https://www.doi.org/10.33910/2686-9519-2026-18-2-586-598
https://www.zoobank.org/References/a5604811-bd30-443b-8709-9d8abeff9072

UDC 597.8

A new species of the genus *Brachytarsophrys* Tian & Hu, 1983 (Anura: Megophryidae) from Guangxi, China

S. Liu[1], M. Hou[2], D. Rao[3]✉

[1] Kunming Natural History Museum of Zoology, Kunming Institute of Zoology, Chinese Academy of Sciences, 32 Jiaochang Donglu, 650223, Kunming, China
[2] College of Continuing (Online) Education, Sichuan Normal University, 5 Jing'an Road, 610068, Chengdu, China
[3] Kunming Institute of Zoology, Chinese Academy of Sciences, 17 Longxin Road, 650201, Kunming, China

Authors

Shuo Liu
E-mail: liushuo@mail.kiz.ac.cn
ORCID: 0000-0001-7825-3006

Mian Hou
E-mail: turtlechina@126.com
ORCID: 0000-0002-3322-6570

Dingqi Rao
E-mail: raodq@mail.kiz.ac.cn
ORCID: 0000-0003-2680-1503

Abstract. A new species of the genus *Brachytarsophrys* is described from Guangxi Zhuang Autonomous Region, China. The new species can be distinguished from its congeners by a combination of morphological characters: body size relatively small, dorsal skin smooth with a few large tubercles on dorsum and crotch, snout relatively long, eye relatively small, foot relatively short, pectoral glands orange, upper iris blood red and lower iris reddish brown, nuptial pad present on first finger in adult male. Phylogenetically, the new species differs from other species of the genus by a genetic divergence of 4.2–15.7 % and 3.3–15.2 % in COI and cytb genes, respectively. This study brings the total number of the species of *Brachytarsophrys* to 12, with 10 occuring in China and three in Guangxi.

Keywords: Jinxiu County, mitochondrial, morphology, phylogeny, Short-legged Toad, taxonomy

Новый вид рода Brachytarsophrys Tian & Hu, 1983 (Anura: Megophryidae) из Гуанси, Китай

Ш. Лю[1], М. Хоу[2], Д. Рао[3]✉

[1] Куньминский музей естественной истории зоологии, Куньминский институт зоологии, Китайская академия наук, ул. Цзяочэн дунлу, д. 32, 650223, г. Куньмин, Китай
[2] Колледж непрерывного (онлайн) образования, Сычуаньский педагогический университет, ул. Цзинъань Роуд, д. 5, 610068, г. Чэнду, Китай
[3] Куньминский институт зоологии, Китайская академия наук, ул. Лунсинь Роуд, д. 17, 650201, г. Куньмин, Китай

Сведения об авторах

Шо Лю
E-mail: liushuo@mail.kiz.ac.cn
ORCID: 0000-0001-7825-3006

Мьен Хоу
E-mail: turtlechina@126.com
ORCID: 0000-0002-3322-6570

Динци Рао
E-mail: raodq@mail.kiz.ac.cn
ORCID: 0000-0003-2680-1503

Аннотация. В статье описывается новый вид рода *Brachytarsophrys* из Гуанси-Чжуанского автономного района, Китай. Новый вид отличается от других представителей рода по совокупности ряда морфологических признаков: относительно небольшие размеры тела; гладкая кожа на спине; несколько крупных бугорков на спине и в паховой области; относительно длинная морда; относительно небольшие глаза; относительно короткие ноги; оранжевые грудные железы; кроваво-красная верхняя и красновато-коричневая нижняя часть радужной оболочки глаза; наличие на первом пальце взрослых самцов брачной мозоли. Филогенетически новый вид отличается от других видов рода степенью генетической дивергенции: 4,2-15,7 % по гену COI и 3,3-15,2 % по гену cytb. Таким образом, род *Brachytarsophrys* насчитывает двенадцать видов, десять из которых встречаются в Китае и три из них в автономном районе Гуанси.

Ключевые слова: уезд Цзиньсю, митохондриальная ДНК, морфология, филогения, коротконогая жаба, таксономия

Introduction

The genus *Brachytarsophrys* Tian & Hu, 1983 is a group of large frogs in the family Megophryidae, commonly known as Short-legged Toads (Wu et al. 2025). This genus is mainly distributed in Myanmar, Laos, Vietnam, southern China, and northern Thailand, and currently includes 11 species, namely *B. carinense* (Boulenger, 1889), *B. chuannanensis* Fei, Ye & Huang, 2001, *B. feae* (Boulenger, 1887), *B. guilinensis* Wu, Pan, Xiao, Chen, Yu & Wei, 2025, *B. intermedius* (Smith, 1921), *B. orientalis* Li, Lyu, Wang & Wang, 2020, *B. platyparietus* Rao & Yang, 1997, *B. popei* Zhao, Yang, Chen, Chen & Wang, 2014, *B. qiannanensis* Li, Liu, Yang, Wei & Su, 2022, *B. wenshanensis* He, Huang, Li, Chen & Yuan, 2024, and *B. wui* Lyu, Zhou & Long, 2026 (Frost 2026). Among the eleven species, nine are distributed in China, and two have been recorded in Guangxi Zhuang Autonomous Region (Wu et al. 2025; AmphibiaChina 2026; Lyu et al. 2026).

During our field survey in Guangxi Zhuang Autonomous Region, China, in 2019, a specimen of *Brachytarsophrys* was collected from Jinxiu County, Laibin City. Subsequent molecular and morphological analyses indicated that this specimen was distinctive from all known species of the genus *Brachytarsophrys*. Herein, we describe this specimen as a new species.

Materials and methods

The frog was collected by hand at night. Photographs were taken before euthanasia. Specimen was preserved in 75 % ethanol and deposited in the Kunming Natural History Museum of Zoology, Kunming Institute of Zoology, Chinese Academy of Sciences (KIZ).

Morphological measurements were taken with digital calipers to the nearest 0.1 mm, the measurements followed Wu et al. (Wu et al. 2025): snout–vent length (SVL), from the tip of the snout to the vent; head length (HL), from the tip of the snout to the rear of the jaw; head width (HW), the width of the head at its widest point; snout length (SL), from the tip of the snout to the anterior corner of the eye; internarial distance (IND), the distance between the nares; interorbital distance (IOD), the minimum distance between the upper eyelids; eye diameter (ED), the diameter of the exposed portion of the eyeball; hand length (HAL), from the proximal end of the outer metacarpal tubercle to the end of the third finger; forearm length (FOL), from the proximal end of the outer metacarpal tubercle to the elbow joint; tibia length (TL), the distance from the knee to the heel; and foot length (FL), from the proximal end of the inner metatarsal tubercle to the tip of the fourth toe. The webbing formula followed Myers and Duellman (Myers, Duellman 1982).

