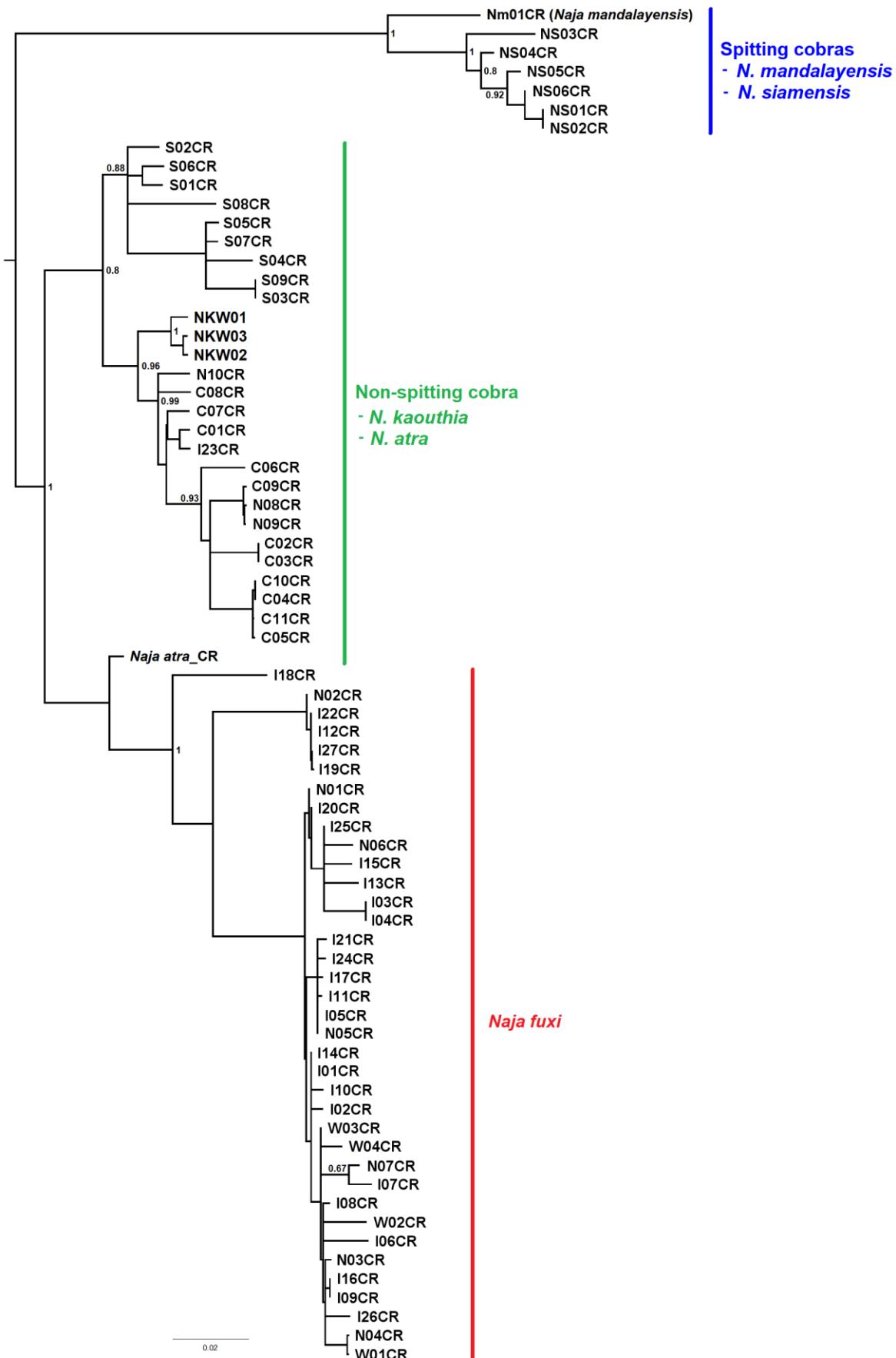
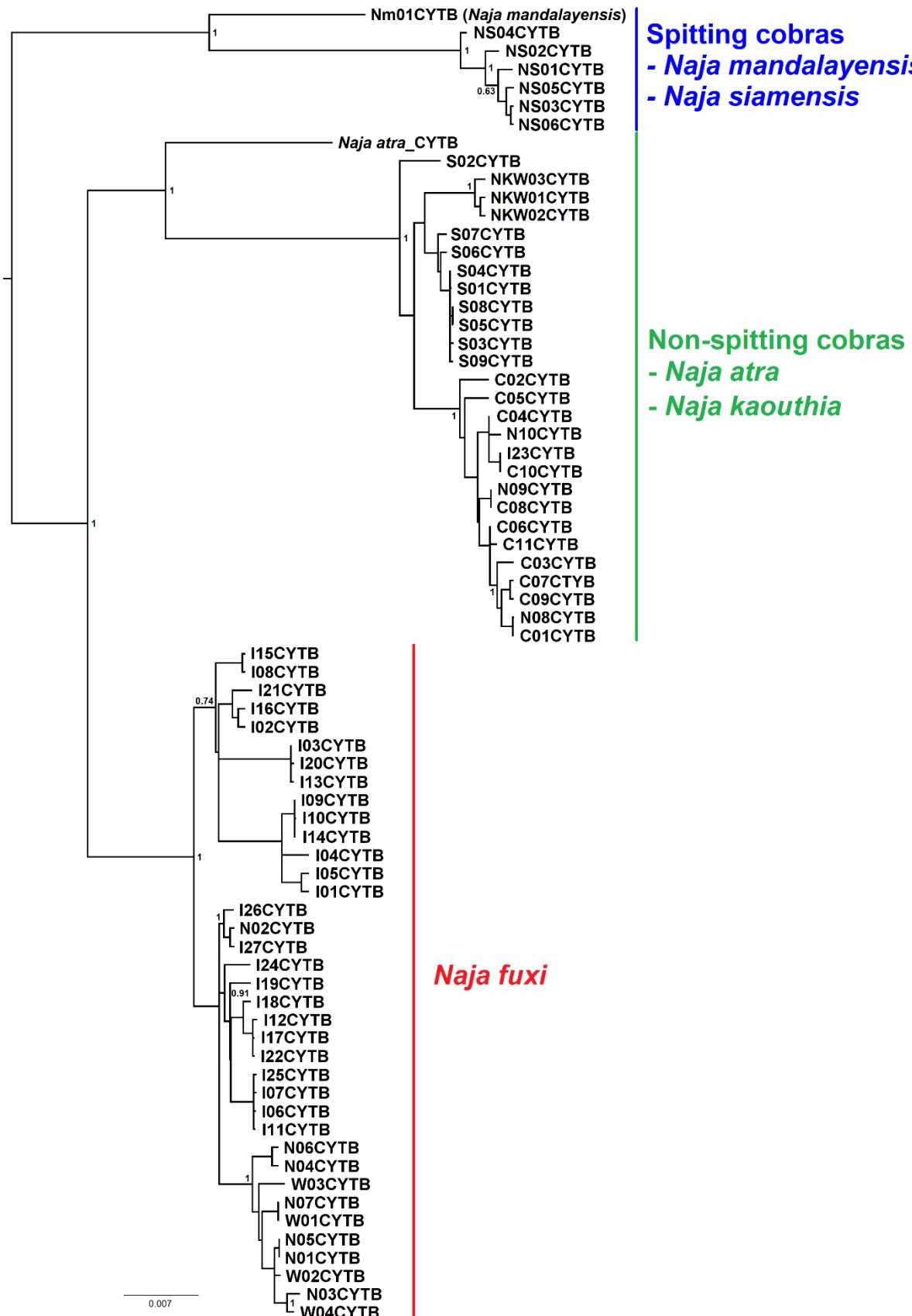


**Supplementary Information (Appendices)****An expanded description, natural history, and genetic