

## Mariangeles Arce H.

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### POSITIONS

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2014- present	Postdoctoral Associate – AVAToL project. Stony Brook University, Stony Brook, New York,
2012-present	Research Associate, The Academy of Natural Sciences of Philadelphia, Pennsylvania
2013-2014	Georeferencing Technician – GEOLocate Project. The Academy of Natural Sciences of Philadelphia, Pennsylvania

### EDUCATION

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2008-2012	PhD. in Zoology. Pontificia Universidade Católica do Rio Grande do Sul, PUCRS, Porto Alegre, Brasil. Topic of thesis: Total evidence analysis of the Doradidae, including the analysis of cranial, ventral, and pectoral musculature of the family and the molecular phylogeny. Advisor: Roberto Reis, PhD.
1996-2002	BSc. in Biology Universidad Nacional de Colombia, Bogota, Colombia Dissertation: Ecological study of the ichthyofauna in the Amazon river near Leticia, Colombian Amazon. Advisor: Jose Ivan Mojica, PhD.

### RESEARCH EXPERIENCE

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2014-present	Research phylogenetic relationships of Ictaluroidea based on morphological characters at Stony Brook University and the Academy of Natural Sciences of Philadelphia
2012-2013	Researched Siluriformes' phylogenies to complete catfish web pages for the Tree of Life Web Project at The Academy of Natural Sciences of Philadelphia.
2008-2012	Researched molecular and morphological phylogeny and anatomy of Doradidae (Siluriformes) to complete a total evidence analysis at the Pontificia Universidade Católica do Rio Grande do Sul and the Academy of Natural Sciences of Philadelphia.
2004 and 2006	Researched taxonomy and systematics of thorny catfishes (Doradidae) at the Academy of Natural Sciences of Philadelphia
2000-2006	Researched taxonomy, systematics, and ecology of Colombian freshwater fishes and created a catalog of the fish collection at the Instituto de Ciencias Naturales at the Universidad Nacional de Colombia
2004-2005	Built a Taxonomy Authority File for Doradidae, Auchenipteridae, Loricariidae, Trichomycteridae and Cetopsidae from Colombia at the Instituto Alexander von Humboldt funded the proposal
2003-2004	Researched ecological aspects of a endemic catfish species, <i>Pseudoplatystoma magdaleniatum</i> , from the Magdalena River in Colombia at Conservación Internacional and Fundación Omacha.

## **PUBLICATIONS IN PEER REVIEWED JOURNALS**

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Sabaj-Peréz, M.H, **Arce H., M.**, Sousa, L.M., and Birindelli, J.L.O. 2014. *Nemadoras cristinae*, new species of thorny catfish (Siluriformes: Doradidae) with redescrptions of its congeners. Proceedings of the Academy of Natural Sciences of Philadelphia 163: 133-178

**Arce H., M.**, Reis, R.E, Geneva, A.J., Sabaj-Peréz, M.H. 2013. Molecular phylogeny of thorny catfishes (Siluriformes: Doradidae). Mol. Phylogenet Evol. 67, 560–577

Lujan N., **Arce M.**, and Armbruster J.W. 2009. A new black *Baryancistrus* with blue sheen from the upper Orinoco (Siluriformes: Loricariidae). Copeia N 1, 50-56.

**Arce M.** 2008. Evaluación del estado de poblaciones de bagre rayado *Pseudoplatystoma magdaleniatum* en la cuenca media del río Magdalena durante la temporada de Subienda del 2004. Revista de la Academia Colombiana de Ciencias Exactas, Física y Naturales. 32(123): 257-266

Piorski N.M., Garavello J.C., **Arce M.** & Sabaj Perez M.H. 2008. *Platydoras brachylecis*, a new species of thorny catfish (Siluriformes: Doradidae) from northeastern Brazil. Neotropical Ichthyology, 6(3): 481-494

Mojica J.I., Galvis G., Arbeláez F., Santos M., Vejarano S., Prieto-Piraquive E., **Arce M.**, Sánchez-Duarte P., Castellanos C., Gutiérrez A., Duque S.R., Lobón-Cerviá J., C. Granado-Lorencio. 2005. Peces de la Cuenca del Río Amazonas en Colombia: Región de Leticia. Biota Colombiana 6(2)