Total genomic DNA was extracted from liver tissue. Fragments of the mitochondrial cytochrome oxidase subunit I gene (COI) and cytochrome b gene (cytb) were amplified and sequenced. The primers Chmf4: 5′–TYTCWACWAAYCAYAAAGAYATCGG–3′ and Chmr4: 5′–ACYTCRGGRTGRCCRAARAATCA–3′ (Che et al. 2012) and PFGlu14140L: 5′–GAAAAACCACTGTTGTHHYTCAACTA–3′ and PFThr15310: 5′–CGGYTTACAAGACCGRTGCTTT–3′ (Zhang et al. 2013) were used for COI and cytb, respectively. The reaction condition and method for amplification and sequencing followed Li et al. (Li et al. 2020). The new sequences have been deposited on GenBank and other sequences used in this study were obtained from GenBank (Table 1). *Atympanophrys shapingensis* (Liu, 1950) was used as the outgroup according to He et al. (He et al. 2024) and Wu et al. (Wu et al. 2025).

DNA sequences were aligned using MUSCLE (Edgar 2004) integrated in MEGA 11 (Tamura et al. 2021). The best substitution models were selected using ModelFinder (Kalyaanamoorthy et al. 2017) under the Bayesian information criterion. Bayesian inference and maximum likelihood analysis were constructed based on a concatenated dataset of COI and cytb fragments. Bayesian inference was performed in MrBayes 3.2.6 (Ronquist et al. 2012) using the GTR+F+I+G4 model. Markov Chain Monte Carlo simulations were run for 5,000,000 generations, sampling

Table 1

Localities, voucher information, and GenBank numbers for all samples used in this study

Таблица 1

Места сбора образцов, информация об образцах и номера GenBank для всех образцов, использованных в данном исследовании

Species	Locality	Voucher	COI	cytb
1	2	3	4	5
Brachytarsophrys jinxiuensis sp. nov.	Jinxiu, Guangxi, China	KIZ2019035	PZ240000	PZ244981
Brachytarsophrys carinense	Chiang Mai, Thailand	K3001	KR087626	—
Brachytarsophrys carinense	Omkoi, Chiang Mai, Thailand	KIZ 024170	MT162640	MT162663
Brachytarsophrys carinense	Mae Hong Son, Thailand	KIZ 024429	MT162641	MT162664
Brachytarsophrys carinense	Kanchanaburi, Thailand	KIZ 024640	MT162642	MT162665
Brachytarsophrys chuannanensis	Hejiang, Sichuan, China	SYS a004926	MH406364	MH407194
Brachytarsophrys chuannanensis	Hejiang, Sichuan, China	SYS a004927	MH406365	MH407195
Brachytarsophrys feae	Jingdong, Yunnan, China	SYS a003912	MH406362	MH407192
Brachytarsophrys feae	Jingdong, Yunnan, China	SYS a003913	MH406363	MH407193
Brachytarsophrys feae	Jingdong, Yunnan, China	KIZ 046706	KX812056	—
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000903	PV817819	PV820718
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000904	PV817820	PV820719
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000905	PV817821	PV820720
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000906	PV817822	PV820721
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000907	PV817823	PV820722
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000908	PV817824	PV820723
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000909	PV817825	PV820724
Brachytarsophrys guilinensis	Guilin, Guangxi, China	GXNU YU000910	PV817826	PV820725
Brachytarsophrys intermedia	Krong Pa, Gia Lai, Vietnam	ROM 23794	MT162643	MT162666
Brachytarsophrys orientalis	Longnan, Jiangxi, China	SYS a004225	MT162625	MT162650
Brachytarsophrys orientalis	Longnan, Jiangxi, China	SYS a004226	MT162626	MT162651
Brachytarsophrys orientalis	Longnan, Jiangxi, China	SYS a004227	MT162627	MT162652
Brachytarsophrys orientalis	Longnan, Jiangxi, China	SYS a004228	MT162628	MT162653

https://www.doi.org/10.33910/2686-9519-2026-18-2-586-598

Таблица 1. Продолжение

Table 1. Continuation

1	2	3	4	5
Brachytarsophrys orientalis	Longnan, Jiangxi, China	SYS a004486	MT162629	MT162654
Brachytarsophrys orientalis	Longnan, Jiangxi, China	SYS a005451	MT162632	MT162655
Brachytarsophrys orientalis	Shanghang, Fujian, China	SYS a003249	MT162623	MT162648
Brachytarsophrys orientalis	Nanjing, Fujian, China	SYS a003340	MT162624	MT162649
Brachytarsophrys platyparietus	Dayao, Yunnan, China	SYS a005919	MT162633	MT162656
Brachytarsophrys platyparietus	Longlin, Guangxi, China	SYS a002236	MT162622	MT162647
Brachytarsophrys platyparietus	Tongren, Guizhou, China	YPX43968	MT162644	MT162667
Brachytarsophrys platyparietus	Xinping, Yunnan, China	SYS a007774	MT162634	MT162657
Brachytarsophrys platyparietus	Xinping, Yunnan, China	SYS a007775	MT162635	MT162658
Brachytarsophrys platyparietus	Xinping, Yunnan, China	SYS a007776	MT162636	MT162659
Brachytarsophrys platyparietus	Xinping, Yunnan, China	SYS a007777	MT162637	MT162660
Brachytarsophrys platyparietus	Shiping, Yunnan, China	SYS a007790	MT162638	MT162661
Brachytarsophrys platyparietus	Yanbian, Sichuan, China	SYS a007853	MT162639	MT162662
Brachytarsophrys popei	Yanling, Hunan, China	SYS a001864	MH406361	MH407191
Brachytarsophrys popei	Yanling, Hunan, China	SYS a001865	MT162620	MT162645
Brachytarsophrys popei	Yanling, Hunan, China	SYS a001866	MT162621	MT162646
Brachytarsophrys popei	Jinggangshan, Jiangxi, China	SYS a004209	MK524155	—
Brachytarsophrys qiannanensis	Libo, Guizhou, China	CIB LB20210806053	OK104052	OK127913
Brachytarsophrys qiannanensis	Libo, Guizhou, China	CIB LB20210806054	OK104053	OK127914
Brachytarsophrys qiannanensis	Libo, Guizhou, China	CIB LB20210806055	OK104054	OK127915
Brachytarsophrys qiannanensis	Libo, Guizhou, China	CIB LB20210806056	OK104055	OK127916
Brachytarsophrys wenshanensis	Xichou, Yunnan, China	SWU 0004072	PP155195	PP156671
Brachytarsophrys wenshanensis	Xichou, Yunnan, China	SWU 0002976	PP155198	PP156670
Brachytarsophrys wenshanensis	Xichou, Yunnan, China	Yuan25290	PP155197	PP156669
Brachytarsophrys wenshanensis	Xichou, Yunnan, China	Yuan25291	PP155196	PP156668