variation of the recently described cobra species *Naja fuxi* Shi et al., 2022****Contents**

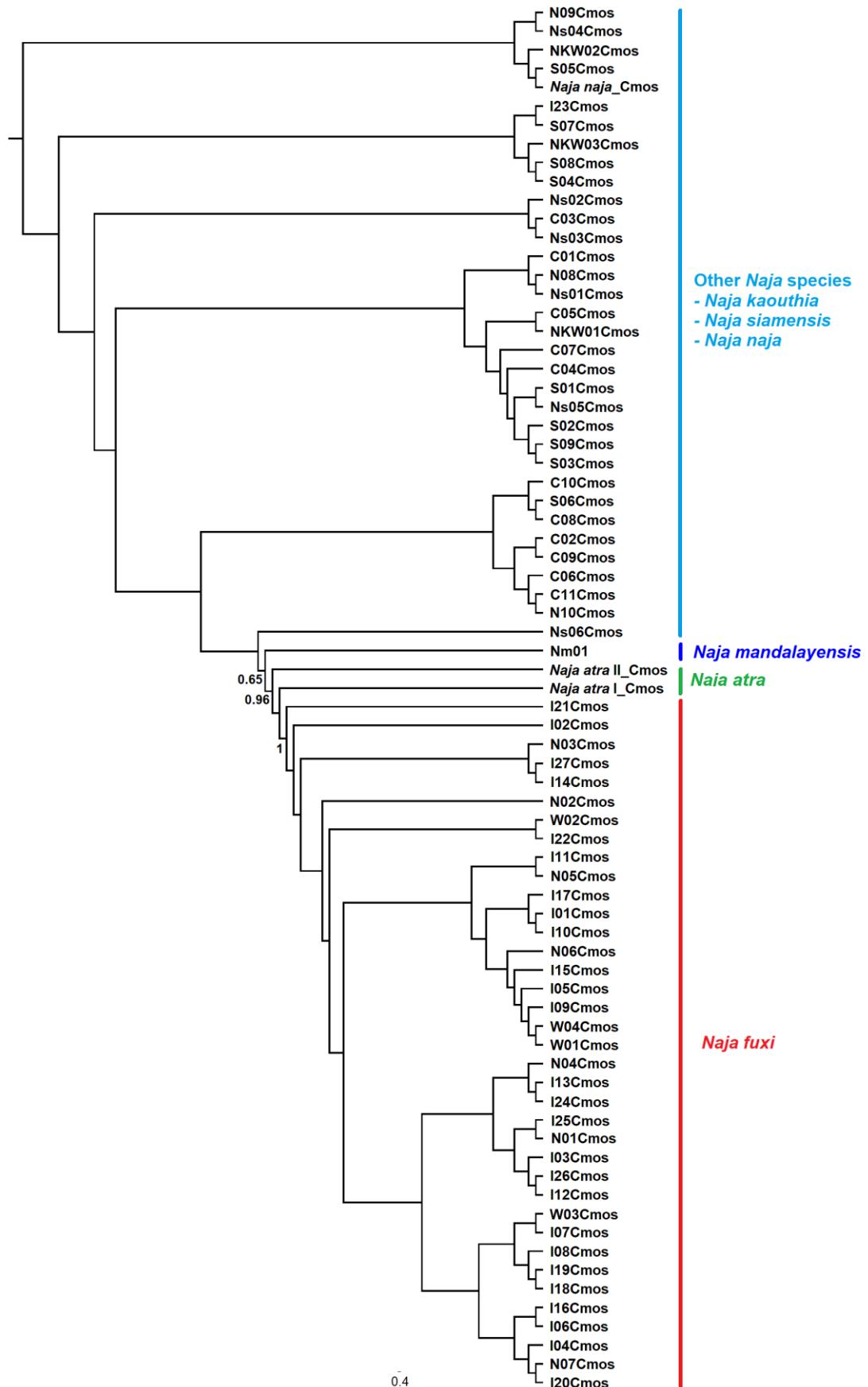
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