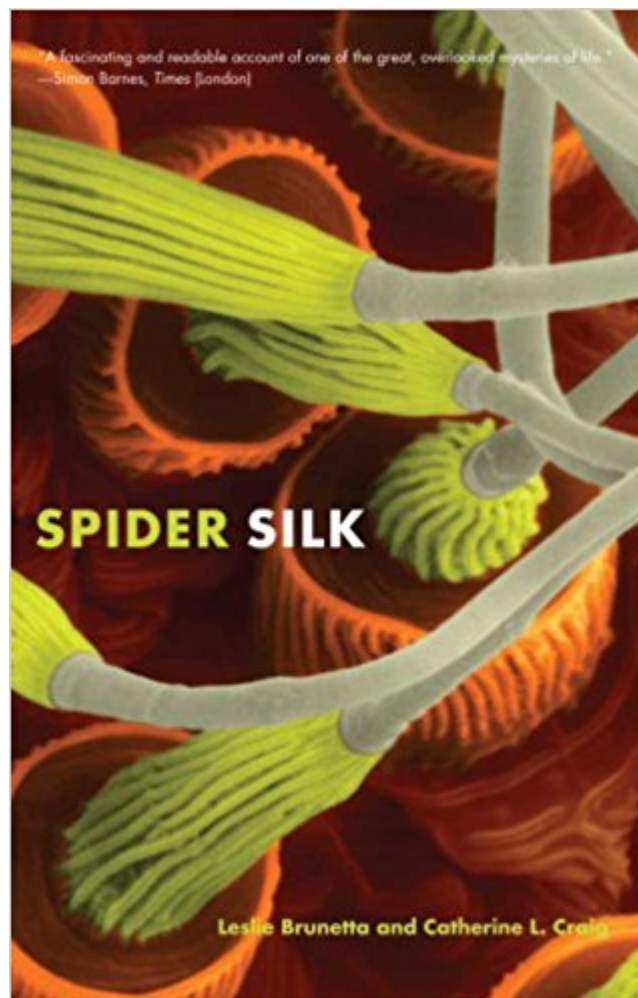




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# Spider Silk: Evolution And 400 Million Years Of Spinning, Waiting, Snagging, And Mating



## Synopsis

Spiders, objects of eternal human fascination, are found in many places: on the ground, in the air, and even under water. Leslie Brunetta and Catherine Craig have teamed up to produce a substantive yet entertaining book for anyone who has ever wondered, as a spider rappelled out of reach on a line of silk, “How do they do that?” The orb web, that iconic wheel-shaped web most of us associate with spiders, contains at least four different silk proteins, each performing a different function and all meshing together to create a fly-catching machine that has amazed and inspired humans through the ages. Brunetta and Craig tell the intriguing story of how spiders evolved over 400 million years to add new silks and new uses for silk to their survival “toolkit” and, in the telling, take readers far beyond the orb. The authors describe the trials and triumphs of spiders as they use silk to negotiate an ever-changing environment, and they show how natural selection acts at the genetic level and as individuals struggle for survival.

## Book Information

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## Customer Reviews

‘This is a fascinating and readable account of one of the great, overlooked mysteries of life.’

• Simon Barnes, The Times (Simon Barnes The Times 2010-07-01)". . . [a] remarkable history of evolutionary innovations in silk spinning by spiders. . . effective and

entertaining."--Quarterly Review of Biology (Quarterly Review of Biology)". . . an ideal introduction to spiders and a tempting peek at the field of silk research that. . . will leave the reader forever fascinated and enthused by these wonderful web weavers."--BioScience (BioScience)Library