Таблица 1. Окончание

Table 1. End

1	2	3	4	5
Brachytarsophrys wui	Shiqian, Guizhou, China	GIB1972725	PX568569	—
Brachytarsophrys wui	Shiqian, Guizhou, China	GIB1972746	PX568570	—
Brachytarsophrys wui	Shiqian, Guizhou, China	GIB20408	PX568568	—
Brachytarsophrys cf. *popei*	Guangdong, China	YTP34994	PV819270	PV820726
Brachytarsophrys cf. *popei*	Guangdong, China	YTP34995	PV819271	PV820727
Brachytarsophrys cf. *popei*	Guangdong, China	YTP34996	PV819272	PV820728
Atympanophrys shapingensis	Hongya, Sichuan, China	SYS a005310	MH406352	MH407182

every 100 trees. Maximum likelihood analysis was performed in IQ-TREE 1.6.12 (Nguyen et al. 2015) using the TPM2u+F+I+G4 model with 1,000 ultrafast bootstrap replicates. Uncorrected pairwise distances were calculated in MEGA 11 (Tamura et al. 2021) for COI and cytb, respectively.

Results

Bayesian inference and maximum likelihood analysis resulted in identical topologies (Fig. 1). The specimen from Jinxiu County formed a distinct taxon, but its phylogenetic position was not resolved due to the low support rates for related nodes. The genetic distances between the specimen from Jinxiu County and other species of this genus ranged from 4.2 % (vs. *B.* cf. *popei*) to 15.7 % (vs. *B. intermedia*) in COI (Table 2), and the genetic distances between the specimen from Jinxiu County and other species of this genus ranged from 3.3 % (vs. *B. popei*) to 15.2 % (vs. *B. carinense* and *B. intermedia*) in cytb (Table 3).

Brachytarsophrys jinxiuensis sp. nov.

https://www.zoobank.org/NomenclaturalActs/99EF9365-74AC-46B1-939E-73404DF5D04C

(Figs 2–3, Table 4)

Type material. Holotype: KIZ2019035, adult male, collected by Shuo Liu on 5 September 2019 from Jinxiu Town, Jinxiu County, Laibin City, Guangxi Zhuang Autonomous Region, China (24°6′52″ N, 110°11′28″ E; 1000 m a. s. l.).

Etymology. The specific name *jinxiuensis* refers to the type locality Jinxiu County. We suggest the English common name to be 'Jinxiu Short-legged Toad' and the Chinese common name to be '金秀短腿蟾'.

Diagnosis. The new species can be distinguished from its congeners by the combination of the following morphological characters: body size relatively small, SVL 81.5 mm in a single adult male; dorsal skin smooth with a few large tubercles on dorsum and crotch; head moderately large, HL/SVL 0.37, HW/HL 1.32 in a single adult male; snout relatively long, SL/HL 0.33, SL/SVL 0.12 in a single adult male; eye relatively small, ED/HL 0.20, ED/SVL 0.07 in a single adult male; foot relatively short, FL/SVL 0.42 in a single adult male; pectoral glands distinct, orange; femoral glands indistinct, white; upper iris blood red, lower iris reddish brown; ventral surface of body light brown with many indistinct gray patches; and nuptial pad indistinct, on dorsal surface of first finger in adult male.

Description of holotype. Adult male, body stout, SVL 81.5 mm; head quite large, flat, HL/SVL 0.37, HW/SVL 0.49, extremely wide, HW/HL 1.32; snout short, tip blunt, rounded in dorsal and ventral views, SL/HL 0.33, SL/SVL 0.12, longer than eye diameter, SL/ED 1.66; canthus rostralis distinct; loreal region sloping, slightly concave; nostrils oval, oblique, slightly closer to eye than to snout tip; internasal distance smaller than interorbital distance, IND/IOD 0.83; interorbital region flat, interorbital distance significantly larger than width of

 https://www.doi.org/10.33910/2686-9519-2026-18-2-586-598

Table 2

Uncorrected pairwise genetic distances (%) based on COI sequences

Таблица 2

Нескорректированные попарные генетические расстояния (%) на основе последовательностей COI

		1	2	3	4	5	6	7	8	9	10	11	12
1	*Brachytarsophrys jinxiuensis* sp. nov.												
2	*Brachytarsophrys carinense*	15.3											
3	*Brachytarsophrys chuannanensis*	9.2	14.7										
4	*Brachytarsophrys feae*	9.3	15.4	6.3									
5	*Brachytarsophrys guilinensis*	4.7	15.8	9.1	9.6								
6	*Brachytarsophrys intermedia*	15.7	12.1	16.3	15.2	15.8							
7	*Brachytarsophrys orientalis*	5.2	15.8	8.5	9.4	3.7	15.7						
8	*Brachytarsophrys platyparietus*	9.3	14.6	5.8	6.9	8.4	15.9	8.4					
9	*Brachytarsophrys popei*	4.7	15.7	8.7	10.4	3.6	15.6	4.2	7.6				
10	*Brachytarsophrys qiannanensis*	6.0	15.9	7.7	9.1	4.9	16.6	4.6	7.2	5.3			
11	*Brachytarsophrys wenshanensis*	11.6	15.8	8.3	8.8	9.9	16.1	10.9	6.8	10.5	9.8		
12	*Brachytarsophrys wui*	4.5	16.0	9.1	9.5	2.7	16.2	3.5	8.2	4.3	4.9	10.2	
13	*Brachytarsophrys* cf. *popei*	4.2	15.8	9.1	10.1	3.8	15.4	3.5	8.4	3.4	4.9	10.2	2.6

upper eyelid; occipital region slightly uplifted on each side, forming two feeble bulges and a longitudinal concave groove along the middle line on occiput; a distinct transverse groove behind head; eye small, ED/HL 0.20, ED/SVL 0.07; pupil vertical; tympanum invisible; supratympanic fold distinct, narrow and straight; pineal ocellus absent; vomerine teeth distinct, in two series, separated by distance larger than length of each series; choanae large, rounded; tongue rounded, slightly notched posteriorly; a single subgular vocal sac, vocal sac opening relatively small, oval, at bottom of each corner of mouth.

