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Supplementary Materials

Hiding on jagged karst pinnacles: A new microendemic genus and species of a limestone-dwelling agamid lizard (Squamata: Agamidae: Draconinae) from Khammouan Province, Laos

Saly Sitthivong[1], Peter Brakels[2], Santi Xayyasith[3], Nathanaël Maury[4], Sabira Idiiatullina[5], Parinya Pawangkhanant[6], Kai Wang[7,8,*], Tan Van Nguyen[9,10,*], Nikolay A. Poyarkov[5,11,*]

[1]*Faculty of Forestry, National University of Laos, Vientiane 01170, Lao PDR*

[2]*IUCN Laos PDR, Vientiane 01160, Lao PDR*

[3]*Faculty of Environmental Sciences, National University of Laos, Vientiane 01170, Lao PDR*

[4]*Chelonian Conservation Center Laos, World Encyclopedia of Herpetofauna, Vientiane 01000, Lao PDR*

[5]*Department of Vertebrate Zoology, Biological Faculty, Lomonosov Moscow State University, Moscow 119234, Russia*

[6]*Rabbit in the Moon Foundation (RIM), Suanphueng, Ratchaburi 70180, Thailand*

[7]*State Key Laboratory of Genetic Resources and Evolution, Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming, Yunnan 650223, China*

[8]*Southeast Asia Biodiversity Research Institute, Chinese Academy of Sciences, Yezin , Nay Pyi Taw 05282, Myanmar*

[9]*Institute for Research and Training in Medicine, Biology and Pharmacy, Duy Tan University, Da Nang 550000, Vietnam*

[10]*College of Medicine & Pharmacy, Duy Tan University, Da Nang 550000, Vietnam*

[11]*Joint Russian-Vietnamese Tropical Research and Technological Center, Nghia Do, Cau Giay, Hanoi 122000, Vietnam*

[*]**Corresponding authors**, Email: Nikolay A. Poyarkov (n.poyarkov@gmail.com), Tan Van Nguyen (tan.sifasv@gmail.com), and Kai Wang (wangkai@mail.kiz.ac.cn)

SUPPLEMENTARY TABLES

Supplementary Table S1. Specimens of representative species of different Draconinae genera examined in current study.

Museum abbreviations include the following: CAS=California Academy of Sciences, USA; OMNH=Sam Noble Oklahoma Museum of Natural History, USA; KIZ=Kunming Institute of Zoology, Chinese Academy of Sciences, China; FMNH=Field Museum of Natural History, USA.

Bronchocela marmorata (*n*=3): OMNH 044939, 044838, Sitio, Philippines.
Calotes bachae (*n*=1): OMNH 045345, pet-trade.
Calotes emma (*n*=2): KIZ 014132, Yunnan, China; KIZ 024006, Thailand.
Cristidorsa otai (*n*=3): CAS 240141, 234842, 240147, Chin State, Myanmar.
Diploderma batangense (*n*=3): KIZ 019276, Sichuan, China; 019314, Tibet, China; KIZ 032736, Yunnan, PR China.
Diploderma chapaense (*n*=1): KIZ 034922, Yunnan, PR China.
Diploderma dymondi (*n*=3): KIZ 040640, 040647, 040648, Yunnan, PR China.
Diploderma flaviceps (*n*=3): CIB 72138, KIZ 820050, 820052, Sichuan, PR China.
Diploderma iadinum (*n*=3): KIZ 027702–04, Yunnan, PR China.
Diploderma makii (*n*=1): MCZ R-181443, Taiwan.
Diploderma micangshanense (*n*=3): KIZ 040306–08, Gansu, PR China.
Diploderma polygonatum (*n*=3): CAS 21215, 21243, MCZ 55864, Okinawa, Japan.
Diploderma slowinskii (*n*=3): KIZ 027577, 027596, 027579, Yunnan, PR China.
Diploderma splendidum (*n*=3): CIB 86480, 86481, 86483, Sichuan, PR China.
Diploderma swinhonis (*n*=2): CAS 18098, 18099, Taiwan.
Diploderma varcoae (*n*=3): KIZ 015691, 85I006, 85I009, Yunnan, PR China.
Diploderma yulongense (*n*=2): KIZ 028296, 028298, Yunnan, PR China.
Diploderma yunnanense (*n*=2): KIZ 74II0240, KIZ 79I469, Yunnan, PR China.
Gonocephalus sp. (*n*=3): OMNH 044853, 045956–58, Nagsipit, Philippines.
Japalura andersoniana (*n*=2): KIZ 011147, 011156, Tibet, China.
Japalura kumaonensis (*n*=3): KU 180691, 180693, 180694, Uttar Pradesh, India.
Japalura major (*n*=3): FMNH 256413, 256414, Northwest Frontier Province, Pakistan.
Japalura tricarinata (*n*=3): CAS 177391, 177403, 177405, Tibet, China.
Japalura variegate (*n*=1): FMNH 190842, Dhankuta, Nepal.
Laodracon carsticola (*n*=2): NUOL R.2022.01–02, Khammouan, Laos.
Pseudocalotes kakhienensis (*n*=3): KIZ 027558, 027576, 027585, Yunnan, China.
Pseudocalotes kingdonwardi bapoensis (*n*=3): CAS 214965, 242628, 242629, Yunnan, China.
Pseudocalotes microlepis (*n*=3): KIZ 00214, Hainan, China; 010916, Yunnan, China; KIZ 040631, Guangdong, China.
Ptyctolaemus gularis (*n*=3): KIZ 06654, 016452, 016453, Tibet, PR China.
Salea anamallayana (*n*=1): CAS 104247, Karnataka, India.

