

On a newly identified specimen
of the extinct bolyeriid snake
Bolyeria multocarinata (BOIE, 1827)

The bolyeriid snake *Bolyeria multocarinata* (BOIE, 1827) is one of two species assigned to the family Bolyeriidae, formerly distributed in the Mauritian region, but more recently limited specifically to Round Island, a 169 ha volcanic cone located 22 km NNE of Mauritius. Originally the higher, wetter parts of the island were covered by hardwood forest and the lower slopes supported a palm savanna. Remnants of the latter community remain, however the hardwood forest was eradicated by goats and rabbits introduced in the mid-19th century (BULLOCK 1977, 1986). The resulting soil erosion may have destroyed much of the primary habitat of *Bolyeria*, which is believed to have been subfossorial (VINSON 1953, 1975). *Bolyeria* was once reasonably common on Round Island (PIKE 1873), but by 1949 it was already rare (VINSON 1949) and it has been seen only four times in the last 70 years (VINSON 1975; GARBUTT 1992), the last in 1975 (BULLOCK 1977) despite intensive searches in between 1976 and 2001 (BULLOCK 1986; NORTH et al. 1994; KORSÓS & TRÓCSÁNYI 2002). It is now regarded as extinct (BAILLIE & GROOMBRIDGE 1996).

The holotype of *Bolyeria multocarinata* (Muséum National d'Histoire Naturelle, Paris - MNHN 7185), described by BOIE (1827), was presumably collected by François PÉRON (1775-1810) and Charles Alexandre LESUEUR (1778-1846) on the voyage of the vessels *Géographe* and *Naturaliste* (1800-1804) and was accessioned into the collection of the Muséum National d'Histoire Naturelle, Paris with the erroneous locality of "Port Jackson" [Sydney, Australia]. Aside from the type, *Bolyeria* is known from only a five additional specimens that have been reported in the literature: three in The Natural History Museum, London, one in the Mauritius Institute (KORSÓS & TRÓCSÁNYI 2002) and a stuffed specimen (whereabouts unknown; VINSON 1975).

We here report on the recent discovery of an additional specimen of this extinct snake in the collection of the Museum für Naturkunde, Berlin (ZMB). The specimen

was donated to the museum as part of a small collection of reptiles obtained by Karl August MÖBIUS (1825-1908), professor of zoology and director of the Zoological Museum at the University of Kiel (1868-1888) and later professor of Zoology in Berlin (1888-1905), on his 1874-75 expedition to the Indian Ocean. PETERS (1877) noted the specimen but misidentified it as *Leptoboa* (now *Casarea*) *dussumieri* (SCHLEGEL, 1837), the more common species of bolyeriid. PETERS (1877) wrote of the specimen: "Ein Exemplar mit zugenähtem Maule, auf Mahé von einem Apotheker geschenkt. Es hatte bei ihm schon längere Zeit gestanden und wusste er nichts über den Fundort anzugeben."

How or why a Round Island snake came to be in a pharmacy in the Seychelles is not clear. Although MÖBIUS did stay in Port Victoria (now Victoria) on Mahé during his four week stay in the Seychelles, his longer (two month) stay in Mauritius was based on Fouquet Island, off the coast of Mahébourg (TÜRKEY 1981). It seems at least possible that the specimen of *Bolyeria* may have come from a pharmacist in Mahébourg rather than Mahé. Unfortunately, no mention of the snake appears in MÖBIUS' (1880) published account of his expedition. Interestingly, of the 14 other species from the Seychelles and Mascarenes donated by MÖBIUS, two — "*Hemidactylus maculatus*" and "*Liolepisma Bellii*" were listed by PETERS (1877) as being from "Insel Ronda." The latter name is a synonym of *Leiolopisma telfairii* (DESJARDINS, 1831), which is indeed a Round Island endemic, but the former is an Indian species that does not occur on any of the islands of the southern Indian Ocean. MÖBIUS (1880) made no mention of a trip to Round Island and it seems unlikely that he visited it, as his stay on Mauritius was short and focused chiefly on reef animals. It is probable that this material, like the specimen of *Bolyeria*, was obtained from another source.