Forelimbs moderately long and robust; fingers thick, tip of each finger round, feebly di-

Table 3

Uncorrected pairwise genetic distances (%) based on cytb sequences

Таблица 3

Нескорректированные попарные генетические расстояния (%) на основе последовательностей cytb

		1	2	3	4	5	6	7	8	9	10	11
1	*Brachytarsophrys jinxiuensis* sp. nov.											
2	*Brachytarsophrys carinense*	15.2										
3	*Brachytarsophrys chuannanensis*	9.7	16.0									
4	*Brachytarsophrys feae*	9.4	16.4	8.6								
5	*Brachytarsophrys guilinensis*	3.7	15.5	9.1	9.0							
6	*Brachytarsophrys intermedia*	15.2	12.4	16.2	15.4	15.2						
7	*Brachytarsophrys orientalis*	3.8	14.9	9.8	9.6	4.4	15.7					
8	*Brachytarsophrys platyparietus*	8.6	16.3	9.3	8.1	8.4	15.7	9.1				
9	*Brachytarsophrys popei*	3.3	14.4	8.9	9.5	3.7	15.9	4.0	8.6			
10	*Brachytarsophrys qiannanensis*	7.0	14.7	9.2	9.8	7.1	16.1	6.2	8.8	7.0		
11	*Brachytarsophrys wenshanensis*	9.4	17.1	10.7	8.8	9.4	16.6	9.6	6.2	9.0	10.0	
12	*Brachytarsophrys* cf. *popei*	3.7	15.0	9.9	9.7	4.1	15.3	4.2	8.9	3.2	6.6	9.8

Table 4
Morphometric measurements (mm) of the type specimen of *Brachytarsophrys jinxiuensis* sp. nov.

Таблица 4
Морфометрические измерения (мм) типового экземпляра *Brachytarsophrys jinxiuensis* sp. nov.

	SVL	HL	HW	SL	IND	IOD	ED	HAL	FOL	TL	FL
KIZ2019035	81.5	30.2	39.8	10.1	8.6	10.4	6.1	19.7	17.5	33.4	34.0

lated; relative finger lengths III > IV > II > I; feeble lateral fringes present on fingers III and IV; webbing between fingers absent; subarticular and supernumerary tubercles absent; inner palmar tubercle distinct, outer palmar tubercle quite indistinct; nuptial pad indistinct, on dorsal surface of first finger.

Hindlimbs short and robust; heels do not meet when hindlimbs flexed at right angles to axis of body; tibiotarsal articulation reaching angle of mouth when hindlimb stretched forward alongside body; toes short and thick, tip of each toe rounded, feebly dilated; relative toe lengths IV > III > V > II > I; lateral fringes developed, present on all toes; webbing formula: I1–2II1⅓–2½III2–3½IV3⅔–1¾V; subarticular and supernumerary tubercles absent; inner metatarsal tubercle large, oval; outer metatarsal tubercle absent; tarsal fold absent.

Skin texture in life. Dorsal skin smooth, slightly shagreened, some large tubercles on dorsum and crotch; several small warts along edge of upper eyelid, a larger conical horn-like tubercle on upper eyelid on each side; ventral skin smooth; pectoral glands distinct, near axilla on each side; femoral glands indistinct, on rear of thigh on each side.

Coloration of holotype in life. Dorsal surface of head and body yellowish brown, a dark brown transverse stripe between eyes, some small black spots on dorsum; dorsal surface of limbs brown with indistinct dark bands; upper iris blood red, lower iris reddish brown; upper lip light yellow; tympanic region brown; flank grayish brown, some large yellow spots on crotch and lower flank and base of thigh; ventral surface of head light brown with some black patches; ventral surface of body light brown with many indistinct gray patches; ventral surface of limbs purplish brown with some indistinct gray patches; pectoral glands orange, femoral glands white.

Comparisons. *Brachytarsophrys jinxiuensis* sp. nov. can be easily distinguished from *B. carinense*, *B. chuannanensis*, *B. feae*, *B. intermedius*, and *B. platyparietus* by having a smaller body size in adult males (SVL 81.5 mm vs. > 90 mm); from *B. qiannanensis* by having a relatively narrower head in males (HW/HL 1.32 vs. 1.57–1.76); and from *B. wenshanensis* by having a relatively wider head in males (HW/HL 1.32 vs. 1.18–1.25).

Brachytarsophrys jinxiuensis sp. nov. can be distinguished from *B. guilinensis* by having relatively smoother dorsal skin (dorsal skin smooth, slightly shagreened, with a few large tubercles vs. dorsal skin rough, with many some small granules and some large tubercles), male with nuptial pad on first finger (vs. on first and second fingers), having orange pectoral glands (vs. light yellow), a relatively longer and narrower head in males (HL/SVL 0.37 vs. 0.30–0.34, HW/HL 1.32 vs. 1.45–1.55), a relatively smaller interorbital distance in males (IND/IOD 0.83 vs. 0.66–0.76), and relatively smaller eyes in males (ED/HL 0.20 vs. 0.31–0.33).

Brachytarsophrys jinxiuensis sp. nov. can be distinguished from *B. orientalis* by male with nuptial pad on first finger (vs. on first and second fingers), having orange pectoral glands (vs. yellowish), large yellow spots on crotch and lower flank and base of thigh (vs. small cream yellow spots on sides of body), blood red upper iris (vs. brownish), a relatively shorter and wider head in males (HL/SVL 0.37 vs. 0.41–0.43, HW/HL 1.32 vs. 1.17–1.26), a relatively longer snout in males (SL/HL 0.33 vs. 0.27–0.31), relatively smaller eyes in males (ED/HL 0.20 vs. 0.26–0.32, ED/SVL 0.07 vs. 0.11–0.14), and relatively shorter feet in males (FL/SVL 0.42 vs. 0.58–0.65).

