
This is a book that deals with all poisonous snakes in Europe and most of those in west Asia and north Africa. The book consists of 148 pages and includes more than 300 colour, and some black and white, photos of snakes and habitats as well as some drawings. After having read the book once I knew that it was a book with extremely good illustrations, written by a person who obviously loved the vipers, and who clearly had a very good knowledge about the subject. The fact that he has succeeded in taking such large and good series of photos of the taxa concerned, as well as most related habitats, is impressive. This book also shows that Peter Brodmann knows most of the species and subspecies from the field, which indeed very few persons do today, or have ever done.

The book is mainly a book of photos of vipers of the genus Vipera. This is also stated by the author in the introduction. As such it is the best book published. Most taxa are also presented with a habitat picture. This is exiting as, if one looks carefully, it is also possible to see some viper somewhere in the grass or amongst the rocks. This gives a good picture of the habitat and illustrates where one can see such a viper.

Many of the photos show untouched snakes in the field, while others are arranged to give that feeling. A basking female of Vipera ursinii wittsteini from the Basses Alps is really a nice unarranged picture as is also the case with some Vipera aspis and V. berus pictures. But mostly the snake is affected which means that it has first been caught and then placed in a safe place for photographing. Some photos are obviously of captive snakes. I have seen some of the photographed specimens alive in captivity at different places in Switzerland. This does not, however, reduce the informative value of the book. In some cases it is not possible to photograph snakes in the wild. For instance, Vipera berus sachalinensis, is for military reasons impossible to see in the wild for Europeans, but still possible to photograph as Soviet herpetologists can go to Sachalin and collect specimens. Vipera lataii and Vipera borromellieri occur in areas heavily involved in warfare and their habitats have consequently been impossible to visit for several years.

The book is primarily a picture book. There is no actually new information in the text but Brodmann has succeeded in summarizing published knowledge about vipers rather well. It is fairly "up to date". It is not a scientific publication, although the text can clearly be used by scientists wanting to summarize what is known about certain species or groups. The text is divided into a systematic part where all species and subspecies are discussed and described. The systematic part is preceded by a more general part covering subjects such as: reason why poisonous snakes exist, enemies, threat, venom and the venomous apparatus, activities during the year (hibernation, reproduction etc.).

Some minor technical errors could be mentioned. In figure 24 one preocullaria has been called lorelia, and in the text to photo 4, page 129, a reference to photo 2d on the same page is made wrongly indicating that it is the same snake, a Turkish Vipera raddei kurdastiana, but photo 2d shows a V. r. raddei from USSR.

The author shows some healthy disagreement to some new local forms described but still gives them a lot of space in the book. Taxa like the Austrian Vipera ammodytes gregorowallneri and the Italian V. ammodytes ruffoi, which indeed are local taxa within a restricted distribution and more or less doubtfull taxonomic relevance, are comparatively overrepresented among the photos. There are 16 photos of V. a. ruffoi, but only 9 of the nominate subspecies V. a. ammodytes (+ three of hybrids), and only six of subspecies like montandoni and transcaucasiana. This is partly due to the specific behaviours shown by these snakes. In a series of pictures the ruffoi is e.g. eating. However, the widespread V. a. ammodytes on the Balkan peninsula show a marked local variation between different valleys or mountains (a number of so called "substrate races") and express hereby an interesting variation which could be worth showing. The situation for the Swiss vipers is a little special, probably reflecting the nationality of the author. Three subspecies of Vipera aspis occur in Switzerland. Vipera aspis atra has its main distribution in Switzerland, while Vipera aspis aspis, with its main distribution in France just penetrates into western Switzerland—in the Jura mountains, and Vipera aspis transcaucasia, with its main distribution in Italy can be found in southernmost Switzerland. Almost all photos of the two later subspecies come from their comparatively small Swiss ranges. These taxa express some morphological variation and it would have been nice to see also specimens from other parts of the range. The specimens of Vipera a. aspis from e.g. Massif Central in France can look rather different to those from the Jura mountains. Otherwise common and widespread taxa are well represented on photos. This is good as such species show a lot of variation. Thus, Vipera berus is found on 42 photos, and with the nominate subspecies, V. b. berus, represented on 26 pictures. The morphs with inverted pattern or with the light-edged zig-zag band, that locally can be seen in central Europe (e.g. Wettstein, 1929), are lacking. Some more or less rare taxa occurring outside Europe, such as V. ursinii wittsteini, V. raddei kurdastiana, V. l. lebetina, V. m. mauritanica and V. m. deserti are represented by a single photo each.
From the text to the photos of *Vipera latifii* (p. 127) one gets the opinion that males are more contrasting in colour pattern than females. This is, however, not the case in this extremely polymorphic species. Both sexes can have exactly the same ground colour and exactly the same pattern as the two specimens on page 126.

