

## A Contribution to the Herpetology of Northern Pakistan: The Amphibians and Reptiles of Margalla Hills National Park and Surrounding Regions

By **Rafaqat Masroor**

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In this book Rafaqat Masroor focuses on the herpetofauna of Margalla Hills National Park (MHNP). Located at the foothills of Himalaya, the MHNP is an important protected area, sharing a common boundary with the cities of Islamabad and Rawalpindi in northern Pakistan. This book is the first regional field guide from Pakistan with colored pictures and illustrations since the compilation by Khan (2006); its title is reminiscent of Minton (1966). There is a foreword by Prof. Wolfgang Bohme and the book is dedicated to the renowned herpetologist the late Dr. Khalid Javed Baig.

The author has published extensively on the subject, with much of the work derived from an extensive study conducted from 2003–2009 in MHNP. He describes nine species of amphibians (from three families and eight genera) and 33 species of reptiles (from 13 families and 30 genera) inhabiting the park, and also provides general information on their distribution throughout Pakistan. The detailed information provided in eight chapters covers diagnostic features, descriptions, habits and habitats and distribution (including regional distribution

maps). Color pictures are provided for each species and recent updated information is contained at the end of each account.



Chapter 1 presents a systematic list of amphibians and reptiles in the park. Chapter 2 deals with specific identification, presenting line drawings and figures of key characters such as sole and hind foot of frogs, bone and scutes of turtle shells, basic scale types found on the bodies of lizards and snake scalation. Regrettably, the author did not include a diagram depicting the body characters of a typical frog, potentially confusing some readers.

Chapter 3 covers toads and frogs. Of note, *Duttaphrynus melanosticus* is only found in northern Pakistan (especially in the hilly region), and not in the plains of Punjab and Sind Province. This is an interesting observation given that this species is present in the adjoining border areas of India, especially in the states of Gujarat and Rajasthan (GEER 2009). The distribution of *Microhyla ornata* in Pakistan is interesting, as it also occurs only in northern Punjab. The author notes that ‘Sarkar (1984) has found them at Bhuj, Gujarat, India, very close to the southern Sind Province’. *Uperodon systoma* is a very rare species in Pakistan, and is only recorded from Shakarparian Hills, Islamabad (Baig & Gvozdic 1998). *M. ornata* is recorded from two border districts of Gujarat; Katchchh (Kachchh Desert Wildlife Sanctuary, Narayan Sarovar Wildlife Sanctuary and Kachchh Bustard Wildlife Sanctuary: Daniel 1963; Vyas 2002, 2007, 2008) and Banaskantha (Jassore Wildlife Sanctuary: GEER 2009). These protected areas are close (0–160 km) to Pakistan border areas with similar biogeography and habitats. *U. systoma* has been recorded at Ajmer, Rajasthan (Sharma & Sharma 2009) and Banaskantha, Gujarat (GEER 2009). Thus, it remains possible that both the Microhylidae species may occur on/along the border of Pakistan, especially in Sind Province. The record of a single species of *Fejervarya* from MHNP is *F. limnocharis*, is a species complex. Recently a number of new cryptic species has been described from the complex from South East Asia. Therefore a statement should have been rephrased as “a number of cryptic species containing the *F. limnocharis* species complex”. While only two species of *Fejervarya* (*F. limnocharis* and *F. syhadrensis*) are reported to inhabit Pakistan, there may be others present

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that could be detected by molecular studies.

Chapter 4 covers turtles and tortoises. Three species of turtles are found in MHNP of the eight species of freshwater turtles recorded from all of Pakistan. Chapter 5 covers the lizard fauna, discussing a total of 13 species six families: Agamidae (three species), Eublepharidae (one species), Geckkonidae (three species), Lacertidae (two species), Scincidae (three species) and Varanidae (one species). Lizards are the second most dominant group in area, after snakes. In the distribution note on *Eublepharis macularius*, the author quotes the species distribution up to ‘... Rajputana and Khandesh districts of India’. There are no such districts in independent India. The Rajputana and Khandesh provinces are the old monarch states named before India gained freedom; Rajputana now is a part of Rajasthan and Khandesh is now a part of Maharashtra. Das (1997) elevated the subspecies (*E. m. fascus*) to species rank as *E. fascus*. The population from Gujarat (Bhatt et al. 1999) and Maharashtra is considered as *E. fascus* species (Mirza & Upadhye 2010). The *E. macularius* population is restricted to Pakistan and north-west India (Rajasthan, Punjab and Jammu), Das (1997) speculated that the Rann of Kachchh could be a barrier separating *E. macularius* and *E. fascus*.