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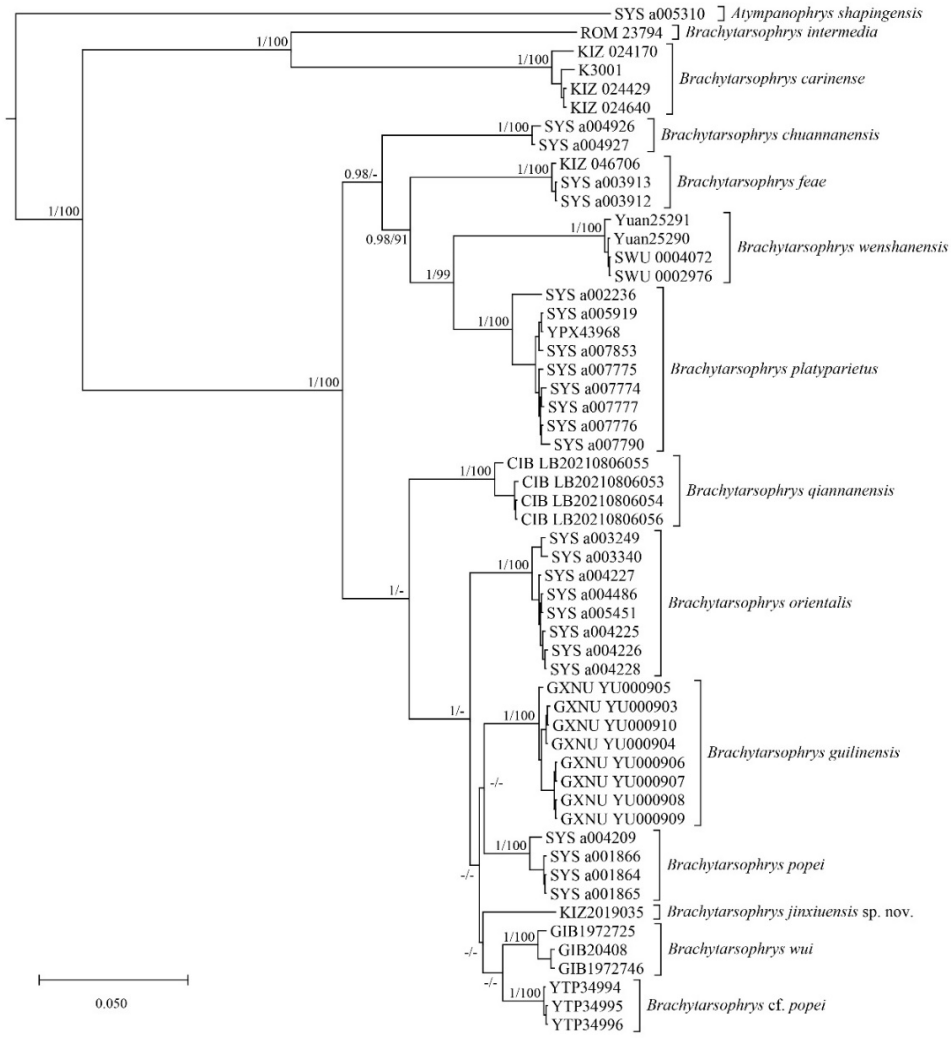

Fig. 1. Bayesian tree of the genus *Brachytarsophrys* inferred from the concatenated mitochondrial COI and cytb dataset. Bayesian posterior probability values/ML bootstrap values are denoted beside each node, "-" represents values below 0.9/90

Рис. 1. Филогенетическое дерево рода *Brachytarsophrys*, построенное на основе объединенных данных митохондриальных генов COI и cytb. Значения апостериорной вероятности Байеса/значения бутстрапа максимального правдоподобия обозначены рядом с каждым узлом, «-» обозначает значения ниже 0,9/90

Brachytarsophrys jinxiuensis sp. nov. can be distinguished from *B. popei* by male with nuptial pad on first finger (vs. on first and second fingers), having orange pectoral glands (vs. yellowish), a light brown ventral surface of body with indistinct gray patches (vs. brown-black with small white spots), blood red upper iris (vs. brownish), a relatively shorter and wider head in males (HL/SVL 0.37 vs. 0.40–0.43, HW/HL 1.32 vs. 1.18–1.26), a relatively smaller interorbital distance in males (IND/IOD 0.83 vs. 0.60–0.71, IOD/HW 0.26 vs. 0.29–0.35), relatively smaller eyes in males (ED/HL 0.20 vs. 0.25–0.33, ED/SVL 0.07 vs. 0.11–0.14), and relatively shorter feet in males (FL/SVL 0.42 vs. 0.57–0.63).

Brachytarsophrys jinxiuensis sp. nov. can be distinguished from *B. wui* by male with nuptial pad on first finger (vs. on first and second fingers), having orange pectoral glands (vs. yellowish), blood red upper iris and reddish brown lower iris (vs. wholly brownish red), a light brown ventral surface of body with indistinct gray patches (vs. gray with off-white spots), a smaller body size in males (SVL 81.5 mm vs. 88.1–93.2 mm), a relatively narrower head in males (HW/HL 1.32 vs. 1.39–1.57), a relatively longer snout

Table 5

Morphological comparisons between males of *Brachytarsophrys jinxiuensis* sp. nov., *B. guilinensis*, *B. orientalis*, *B. popei*, and *B. wui*. Data for *B. guilinensis*, *B. orientalis*, *B. popei*, and *B. wui* were obtained from Zhao et al. (Zhao et al. 2014), Li et al. (Li et al. 2020), Wu et al. (Wu et al. 2025), and Lyu et al. (Lyu et al. 2026)

Таблица 5

Морфологические сравнения самцов *Brachytarsophrys jinxiuensis* sp. nov., *B. guilinensis*, *B. orientalis*, *B. popei* и *B. wui*. Данные для *B. guilinensis*, *B. orientalis*, *B. popei* и *B. wui* были получены из работ Zhao et al. (Zhao et al. 2014), Li et al. (Li et al. 2020), Wu et al. (Wu et al. 2025) и Lyu et al. (Lyu et al. 2026)