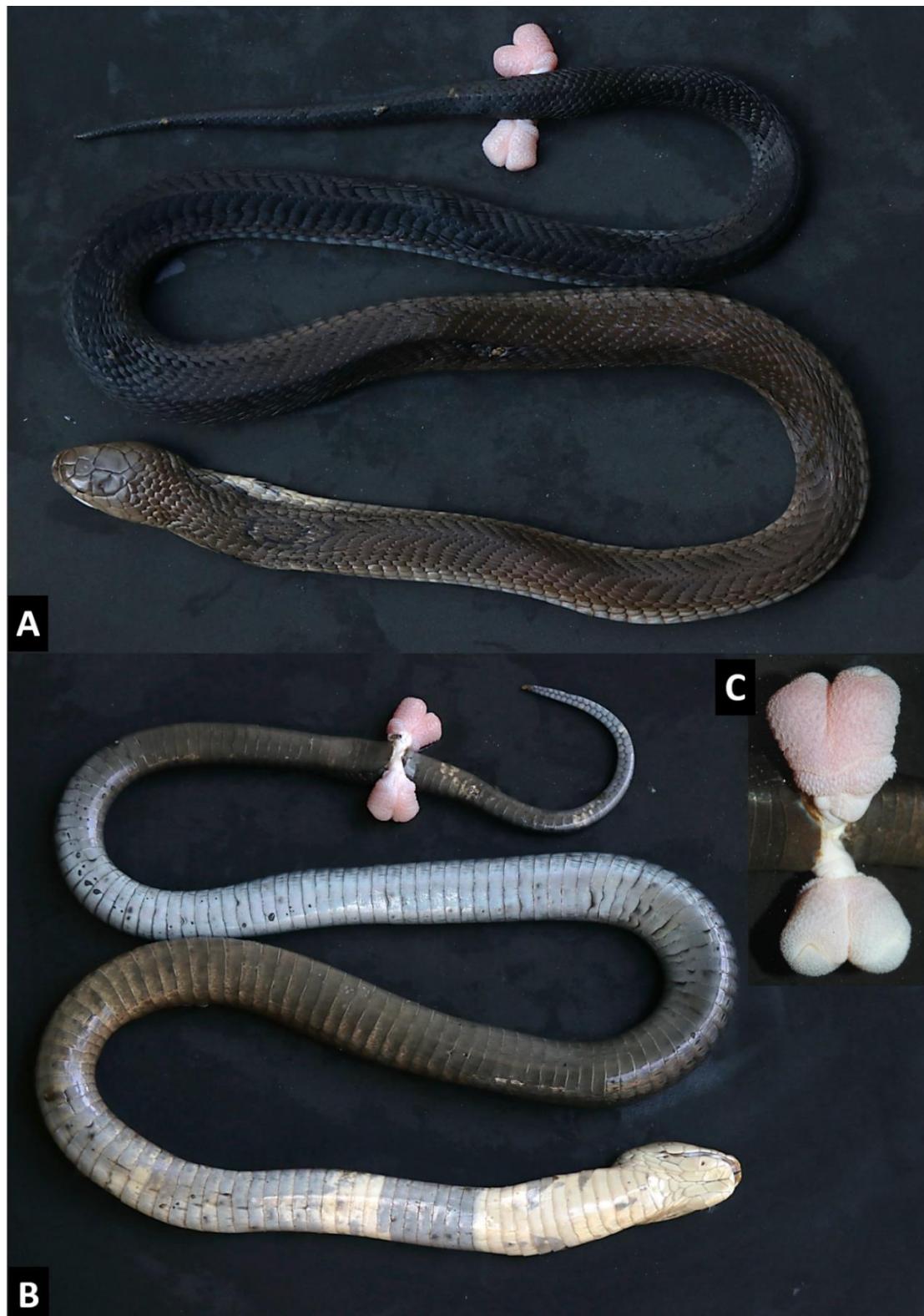
**Figure S1.** Phylogenetic tree based on the Control Region of the genus *Naja* in South-east Asia. BPP >50% shown below branches. Bayesian Posterior Probability (BPP) values support a clade of *N. fuxi* (red line) from other two *Naja* clades of 1.) *N. kaouthia* (green line) and 2.) other *Naja* species (blue line).