Supplementary Table S2. Primers used for DNA amplification and sequencing.
"F" – forward primer, "R" – reverse primer.

Gene	Primer name	Direction	Primer sequence (5'—3')	Reference
ND2	ND2_L4437-f-a	F	AAGCTTTCGGGCCCATACC	Townsend et al. (2008)
ND2	ND2_H5692-r-a	R	TTGGGTGTTTAGCTGTTAA	Townsend et al. (2008)
16S	16S-L-1	F	CTGACCGTGCAAAGGTAGCGTAATCACT	Hedges (1994)
16S	16S-H-1	R	CTCCGGTCTGAACTCAGATCACGTAGG	Hedges (1994)
RAG1	RAG1_MartFL1	F	5′-AGCTGCAGYCARTAYCAYAARATGTA-3′	Chiari et al. (2004)
RAG1	RAG1_AmpR1	R	5′-AACTCAGCTGCATTKCCAATRTCA-3′	Chiari et al. (2004)
BDNF	BDNFAmphF1	F	ACCATCCTTTTCCTTACTATGG	Van der Meijden et al. (2007)
BDNF	BDNFAmphR1	R	CTATCTTCCCCTTTTAATGGTC	Van der Meijden et al. (2007)
c-mos	cmos_G73	F	GCGGTAAAGCAGGTGAAGAAA	Saint et al. (1998)
c-mos	cmos_G74	R	TGAGCATCCAAAGTCTCCAATC	Saint et al. (1998)

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Townsend TM, Alegre RE, Kelley ST, et al. 2008. Rapid development of multiple nuclear loci for phylogenetic analysis using genomic resources: an example from squamate reptiles. *Molecular Phylogenetics and Evolution*, **47**(1): 129–142.

Van Der Meijden A, Vences M, Hoegg S, et al. 2007. Nuclear gene phylogeny of narrow-mouthed toads (Family: Microhylidae) and a discussion of competing hypotheses concerning their biogeographical origins. *Molecular Phylogenetics and Evolution*, **44**(3): 1017–1030.

Supplementary Table S3. Museum voucher information, geographic localities, and GenBank accession numbers of specimens and sequences used in the molecular analyses of this study.