The snakes of MHNP are presented in Chapter 6, covering 17 species from five families, dominated by the Colubridae with nine species. The rare record of *Dendrelaphis tristis* from MHNP is accompanied with the author’s quote in ‘Remarks’ that ‘The Zoological Survey of India has also not found it in the states of Gujarat or Rajasthan, both bordering states of Sind’, which comes out as a big surprise from the author in the book. This is vague statement from the author

is a result of lack of referral of any literature for this particular species. There are half a dozen publications on the record of the species, which show that the species is widely distributed in Gujarat (Gayen 1999; Vyas 1998, 2000, 2006; Sharma 2000) and Rajasthan (see: Whitaker & Captain 2004).

Over all distribution and habitat preferences of species inhabiting the park is discussed in Chapter 7. Chapter 8 discusses various threats and suggestions for herpetofauna conservation in general, and particularly within the park. The book also contains an excellent glossary covering technical terminology and a comprehensive bibliography.

The book concludes with an updated list of 210 species of amphibians (21 species) and reptiles (179 species) in Pakistan with common English names (author should have mentioned the local vernacular name along with province distribution of each species). The author has not clarified why some amphibians and reptiles have been omitted (see Table 1) that were listed in the earlier works of Minton (1966) and Khan (2004; 2006). Such information would be beneficial to readers and subsequent studies.

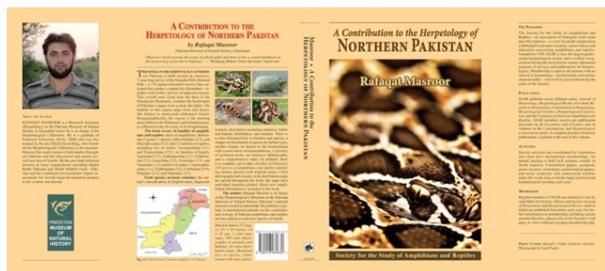
Khan (2006) provided a list of 23 species (three amphibians and 20 reptiles) as unconfirmed amphibians and reptiles from Pakistan in literature, of which three species are snakes; *Dendrelaphis tristis*, *Coelognathus helana* and *Natrix tessellata* are now incorporated in the present list by the author and therefore, it states a valid and confirmed record.

There are very minor and negligible spelling mistakes (see on page 148: *B. aeruleus*) and some technical taxonomic errors where the author is not aware of or has not accepted recent taxonomic changes.

**Table 1. List of species of amphibian and reptiles records from Pakistan in literatures**

No	Specie Name	Distribution	Source
<b>Amphibian: Dicroglossidae</b>			
1	<i>Euphyctis hexadactylus</i> (Lesson, 1834)	Punjab	Frost 2011
<b>Reptile: Geckkonidae</b>			
2	<i>Cyrtopodion fedtschenkoi</i> (Strauch, 1887)	Baluchistan	Smith 1935; Minton 1966
3	<i>Teratolepis fasciata</i> Blyth, 1853	Jaulana, Hyderabad	Minton 1966
<b>Reptile: Agamidae</b>			
4	<i>Sitana ponticeriana</i> Cuvier, 1844 *	Thar Parkar, Sind	Murray 1886
5	<i>Trapelus ruderata</i> Oliver, 1804	Quetta	Minton 1966; Khan 2004, 2006
<b>Reptile: Lacertidae</b>			
6	<i>Mesalina brevirostris</i> Blanford, 1874	Kalabag, Punjab	Khan 2006
<b>Reptile: Colubridae</b>			
7	<i>Macropisthodon plumbicolor</i> (Cantor, 1839) *	Sind	Murray 1884

\* marked species recorded from border areas of Kachchh and Banashkanth, Gujarat by author.



The author should refer the taxonomic position of *Python molurus* with family Boidae. In the present taxonomic chart of *P. molurus*, the species has been removed from the family Boidae and now all old world pythons from subfamily (Pythoninae) are elevated to a family known as Pythonidae. The Old World pythons are now considered distinct from Boidae and are widely recognized as a separate family (Vidal & Hedges 2004).

Overall, this book is handy in size and easy to carry during field work. It is a worthwhile read for students and experts alike, and the best available reference on the herpetofauna of Pakistan in general and certainly of the herpetofauna of Margalla Hills National Park.

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