

عاشقانه

**TAXONOMIC STUDIES ON THE
SNAKES OF PAKISTAN**

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DEDICATION

I dedicate this piece of original research to my
(Late) Spiritual Murshad, my affectionate
(Late) Father and my respectable
(Late) Father-in-Law
who were a constant source
of inspiration for me.



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CHAPTER I

INTRODUCTION

Snakes are limbless creeping creatures belonging to class Reptilia (order, Squamata; suborder, Ophidia). They evolved from one branch of lizard-line about the start of the Jurassic, a mid-way period of the reptilian era i.e., the Mesozoic. They have a rod-like flexible body; their flexibility being attributable to the large number of vertebrae in their body which are linearly arranged from behind the head to the tip of the tail. The limblessness and flexible nature of their body has made these creatures successful as they can escape their enemies or their predators by wriggling into cracks, crevices and holes. As for their distribution, the snakes are generally considered cosmopolitan creatures, though, they mostly occur in the tropical and subtropical parts of the world and are wanting in New Zealand, Ireland and Arctic regions. About 2700 species of snakes have been recorded from various parts of the world (Burton, 1991).

Snakes are generally considered despicable and fearsome creatures for the reason that they possess death-dealing power. However, they are venerated as holy creatures in parts of India and Africa (Deoras, 1965). As a matter of fact, they are neither fearsome nor holy creatures; this notion being based on human ignorance. Scientific research has revealed that only a few species of snakes are poisonous and that majority of them are rather beneficial for man. This may seem heterodoxical but it is a fact that snakes play a key role in agriculture by devouring rodents and insects pests in the fields. According to Whitaker (1978), neither poisons or traps nor other predatory animals affect the rodent population as much as do the snakes. An idea about the extent of damage that the rodents cause to our food crops could be had from the reports published by Fulk *et al.* (1980) who assessed that wheat losses due to rodents during the year 1978 and

1979 were 2.9% and 2%, respectively, while fall in sugar production due to rodent damage to sugarcane crop in the same years was 10.7% and 7.7%, respectively. Further, Baig and Khan (1971) assessed that rats cut 7.55% of wheat tillers in Faisalabad. Sharma (1998) claimed that about 20-25% of food grains in India are destroyed by rats and rodents which are effectively killed by some common snakes like cobras, vipers, trinket snakes, sand boas and rat snakes even by going into their holes. These figures regarding rodent damage to such important crops as wheat and sugarcane reflect indirectly the degree of useful role of snakes in agriculture.

Apart from their rodent-eating role in croplands, another beneficial activity of snakes in agricultural lands was pointed out by Kevan (1955) who stated that some serpents also help in soil-formation, thereby, improving its productive potential.

The commercial value of snakes is also notable. The snake poison is being employed for the manufacture of anti-venom serum for saving the lives of snake-bitten patients. The fat and oil extracted from the bodies of snakes is also being utilized for the preparation of medicines to alleviate human suffering from diseases. Snakes are also used as food in different parts of the world. In Hong Kong and China, the sea snakes are a popular delicacy and they are eaten fried or smoked. The skin of snakes is being used for the manufacture of high quality leather wallets, hand bags, belts, shoes and other fancy articles. According to Viswanathan (1978), in India alone, snake skin worth millions of rupees was being exported to Europe annually.

In view of the above-mentioned facts pertaining agricultural and commercial importance of snakes, these creatures must be saved from mass killing to which they are presently subjected in our country. There is no gainsaying the fact that the attitude of animosity towards snakes is mainly due to lack of scientific information about them among our people. There is, therefore,

strong need to undertake extensive studies on snakes to limelight more facts about their usefulness in human life and provide them security and protection against destructive forces which have become unleashed against them all because of human ignorance.

It is simply lamentable that scientific study of these animals has by and large remained neglected at the hand of biological researchers in our country. The only workers who have accomplished some measure of work on the taxonomy of snakes in Pakistan are Akram and Qureshi (1995, 1997), Khan (1977, 1982, 1983, 1986, 1994, 1998, 1999), Khan and Khan (2000), Mertens (1969, 1970, 1971, 1974) and Minton (1962, 1966). The paucity of research work on snakes in our country is glaringly evident from the fact that no work whatsoever has ever been undertaken on the snakes of one of our provinces i.e. North West Frontier Province (NWFP). Seen in this context, the present study on the snakes of Pakistan is of great significance as it has extended our knowledge about the snakes of our country.