No.	Species	Museum ID	Locality	ND2	BDNF	16S	c-mos	RAG1	References
1	*Acanthosaura lepidogaster*	MVZ 224090	Tam Dao, Vinh Phuc, Vietnam	AF128499	JF806003	MH047784	MK001490	JF806187	Macey et al., 2000; Townsend et al., 2011; Su, 2018 (unpubl.); Wang et al., 2019b
2	*Aphaniotis fusca*	TNHC 57943	Selangor, Malaysia	AF128497	LC469923	AB023771	LC469922	LC469924	Macey et al., 2000; Kurita et al., 2019 (unpubl.); Honda et al., 1999
3	*Bronchocela cristatella*	TNHC 57874	Selangor, Malaysia	AF128495	LC549224	EU503024	LC549225	LC549226	Macey et al., 2000; Kurita et al., 2019 (unpubl.); Krishnan et al., 2008 (unpubl.)
4	*Calotes versicolor*	CIB 095646	Hainan, China	KC875609	DQ340705	AY496698	AF137525	JN979993	Huang et al., 2013; Hugall et al., 2008; Guha and Kashyap, 2006; Hutchinson et al., 1999 (unpubl..); Shen et al., 2012
5	*Ceratophora stoddartii*	WHT 1512	Sri Lanka	AF128492	—	—	—	—	Macey et al., 2000
6	*Cophotis ceylanica*	WHT 2061	Sri Lanka	AF128493	—	—	—	MG599025	Macey et al., 2000; Grismer et al., 2016
7	*Cristidorsa otai*	CAS 234833	Chin, Myanmar	MK001403	MK001520	ON901932	MK001484	—	Wang et al., 2019b; Malsawmdawngliana et al., 2022
8	*Diploderma batangense*	KIZ 019278	Zhubalong, Mangkang, Tibet, China	MT577932	MT577991	—	—	—	Wang et al., 2021
9	*Diploderma angustelinea*	KIZ 029705	Muli, Sichuan, China	MT577924	MT577998	—	MT659044	—	Wang et al., 2020
10	*Diploderma aorun*	KIZ 032733	Benzilan, Yunnan, China	MT577938	MT577964	—	MT659052	—	Wang et al., 2020
11	*Diploderma bowoense*	KIZ 044758	Muli, Sichuan, China	MW506019	—	—	—	—	Wang et al., 2021
12	*Diploderma brevicauda*	KIZ 044305	Lijiang, Yunnan, China	MW506021	—	—	—	—	Wang et al., 2021
13	*Diploderma brevipes*	NMNS 19607	Taiwan, China	MK001429	MK001541	KT763427	MK001507	—	Wang et al., 2019b; Yang and Lin, 2015 (unpubl.)
14	*Diploderma chapaense*	ROM 37961	Sa Pa, Lao Cai, Vietnam	MW133367	MK001526	—	MK001494	—	Che et al., 2020; Wang et al., 2019b
15	*Diploderma daochengense*	CIB 119352	Eyatong, Daocheng, Sichuan, China	OP595621	—	—	—	—	Cai et al., 2022
16	*Diploderma drukdaypo*	KIZ 027628	Zhuka, Changdu, Tibet, China	MT577952	MT578012	—	—	—	Wang et al., 2020
17	*Diploderma dymondi*	KIZ 040639	Dongchuan, Yunnan, China	MK001422	MK001546	—	MK001514	—	Wang et al., 2019b
18	*Diploderma fasciatum*	SYS r001847	Pengzhou, Sichuan, China	OM055805	—	—	—	—	Wang et al., 2022
19	*Diploderma flaviceps*	MVZ 216622	Sichuan, China	AF128500	MT577971	NC_039541	MT659063	—	Macey et al., 2000; Wang et al., 2021; Yu, 2018 (unpubl.)
20	*Diploderma flavilabris*	KIZ 032694	Baiyu, Sichuan, China	MT577917	MT578001	—	MT659038	—	Wang et al., 2020
21	*Diploderma formosgulae*	KIZ 044420	Deqin, Yunnan, China	MW506024	—	—	—	—	Wang et al., 2021
22	*Diploderma iadinum*	KIZ 027697	Yunling, Deqin, Yunnan, China	MT577956	MT577987	—	MT659034	—	Wang et al., 2020
23	*Diploderma kangdingense*	CIB 119356	Pusharong, Kangding, Sichuan, China	OP595626	—	—	—	—	Cai et al., 2022
24	*Diploderma laeviventris*	KIZ 027691	Basu, Mangkang, Tibet, China	MT577892	MT577965	—	MT659031	—	Wang et al., 2020