	Brachytarsophrys jinxiuensis sp. nov. n = 1	*Brachytarsophrys guilinensis* n = 8	*Brachytarsophrys orientalis* n = 7	*Brachytarsophrys popei* n = 13	*Brachytarsophrys wui* n = 5
SVL (mm)	81.5	70.0–81.9	76.8–82.7	70.7–83.5	88.1–93.2
HL/SVL	0.37	0.30–0.34	0.41–0.43	0.40–0.43	0.32–0.36
HW/SVL	0.49	0.45–0.51	0.49–0.53	0.47–0.53	0.49–0.52
HW/HL	1.32	1.45–1.55	1.17–1.26	1.18–1.26	1.39–1.57
SL/HL	0.33	0.33–0.39	0.27–0.31	0.28–0.31	0.16–0.20
SL/SVL	0.12	0.11–0.12	0.12–0.13	0.12–0.13	0.06–0.07
IND/IOD	0.83	0.66–0.76	0.60–0.92	0.60–0.71	0.70–0.87
IND/HW	0.22	0.20–0.23	0.19–0.23	0.18–0.21	0.18–0.19
IOD/HW	0.26	0.28–0.33	0.22–0.32	0.29–0.35	0.21–0.25
ED/HL	0.20	0.31–0.33	0.26–0.32	0.25–0.33	0.24–0.33
ED/SVL	0.07	0.09–0.11	0.11–0.14	0.11–0.14	0.08–0.11
HAL/SVL	0.24	0.25–0.27	0.25–0.28	0.24–0.28	/
FOL/SVL	0.21	0.19–0.21	0.19–0.24	0.20–0.24	/
TL/SVL	0.41	0.38–0.42	0.39–0.42	0.38–0.43	0.42–0.44
FL/SVL	0.42	0.41–0.44	0.58–0.65	0.57–0.63	0.41–0.46
Tongue	Feebly notched behind	Feebly notched behind	Feebly notched behind	Deeply notched behind	Shallow notched behind
Dermal ridge or glandular fold on dorsum	Absent	Absent	Absent	Absent	Absent
Small, conical, horn like tubercles	Absent	Absent	Absent	Absent	Absent
Webbing formula	I1–2II1⅓–2⅔III2–3½IV3⅜–1¾V	I1–2II1–2III1½–3-IV3- –1½V	I1½–2II1½–3III2½–4IV4–2V	I1½–2II1½–3III2½–3⅜IV3⅜–2V	I1½–2II1½–3III2½–4IV4–2V
Lateral fringes on toes of male	Narrow	Wide	One third as broad as distal toe phalanx	One fourth as broad as distal toe phalanx	One third as broad as distal toe phalanx
Position of tibiotarsal articulation reaching	Angle of mouth	Angle of mouth	Commissure of jaw	Commissure of jaw	Commissure of jaw

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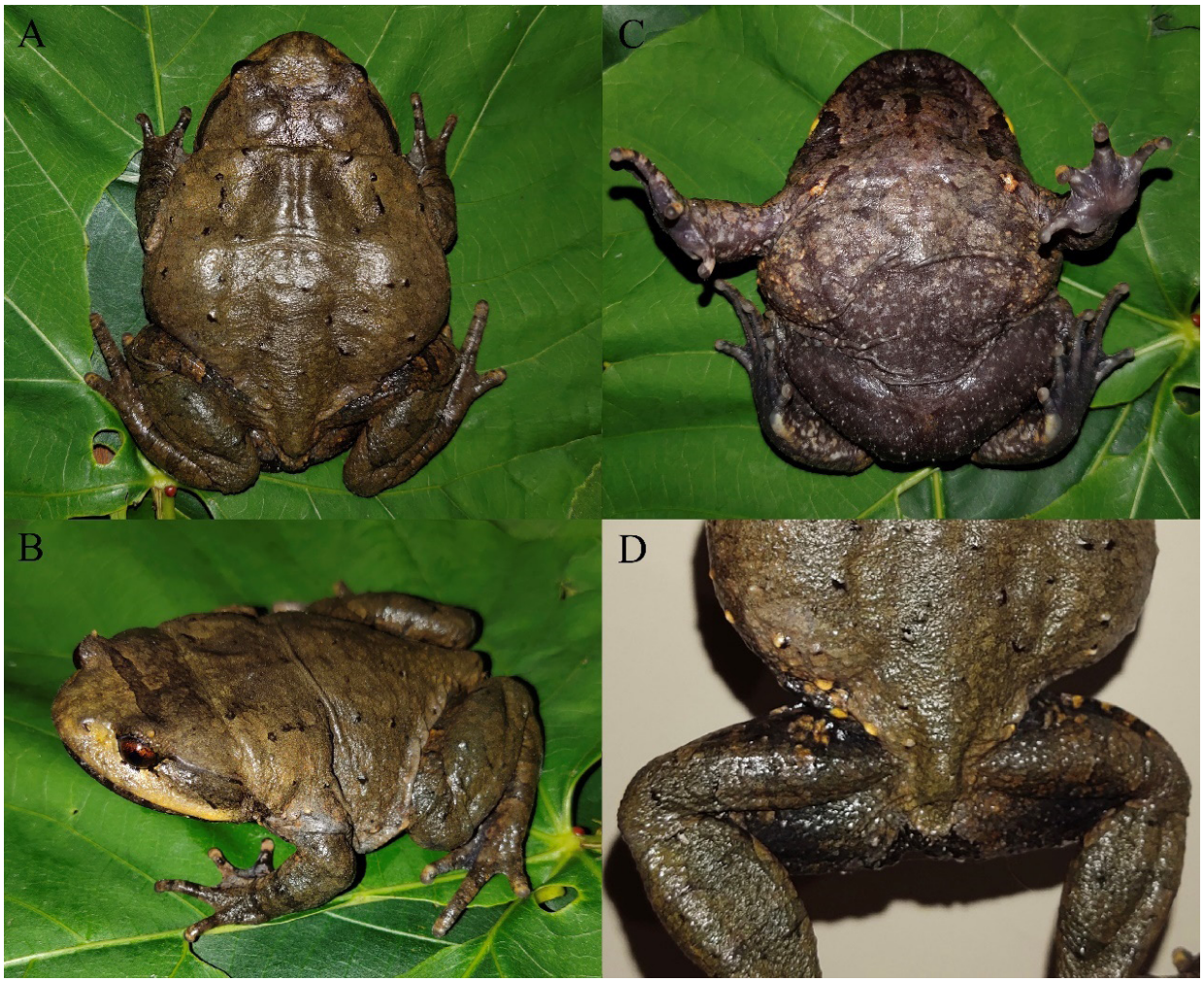

Fig. 2. Holotype (KIZ2019035) of *Brachytarsophrys jinxiuensis* sp. nov. in life. (A) Dorsal view; (B) left view; (C) ventral view; (D) closeup view of the crotch region

Рис. 2. Голотип (KIZ2019035) *Brachytarsophrys jinxiuensis* sp. nov. в живом состоянии. (A) Вид сверху; (B) вид слева; (C) вид снизу; (D) крупный план области промежности

in males (SL/HL 0.33 vs. 0.16–0.20, SL/SVL 0.12 vs. 0.06–0.07), and relatively smaller eyes in males (ED/HL 0.20 vs. 0.24–0.33) (Table 5).

Natural history. The specimen of the new species was found under a large rock in a stream. No calls were heard and no eggs and tadpoles were found. Other amphibians found at the site include *Gracixalus jinxiuensis* (Hu, 1978), *Nidirana yaoica* Lyu, Mo, Wan, Li, Pang & Wang, 2019, *Quasipaa shini* (Ahl, 1930), *Zhangixalus minimus (Rao, Wilkinson & Liu, 2006)*, and *Theloderma rhododiscus* (Liu & Hu, 1962).

