



## Book Review

# Islands and Snakes: Isolation and Adaptive Evolution

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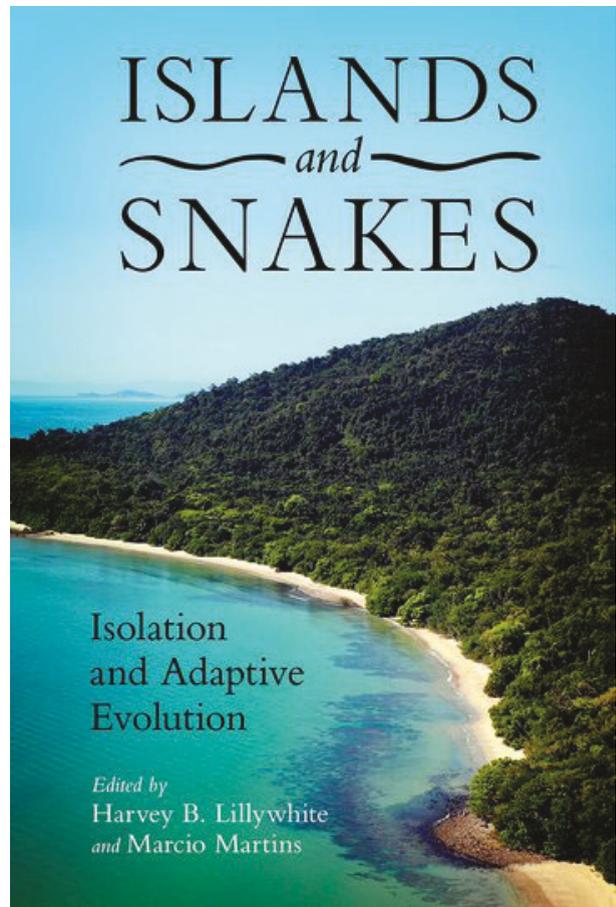
Snakes on islands, what could make a herpetologist happier? *Islands and Snakes*, edited by Harvey B. Lillywhite and Marcio Martins, is a fun and important book, with something new and fascinating in every chapter: A tropical island with Sea Kraits coming ashore to drink fresh water and to lay their eggs; a sandy Florida beach, where at the back-beach vegetation, dozens of Cottonmouth Moccasins wait for falling baby birds or for the dropped fish that the parent birds had brought to their young. That and so much more is here in this exciting book!

Islands are fascinating, as each has its own ecology. Isolated and oceanic islands have depauperate faunas due to distance and dispersal. Continental islands have fairly normal ecosystems, though some species may be missing and others becoming dominant. The authors of the chapters in this book show how interesting snakes on islands have become.

The introductory chapter by Marcio Martins and Harvey Lillywhite discusses the geology, geography, and evolution of islands and their snake fauna, followed by Harold Heatwole's chapter on the biogeography of Sea Kraits, and then the chapter by Xavier Bonnet and François Brischox on Sea Krait behavior, distribution, and abundance. Fun facts: Sea Kraits can pick up one-fifth of their oxygen through their skin, they eat mostly eels, they must go ashore on islands to lay their eggs, they form big mating balls, and many have predatory ticks.

In Chapter 4, by Ming-Chung Tu and Harvey Lillywhite, we learn more about the diving responses of Sea Kraits and the fact that after a rain, Kraits can drink from the tiny layer of freshwater that has fallen on the ocean surface...and you will also learn more about the mating balls.

In Chapter 5, by Marcio Martins, Ricardo J. Sawaya, Selma Almeida-Santos, and Otavio A.V. Marqués, we learn about the ecology of the Lancehead, *Bothrops*



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*insularis*, on a Brazilian Island; followed by Chapter 6 by Fabien Aubret on the elapid Tiger Snake, *Notechis scutatus*, on one of the islands between Australia and Tasmania, which is the breeding site of several species of sea birds. With all this available food (shearwaters, petrels, gulls, cormorants, skinks, and mice), these snakes get to be as large as 1.5 m and become a hazard for the scientists that are studying the birds!

In Chapter 7 by Robert Henderson we learn about the Tree Boa, *Corallus grenadensis*, followed in Chapter 8 by a study of the ecology and variation in the Milos Viper, *Macrovipera schwizeri*, by Göran Nilson.

Chapter 9, by Harvey Lillywhite and Coleman Sheehy III, continues the important studies on Cottonmouth Moccasins, *Agkistrodon piscivorus*, including their eating baby birds and dropped fish on an island off the coast of Florida, USA. Richard B. King and Kristin M. Stanford bring us up to date in Chapter 11 on the decades-long studies on Water Snakes, *Nerodia sipedon insularum*, their ecology, and evolution on Lake Erie islands between

the USA and Canada, showing both positive and negative human impacts on the snakes.

On Catalina Island in the Gulf of California, there is a rattlesnake that has no rattle, *Crotalus catalinensis*, and Chapter 10 by Gustavo Arnaud and Marcio Martins covers this snake's behavior, ecology, and conservation; and suggests that a native Night Snake, *Hypsiglena catalinae*, might be a color mimic of this rattle-less rattlesnake. Chapter 12, by Akira Mori, H. Ota, and Koichi Hirate discusses the impact of snakes eating baby sea turtles that are on their way from the nest to the sea. Since there are "islands" of habitat (deserts, ponds, areas between lava flows or between rivers), D. Bruce Means and César Barrio-Amorós discuss in Chapter 13 the snakes on the South American Sky Islands—the Tepuis—with interesting results.

Bottom line: The book is well written by all the authors, the pictures are for the most part quite good, and the information is fun and exciting. BUY IT!



**Bayard H. Brattstrom** is Professor of Zoology, Emeritus, California State University, Fullerton. Bayard is the author of over 300 scientific publications, 600 environmental and consulting reports, and nine books. He has been a Visiting Professor at several Australian Universities and even studied snakes on Clarion Island, Islas Revillagigedos, Mexico. Bayard currently lives in a solar-based straw-bale house on top of a hill, south of Wikieup, Arizona.