25	*Diploderma limingense*	KIZ 2022013	Liming, Yunnan, China	OP428781	—	—	—	—	Liu et al.. 2022
26	*Diploderma luei*	NMNS 19604	Taiwan, China	MK001433	MK001533	KT763429	MK001511	—	Wang et al., 2019b; Yang and Lin, 2015 (unpubl.)
27	*Diploderma makii*	NMNS 19609	Taiwan, China	MK001431	MK001537	KT763431	MK001509	—	Wang et al., 2019b; Yang and Lin, 2015 (unpubl.)
28	*Diploderma menghaiense*	KIZ L0030	Menghai, Yunnan, China	MT598655	—	—	—	—	Liu et al., 2020
29	*Diploderma micangshanense*	KIZ 023232	Menghai County, Xishuangbanna, Yunan, China	MW133371	MT577985	NC_056342	—	—	Che et al., 2020; Wang et al., 2020
30	*Diploderma panchi*	KIZ 032716	Yajiang, Sichuan, China	MT577944	MT577982	—	MT659055	—	Wang et al., 2020
31	*Diploderma panlong*	KIZ 040137	Miansha, Liangshan, Sichuan, China	MT577906	—	—	—	—	Wang et al., 2020
32	*Diploderma polygonatum*	NMNS 19598	Taiwan, China	MK001427	MK001539	KR363507	MK001516	LC549227	Wang et al., 2019b; Yang and Lin, 2015 (unpubl.); Kurita et al., 2019 (unpubl.)
33	*Diploderma qilin*	KIZ 028335	Balong, Deqin, Yunnan, China	MT577943	MT577997	—	—	—	Wang et al., 2020
34	*Diploderma shuoquense*	KIZ 2022004	Xiangcheng, Sichuan, China	OP428773	—	—	—	—	Liu et al., 2022
35	*Diploderma slowinskii*	KIZ 027543	Fugong, Gongshan, Yunnan, China	MT577910	MT577961	—	MT659030	—	Wang et al., 2020
36	*Diploderma splendidum*	CAS 194476	Yaan, Sichuan, China	AF128501	MK001522	KT763434	MK001492	MG599028	Macey et al., 2000; Wang et al., 2019b; Yang and Lin, 2015 (unpubl.); Grismer et al., 2016
37	*Diploderma swild*	KIZ 034914	Panzhihua, Sichuan, China	MN266299	—	—	—	—	Wang et al, 2019c
38	*Diploderma swinhonis*	NMNS 19592	Taiwan, China	MK001419	MK001535	KT763436	MK001496	—	Wang et al., 2019b; Yang and Lin, 2015 (unpubl.)
39	*Diploderma varcoae*	KIZ 020412	Yunnan, China	MW133368	MT577963	—	MT659068	—	Che et al., 2020; Wang et al., 2020
40	*Diploderma vela*	KIZ 027673	Tongsha, Markam, Tibet, China	MT577948	MT578010	MW788326	MT659058	—	Wang et al., 2020; Wu, 2021
41	*Diploderma xinlongense*	CIB 20210911	Junba Bridge, Xinlong, Sichuan, China	OP595617	—	—	—	—	Cai et al., 2022
42	*Diploderma yangi*	SWFU 005412	Zayu, Tibet, China	OL449604	—	—	—	—	Wang et al, 2022a
43	*Diploderma yongshengense*	KIZ 2022008	Yongsheng, Yunnan, China	OP428777	—	—	—	—	Liu et al., 2022
44	*Diploderma yulongense*	KIZ 028291	Hutiaoxia, Shangri-La, Yunnan, China	MT577921	MT578008	—	MT659043	—	Wang et al., 2020
45	*Diploderma yunnanense*	KIZ 040193	Yingjiang, Yunnan, China	MT577914	MK001527	—	MK001517	—	Wang et al., 2020; Wang et al., 2019b
46	*Diploderma zhaoermii*	KIZ 019564	Wenchuan, Sichuan, China	MK001425	MK001548	MW262971	MK001501	—	Wang et al., 2019b; Wu et al., 2020
47	*Draco indochiensis*	MVZ222156	Buon Luoi, Gia Lai, Vietnam	AF128477	JF806010	MT608765	MK754325	JF806194	Macey et al., 2000; Townsend et al., 2011; Mulcahy et al., 2020; Klabacka et al., 2020
48	*Gonocephalus grandis*	TNHC 56500	Selangor, Malaysia	AF128496	KX759729	AB031983	LC469925	LC469927	Macey et al., 2000; Welton et al., 2016; Honda et al., 2009; Kurita et al., 2019 (unpubl.)
49	*Harpesaurus borneensis*	tissue	Sarawak, Borneo, Malaysia	LC469915	LC469916	LC469914	LC469917	LC469918	Kurita et al., 2019 (unpubl.)
50	*Japalura andersoniana*	KIZ 06606	Xizang (Tibet), China	MW133375	MK001557	—	MK001487	—	Che et al., 2020; Wang et al., 2019b

51	*Laodracon carsticola* **Gen. et sp. nov.**	NUOL R.2022.01	Nam Sanam-Phou Pha Marn PPA., Khammuone, Laos	OR544068	OR544064	OR538398	OR544065	OR544066	*this work*
52	*Lyriocephalus scutatus*	WHT 1828	Kottawa, Sri Lanka	AF364052	—	—	—	MG599029	Schulte et al., 2002; Grismer et al., 2016
53	*Malayodracon robinsonii*	LSUHC 5873	West Malaysia	MK001399	MK001553	AB070381	—	—	Wang et al., 2019b; Honda et al., 2002
54	*Mantheyus phuwuanensis*	FMNH 255495	Phou Khao Khouay NBCA, Bolikhamxay, Laos	AY555836	—	AB023772	—	FJ356735	Schulte et al., 2004; Honda et al., 1999; Schulte and Cartwright, 2008
55	*Otocryptis wiegmanni*	WHT 2262	Yodaganawa,Sri Lanka	AF128480	—	MH844710	—	MG641363	Macey et al., 2000; Pal et al., 2018
56	*Pelturagonia nigrilabris*	KUHE 59083	Serian, Sarawak, Borneo, Malaysia	LC549218	LC469919	AB031988	LC469920	LC469921	Kurita et al., 2019 (unpubl.); Honda et al., 2000
57	*Psammophilus blanfordanus*	CESG 461	Parasnath, Jharkhand, India	MK795775	—	MH844752	—	MK795784	Giri et al., 2019; Pal et al., 2018
58	*Pseudocalotes brevipes*	MVZ 224106	Tam Dao, Vinh Phuc, Vietnam	AF128502	MT316105	OM387197	MK001503	MG599031	Macey et al., 2000; Shaney et al., 2020; Miller et al., 2022 (unpubl..); Grismer et al., 2016
59	*Ptyctolaemus gularis*	CAS 221515	Rabaw, Naung Mon, Putao, Kachin, Myanmar	AY555838	MK001558	—	MK001488	MG599030	Schulte et al., 2004; Wang et al., 2019b; Grismer et al., 2016
60	*Salea horsfieldii*	BNHS-AMB 5739	Tamil Nadu,Western Ghats, India	AF128490	—	MH844708	—	MG599032	Macey et al., 2000; Pal et al., 2018; Grismer et al., 2016
61	*Sarada darwini*	CES 13519	Kagal, Maharashtra, India	MG641421	—	MK789850	—	KT831294	Deepak and Karanth, 2018; Giri et al., 2019; Deepak et al., 2016
62	*Sitana ponticeriana*	WHT 2060	Hambantota, Sri Lanka	AF128481	—	MK789851	—	MG641331	Macey et al., 2000; Giri et al., 2019; Deepak and Karanth, 2018
	Outgroup:								
63	*Hypsilurus nigrigularis*	TNHC 52009	Kaironk, Madang, Papua-New Guinea	AY133016	—	—	—	HQ662413	Schulte et al., 2003; Melville et al., 2011
64	*Phrynocephalus mystaceus*	CAS 179754	Ashkabad (Ashkhabad), Turkmenistan	AF128518	DQ340735	MH047796	AF137527	JF806198	Macey et al., 2000; Hugall et al., 2008; Su, 2018 (unpubl.); Hutchinson et al., 1999 (unpubl..); Townsend et al., 2011