Distribution. This species is currently known only from the type locality in Jinxiu County, Laibin City, Guangxi Zhuang Autonomous Region, China (Fig. 4).

Discussion

Wu et al. (Wu et al. 2025) revealed that the *Brachytarsophrys popei* sensu lato was composed of two highly divergent lineages. However, due to no distinct morphometric difference between the two lineages found, Wu et al. (Wu et al. 2025) did not split the *B. popei* sensu lato. In this study, the two lineages of the *B. popei* sensu lato did not form a monophyly, but one formed a clade sister to *B. guilinensis*, representing the *B. popei* sensu stricto as it includes the type specimens of *B. popei*, while another formed a clade sister to *B. wui*, which we speculate represents an undescribed species. Although the genetic distances between these two lineages were relatively large (3.4 % in COI and 3.2 % in cytb), considering the

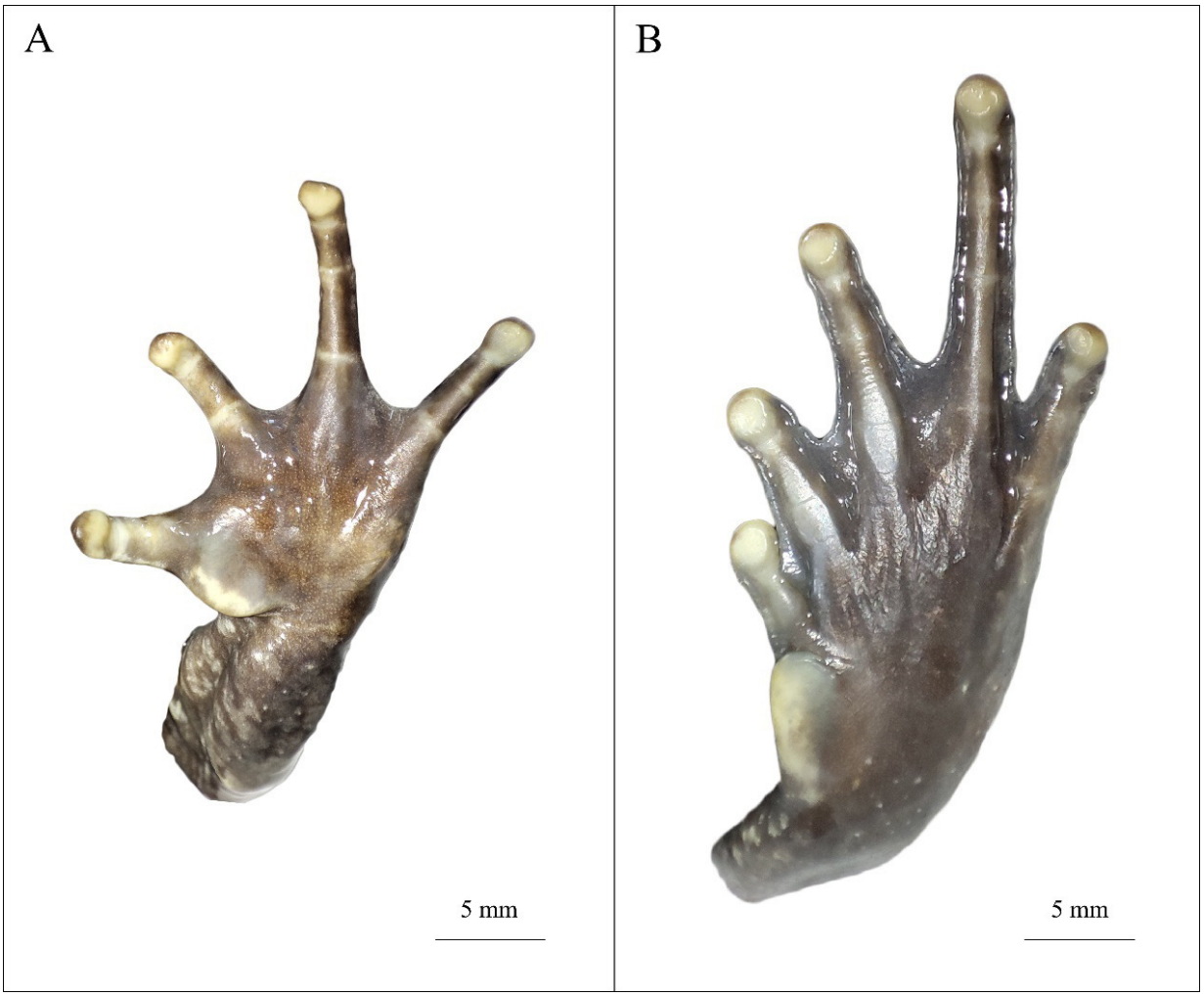

Fig. 3. Close-up views of the hand and foot of the holotype (KIZ2019035) of *Brachytarsophrys jinxiuensis* sp. nov. in preservative. (A) volar view of the left hand; (B) plantar view of the left foot

Рис. 3. Крупные планы кисти и стопы голотипа (KIZ2019035) *Brachytarsophrys jinxiuensis* sp. nov. в консерванте. (A) вид с внутренней стороны левой кисти; (B) вид с подошвенной стороны левой стопы

very low nodal supports, we tentatively refer to the second clade as *B.* cf. *popei*. In view of the conservative morphology, more research methods, such as bone scanning through micro-CT, may reveal whether there is stable morphological difference between this clade and the true *B. popei* and whether it represents a new species.

Most species of the genus *Brachytarsophrys* inhabit relatively low altitude areas (below 1,000 m a. s. l.), such as *B. carinense*, *B. chuannanensis*, *B. guilinensis*, *B. orientalis*, and *B. wui*; while some species inhabit mid altitude areas (1,000–1,500 m a. s. l.), such as *B. popei*, *B. qiannanensis*, *B. wenshanensis*, and *Brachytarsophrys jinxiuensis* sp. nov.; and a few species inhabit relatively high altitude areas (above 1,500 m a. s. l.), such as *B. feae*, *B. intermedius*, and *B. platyparietus* (AmphibiaChina 2026; Frost 2026). Compared to its four closely related species, *Brachytarsophrys jinxiuensis* sp. nov. is distributed at an altitude similar to that of *B. popei*, but higher than the other three species. However, due to the limited sample size, the altitude span of the distribution of *Brachytarsophrys jinxiuensis* sp. nov. is still unknown. Although the species of *Brachytarsophrys* are distributed at different altitudes, their living environments are similar, with a preference for rivers or streams with many large rocks. Unsurprisingly, *Brachytarsophrys jinxiuensis* sp. nov. was also discovered in a stream full of large rocks.

