

**NEW RECORD OF THE TREE-FROG,
THELODERMA HORRIDUM BOULENGER
(AMPHIBIA: ANURA: RHACOPHORIDAE)
FROM SINGAPORE**

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ABSTRACT. - The tree-frog, *Theلودerma horridum* (Boulenger, 1903) is recorded for the first time in Singapore. Description of a specimen from the Central Catchment Area is provided.

In Singapore, the family Rhacophoridae has been represented by only three species (Lim, 1992: 144), viz., *Polypedates leucomystax* Boie, *Nyctixalus pictus* Peters and *Rhacophorus bimaculatus* Peters.

During a field trip to the Bukit Timah hill forest on the morning of 18th March 1996, the first and second authors encountered a frog well-camouflaged on the trunk of a tree (100 cm dbh), 1.2 m from the forest floor, by the side of a forest trail. It was dorso-ventrally depressed against the lichen-covered bark and was facing upwards, with all four limbs neatly tucked beneath its body. It was collected for identification, but died in captivity and is presently catalogued under ZRC.1.3278 (Fig. 1) in the Zoological Reference Collection, School of Biological Sciences, National University of Singapore.

From observations and examination of the live and subsequently preserved specimen, the frog is referable to *Theلودerma horridum* (Boulenger, 1903). This find brings the total number of rhacophorid species found in Singapore to four and the total number of anuran species in Singapore from 22 to 23. Apart from agreement with characteristic habitat descriptions in Boulenger (1903: 140, 141; 1912: 256, 257), diagnostic features include a strongly depressed head; obtusely-pointed snout; distinct tympanum, nearly as large as eye; absence of vomerine teeth; fingers half-webbed; toes webbed to the disks; all webs blackish. Among the members of the genus *Theلودerma*, only *T. horridum* is known to exhibit such extensive webbing on the hand.

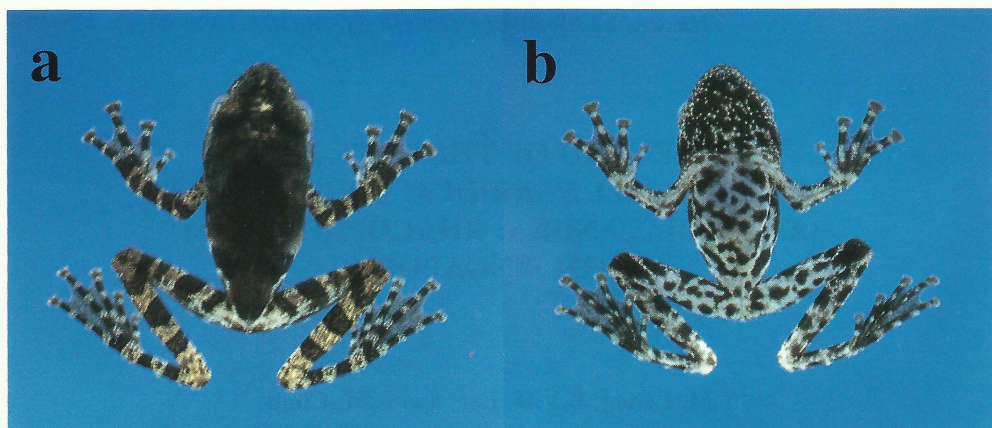


Fig. 1. Dorsal (a) and ventral (b) aspects of *Theloderma horridum* (ZRC.1.3278). Photo courtesy of K. Lim.

The dorsal surface (Fig. 1a) is covered with numerous irregular tubercles while the ventral surface is largely granulated. A brown, inter-orbital cross-bar is present. The limbs are patterned with regularly spaced cross-bars right up to the phalanges. A large, prominent black spot is present at the lumbar region. The ventral ornamentation (Fig. 1b) bears a striking resemblance to the illustration of the marbled pattern as in Boulenger (1903: pl. 6, fig. 2). In life, the blue-gray hue of the belly is discernible.

A comparison was made of the present specimen with a larger (snout-vent length 41.3 mm) specimen of *Theloderma horridum* (ZRC.1.3220) collected by A.T.C. Wong at Ulu Kinchin, Pahang, West Malaysia in April 1995. Specimen ZRC.1.3278 has a snout-vent length of 23.4 mm and appears to be a juvenile. Apart from differences in size, both specimens are identical in general appearance.

Following this first discovery, a second individual of similar size was spotted by L. C. Tan and T. S. Tan (pers. comm.) on the 16th of August, 1996 at night (2000-2030 hrs). This was during a Nature Reserves Nocturnal Survey conducted at Taban Valley, Bukit Timah. The frog was observed at the same locality where the first specimen was found, slowly climbing a tree trunk from knee-level upwards. It was photographed in situ but not collected.

Theloderma horridum is known to occur in southern Thailand, West Malaysia and the Mentawai Islands off Sumatra (Berry, 1975: 94; Dring, 1979: 216, 218; Frost, 1985: 549; Inger, 1966: 348; Smith, 1926: 80; Taylor, 1962: 519). Only recently has this species been recorded from Borneo, at the Danum Valley Field Centre (Inger et al., 1995: 115,129-130).

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