Supplementary Table S4. Characteristics of analyzed mtDNA and nuDNA sequences and the proposed optimal evolutionary models for gene and codon partitions as estimated in PartitionFinder v1.0.1.

Total length (in b.p.), number of conservative (Cons.), variable (Var.) and parsimony-informative (Pars.-Inf.) sites are given (data presented only for the ingroup). The optimal partitioning scheme and model fit was estimated as suggested by the Akaike information criterion (AIC).

Genetic marker		Sites (in b.p.)				Substitution Model	
		Cons.	Var.	Pars.-Inf.	Total	Codon partition	Model
1	ND2	518	1239	1035	1891	ND2 – 1	GTR+I+G
						ND2 – 2	GTR+I+G
						ND2 – 3	GTR+I+G
2	16S rRNA	722	478	289	1217	16S rRNA	GTR+I+G
3	BDNF	628	90	34	743	BDNF – 1	SYM+G
						BDNF – 2	GTR+G
						BDNF – 3	JC+I+G
4	c-mos	547	122	38	680	c-mos – 1	SYM+G
						c-mos – 2	K80+G
						c-mos – 3	HKY+G
5	RAG1	2175	631	228	2887	RAG1 – 1	SYM+G
						RAG1 – 2	GTR+I+G
						RAG1 – 3	GTR+G

Supplementary Table S5. Comparisons of the *Laodracon* **Gen. nov.** with other Draconinae genera occurring in the mainland Southeast Asia. Data from: Ananjeva & Stuart (2001); Ananjeva et al. (2011); Denzer et al. (2015); Mahony (2010); Wang et al. (2018).

Character	*Laodracon* **Gen. nov.**	*Acanthosaura*	*Aphaniotis*	*Bronchocela*	*Calotes*	*Cristidorsa*	*Diploderma*
Tympanum	exposed	exposed	concealed	exposed	exposed	exposed	mostly concealed
Tail length	short	short	very long	very long	relatively long	short	short
Nuchal crest scales	tall triangular	feeble or lanceolate or tall triangular	absent or feeble	tall triangular or lanceolate	lanceolate	feeble	low triangular
Dorsal crest scales	low triangular	lanceolate or low triangular	feeble	lanceolate	lanceolate	feeble	low triangular
Lateral head scales	keeled	keeled or smooth	smooth	smooth	keeled	keeled	keeled
Suborbital scale rows	multiple	multiple	multiple	multiple	multiple	multiple	multiple
Post-orbital spine	absent	present	absent	absent	present	absent	absent
Post-occipital spine	absent	present	absent	absent	absent	absent	absent
Gular pouch	well-developed	absent or present	absent	feeble	well-developed	feeble	feeble or well-developed
Dorsal scales shape	heterogeneous	heterogeneous, imbricate	homogenous, rhomboid	heterogeneous, not imbricate	homogenous, rhomboid	heterogeneous, not imbricate	heterogeneous, not imbricate
Tail base swollen	yes	no	no	no	no	no	no
Scales on dorsal surface of tail base	enlarged, keeled	subequal	subequal	subequal	subequal	subequal	subequal
Scales on ventral surface of tail base	enlarged, keeled	subequal	subequal	subequal	subequal	subequal	subequal
Enlarged dorsal body scales	irregular transverse row	chaotic	absent	absent	absent	variable	variable
Femoral pores	absent	absent	absent	absent	absent	absent	absent
Prolonged ribs	absent	absent	absent	absent	absent	absent	absent
Dorsal scales	very strongly keeled	keeled	smooth	keeled	smooth	keeled	keeled
Pouch-like skin extension on belly	absent	absent	absent	absent	absent	absent	absent
Femoral pores	absent	absent	absent	absent	absent	absent	absent

(Continued on the next page)

Supplementary Table S5 (continued). Comparisons of the *Laodracon* **Gen. nov.** with other Draconinae genera occurring in the mainland Southeast Asia.