The newly identified specimen (ZMB 8984; fig. 1) is a male that corresponds well to published descriptions of *Bolyeria* and it is strange that PETERS (1877) confused this species with the quite different *Casarea*. It measures 710.23 mm SVL + 184.35 mm tail length and is comparable in size to other



Fig. 1: Recently identified specimen (ZMB 8984) of *Bolyeria multocarinata* (BOIE, 1827) obtained by Karl A. MÖBIUS during his Indian Ocean expedition of 1874-75. Scale = 50 mm.

specimens for which total lengths of 54-140 cm have been reported (BOULENGER 1893; VINSON 1949; VINSON 1975; BULLOCK 1977), although considerably smaller than the maximum size of 1.8 m claimed by VINSON (1949). Its scale counts (59 midbody scale rows, 204 ventral scales, 102 subcaudals) are slightly higher than those previously reported (maximum 57, 200, 86; ANTHONY & GUIBÉ 1952). The specimen is beige with numerous darker brown markings on the body, these becoming confluent with on the posterior part of the trunk and tail. The venter has scattered darker markings. The color in life has been described as light brown with small blackish spots dorsally and pink marbled with blackish ventrally (PIKE 1873; VINSON 1975).

The natural diet of *Bolyeria* remains unknown, although it is assumed to eat lizards, as does *Casarea* (CUNDALL & IRISH 1989). We x-rayed the specimen to check for prey remains but none were found. However, radiographs confirm the unique bolyeriid intramaxillary joint, hypapophyses on the dorsal posterior vertebrae, and the lack of pelvic vestiges (ANTHONY & GUIBÉ 1952; VINSON 1953).

The discovery of "new" material of any extinct species is, of course, of scientific interest. In this instance, however, it has special value both because of the very small

number of specimens known, and because *Bolyeria multocarinata* is the only representative of its genus and one of only two members of its family. Further, bolyeriids have recently been postulated to be the sister group of another enigmatic snake, *Xenophidion schaeferi* GÜNTHER & MANTHEY, 1995 (*Xenophidiidae*) (LAWSON et al. 2004).

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On the lower limit of the altitudinal range of *Triturus alpestris* (LAURENTI, 1768) in Slovakia

In Slovakia, *Triturus alpestris alpestris* (LAURENTI, 1768) is found particularly in coniferous forests in the central and northern parts of the country at altitudes between 350 and 1,850 m a.s.l. (LÁC 1963, 1968). Since distributional data from more recent decades are relatively rare, of regional interest only (e.g. GREGOR 1983, 1987; KMINIAK 1997) or remained unpublished (KAUTMAN pers. comm., observations of the authors),

the knowledge on the distributional pattern of the species in Slovakia has not increased substantially since.

In 1994, two lower elevation localities of *T. alpestris* were discovered in the Upper Nitra Valley near the town of Prievidza in central Slovakia. Both of them are situated in oak-hornbeam forests with sparsely growing pines and beeches in the vicinity of the urban area. In Púšť' (48°44'54"N / 18°38'35"E, 349 m a.s.l.), the specimens were taken from small shallow water ditches in open forest glades, mainly on old forest roads and in drainage channels along them. In Nedožery (48°49'20"N / 18°40'04"E, 308 m a.s.l.), the newts were observed in a similar habitat, but they were also found directly in the Nedožery reservoir in its upper, sparsely vegetated, shallow waters. The larvae were deposited in the collections of the Slovak National Museum - Museum of Natural History in Bratislava. The coordinates and altitudes were taken to the nearest 10 m and 1 m, respectively, with the use of Garmin® eTrex Vista® GPS after appropriate calibration. In 1995, the established fish population caused the disappearance of the newts from the reservoir, but they still occurred in small water pools in the area. Both populations were randomly observed during the entire last decade.

Triturus alpestris is no longer considered a typical mountain species (ZAVADIL 1991). Lower elevation localities are known from various parts of the range (ROČEK et al. 2003). In the Western Carpathians, it was found at 280 m a.s.l. in Český Těšín (Czech Republic) by OPATRŇÝ (1978) and in the Polish part of these mountains it is distributed above 450 m a.s.l. (ŚWIERAD 1988). According to LÁC (1968), the distribution of *T. alpestris* in Slovakia is restricted to altitudes between 350 and 1,850 m a.s.l. However, it seems that the lower altitudinal limit, estimated on 350 m a.s.l., was theoretical. A record at this altitude unprecisely localized in the Šiatorske Mts. mentioned by LÁC (1968) was no longer included in a later paper (KLUCH et al. 1969). Instead, an other locality - Lake Izra at 486 m a.s.l. in the Slanské Mts. (Tokajské Mts. in KLUCH et al. 1969) - was considered the lowest altitudinal record in the country. Later, GREGOR (1987) found the species in eight spots

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