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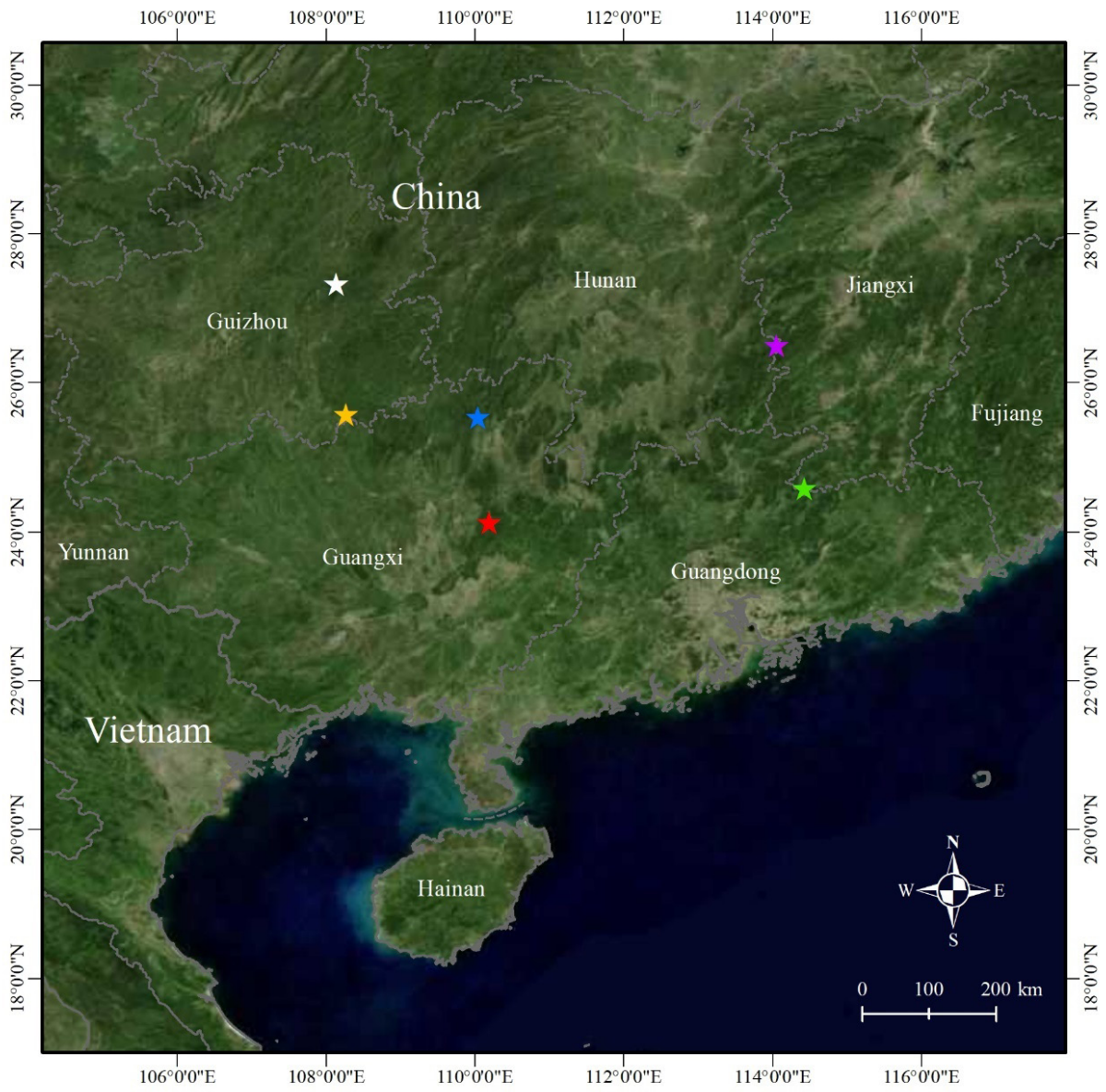

Fig. 4. Map showing the type localities of the new species and its closely related congeners. Red star: *Brachytarsophrys jinxiuensis* sp. nov., blue star: *B. guilinensis*, green star: *B. orientalis*, purple star: *B. popei*, yellow star: *B. qiannanensis*, and white star: *B. wui*

Рис. 4. Карта, показывающая типовые местонахождения нового вида и близкородственных видов. Красная звезда: *Brachytarsophrys jinxiuensis* sp. nov.; синяя звезда: *B. guilinensis*; зеленая звезда: *B. orientalis*; фиолетовая звезда: *B. popei*; желтая звезда: *B. qiannanensis*; белая звезда: *B. wui*

Therefore, rivers or streams with many large rocks seem to be necessary habitats for the survival of species of the genus *Brachytarsophrys*.

Perhaps it was due to the low population density of this species, or because of their secretive habit, or because it was the non-breeding season of the species, only one specimen of the new species was collected. Field survey should be strengthened in the future to clarify the population density and distribution range of this species, and to evaluate its conservation status.

Acknowledgements

We thank Decai Ouyang and Zhongqiang Yang for their assistance in the field survey. We also thank the editors and anonymous reviewers for their valuable comments on the manuscript.

Funding

This work was supported by Science-Technology Basic Condition Platform from the Ministry of Science and Technology of the People's Republic of China (grant no. 2005DKA21402) and Biological Resources Programme, Chinese Academy of Sciences, the Position of Bioclassonomist of Chinese Academy of Sciences (grant no. CAS-TAX-24).

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For citation: Liu, S., Hou, M., Rao, D. (2026) A new species of the genus *Brachytarsophrys* Tian & Hu, 1983 (Anura: Megophryidae) from Guangxi, China. *Amurian Zoological Journal*, vol. XVIII, no. 2, pp. 586–598. https://www.doi.org/10.33910/2686-9519-2026-18-2-586-598

Received 12 February 2026; reviewed 31 March 2026; accepted 3 April 2026.

Для цитирования: Лю, Ш., Хоу, М., Рао, Д. (2026) Новый вид рода *Brachytarsophrys* Tian & Hu, 1983 (Anura: Megophryidae) из Гуанси, Китай. *Амурский зоологический журнал*, т. XVIII, № 2, с. 586–598. https://www.doi.org/10.33910/2686-9519-2026-18-2-586-598

Получена 12 февраля 2026; прошла рецензирование 31 марта 2026; принята 3 апреля 2026.