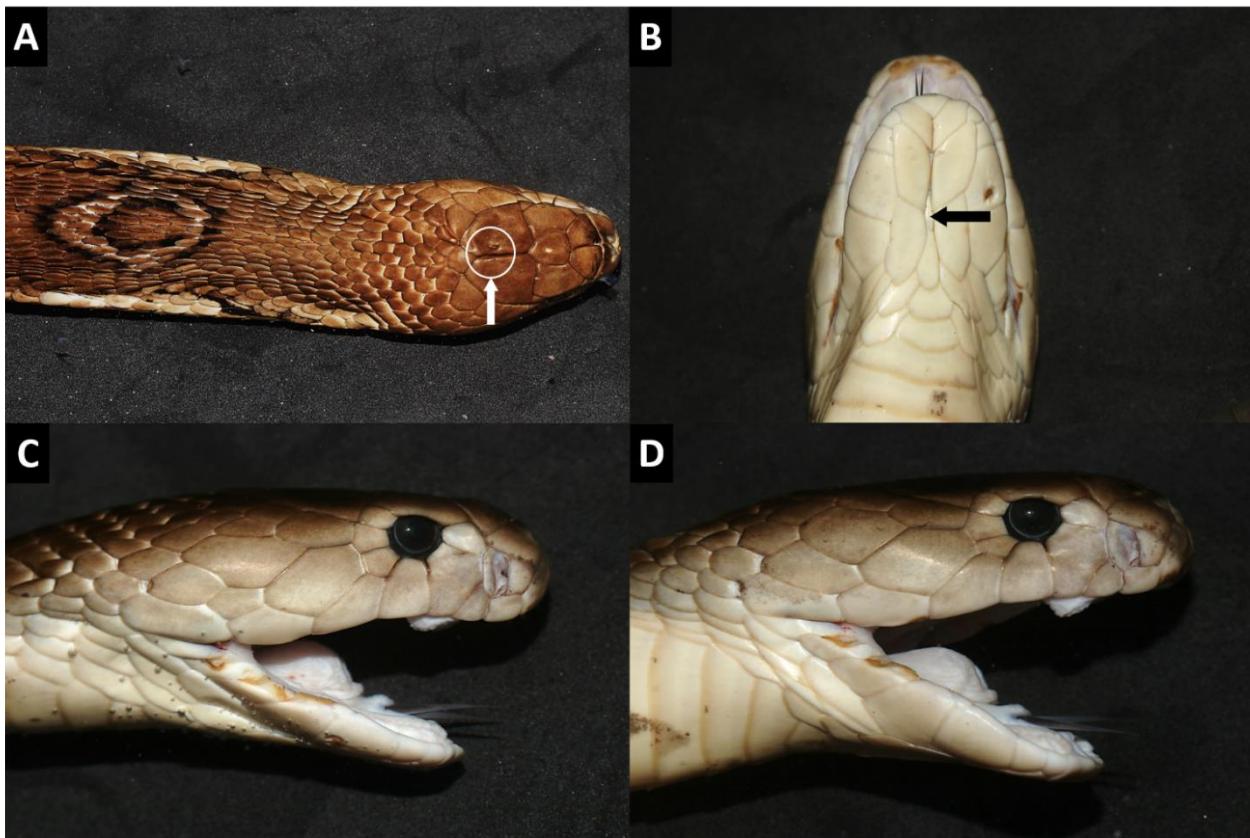
**Figure S2.** Phylogenetic tree of partial cytochrome *b* data of the genus *Naja* in Southeast Asia. Only branches with more than 50% are shown. BPP values supported a distinct clade of *N. fuxi* from other two clades of 1) Spitting cobras (blue line): *N. mandalayensis* and *N. siamensis* (NS01–06), and 2.) *N. atra*, and populations of *N. kaouthia* (C01–C11, N08–N10, and I23 = Central lowland pop., and S01–S09 = Southern pop.).



