

### A Monograph of the Colubrid Snakes of the Genus *Elaphe* Fitzinger

By Klaus-Dieter Schultz with contributions by Andre Entzeroth. 1996. Koeltz Scientific Books, CR 58001 Havlickuv Brod, Czech Republic. 439 pp., illus.

If it is true that the larger the snake the bigger its impression on the public, than this book should gain wide attention. It deals with some of the largest harmless snakes in the world that are not members of the two groups that have tropical giant constricting members, the boas and the pythons. The representatives of the family Colubridae grouped here as the genus *Elaphe*, also constrictors by habit, are collectively called rat snakes because rodents are a diet staple for most (although they also may frequently take birds, their eggs, and some other prey as well). Included species attain average lengths of 50 to 250 cm and are widely dispersed, occurring from southern Ontario to Costa Rica in the Americas and in Eurasia from Spain to Indonesia. *Elaphe* are absent from the southern continents: South America, Africa and Australia. They are widely kept as pets and in zoos around the world, and this coffee-table-sized book with its detailed species-by-species accounts, spot and shaded distribution maps, numerous black-and-white diagrams of scale and pattern characters, charts and diagrams, and 58 plates of up to 8 individual colour photographs is aimed to especially appeal to herpetoculturalists and researchers as a core reference.

Forty species are covered, 32 Old World and 8 New, including all the species long associated with the generic name. The authors do, however, refer to the chaos of the systematics of these snakes; various included species are sometimes placed in other genera and the biochemical evidence indicates that the

grouping is far from a "natural" one. For example, the distinct North American genus *Pituophis* is probably closer to the North American snakes included in *Elaphe* than the latter are to the Old World *Elaphe*. No attempt has been made to assess the whole genus since the late 1890s but the present effort, although titled a monograph, is not intended as a revision. It provides no new phylogenetic nor zoogeographic synthesis, although a listing of all fossil forms, the earliest from the Miocene, is included. It is, however, a monumental encyclopedic compilation of existing data, including examination of specimens in 16 major museums world-wide, only one of which was in North America (the United States National Museum).

Two species occur in Canada, both in Ontario: the Black Rat Snake, *Elaphe obsoleta*, and the Fox Snake, *Elaphe vulpina*. Canadians are recognized for important studies in the natural history of both; notably Patrick Weatherhead and his students Brent Charland and D. J. Hoysak, for the former, and Donald Rivard, who did his Master's thesis under the direction of D. A. Smith, on the latter, all out of Carleton University in Ottawa. Both species are restricted in distribution and in jeopardy in their Canadian ranges, although portions of their populations are in National Parks; St. Lawrence Islands for *E. obsoleta* and Point Pelee, Georgian Bay Islands and Bruce Peninsula for *E. vulpina*.

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### Coloniality in the Cliff Swallow: The Effect of Group Size on Social Behavior

By Charles R. Brown and Mary Bomberger Brown. 1996. The University of Chicago Press, Chicago. xiii + 566 pp., illus. Cloth U.S. \$95; paper U.S. \$34.95.

I attended my first annual meeting of the Animal Behavior Society in 1984, in Cheney, Washington. Charles Brown was there too, and I was in the room when he gave the presentation that earned him the W.C. Allee Award for best student paper. His talk was on foraging behaviour and information transfer in Cliff Swallows. The quality of data and interpretation that marked that early work has obviously remained with the Browns throughout the many years of research they have since devoted to Cliff Swallows, as is evidenced by this excellent monograph.

Cliff Swallows breed in colonies of various sizes (from 2 to 3700 nests) underneath overhangs on cliffs, bridges, or culverts. The mud nests are acces-

sible, and the birds are relatively tolerant of people and manipulation. Cliff Swallows are abundant in the open terrain of Southwestern Nebraska, where the Browns have studied them. In this book, data from a 10-year period (1982-1991) are analysed in an attempt to answer two main questions. First, what are the advantages and disadvantages of living in colonies? The answers occupy separate chapters. The main disadvantages are increased levels of parasitism by swallow bugs, of predation by bull snakes, and of brood parasitism by conspecifics. The main advantages are reduced competition for nest sites, better annual survivorship, and a clear increase in foraging efficiency through information transfer at the colony site. Overall, this translates into a better annual reproductive success at colonies of intermediate size. (The jury is still out on lifetime reproductive success.) The second question is: why do colonies

vary in size? Here the answer is tentative: different phenotypes may require different optimal colony sizes. The authors identify this as a major topic for further study.