Character	*Laodracon* **Gen. nov.**	*Draco*	*Gonocephalus*	*Japalura*	*Malayodracon*	*Mantheyus*	*Pseudocalotes*	*Ptyctolaemus*
Tympanum	exposed	concealed	exposed	exposed	exposed	exposed	exposed	concealed
Tail length	short	short	relatively long	short	relatively long	relatively long	relatively long	relatively long
Nuchal crest scales	tall triangular	feeble	lanceolate	low triangular	tall triangular	absent	tall triangular or lanceolate	absent
Dorsal crest scales	low triangular	absent	lanceolate	low triangular	tall triangular	absent	feeble and low	absent
Lateral head scales	keeled	smooth	keeled	smooth or keeled	keeled	smooth	smooth	smooth
Suborbital scale rows	multiple	multiple	multiple	multiple	singular	multiple	generally singular	multiple
Post-orbital spine	absent	absent	absent	absent	absent	absent	absent	absent
Post-occipital spine	absent	absent	absent	absent	absent	absent	absent	absent
Gular pouch	well-developed	present	well-developed	feeble or well-developed	well-developed	well-developed	well-developed	well-developed
Dorsal scales shape	heterogeneous	heterogeneous, imbricate	heterogeneous	heterogeneous, not imbricate	heterogeneous	heterogeneous, imbricate	homogenous, rhomboid	homogenous, rhomboid
Tail base swollen	yes	no	no	no	no	no	no	no
Scales on dorsal surface of tail base	enlarged, keeled	subequal	subequal	subequal	subequal	subequal	subequal	subequal
Scales on ventral surface of tail base	enlarged, keeled	subequal	subequal	subequal	subequal	subequal	subequal	subequal
Enlarged dorsal body scales	irregular transverse row	absent	variable	variable	variable	absent	absent	absent
Femoral pores	absent	absent	absent	absent	absent	present	absent	absent
Prolonged ribs	absent	present	absent	absent	absent	absent	absent	absent
Dorsal scales	very strongly keeled	smooth	keeled	keeled	keeled	smooth	smooth	smooth
Pouch-like skin extension on belly	absent	absent	absent	absent	absent	present	absent	absent
Femoral pores	absent	absent	absent	absent	absent	present	absent	absent

Supplementary Table S6. Basic morphological characters for the species of *Diplopderma* distributed in Indo-Burma Region (including Vietnam, Thailand, Myanmar and Yunnan Province of China) as compared to *Laodracon carsticola* ***sp. nov.*** Symbol characters are: (**1**) SVL in males; (**2**) TAL/SVL in males; (**3**) MD, (**4**) F4S; **(5**) T4S; (**6**) Tympanum: 0=concealed; 1=exposed; (**7**) Scales at base of caudal region enlarged: 0= No, 1=Yes; (**8**) Nuchal and dorsal crest scales: 0= feeble and low, 1=relatively well developed; (**9**) Dorsolateral stripe: 0= Absent, 1= Present; (**10**) Coloration of gular spot; (**11**) Distributions.

Species	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Laodracon carsticola **sp. nov.**	101.6	2.11	15	22	34	1
Diploderma aorun	56.3–61.2	2.12–2.21	12–18	16–24	35–46	0
Diploderma brevicauda	avg. 48	avg. 1.40	?	16–20	34–40	0
Diploderma chapaense	58.1–67.1	2.5	22–26	27–30	35–41	0
Diploderma dymondi	77.9–95.5	1.37–2.32	?	19–23	37–39	1
Diploderma cf. *fasciatum*	up to 90	1.70–2.02	18–25	21–29	34–49	0
Diploderma formosgulae	55.5–60.9	1.96–2.24	13–16	18–24	37–48	0
Diploderma hamptoni	78	?	?	24	44	0
Diploderma iadina	54–65	1.73–1.97	15–17	19–24	35–46	0
Diploderma limingense	55.6–56.8	1.92–2.09	15–16	21–22	45–48	0
Diploderma menghaiense	58.1–69.5	2.25–2.80	21–25	26–31	30–34	0
Diploderma cf. *ngoclinense*	?	?	20–22	24–26	54–56	0
Diploderma qilin	55.9–66.5	2.01–2.18	15–19	21–25	38–45	0
Diploderma slowinskii	81.0–98.3	1.09–2.57	?	24–30	36–52	1
Diploderma varcoae	48–58	<2.00	?	?	?	1
Diploderma yongshengense	56.5–58.5	2.02–2.20	16–19	22–25	38–41	0
Diploderma vela	51.6–64.5	1.75–2.38	14–18	20–25	40–50	0
Diploderma yulongense	56.2–70.7	1.94–2.44	15–19	21–26	38–44	0
Diploderma yunnanense	56–70	2.59–2.89	?	27–31	39–46	0

