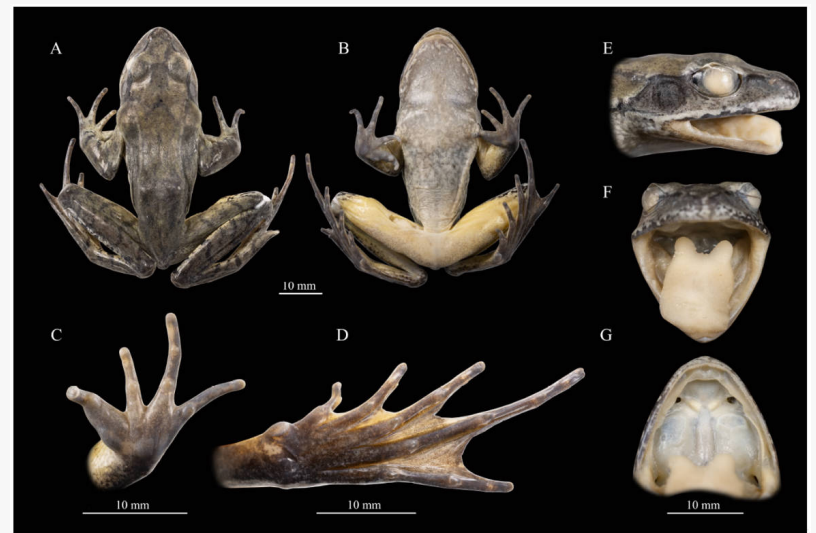


New brown frog species discovered in Chongqing, China

GA, UNITED STATES, October 27, 2026 /EINPresswire.com/ -- Researchers have described *Rana shii* sp. nov., a medium-sized brown frog from Chongqing, China, that forms an independent evolutionary lineage and is the sister species of *Rana maershanensis*. The species is distinguished by a combination of features, including the absence of a vocal sac, well-developed dorsolateral folds that are straight or slightly curved outward at the temporal region and do not connect to the posterior corner of the eye, toe tips without lateroventral grooves, and hindlimbs that bring the tibiotarsal articulation to or beyond the snout tip when stretched. Field observations indicate that it breeds in ponds in early April. The discovery expands the known range of this unassigned *Rana* lineage into southwestern China and highlights overlooked brown-frog diversity.



Photos of the holotype of *R. shii* sp. nov.

Chinese *Rana* species are often divided into four species groups, yet several species remain unassigned, including *Rana maershanensis*. Previous studies recovered *R. maershanensis* as a distinct lineage outside these groups, but its relationships with other *Rana* species have remained unstable and weakly supported. Some analyses placed it near the *Rana japonica* group, whereas later genomic work did not recover that grouping. Morphological comparisons have also been limited by incomplete sampling across unassigned lineages. This gap limits both diagnosis and conservation assessment. Given these challenges, further research is needed on the phylogenetic placement and cryptic diversity of the *R. maershanensis* lineage.

Researchers from the School of Life Sciences and the Key Laboratory of Freshwater Fish Reproduction and Development (Ministry of Education), Southwest University, with colleagues from Slippery Rock University and the Chongqing Yintiaoling National Nature Reserve Administration Center, published (DOI: [10.3724/ahr.2095-0357.2026.0016](https://doi.org/10.3724/ahr.2095-0357.2026.0016)) the findings in Asian Herpetological Research on 04 June 2026. The team collected eight adult *Rana* specimens and an

egg clutch during 2025 surveys in Chongqing Yintiaoling National Nature Reserve and Hongchiba National Forest Park, Wuxi County, and used morphological and molecular evidence to describe the new species.

The new species was recovered as an independent clade (Bayesian posterior probability [BPP] = 1; bootstrap support [BS] = 100) sister to *R. maershanensis* (BPP = 0.98; BS = 96), outside the four recognized Chinese *Rana* groups. Mean genetic distances between *R. shii* and *R. maershanensis* were 7.51% for the mitochondrial cytochrome c oxidase subunit I (COI) gene and 2.29% for the 16S ribosomal RNA (16S rRNA) gene; mean intraspecific distances were 0.78% and 0.3%, respectively. Morphologically, the species has a medium body size (male snout-vent length [SVL] 52.7–58.3 mm; female SVL 54.8–62.2 mm), no vocal sac, a tympanum slightly larger than half the eye diameter, vomerine teeth in two oblique rows between the choanae, a deeply notched tongue, and nuptial pads divided into two patches without nuptial spines. Toe length order is IV > V > III > II > I, and males lack abdominal lineae masculinae. The holotype, an adult male (SWU 0015390), was collected at 2,265 m in Chongqing Yintiaoling National Nature Reserve. Field observations recorded breeding in ponds in early April, with black animal-pole and grayish-white vegetal-pole eggs.

The authors said the discovery is less about a single frog than about what remains unseen. They said the new species and *R. maershanensis* form a two-species clade whose wider relationships still need stronger genomic sampling, especially nuclear genes. They described the Chongqing population as geographically distant from *R. maershanensis* in central-southern China, consistent with allopatric speciation, and said the finding signals that additional cryptic diversity may still be hidden in this lineage. They said future surveys should target montane wetlands and integrate morphology, calls, and multilocus data.

The finding adds a newly documented amphibian to the fauna of Chongqing and extends the known distribution of the *R. maershanensis* lineage into southwestern China. Because the new species breeds in montane wetland ponds and shares habitat with *R. chensinensis*, targeted monitoring can inform reserve management, habitat protection, and amphibian surveys in the Daba Mountains. The authors emphasize that resolving the lineage's placement will require broader taxonomic sampling and nuclear markers. Such work can sharpen biodiversity baselines, guide conservation prioritization, and improve detection of cryptic frog species in poorly surveyed montane wetlands.

References

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