

## BOOK REVIEW

SPIDERS OF THE UNITED STATES by Richard Headstrom. A. S. Barnes & Co., Cranbury, N.J. \$9.50, 267 pp. [viii + 259], Ill., 1973.

The author's stated aim in writing this book is to "provide one with the identity of a spider whose name one might wish to know" and to supply information to those "who might like to know more about [spiders]." But any one of the ten references in his bibliography would supply the reader with more information, and that based upon years of individual first hand study. As to identifying specimens, the inexperienced will have difficulty using *any* book, but their task would be immeasurably easier were they to use either one of the two books from which Headstrom copied most of his material.

Treatises, handbooks, and manuals are more or less expected from experienced araneologists, who have previously published in various journals. Considering that Headstrom had never before published on spiders, and presumably hasn't done any research on these animals, one wonders why the publishers accepted the manuscript without having it reviewed by some actively working araneologist. Moreover, when the manuscript was set up in type it was not proof-read carefully, and many errors in spelling were allowed to slip by. Some names were spelled one way on one page and another elsewhere, e.g., *Tamarus* and *Tmarus*, *abbotti* and *abbottii*, *Habronattus* and *Hebronattus*. Most important, the key to families on pages 49 and 50 does not show the numbers at the end of a line indicating the next couplet to which the reader should proceed. The publishers' representative admitted that this slip was not discovered until after copies of the book had already been sent out, but that a corrected sheet had been prepared, and tipped in, for future purchasers. Yet this reviewer knows of cases (including his own) where the book was sent out later without such a sheet.

The first 40 pages of the book are given over to a general discussion of spider structure, their habits, webs, etc. This is followed by a two page key to the 31 families treated in the book. These families are all in the Suborder Labidognatha, the tarantulas, trap-door spiders, and their allies being completely omitted. The next 200 pages are devoted to descriptions of the 265 species he has chosen to include. The book closes with a brief discussion of how to collect and preserve spiders, a glossary, and an index.

In general, the sequence followed for families and species is virtually the same as that used in the 1940 revised edition of Comstock's Spider Book. In fact, much of the text and many of the illustrations are copied right out of that book. On occasion, where Comstock had copied from others he used quotation marks, and credited comments and drawings, e.g., from Marx, Peckham, Emerton, or Keyserling. But Headstrom used no quotation marks, and gave no credit to others. The same applies to the over 100 illustrations copied from Kaston's 1953 edition of *How to Know the Spiders*, along with very many selections copied verbatim, or almost so. Unfortunately the drawings supplied by Headstrom were very crudely done, with most of them apparently being reproduced in the book without any reduction. The last one in the book is numbered 305, but there are 30 that must have been added as an afterthought, after the numbers had been assigned, and so therefore indicated with an "A," "B," or "C," and on page 111 there is one figure without any number or legend! Most of the drawings are of abdomens and of these more than a dozen are mere outlines, or almost so, all looking alike. Then there are those where the outline has been evenly stippled in, so *they* all look alike, even though the label "purplish" may be used for one (as for *Orchestina*) and "gray" for another (as for

*Plectreurus*). All these drawings might just as well have been omitted for all the help they are to one seeking to identify a specimen. In the case of those species where sexual dimorphism is responsible for a different pattern on the abdomen he does not indicate which sex is being illustrated.

Fig. 29 shows a leg segment of *Mimetus* labeled "tarsus" although it is quite obvious from the spination that "metatarsus" is meant, but he had merely copied the typograph error from Comstock. His Fig. 32 is likewise copied from Comstock, to illustrate a trochanteric notch. Here the femur is shown much shorter than the trochanter! His Fig. 33 shows a tarsus bearing trichobothria, but the latter are drawn in far heavier than all of the spines and bristles also shown. A novice matching up this drawing with his specimens would come to the conclusion that *no* spiders have trichobothria. Although Headstrom refers to the abdomen of *Ariadna* as "cylindrical in form" his drawings shows it as an oval four-fifths as wide as long. His Fig. 270 of *Thiodina* distinctly shows three white lines on the abdomen even though the text indicates only two.

Perhaps the most serious defect in his drawings concerns the manner in which eyes are shown. There are many drawings of the head end showing the eyes, but without any indication as to whether the view is from the front or above. Considering how much importance araneologists give to the relative size, spacing, and position of the eyes the author's neglect of detail is indeed unfortunate. His Fig. 236 of *Dolomedes* shows all the eyes of the same size; Fig. 40 of *Hyptiotes* shows only six eyes; Fig. 7 of *Lyssomanes* shows the eyes in only three rows, even though the text refers correctly to four. In the case of *Loxocoles* Figs. 62 and 65 are not in agreement with respect to size and spacing of eyes. Fig. 57 of *Orchestina* shows the median eyes separated even though in actual fact they are virtually contiguous. It is doubtful that Headstrom actually examined a specimen, but he states in his text "median eyes widely separated" probably copying carelessly from Comstock who had written "median eyes widely separate the anterior lateral eyes." There are many slips of this kind.

In the key to families the filistatids are taken out together with the dysderids and segestriids on the basis of having a pair of spiracles (rather than a single one) and his Fig. 18 has a spiracle labeled immediately behind each book lung (with the spiracle the same shape and almost the same size as the lung). This most certainly is not the situation in filistatids. Lacking the awareness of a working araneologist Headstrom still uses names like *Glyptocranium*, *Zilla*, and *Aranea* for *Mastophora*, *Zygiella* and *Araneus* respectively. Nor could he be expected to know that "*Dendryphantes (Paraphidippus [sic!] capitatus) aestivalis*" on page 235 and *Metaphidippus protervus* on page 247 are synonyms, or that *Phidippus clarus* on page 233, and *P. rimator* of page 234 are likewise.

To enumerate all the errors of fact, misspellings, and misinterpretations would more than fill the space allotted here. Here are just a few. He repeats from Comstock the error that the mouth "is suitable only for the reception of liquid food" although farther along he correctly indicates the manner in which a spider can digest solid portions of its prey before swallowing. One wishes that the author had been more consistent. Again, copying unthinkingly from Comstock he indicates that the tarsus "usually" bears two or three claws; are there any spiders that sometimes bear some other number? His difficulty with numbers extends also to his description of the spinnerets, of which the anterior and posterior may each have two or more segments, but the median "none at all." Although it has long since been shown that chitin is not the substance which makes an arthropod skeleton hard he still adheres to this false belief. His key to families is basically dichotomous, though in a few places it is trichotomous. But if one reaches line 12 one

has to choose from among six "alternatives," 12a through 12f. And here one is asked to contrast "12a. Spinnerets In A Single Transverse Row" with (among other characters) "12b. Tarsi Long And Flexible" and "12f. Tarsi Of Fourth Pair Of Legs Not With Spurious Claws." It is not clear why the first letter of every word in his key must be capitalized.

Beyond the family key there are no others, the reader having to depend upon eliminating possibilities as he reads the descriptions. The latter are based mostly on color, with relatively little attention given to morphological characters other than the eyes. In the opinion of this reviewer there will be very few places where the spider will be correctly determined. This book has already been reviewed in a periodical widely read by high school biology teachers, and will probably have a wide sale in the schools. It is a shame that once again we have a situation where the blind is leading the blind. The best thing about the book is that it is clearly printed on good quality paper, nicely bound in hard covers, and includes a good discussion of autotomy on page 37. But unfortunately none of this will enable the inquiring student to achieve the goal hoped for. **B. J. Kaston**, Department of Zoology, San Diego State University, San Diego, California 92182.