(Continued on the next page)

Supplementary Table S6. (Continued)

Species	(7)	(8)	(9)	(10)	(11)	Sources
Laodracon carsticola **sp. nov.**	1	1	0	Blue	Laos (Khammuone)	Our data
Diploderma aorun	0	0	1	Light cyan	China (Yunnnan, Sichuan)	Wang et al. (2021)
Diploderma brevicauda	0	0	1	Absent	China (Yunnnan)	Manthey et al. (2012)
Diploderma chapaense	0	0	1	Yellow	Vietnam (Lao Cai), China (Yunnan)	Wang et al. (2018)
Diploderma dymondi	0	0	1	Absent	China (Yunnnan, Sichuan)	Manthey et al. (2012); Rao et al. (2017)
Diploderma cf. *fasciatum*	0	0	0	Absent	Vietnam (Lang Son, Cao Bang), China (Yunnan, Sichuan, Guizhou, Jiangxi, Guangdong, Guangxi)	Wang et al. (2022)
Diploderma formosgulae	0	0	1	Pale pink	China (Yunnnan)	Wang et al. (2021)
Diploderma hamptoni	0	0	0	?	Myanmar (Mandalay)	Manthey et al. (2012)
Diploderma iadina	0	0	0	Blue	China (Yunnnan)	Wang et al. (2016)
Diploderma limingense	0	0	1	Yellowish white	China (Yunnnan)	Liu et al. (2022)
Diploderma menghaiense	0	0	1	Orange	China (Yunnnan), Thailand (Chiangmai)	Liu et al. (2020)
Diploderma cf. *ngoclinense*	0	0	0	Absent	Vietnam (Kon Tum?)	Ananjeva et al. (2017)
Diploderma qilin	0	0	1	Light sulphur yellow	China (Yunnnan)	Wang et al. (2021)
Diploderma slowinskii	0	0	1	Absent	China (Yunnnan)	Rao et al. (2017)
Diploderma varcoae	0	0	1	Orange Yellow	China (Yunnnan, Guizhou)	Yang & Rao (2008); Wang et al. (2021)
Diploderma yongshengense	0	0	1	Light cyan	China (Yunnnan)	Liu et al. (2022)
Diploderma vela	0	0	1	Absent	China (Yunnnan)	Wang et al. (2016)
Diploderma yulongense	0	0	1	Chartreuse to opaline green	China (Yunnnan)	Manthey et al. (2012)
Diploderma yunnanense	0	0	1	Yellow	China (Yunnnan), Myanmar (Kachin?)	Wang et al. (2016)

