Dicephalism, also known as polycephaly or dicephaly due to axial bifurcation, is a phenomenon of an animal having two heads (Kompanje and Hermans 2008). The existence of dicephalism in reptiles is well documented (e.g., Cunningham 1937; Jha and Gupta 1957; Mishra and Shah 1983; Smith and Perez-Higareda 1987; Hoser and Harris 1995; Swanson et al. 1997; Djon et al. 2003; McAllister and Wallach 2006; Wallach 1995, 2007, 2012, 2018; Beane 2009; Jandzik 2009; Spadola and Insacco 2009; Albuquerque et al. 2010, 2013; Kim et al. 2013; Pezdirc et al. 2013; Wallach and Salmon 2013; Dieckmann et al. 2014; Gvozdenovic and Cavor 2015; Twombley 2015; Caviglioli et al. 2016; Devkota et al. 2020a, 2020b). The first known appearance of dicephalism in reptiles is a 120 million-year-old fossil found in China (Buffetaut et al. 2007). The latest tabulation of verified cases of axial bifurcation in snakes lists 2,007 cases, including 221 species in 114 genera; if one includes anecdotal reports the total number of cases rises to 2,071 (V. Wallach, unpubl. data). A total of 44 cases of dicephalism have been documented in the family Viperidae, including one species in the genus *Trimeresurus*, the White-lipped Pitviper, *T. albolabris* (Wallach 2018). Herein we report dicephalism in the Red-tailed Bamboo Pitviper (*Trimeresurus erythrurus*) from Mizoram, India, representing the first reported case for the species and the second case for the genus.

This dicephalic Red-tailed Bamboo Pitviper was captured on 13 August 2013 by local villagers along a trail near Chhiphir Village, Lunglei District, Mizoram, India (23°16′85.83″N, 92°79′66.56″E; elev. 978 m) 62.4 km south of the state capital, Aizawl. The neonatal female had scoliosis just posterior to the neck, heads were completely separated, well developed, and each with two eyes (Fig. 1). The two heads bifurcate behind the jaw angle (Fig. 2). The maximum total length was approximately 310 mm. Due to scoliosis, ventral scales from 13–26 joined with 28–37 forming a lateral fold on the left side with ventral 27 at the angle between the two adjoined rows.

The snake was inactive and about to shed the skin. After removal of the shed, it became more active but moved slowly and had difficulty climbing and crawling smoothly. Sex of the snake was determined by cloacal probe. After taking photographs, the snake was released into the surrounding forest.

**Fig. 1.** A neonatal two-headed Red-tailed Bamboo Pitviper (*Trimeresurus erythrurus*) also with scoliosis from Chhiphir Village, Mizoram, India. Photograph by Lal Lawmsanga.
as the villagers were unaware that the only chance for survival of a two-headed snake is in captivity. Digital voucher images were deposited in the Lee Kong Chain Natural History Museum, National Museum of Singapore (ZRC [IMG] 2.461a,b).

Two-headed snakes rarely survive long in the wild but can survive for many years in captivity (Wallach 2007). The majority of dicephalic individuals are unable to survive and behave normally in the wild due to having two independent brains (Devkota et al. 2020a). The inability to move in a coordinated manner inevitably results in the animal’s death as it cannot successfully escape predators or capture food (Devkota et al. 2020b).

A total of 41 dicephalic snakes have been documented in India (Wallach 2018). This record is the first documented case of dicyphaly in *Trimeresurus erythrurus* and the forty-second record of dicephalism in Indian snakes.

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Literature Cited


