

## Mammals of the Holy Land

Mammals of the Holy Land. M. B. Qumsiyeh. Texas Tech University Press, Lubbock, 1996, x + 389 pp., figs, photos, glossary, index. US\$ 35.00 (hbk). ISBN 0-89672-364-X.

One hundred and ten species of mammals, either living now or extinct within historical times, are known from the fairly small area (approximately 70,000 km<sup>2</sup>) of the Holy Land (ie Israel, Jordan and adjacent parts of Syria, Saudi Arabia and Sinai). Such diversity is worthy of elaboration in a single book, even though the Holy Land was included in comprehensive and comparatively recent review of the mammals of Arabia (Harrison and Bates 1991). Qumsiyeh's intention was to meet the needs of "individuals with diverse interests such as conservation, zoogeography, and taxonomy as well as the amateur naturalist."

The book comprises 11 chapters, of which the first nine provide general information of mammals, with particular reference to life in arid environments. The bulk of the book is concentrated into the synopsis of the individual species (chapter 10). The last chapter deals with introduced and domesticated mammals, and includes 14 species, 4 of them still with wild ancestors in the Holy Land. Also included is a comprehensive glossary, an extensive list of references, a list of localities with their corresponding co-ordinates, and an index. Furthermore, the book includes 118 figures, amongst which are 41 distribution maps and 71 photographs of animals, parts of their bodies, skulls, dental characteristics etc. As many figures are actually composed of several individual photographs, the genuine number is far greater than evident at first glance. Besides being fine illustrated, the book is also clearly written, which all make it an useful textbook. However, there are certain points about which I disagree.

With the text itself there are some unnecessary repetitions. For example, IUCN categories are listed and explained twice (p. 3 of the Introduction and p. 59 of the Synopsis), and nine or so lines from the section "Human interaction" (p. 81) are almost directly transcribed into p. 57 in the chapter "Conservation". Three photographs are reproduced twice at different sizes: *Paraechinus etiopicus* (Figs 6 and 9), *Gazella dorcas* (Figs 74 and 76), and *Jaculus orientalis* (Figs 111 and 113). Perhaps more significantly, diametrically opposite statements can be found in different parts of the book. Wild ass is considered, besides onager, as being "previously extirpated or endangered" (p. 54), but on p. 320 is the statement "there is no evidence that wild form (of ass) was present" (in the Holy Land). Three species of *Apodemus* are mentioned for the area in chapter 4 (p. 25), but only 2 are listed in the species accounts (p. 287). Figure 99 includes error: skull in the upper photograph, which is said to be of *Arvicola terrestris*, actually belongs to a murine rodent.

In a chapter entitled "Mammalian evolution and Human history" the author missed an excellent opportunity to discuss the history of faunal changes in an area in which human influence has perhaps lasted longer than anywhere else. This is doubly regrettable as mammalian fossil sequences have received detailed study in the Holy Land. Instead, slightly more than two pages are devoted to mammalian history, from the Mesozoic onwards, whilst three and half pages discuss the history of human cultures. Two clear errors occur in the chapter on mammalian adaptations, both on p. 31. The snow vole of Mt. Hermon (*Chionomys nivalis*) is said to hibernate during winter, and shrews of genus *Sorex* are stated to occur in the mountains of the Holy Land. Furthermore, in *Sorex* shrews fat storage (which is non-existent under natural conditions) is said to be an adaptation enabling them to "cope with a cold seasonal climate".

"The arrangement and order of genera and species" is said to follow Wilson and Reeder (1993), but this is not strictly so in the case in both, taxonomy and nomenclature. Hamsters, gerbils, mole-rats, and voles are all given familial rank (subfamilies in Wilson and Reeder). In addition, the snow vole is placed in *Microtus* (not *Chionomys*), and the dormice family is termed Gliridae (not Myoxidae). Of course, authors have the right to adopt the systematics and nomenclature that accord to their own understanding of interfamilial and intergeneric relations, but they also have a responsibility to comment on deviations from the nomenclatural framework adopted.

Each individual species accounts has the following content: synonymy, diagnosis, range, local status (by a dotted distribution map), biology, genetics, and interactions with man. Distributional areas as reported are somewhat surprising in several cases. *Erinaceus concolor* is said to penetrate as far east as north-western China, *Rattus norvegicus* is believed to originate in southern Asia and *R. rattus* in south-western Asia. Of the Asiatic range of *Dryomys nitedula*, only Turkey, Iran, and the Holy Land are mentioned. A report of *Lepus capensis* for Europe, much of Asia as well as Africa, is undoubtedly a consequence of *L. europaeus* being considered its conspecific. Now, as it becomes increasingly clear that there are more species within the *L. capensis-europaeus* complex than previously expected, the viewpoint of Qumsiyeh is certainly conservative. Despite this, since *capensis* has priority over *europaeus*, such a decision does not contradict the International Code of Zoological Nomenclature. From this point of view, the chapter on *Eliomys melanurus* appears to be entirely confused. This dormouse being reported from within the entire range of the genus. It is true that the taxonomy of *Eliomys* is far from settled, and it is perhaps not a major error to consider the genus to be monospecific. However, in such a case the name *quercinus* has absolute priority. Qumsiyeh also ascribes all chromosomal races of garden dormice, including the European ones which are undoubtedly *E. quercinus*, to *E. melanurus*. On the other hand, he overlooks the chromosomal form  $2n = 46$  from north Africa which may actually belongs to *E. melanurus*.

At the species level Qumsiyeh's taxonomy sometimes deviates from that in Wilson and Reeder (1993), particularly so for rodents. Generally speaking, Qumsiyeh lumps rather than splits. *Mesocricetus* is considered as monospecific, as it is evident from the reported range of *M. auratus*. In this particular case, however, a significant contribution by Dogramaci *et al.* (1994) on the karyotypes of Turkish golden hamsters is ignored. As regards mole rats, Qumsiyeh evidently followed Harrison and Bates' (1991) oversimplification, recognising *Spalax leucodon* in the Holy Land. Similar is the case with voles from the *Microtus socialis* group. Harrison and Bates (1991) consider *M. guentheri* and *M. irani* to be conspecific with *M. socialis*. Qumsiyeh, on the other hand, synonymises *M. irani* with *M. guentheri*, although the two differ in skull morphology and diploid chromosomes number. The newly-described *Apodemus hermonensis* is synonymised with *A. flavicollis*, which contradicts new morphological and genetic results from Turkey, where the two are also sympatric (Filippucci *et al.* 1996). The elaboration of *Mus macedonicus* is quite confused – the name *spretoides* is even used in the section "Biology" without any clear statement of what this *nomen nudum* actually means. There is a typographic error in the type locality of *M. macedonicus*: this being Valandovo (not Valandova).

The best part of the book is the dotted distribution maps and the biological data. Of all the groups, the author devotes the greatest attention to bats, whereas the rodents are covered rather loosely. Despite all the above, the book will meet the needs and various expectations of those interested on the mammals of the Middle East. Furthermore, also price is reasonable for such a comprehensive account.

In the same year when the book appeared, a new shrew species was described from the Holly Land: *Crocidura ramona* Ivanitskaya, Shenbrot and Nevo, 1996. It is by no means because of such a coincidence that this species could not be included in the Qumsiyeh's book. The diversity of mammals in the cradle of the Western civilisation, no matter how badly environmentally degraded, remains a challenge, even to workers interested at the  $\alpha$ -level of taxonomy.

### References

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