Journal bestseller in Zoology/Botany. (Library Journal)"This wonderful book cures arachnophobia for any lucky reader.Â Â Brunetta and Craig combine superb scholarship with engaging writing, providing a compelling introduction to evolution in action through the lens of spiders and their silks."ÂâSimon Levin, Princeton University, author of *Fragile Dominion*Â Â (Simon Levin)"From black widows to balloon-riders and bola-swingers, spider evolution depends critically on a few proteins in silk. Brunetta and Craig weave genetics and behavior into a silky-smooth portrait of this fascinating group."ÂâRichard Wrangham, Harvard University, author of *Catching Fire: How Cooking Made Us Human* (Richard Wrangham)Ââ"Spider Silk"Ââa wonderful, charismatic natural history of spiders"Ââwill truly inspire all readers who may never before have appreciated this unique group of organisms."Ââ"ÂâMargaret Lowman, author of *Life in the Treetops: Adventures of a Woman in Field Biology* and of *It's a Jungle Up There: More Tales from the Treetops* (Meg Lowman)"In *Spider Silk*, Leslie Brunetta and Catherine Craig offer a history of this marvelous stuff that readers will find surprisingly compelling"Ââfor not only the astonishing complexity of spider silk itself, but also the many uses that spiders have created over the ages. It is, in other words, the epitome of evolutionary innovation."Ââ"ÂâCarl Zimmer, author of *Parasite Rex* and *The Tangled Bank: An Introduction to Evolution* (Carl Zimmer 2010-02-01)'The book is full of amusing facts and observations. Definitely for the general reader with a keen interest in natural history.' Ââ"ÂâTibor Fischer, *Sunday Telegraph* (Tibor Fischer *The Sunday Telegraph* 2010-07-11)Ââ"This is a compelling and immensely readable account that engages the reader from start to finish and that I found difficult to put down."Ââ"ÂâTim R. New, *Journal of Insect Conservation* (Tim R. New *Journal of Insect Conservation*)'This is a compelling and immensely readable account that engages the reader from start to finish"ÂâA helpful index is also included, and a series of colour plates illustrate some of the book's subjects and themes"Ââ"ÂâThis well-produced book is a valuable and enjoyable contribution to fostering awareness of spider evolution"Ââ"ÂâBuy it for your own interest, or as a gift for your favourite arachnophobe - you might just make a convert!' Tim R. New, *Journal Of Insect Conservation* (Australia) (Tim R. *Journal of Insect Conservation* (Australia) 2010-09-01)"Spider Silk weaves together principles of genetics, biochemistry and evolution to explain the diversity and function of spider"Ââsilks. This book is a model for next generation biology texts."Ââ"ÂâCynthia Sagers, University of Arkansas (Cynthia Sagers)"The language is lively and a passion for the subject shines through."Ââ"ÂâSue Howarth, *The Biologist* Vol.57 No.3 (Sue Howarth *The Biologist* Vol.57 No.3 2010-10-01)"Supremely absorbing book."Ââ"ÂâBen Hoare, *BBC Wildlife Magazine* (Ben Hoare *BBC Wildlife Magazine* 2010-10-01)Recipient of the 2011

"Highly Recommended Book Award" presented by the Boston Authors Club (Boston Authors Club Highly Recommended Book Boston Authors Club 2011-01-01)Named theÃ Æ Silver WinnerÃ Æ for theÃ Æ 2010 ForeWord Book of the Year Award in the Nature categoryÃ Æ (2010 Book of the Year Award in Nature ForeWord Magazine 2010-01-01)Selected as a Choice Outstanding Academic Title for 2011 in the Zoology category. (Choice Outstanding Academic Title Choice 2012-03-12)"Spider Silk is an educational, thoughtful, fun and compelling read. Each chapter presents the reader with a logical progression of the spider speciesÃ¢â  evolution Ã¢â  from early common ancestors millions of years ago to spiders we come into contact with everydayÃ¢â  After reading this book, it is hard not to stop and marvel at the complexity of spiders and their webs.Ã¢â  Rachael A. Carmen, Springer (Rachael A. Carmen Springer Journal)"Well written....Very readable."Ã¢â  •Ruth Grierson, Mount Desert Islander (Ruth Grierson Mount Desert Islander)

Leslie Brunetta is a freelance writer whose articles have appeared in the New York Times, Technology Review, and the Sewanee Review; on NPR; and elsewhere. Catherine L. Craig is an internationally recognized evolutionary biologist, arachnologist, and authority on silk.

Who knew that spider silk could be interesting enough to fill out a whole book? But sure enough, it is the particulars of this amazing and diverse product that make it such a fun and fascinating study in evolution, adaptation, and versatility.Starting with an explanation of the fossil record, the authors trace the history and genetics of spider silk in engaging, accessible prose. Highly recommended.

I was enthralled by this book. The evolution of insects and spiders is a generally overlooked subject. The emphasis is almost entirely on vertebrates, creatures with internal skeletons, not the exoskeletal critters. Yet, insects and spiders preceded the vertebrates in going from the ocean onto land and were the first my many millions of years to fly (insects). Though spiders never developed wings, their webs have allowed them to evolve into niches that would have been unavailable to them as simple crawling creatures. Silk has set them apart from other arthropods (insects and spiders). This book gives a more complete picture of evolution in general, dealing with more than the vertebrates that lead to fish, amphibians, reptiles, mammals (including man) and birds. It's all interesting; but not the bugs and spiders get their due respect.

I have the kindle version of the book. I enjoyed the depth of material and I found it surprisingly

readable. My only complaint is that the text tells me to look at colored plates to illustrate certain features. Unfortunately my kindle version doesn't seem to have them.

all the news about spiders. You can lose yourself in the details.

I saw this book on Gizmodo, and was intrigued by the thought of social spiders, so I bought it. I was shocked that the book is an extremely thorough breakdown of all spiders and how they use silk, or how they have learned to survive, and thrive without it. It covers all the different types of silk in use and how it evolved. As an arachnophobic, I found it very therapeutic to learn about these creatures that I fear.

There are many types of writer some are easy to follow others are not. This is a great book written so all can understand and enjoy learning about this aspect in nature.

This kindle version did not include ANY of the color plates mentioned in text. Important discussions and points in the text refer to the plates so their absence makes some important concepts difficult to understand. A shoddily done digitization.

Book was in great shape, came quickly. Good science history on the evolution of spiders. I heartily recommend this book.

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