## **BOOKS, BOOKS CHAPTERS AND DIGITAL PUBLICATION**

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Galvis G., Mojica J.I., Duque S.R., Castellanos C., Sánchez-Duarte P., **Arce M.**, Gutiérrez A., Jiménez L.F., Santos M., Vejarano S., Arbeláez F., Prieto E., Leiva M. 2006. Peces del medio Amazonas – Región de Leticia. Serie de Guías Tropicales de Campo No 5. Conservación Internacional. Editorial Panamericana, Formas e Impresos. Bogotá, D. C., Colombia, 2006. 548 pp

Polanco Ochoa R, López-Arevalo H.F., **Arce M.** & Camargo A.A. Oso hormiguero palmero Myrmecophaga tridáctila. In Rodríguez-H. J.V., M. Alberico, F. Trujillo & J.G. Jorgenson (Eds) 2006. Libro Rojo de los Mamíferos de Colombia.. Serie Libros Rojos de Especies Amenazadas de Colombia. Conservación Internacional Colombia. Ministerio de Ambiente, Vivienda y Desarrollo Territorial Bogotá, Colombia. Bogotá, Colombia.

**Arce M.** 2005. AAT de Doradidae, Auchenipteridae, Loricariidae, Trichomycteridae y Cetopsidae (Siluriformes) de Colombia Instituto Alexander von Humboldt. Sistema de Información sobre Biodiversidad. Instituto de Investigación de Recursos Biológicos “Alexander von Humboldt”. Bogotá, Colombia. Online database: <http://www.siac.net.co/sib/aat>

### Manuscripts in preparation

**Arce M.** Cranial, ventral, and pectoral musculature of thorny catfishes (Siluriformes: Doradidae)

**Arce M** and Reis R. Total evidence analysis of the Doradidae

## **ABSTRACTS AND PRESENTATIONS AT SCIENTIFIC MEETINGS**

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### Oral presentations (\*presenter)

**Arce H., M.** 2013. Anatomical Variation of Cranial and Pectoral Muscles of the Thorny Catfishes (Doradidae, Siluriformes). Joint Meeting of Ichthyologists and Herpetologists. Albuquerque, New Mexico.

**Arce H., M.\***, Sabaj-Peréz M.H, Reis R.E, Geneva A.J. 2011 Molecular phylogeny of thorny catfishes (Doradidae). Encontro Brasileiro de Ictiologia. Manaus, Brazil.

Sabaj Pérez, M.H.\*, **Arce H., M.**, Sousa, L.M., Birindelli, J.L.O. 2009. Doradidae: In complete classification. Joint Meeting of Ichthyologists and Herpetologists hosted by USGS Forest & Range land

Ecosystem Science Center, Portland State University, United States Forest Service, Washington Department of Fish & Wildlife, Washington State University & Oregon State University, Portland, Oregon, USA

Sabaj, M.H., **Arce H., M.\***, Sousa, L. M. 2006. Taxonomy and systematics of *Nemadoras*, a genus of Neotropical thorny catfishes (Siluriformes: Doradidae). Joint Meeting of Ichthyologists and Herpetologists. New Orleans, USA.

**Arce H., M.**, Gutierrez A and Sanchez-Duarte P\*. 2005. Evaluación del estado poblacional y análisis de la distribución espacial del *Prochilodus magdalenae* Steindachner, 1879, *Pseudoplatystoma fasciatum* (Linnaeus, 1766) y *Sorubim cuspicaudus* Littmann, Burr & Nass, 2000, en la cuenca media alta del río Magdalena durante la subienda 2003- 2004. Simposio Colombiano de Ictiología. Quibdó, Colombia.

#### Poster presentations

**Arce H., M.**, Sánchez P., Mojica J.I., and Galvis G. 2003. Composition of minor and median size fish community from the Amazon River during a low water period. Joint Meeting of Ichthyologists and Herpetologists. Manaus, Brazil

**Arce M.**, Sánchez P., Mojica J.I., and Galvis G. 2003. Trophic aspects of 44 species of fishes from the Amazon River, Leticia Colombia. Joint Meeting of Ichthyologists and Herpetologists. Manaus, Brazil

#### **EDITORIAL ACTIVITY (Journal referee)**

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2009-present	Copeia
2009-present	Actualidades biológicas
2009	Imanimundo

