

## BOOK REVIEW

**Snakes of Utah.** Douglas C. Cox and Wilmer W. Tanner; Mark Philbrick, photography. Monte L. Bean Life Science Museum, Brigham Young University, Provo, UT. 1996. \$17.95 softcover.

*Snakes of Utah*, anticipated for some time, is finally available for distribution. This booklet (92 total pages) includes all known species and subspecies of snakes found in the state, with brief descriptions, habits, and habitats, along with colored photographs of each. While most people will likely shudder at the thought of snakes, especially while viewing photographs, the enthusiast will recognize the value of the illustrations and other published information. Generally, the booklet is written in nonscientific language, but it also includes some scientific notations. For instance, scientific names and authorities of the 33 species and subspecies, along with common names, are included for each. Of interest (perhaps only to the specialist) is the fact that only 2 binomials are found among all Utah snakes; 31 are trinomials. It might be concluded that, because of subspeciation, only 27 kinds of snakes are found in Utah. To the general public, a night snake is a night snake, a garter snake is a garter snake, and a rattlesnake is a rattlesnake. Herpetologists have named subspecies for practically all snakes, compounding one's knowledge of these animals. Technically, where closely related subspecies show sympatric distribution, there should be intergradation between the 2 types. Most individuals using this booklet will probably not recognize differences between related subspecies found especially in these sympatric regions. If intergrades are not present, then these should be elevated to species and not kept as subspecies. Little information is found in the booklet on intergradation of characteristics.

An important contribution of this booklet is the colored photographs. While not captioned, most photographs are obvious because they are shown on the page opposite the name and other information on that snake. This publication

would be more useful if a caption were shown by the other photographs throughout the text, e.g., the photo opposite page 1 and those shown on pages 3, 4, 5, 8. The herpetologist will probably recognize these without caption, but, as stated, it's likely these specialists will not be the primary users of the text. Identification of snakes by these photographs may not be obvious to most readers. Most photos show colors and patterns of snakes, but a few, such as the full view of the Upper Basin garter snake on page 59, do not show these identifiable features. It's interesting that the only snake not represented by a photo of the entire body is the Sonoran lyre snake on page 67. One wonders why. Perhaps it's because this snake is "considered to be rare." However, the Dixie College Natural Science Museum contains records of 7 specimens, 2 having been found in what is now considered "downtown" St. George, 1 specimen as recently as 1980. It seems likely that with a little effort, one of these "rare" snakes might have been found. The photo of the Utah blind snake on page 17 is a surprise. Of the several dozen blind snakes observed by this writer, representing localities from the Red Cliffs Recreation Area near Leeds, Washington County, to the extreme northwest corner of Arizona, not 1 specimen even approached this dark phase. They have all been a pale tan color, frequently showing a suffusion of pink.

Another important contribution of this booklet is the distribution maps included with each species along with the general and sometimes specific distribution of the snake within the state. While it is difficult to show accuracy on a small map, some maps are erroneous. For instance, the distribution of the Painted Desert glossy snake is "in the extreme southeastern sector of the state, adjacent to northeastern Arizona" (page 40). The map, however, shows it is found more south central than southeastern. An inconsistency from text to map is also observed with the California king snake (page 46). If this snake occurs "from the southwest corner east to the Colorado River," why does



the distributional map extend considerably beyond the Colorado River along the San Juan River? Nothing in the text is speculative of a range extension. The maps of the Utah mountain king snake (page 48) and the Utah milk snake (page 50) do not accurately depict their known distributions in Washington County. On page 60, of the western blackneck garter snake, the text states "its northernmost habitat is associated with streams . . . in the regions of southeastern Utah." The map shows its distribution into east central Utah. Reference is made to a ground snake having been collected in Carbon County, far from its known range, and this area is shown on the map. Might this specimen have been one that escaped or was released from captivity? (Reports have been made of individuals transporting this snake from the St. George area, where it is common, to elsewhere in the state.) There is speculation that the Utah blackhead snake "may occur further north in Emery and Carbon Counties." (The proposed expansion is not shown on the map.) Why might it not, then, be found in Wayne County and perhaps even San Juan and Grand counties? If the midget faded rattlesnake is found at Flaming Gorge, why does the map not show distribution in that area?

While it would add to the length of the text, it would have been better had the authors given complete distribution ranges for all species and subspecies, rather than just a few. A snake doesn't recognize a political boundary as being its limits! However, it could be reasoned, if the distribution extends to the Utah boundary, the occurrence of that snake would also be in the neighboring state.

The full-page map of the state of Utah (page 11) is a good addition to the text. However, with the number of snakes found only in Utah's Mojave Desert, this feature might have been identified along with the others. In the geographical and ecological descriptions of Utah (pages 9–10), considerable discussion is given about montane regions, some at high elevations, yet little is written about the low, hot desert or the higher, cold desert, although the authors admit to the richness of reptile fauna, especially in the low, hot desert, the southwestern region of the state.

In addition to these other features, *Snakes of Utah* includes both glossary, though not inclusive of all technical words used in the text, and index.