The book is long (482 pages of text) and many variables are treated (calendar date, colony size, nest position, nest age, parasite numbers, various behavioural and reproductive parameters, survival rates, etc.). This wealth of information seems bewildering at first, but the clear writing style, the logical internal organisation of the chapters (including summaries at the end), and the straightforward data interpretation kept me on track. The statistical analyses are simple: almost all of them are correlations, the rest being chi-square tests. I counted 36 photos, 126 figures (many with multiple panels), and 37 tables, all of them informative and well conceived.

The subject index is very complete (37 pages, and all the words I tested were there). The reference sec-

tion lists 912 entries, on swallow biology or the costs and benefits of living in groups. This great number of references can be attributed to the fact that each chapter begins with a 2-page mini-review of the topic being considered, often followed by a section on relevant aspects of the natural history of Cliff Swallows.

For those who are already familiar with the Browns' scientific papers and who may consider the book redundant, beware: the authors have added new data to the original analyses. The conclusions are sometimes altered, but, admittedly, not often and not to a great extent. Altogether, the Browns' body of work on swallows is remarkable, be it in the form of papers or in the form of this book.

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### Reptiles and Amphibians of Prince Edward County, Ontario

By Peter Christie. 1997. Natural Heritage Books, Toronto, Ontario. Illus.

Prince Edward County is an irregular peninsula near the east end of Lake Ontario, west of Kingston, east of Toronto, and south of Ottawa, isolated from these major centres of biological investigation but far from inactive. In 1979, Jack Christie, Director of the Glenora Fisheries Station of the Ontario Ministry of Natural Resources, and Tom Huff, Director of the Reptile Breeding Foundation, Picton, both in the County, approached me for support in their bid for summer government funding available for student projects. Their success put naturalist Penny Briggs and seven university and high school students from the area (Moiria Allen, Fiona Burrows, Peggy S. Conley, Peter Christie, Jacqui Duyzer, Eric Holmberg and Shane Strenburgh) into the field from 14 May to 10 September that year. It was money well invested.

Over 300 original records from 190 sites were compiled, including weather and habitat details, on standard data sheets supplied by the herpetological unit of the National Museum of Canada (Natural Museum of Canada) [now Canadian Museum of Nature]. These were deposited and maintained there along with selected voucher specimens. Although outstandingly successful in the field, the project lacked funding to analyze and write up the data collected and produced only a typescript summary report.

Tom Huff left the Reptile Breeding Foundation in the early 1990s and it failed a few years after, the Canadian Museum of Nature abolished its research program in herpetology in 1993. Jack Christie died

in retirement early in 1997 and Tom Huff early in 1998. The student participants have long dispersed. But one, Jack's son Peter, has returned to Prince Edward County and brought the information together as part of a guide to Prince Edward County species and a useful model for similar efforts elsewhere.

Peter, who subsequently has been a journalist and editor with papers in Ontario (London and Kingston), Thailand and Japan, has opted for a straightforward format that is most effective. After an introductory section covering sources and organization, there is a brief description of Prince Edward County, species accounts, afterword, 12 references, and three appendices: a checklist of Prince Edward County species; the singing dates in the county for frogs; and a list of museum specimens for the county from six institutions.

The bulk of the book is the species accounts. Each has two sections: description (brief identifying features with remarks on preferred habitat from the literature) and distribution (county records and variation). The latter blends together several sources of information. First are the observations of the 1979 survey. These are augmented with subsequent records contributed to the Ontario Herpetofaunal Summary, and a 1930s survey conducted by the Royal Ontario Museum and written up by E. B. S. Logier in 1941 (*A Faunal Survey of Prince Edward County, Ontario*, University of Toronto Press). Occasional additions are from wetlands surveys conducted for the Ministry of Natural Resources, the Long Point Bird Observatory's Marsh Monitoring Program, observations at the Prince Edward Point National Wildlife Area made by Fiona Burrows (who had also partici-

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