

## The Twin-spotted Treefrog (*Rhacophorus bipunctatus* Ahl 1927) in Mizoram, India

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The Twin-spotted Treefrog (*Rhacophorus bipunctatus*) is native to the eastern Himalayan Region of northeastern India (Assam, Arunachal Pradesh, Meghalaya, Manipur, Tripura, and Nagaland) and has also been reported from Bangladesh, Tibet, China, Laos, Vietnam, Cambodia, Myanmar, and Thailand (Frost 2020). This species inhabits tropical and subtropical broadleaf forests at elevations of 80–2,200 m asl (Ahmed et al. 2009). The conservation status of the species is currently categorized as Least Concern in the IUCN Red List (Ohler et al. 2008).

The distribution of this species in northeastern India is well documented (see Devi et al. 2006; Chanda 2007; Ahmed et al. 2009; Frost 2020). However, the report of the species from Mizoram by Chanda (2007) is doubtful because the collection site of "Ukrul" does not occur in Mizoram. That record was based on three specimens collected on 6 May 1984 by C. Radhakrishnan presumably in the Ukhrul District of the adjacent State of Manipur. Herein we provide new distributional records for *R. bipunctatus* in Mizoram, confirming the presence of the species in the state. Voucher specimens were deposited in the Departmental Museum of Zoology, Mizoram University (MZMU).

At 1740 h on 4 July 2011, two females (MZMU 140, SVL = 44.78 mm; MZMU 141, SVL = 44.97 mm) and a male (MZMU 142, SVL = 43.66 mm) (Fig. 1) were collected among trees at Hmuifang (23.75319°N, 93.26283°E; elev. 1,472 m) (Fig. 2) by H.T. Lalremsanga. At 1954 h on 20 April 2016, another male (MZMU 143, SVL = 44.63 mm) and female (MZMU 144, SVL = 41.56 mm) were collected from a tree above a roadside canal paralleling National Highway 54 at Hmuifang (23.76917°N, 93.25955°E; elev. 1,475 m) by H.T. Lalremsanga and Lalengliana. At 2007 h on 20 April 2016, a male (MZMU 678, SVL = 53.00 mm) was collected by Lalengliana from the cement watertank near the tourist



Fig. 1. A female Twin-spotted Treefrog (*Rhacophorus bipunctatus*) (MZMU 140) and the female and a male (MZMU 142) adjacent to a foam nest. Photographs by H.T. Lalremsanga.



Fig. 2. Microhabitats of the Twin-spotted Treefrog (*Rhacophorus bipunctatus*) from different localities in Mizoram, India: Along a stream at Hmuifang Peak at 1,472 m (left) and in the Dampa Tiger Reserve, Mamit District (right). Photographs by H.T. Lalremsanga (left) and Ht. Decemson (right).

lodge at Hmuifang (23.76307°N, 93.25474°E; elev. 1,483 m). At ca. 2000 h on 20 July 2017, a female (MZMU 1651, SVL = 40.74 mm) was collected near a construction site at Nursery Veng, Aizawl District (23.71655°N, 92.70506°E; elev. 846 m) by R. Lalbiakzuala. A male (MZMU 1362, SVL

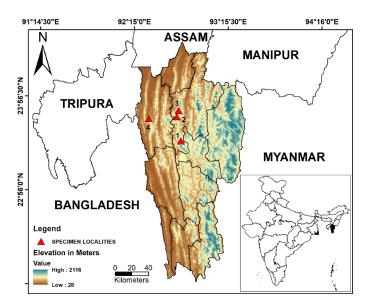


Fig. 3. Map showing new distributional records for the Twin-spotted Treefrog (*Rhacophorus bipunctatus*) in Mizoram, India. 1. Hmuifang, 2. Nursery Veng, 3. Durtlang, 4. Dampa Tiger Reserve.

= 55.62 mm) was collected from a Chayote (*Sechium edule*) leaf by Lal Biakzuala at ca. 2200 h on 18 April 2019 near Durtlang, Aizawl District (23.78339°N, 92.72581°E; elev. 1,204 m). Another male (MZMU 1615, SVL = 59.44 mm) was encountered on a leaf of a fan palm (*Licuala peltata*) adjacent to a jungle path and collected by Ht. Decemson from the Teirei Range, Dampa Tiger Reserve, Mamit District (23.69775°N, 92.40461°E; elev. 725 m) at 1158 h (Fig. 2) on 18 November 2019. Multiple specimens from different localities (Fig. 3) confirm the presence of *R. bipunctatus* in Mizoram. Nonetheless, additional surveys are necessary to better understand the distribution of the species in Mizoram and neighboring states of northeastern India.

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## Literature Cited

- Ahmed, M.F., A. Das, and S.K. Dutta. 2009. Amphibians and Reptiles of Northeast India. A Photographic Guide. Aaranyak, Guwahati, India.
- Ao, J.M., S. Bordoloi, and A. Ohler. 2003. Amphibian fauna of Nagaland with nineteen new records from the state including five new records for India. *Zoos' Print Journal* 18: 1117–1125.
- Chanda, S.K. 2007. Amphibia, pp. 537–544. In: *Fauna of Mizoram*. State Fauna Series No. 14. Zoological Survey of India, Kolkata, India.
- Devi, Y.B. and K. Shamungou. 2006. Amphibian fauna of Manipur State, India. Journal of Experimental Zoology, India 9: 317–324.
- Frost, D.R. 2020. Amphibian Species of the World: An Online Reference. Version 6.1 American Museum of Natural History, New York, New York. <a href="https://amphibiansoftheworld.amnh.org/index.php">https://amphibiansoftheworld.amnh.org/index.php</a>.
- Ohler, A., P.P. van Dijk, G. Wogan, F. Liang, S. Dutta, S. Bordoloi, and D. Roy. 2008. *Rhacophorus bipunctatus. The IUCN Red List of Threatened Species* 2008: e.T58981A11853687. <a href="https://dx.doi.org/10.2305/IUCN.UK.2008">https://dx.doi.org/10.2305/IUCN.UK.2008</a>. RLTS.T58981A11853687.en>.