

## DISCOVERING THE ARACHNIDS IN SOUTH AMERICA

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A review of the Zoological expeditions in the South American Continent with focus in arachnids is presented. Europe led the scientific discovery in the world at least from the Renaissance. During centuries the Europeans plundered the other continents due to their more advanced technology and consequent military power. The great navigations for sugar, slaves and spices in the 16th century changed the world's perspective of sampling curiosities, which would originate the collections, housed in museums. The brutal Portuguese and Spanish contributed nothing for the knowledge of fauna of South America, but the French, Dutch, German, and British have built impressive zoological collections. American museums eventually joined European museums as the world's leading centers for the production of knowledge. The capitalist/industrial model of economy coupled with an unawareness of the delicate balance of nature led to a quick depletion of the Earth resources in the last decades. Only very recently mankind developed a concern over the geometric rate of species extinction and discovered the value of biodiversity. Measures against biopiracy and fierce legislation protecting nature are usually misled and hinder investigation. Man-centered point of view historically biased the emphasis of research resources towards vertebrates, specially birds and mammals. Funding for larger expeditions of entomological sampling is typically harder to get. The arachnological diversity of South America was at first assessed by Europeans only, then North Americans and only much later by South Americans. 19th century saw a few European expeditions to Brazil and Peru, e.g. Spix & von Martius, von Humboldt, Langsdorff. Later many North American entomological expeditions sampled arachnofauna, e.g. Ross & Michelbacher, Ross & Schlinger in the 1950's, and Schlinger & Irwin were in Chile in the 1960's. Harriet Exline Frizzell lived in Ecuador for a while. Smithsonian Institution (BIOLAT), University of Texas (BIOTROP) and Terry Erwin made expeditions in Peru, Platnick (AMNH, 1980's) in Chile. The Germans had projects in Amazonia in the 1980's. In the 1990's, South Americans, specially Brazilians, took the lead and secured funding for bold arachnological expeditions, e.g. projects AMMA and BIOTASP that brought a wealth of new information to the arachno-diversity of this continent.

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## NEW PERSPECTIVES ON THE ECOLOGY AND EVOLUTION OF SPIDER WEBS

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Web spinning spiders have long provided a popular system to address questions on topics ranging from evolution and behavior to molecular biology and materials research. While the potential for integrative research across these disciplines has long been recognized, it is only recently that such efforts have been attempted and they have largely focused on a small number of orb-weaving spiders. Here, I discuss three emerging frontiers in research on web spinning spiders. First, behavioral studies on web architecture and materials research on silk are now at a point where they can mutually inform one another to provide a better understanding of how webs function during prey capture. Second, new data sets for phylogenetic research are transforming our understanding of the evolution of webs and silk. Finally, a long-standing bias towards studies on the most conspicuous orb-weaving spiders is giving way to research on other taxa of spiders and yielding insight into the function and evolution of diverse types of webs.