#### **PROFESSIONAL EXPERIENCE**

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2013-2014	Georeferencing technician for the FishNet 2 Collaborative Georeferencing Project. I am part of a team of 12 people; the goal of this collaborative effort is to georeference thousands of fish collection records in the FishNet 2 database ( <a href="http://www.fishnet2.net/">http://www.fishnet2.net/</a> ) that have no assigned latitude/longitude coordinates. I am responsible for georeferencing specimen collection locations from South American rivers, streams and lakes.
2003	Consultant for the project “Composición de la Comunidad Ictica de la Ciénaga de Palagua, Puerto Boyacá y Análisis del Contenido de Metales Pesados e Hidrocarburos en las Especies más Abundantes”. I was in charge of inventory the fish fauna of the Ciénaga and dissect specimens of <i>Prochilodus</i> for the study of metals contents in the fish. I was also in charge of the analysis of water quality. Laboratorios Daphnia Ltda.
2002	Consultant for the project Estudios Ictiológicos e Hidrobiológicos en los Río Manso y Guarinó. I was in charge of the fauna and flora inventories and the writing of the report and generation of conservation measures to mitigate the impact of the dam construction on the ichthyofauna. I.E.H GRUCON Ltda. Ingenieros consultores
2000	Consultant for the project “Optimización de las Pesquerías del Pintadillo ( <i>Pseudoplatystoma fasciatum</i> y <i>Pseudoplatystoma tigrinum</i> ) en la Amazonia Colombiana”. I was in charge of the creation of a data set with all the specimens from those two species collected by fishermen and additionally to study trophic and reproductive aspects of the two species. Instituto Nacional de Pesca y Acuicultura (INPA)

## FELLOWSHIPS, SCHOLARSHIPS & GRANTS

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2012/2013	Deepfin Student Exchange Program Award. Completion of the Siluriformes phylogenies for the Tree of Life Web Project. (U\$7,500)
2008-2012	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) Fellowship for doctoral studies (PUCRS - Pontificia Universidade Catolica do Rio Grande do Sul)
2010	Jessup Award. Academy of Natural Sciences of Philadelphia. Phylogenetic analysis of Thorny Catfishes (Doradidae) using molecular and morphological characters. (U\$7,000)
2009	Deepfin Student Exchange Program Award. Phylogenetic relationships of the Doradidae based on morphological characters. (U\$4,000)
2006	All Catfishes Species Inventory. The Academy of Natural Sciences of Philadelphia. Completion of the taxonomy of Doradidae. (U\$16,840)
2004-2005	Sistema de información para la biodiversidad. Instituto Alexander von Humboldt. Creation of Taxonomic Authority File for five Siluriformes families distributed in Colombia. (U\$1,000)
2004	All Catfishes Species Inventory. The Academy of Natural Sciences of Philadelphia. Review of Doradidae and revision of the genus Trachydoras. (U\$2,000)
2003-2004	Iniciativa Especies Amenazadas. Conservacion Internacional Colombia. Review of the population of catfish species in the Magdalena River in Colombia. (U\$500)

## TRAINING COURSES AND WORKSHOPS

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2014	Paleobiology and Phylogeny for Macroevolution at NESCent Academy
2013	Summer School in Evolutionary Developmental Biology on <i>From Gene Networks to Organismal Systems</i> – organized by the Instituto Veneto di Scienze, Lettere e Arti in cooperation with the Konrad Lorenz Institute for Evolution and Cognition Research in Vienna
2013	Ontologies for Evolutionary Biology at NESCent Academy
2011	Metodos Cuantitativos de Clasificación y Uso de TNT at Universidade Federal do Rio Grande do Sul
2011	Anatomia Comparada de Peixes: Um Emfoque Evolutivo by Dr. Ralf Britz at the Universidade de Sao Paulo.
2011	Advanced methods for Phylogenetic Analysis of Molecular Sequences led by Dr. Martin Embley at the Instituto de Pesquisas Jardim Botânico do Rio de Janeiro.
2004	Fish ecology by Dr. Javier Lobón at the Universidad Nacional de Colombia
2000	Marine Ichthyology by Fabio Gómez at the Pontificia Universidad Javeriana.

## LANGUAGE SKILLS

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Spanish	Native
English	ITEP: level 5
Portuguese	CELPEBRAS: intermediate superior level