Brodmann generally states that when melanism occurs about 30% of the local population is melanistic. One given example is the population of *Vipera seoanei cantabrica* at León in Spain. It is not clear from where he got this figure. I have not seen any publication based on an accurate population study from this area. During the SEH symposium in León some years ago we spent some days at this locality studying *cantabrica*. We saw 17 specimens, all normal in colour! On the other hand melanism in *Vipera berus* in Swedish populations seems to stabilize between 40 and 50% in all those populations where melanism occurs.

I miss distribution maps. Although more or less exact maps can be seen in many fieldguides, I think the book would have benefited if maps had been included, thus making the discussion complete. However, distributions are given in the text and some minor errors in actual ranges can be noted. *Vipera ursinii ursinennsis* occurs further west than the town Kars in eastern Turkish Anatolia as is stated on page 99. Eiselt (1976) reported it from the Palandöken mountains south of Erzurum further west in Turkey. Some errors, or never verified doubtful records that are reproduced through earlier generations of books, will easily also show up in a book like this where the text mainly is based on published information. The stated occurrence of *Vipera ammodtes transcaucasiana* and *V. ammodtes meridionalis* in Iran and Lebanon respectively are such never verified statements (see e.g. Haas, 1951; Latifi, 1987).

The author is conservative in taxonomy in the sense that he uses the old names *Vipera* and *Agkistrodon* instead of *Daboia* and *Crotalus* for oriental vipers and pitvipers respectively. For stability and reasons that will be given elsewhere (e.g. Gloyd and Conant, in prep.) I agree with Brodmann. All subspecies are discussed for all known taxa except in one case: *Vipera kaznakovi*. The form *dimicki* has long been considered as a mountain subspecies of *kaznakovi* by Soviet herpetologists (e.g. Darevsky, 1956), which also was indicated by Joger (1984), although not always accepted as such by some west European authors. Further, it was recently raised to species level, *Vipera dimicki*, together with the description of a new species, *Vipera darevskii* (Orlov and Tuniyev, 1986; Vedmederja et al., 1986).

These two species (alt. subspecies) are the only recently discovered taxa that are not included. Otherwise the newly discovered species *Vipera barani*, *V. uagneri*, *V. bulgardaghica* and *V. albicornuta* are included. The author follows Joger (1984) who raised the subspecific name *ursinennsis* to validity instead of *erneri* for the subalpine subspecies of *Vipera ursinii* in Iran, Turkey and Armenian-USSR. The way the Latin name *bilineata* is used about the banded morph of *Vipera seoanei* (e.g. p. 108) is perhaps unlucky as "*bilineata*" is a junior synonym to a German *Vipera b. berus* (*Vipera* (Pelias) *berus* forma *bilineata* T. Reuss 1924). When discussing the genus *Agkistrodon* (= *Gloydia*) Brodmann lists all old world species but one: *Agkistrodon intermedius*, which clearly is a good species (Gloyd and Conant, 1982).

The only taxonomic statement with which I cannot agree is found in the reference list! Brodmann "elucidates" many of the references by adding words or short sentences, e.g. in the reference of Zarewskij (1917) which reads in the Brodmann version: "Formes nouvelles du genre *Vipera*, trouvées dans l'Empire Russe: *Vipera tigrina* sp. n. (*Vipera ursinii renardi*) et *Vipera berus sashkinensis* var. nova. ..." and where the scientific names are added as information by Brodmann to the reader. "*Vipera ursinii renardi*" is added by Brodmann as his interpretation of what the name *tigrina* is a synonym of. This is the first time *tigrina* is considered as a synonym of *V. ursinii renardi*. The taxon *tigrina* has in all past taxonomic literature been placed as a synonym of *V. kaznakovi*, or of *dimicki* when the latter has been separated from *kaznakovi*. The only exception is Kramer (1961) who synonymized *dimicki* with *renardi*, but who treated *tigrina* as a synonym of *kaznakovi* with the comit that it is perhaps a northern subspecies of the latter. The fact that *dimicki* and *tigrina* are synonymus (e.g. Joger, 1984; Vedmederja et al., 1986) has perhaps led Brodmann to follow the Kramer view (for *dimicki*) and place *tigrina* as a synonym of *renardi*. However, no argumentation for this statement, or reference to it, is given by Brodmann.

Some more words must be said about the reference list, which is perhaps where Brodmann has missed in completeness. Many adequate references are missing but it is perhaps beyond the scope of this book to list them all (More than 200 more or less scientific papers about *Vipera berus* alone have been published during the last hundred years). The references are not in perfect alphabetic order and the list contains about 20 references that I cannot find in the text. On the other hand about 18 citations in the text cannot be found in the reference list. Normally the author references of scientific names are not listed in a work like this, but here Brodmann is inconsistent. Some author references are included in the list but not all. There are some errors or changes in spelling in some of the references. In several cases the year of the reference varies