

Macrovipera lebetinus in Pakistan

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Macrovipera lebetinus (L., 1758) is a medically important viper but information on its natural history is limited and its taxonomy is challenging. The species has been divided into several distinct subspecies or morphotypes. According to recent genetic data, four of these are valid; *lebetinus*, *obtusa*, *turanica* and *cernovi* (Stümpel & Joger, 2009; Stümpel, 2012). The species is currently believed to be distributed from Turkey, Cyprus, through the Middle East and Central Asia to Afghanistan, western Pakistan, and India (Kashmir) (Sindaco et al., 2013). While taxonomy and distribution are well known in the central and western parts of the species' range, the eastern part of the range is still poorly investigated. This is also true for the subspecific status of those populations.

During field investigations on 29 August 2018 in Pakistan, a subadult specimen attributed to the genus *Macrovipera* (Fig. 1A) was observed, in the Kaigah Community Game Reserve, Dasu (35.3656° N, 73.1357° E, 2,257 m a.s.l.), Upper Kohistan District, Khyber Pakhtunkhwa Province. The individual was found in a rocky habitat (Fig. 1B). This record represents a connection point of the currently known distribution of the species between Afghanistan and Kashmir. Although the specimen was not collected or better investigated in the field, the species identity is in no doubt and the dorsal colour pattern of a dark ground colour with a lighter, orange zig-zag pattern suggests that it is likely to be the subspecies *Macrovipera lebetinus turanica* (Szczerbak & Böhme 2005).

Although *M. lebetinus* has for a long time been known from the territory of current Pakistan, the data to its distribution are not consistent. Briefly, most of the records of this species are known from Pakistani provinces of Balochistan (Urak valley around Quetta) and Khyber Pakhtunkhwa (Waziristan; Ingoldby & Procter, 1923; Smith, 1943; Minton, 1966; Mertens, 1969; Khan, 2002, 2006; Sindaco et al., 2013). On the other hand, Khan (2006) mentioned a record from Chitral in northern Khyber Pakhtunkhwa province but without any details or distributional designation on the map. Sindaco et al. (2013) mentioned Pakistani Kashmir for this species without assigning any further details. Smith (1943) mentions *M. lebetinus* from Kashmir but there is no recent confirmation of this (but see the record of Sharma et al., 2008 from Indian Jammu and Kashmir State). Since there is a clear morphological difference between the specimen we have observed and known specimens from Balochistan (see the photo of the species in Khan, 2006, p. 240), we suspect that different taxa are present in Pakistan. To avoid further taxonomic confusions we do not speculate on the status of



Figure 1. Subadult *M. lebetinus* from Dasu, Khyber Pakhtunkhwa Province, Pakistan observed in August 2018 - **A.** Detailed view of the individual which resembles the subspecies *M. l. turanica*, and **B.** generalised view on the same individual and its habitat

Pakistani populations. However, the subspecies *M. l. obtusa* is definitely not presented in Pakistan (e.g. Khan, 2006) as the range of this taxon is limited to western and north-western Iran (Moradi et al., 2014). Further morphological data and study of molecular relationships are required to clarify the distribution and taxonomy of eastern populations of *M. lebetinus* spp.

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