reports*, *Systematics and Biodiversity*, *ZooKeys*, *Zoologica Scripta*, and *Zootaxa*.
- 2015 *Ad hoc* reviewer for the National Science Foundation – Division of Evolutionary Biology.
- 2013 Panelist for the National Science Foundation – Division of Evolutionary Biology.
- 2012 *Ad hoc* reviewer for the Austrian Science Foundation.

GRANTS (US\$)

2022	\$49,350	Coypu Foundation: McIlhenny-Schwartz Aquatic Biodiversity Survey of the ‘Inirida River Star’ (Estrella Fluvial de Inirida), Colombia.
2022	\$115,500	NSERC Discovery Grant & Launch Supplement: Modularity's Role in Cranial Disparification of the Loricarioidei - A Hyperdiverse Clade of Neotropical Catfishes
2020	\$49,822	Coypu Foundation: Biodiversity Inventory of the New River Triangle, Guyana.
2016	\$49,980	Coypu Foundation: Aquatic Biodiversity Survey of the Southern Colombian Andes.
2014	\$49,983	Coypu Foundation: Aquatic Biodiversity Survey of the Western Guiana Shield.
2013	\$526,000	NSF DEB-1257813: Baseline Survey of the Lower Xingu River Rapids, Brazil: a Highly Diverse, Globally Unique, and Immediately Imperiled Ecosystem (I was a grant postdoc and coauthor with co-PIs: JG Lundberg, KO Winemiller, MH Sabaj).
2013	\$11,400	Planet Xingu: Aquarium fish hobbyist crowd-funding of research in the Xingu River, Brazil (co-PIs: MH Sabaj, LM Sousa, J Dignall).
2012	\$45,570	Coypu Foundation: Aquatic Biodiversity Survey of the Southern Ecuadorian Andes.
2011	\$158,300	National Science Foundation (OISE-1064578): International Research Fellowship: 2-year postdoctoral fellowship for research at the Royal Ontario Museum, Toronto, Canada.
2011	\$8,333	Explorers Club–Eddie Bauer: Grant for Expeditions: Aquatic Inventory of the Rio Mamoré.
2009	\$36,750	Coypu Foundation: Aquatic Biodiversity Survey of the Southern Peruvian Andes.
2009	\$18,000	National Geographic Committee for Research and Exploration (#8721-09): A Lost Watershed in the Lost World: Searching for Genetic Evidence of the Proto-Berbice in Fishes of the Upper Orinoco.
2004-7	\$18,237	Sub-awards of NSF DEB-0315963: All Catfish Species Inventory (ACSI): Total of four sub-awards for fieldwork in Peru, Venezuela, and Uganda.

FIELD EXPERIENCE

- 2002–23 Collection of over 15,000 lots and 10,000 tissues of fishes and macroinvertebrates using dip-, cast-, seine-, trawl-, and gill-nets, electrofishers, rotenone, and hook and line in rivers and streams throughout Canada, the United States, Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Uganda, and Venezuela. Twenty-six international expeditions to date.
- 2000–02 Macroinvertebrate-based indices of biotic integrity (IBI) using Hess and Surber samplers and fish-based IBIs using seines, backpack-, and boat-electrofishers in streams and rivers throughout the Tennessee River Valley, including: Alabama, Kentucky, Georgia, North Carolina, Tennessee, and Virginia.
- 1999 Fish ecology and ethology studies using snorkel, cast-net and seine in the Caves Branch River, Sibun River Watershed, Belize.

TECHNICAL CONSULTING

- 2014–15 **Ecuador: Dué River and Normandía Hydroelectric Projects:** I provided technical guidance to the Inter-American Development Bank and private companies regarding the diversity and distribution of fish species near two proposed hydroelectric plants.

- 2011–13 **Guyana: Amaila Falls Hydroelectric Project:** I provided technical guidance to the Inter-American Development Bank and private companies regarding the diversity and distribution of fish species near a proposed hydroelectric plant. This included modifications to project design, supervision of mixed teams of scientists and local guides under arduous field conditions, collection and statistical analysis of specimens and ecological data, drafting of reports, and resolution of Critical Natural Habitat concerns for an endemic fish species found within the project’s area of influence.
- 2012 **Perú: Chaglla Hydroelectric Power Plant:** I provided technical guidance to the Inter-American Development Bank and private companies regarding the design and execution of the environmental impact survey, taxonomic identification of species found within the project’s area of influence, and resolution of Critical Natural Habitat concerns for fish species found within the project’s area of influence.

PROFESSIONAL REFERENCES

Available on request.