The writer wonders at the importance of the full page of illustrations (page 13) showing scalation with so little reference to most of these features in descriptions. Some of these features are referenced; most are not.

While full pages of color separate groups of snakes, does this mean that Joshua trees are characteristic of the distribution of the Utah blind snake? Although the illustration on page 18 may be typical of the habitat of the rubber boa in Utah, and on page 72 of the habitat of some of the rattlesnakes, does the illustration on page 22 depict the typical distribution of the colubrids? Perhaps these "division pages" were added merely for color; nevertheless, they are attractive.

The authors of the booklet include a number of interesting anthropomorphisms, perhaps intentionally. Some of these are noted: (1) In the introduction, the statement is made (page 5) that "the snake employs rocks and brush to snag the skin and hold it while the snake crawls out." One wonders if the snake does this intentionally. (2) "Denning is a behavior pattern that provides the snake with an opportunity to come in contact with other snakes of the same species" (page 6). (3) Of the rubber boa, "it will often cling like a bracelet and seem to enjoy it as much as the person" (page 20). (4) The statement is made about the western yellow-belly racer (page 28) that "it will attempt to bite if it feels at all threatened." (5) Another example is that rattlesnakes use the rattle "as a warning device to intimidate other animals that may harm the snake" (page 75).

Miscellaneous errors or inconsistencies in narrative, grammatical or otherwise, are found. The introduction, for instance, discusses tall tales and folklore of the American West. This booklet is, of course, about snakes of one region of the American West, but tall tales and folklore—even some of the same stories heard in the American West—are repeated wherever snakes are found.

On pages 4 and 5 the statement is made that "the mouth is the most universally used weapon employed by snakes in self-defense." The emphasis is obvious because the accompanying text is about self-defense, but snakes use their mouths more often as a means of obtaining food. Also, in the introduction, the statement is made that "these studies and *our museum program* help them to understand." (page 6, emphasis added). Later in the text



(page 9) reference is made to Brigham Young University's Monte L. Bean Life Science Museum. The complete identification of the museum should have been made when it was first referenced on page 6. It could be pointed out, too, that other schools and museums might have the same purpose—to "help them to understand" about snakes.

While the following is not necessarily in error, it reflects a writing style. On page 12 the following statements are made: "These snakes do not pose any threat to man but they do provide a mild venom to help immobilize their prey. Their prey includes worms, insects, frogs, lizards, and small mammals." In writing, repeated words and phrases should be avoided in consecutive sentences or within the same sentence. It could better have been written, "to help immobilize their prey, which includes worms, insects. . . ."

In the introduction to the tropical wormlike snakes, the statement is made that "they feed on insects and worms, especially termites and ants, found in the soil." The emphasis in this statement suggests that termites and ants are kinds of worms. This should have been written, "they feed on worms and insects, especially termites and ants." In reference to the Utah blind snake the statement is made (also on page 15) that Vasco M. Tanner "had seven specimens to examine, and the name is based on No. 662 in the BYU type collection." *Name* is inappropriately used, although specimen No. 662 might have been published as the type specimen.

One of the most frequently made grammatical errors in writing is the inconsistency of singulars and plurals within a sentence. On page 20, this type of error is made. The rubber boa "is a delightful animal to have around their wrist." Inasmuch as *their* is plural, the plurality of *wrists* must also be used.

Reference is made twice (on pages 30 and 44) that the snakes occur on "the margins of deciduous forests." Small groups of deciduous trees may occur in riparian areas or where trees are cultivated, but technically, deciduous forests do not occur in the state of Utah.

The redundant statement is made about the western leafnose snake that the rostral scale "looks leaflike."

An inconsistency is noted about the Utah mountain king snake and the Utah milk snake. Page 48 states: "If a specimen has a white nose, it is most likely a mountain king snake. If, however, it has a black nose, it is probably a milk snake. These characteristics are *not completely reliable*" (emphasis added). Page 50 states that "the milk snake differs in that it has a black nose."

On pages 68 and 70 the habits of the Mesa Verde night snake and the desert night snake are described as "nocturnal, secretive, and seldom seen." Furthermore, it is stated that the former "feeds primarily on the lizard *Uta stansburiana uniformis* and other small lizards," while the latter "feeds primarily on the side-blotched lizard *Uta stansburiana stansburiana*." One wonders about this inasmuch as lizards are primarily diurnal and snakes nocturnal. Of course, snakes could feed at night while lizards are inactive.

While reference is made in the booklet about the influence of soil on the ground color of some snakes, there is no mention of this occurring in the Mojave Desert sidewinder (page 78). Of the hundreds of sidewinders observed by the author in the past 50 years, the influence of soil color on the ground color of the snake is most obvious.

Despite these criticisms, *Snakes of Utah* should contribute importantly to our knowledge of these reptiles within a limited political region. As noted, the booklet is written for laymen, and its distribution is more appropriate in national and state parks and monuments than in the scientific community. It is a "must" for backpackers, individuals, and families spending time in the out-of-doors where snakes might be encountered. The authors, the photographer, and the publisher are to be commended for finally making this booklet available.

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