Notes: ?=requires further verification

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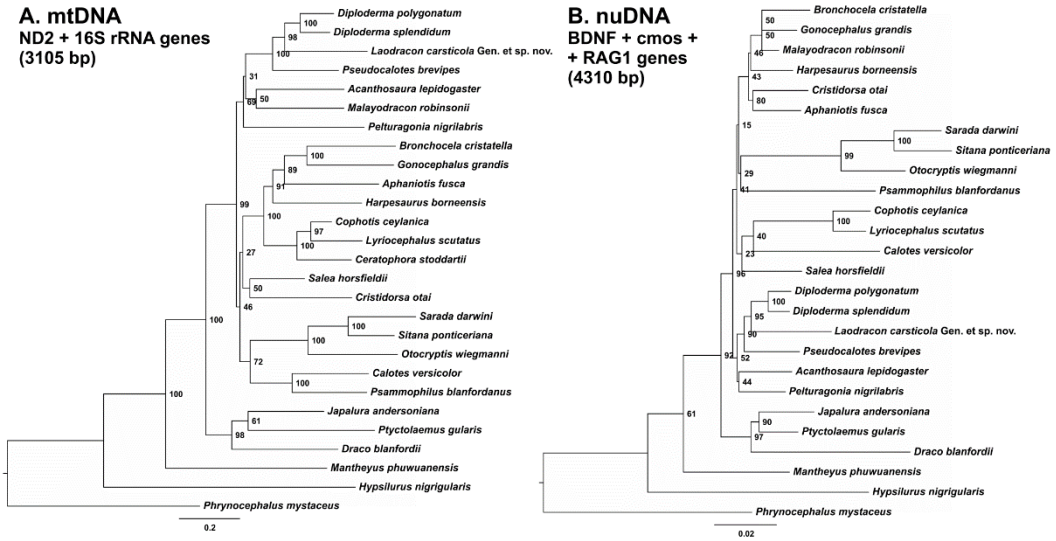
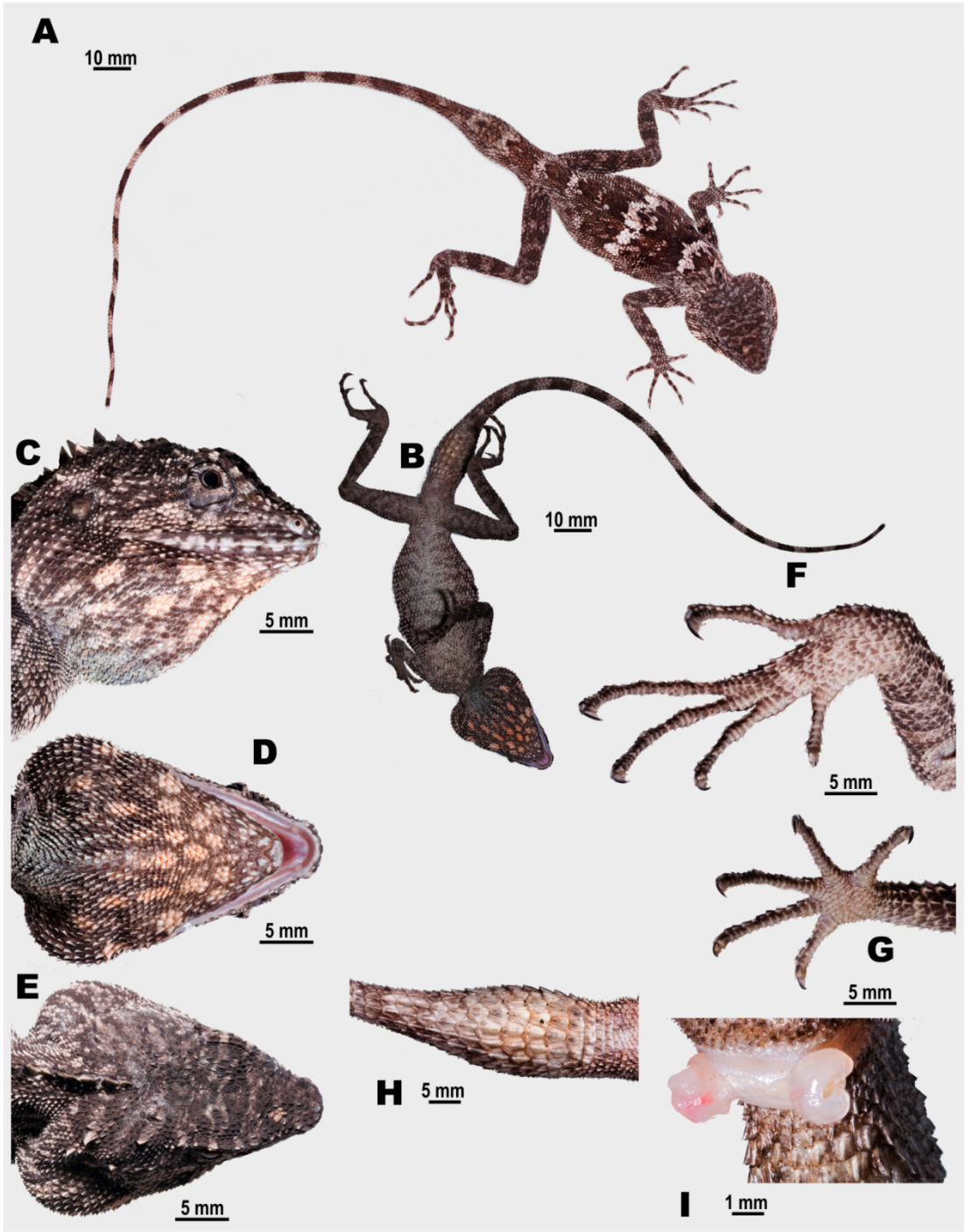
SUPPLEMENTARY FIGURES



Supplementary Figure S1. Maximum Likelihood topology of Draconinae agamas based on 3 105 bp of concatenated ND2 and 16S rRNA mtDNA gene sequences (A) and 4 310 bp of concatenated BDNF, c-mos and RAG1 nuDNA gene sequences (B). Values at nodes correspond to UFB. For specimen and sequence data see Supplementary Table S1.



Supplementary Figure S2. Paratype of *Laodracon carsticola* **Gen. et sp. nov.** (NUOL R.2022.02), adult male, in life. A: General dorsal view; B: General ventral view; C: Head in lateral aspect; D: Head in ventral aspect; E: Head in dorsal aspect; F: Volar aspect of left foot; G: Volar aspect of right hand; H: Tail base in ventral aspect; I: Partially everted hemipenial structures; Scale bar equals to 10 mm for A–B, to 5 mm for C–I. Photographs by N. Maury.