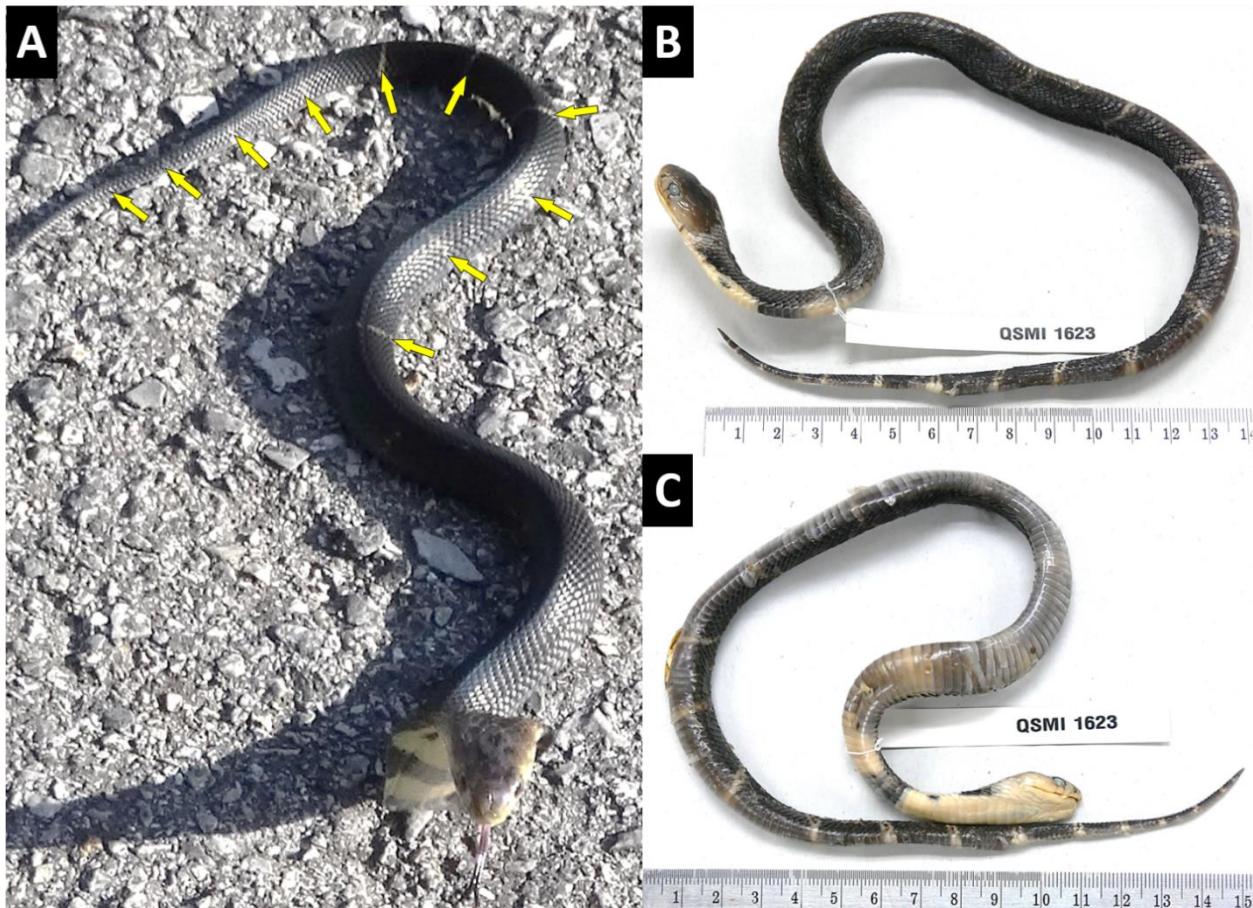
**Figure S3.** Phylogenetic tree based on the nuclear loci C-mos (579 bp) of 72 cobra samples. Only branches with more than 50% BPP are shown. This supports values represented by BPP, identify samples of *Naja fuxi* as a divergent clade (red line, BPP = 0.9528) from all others *Naja* species.



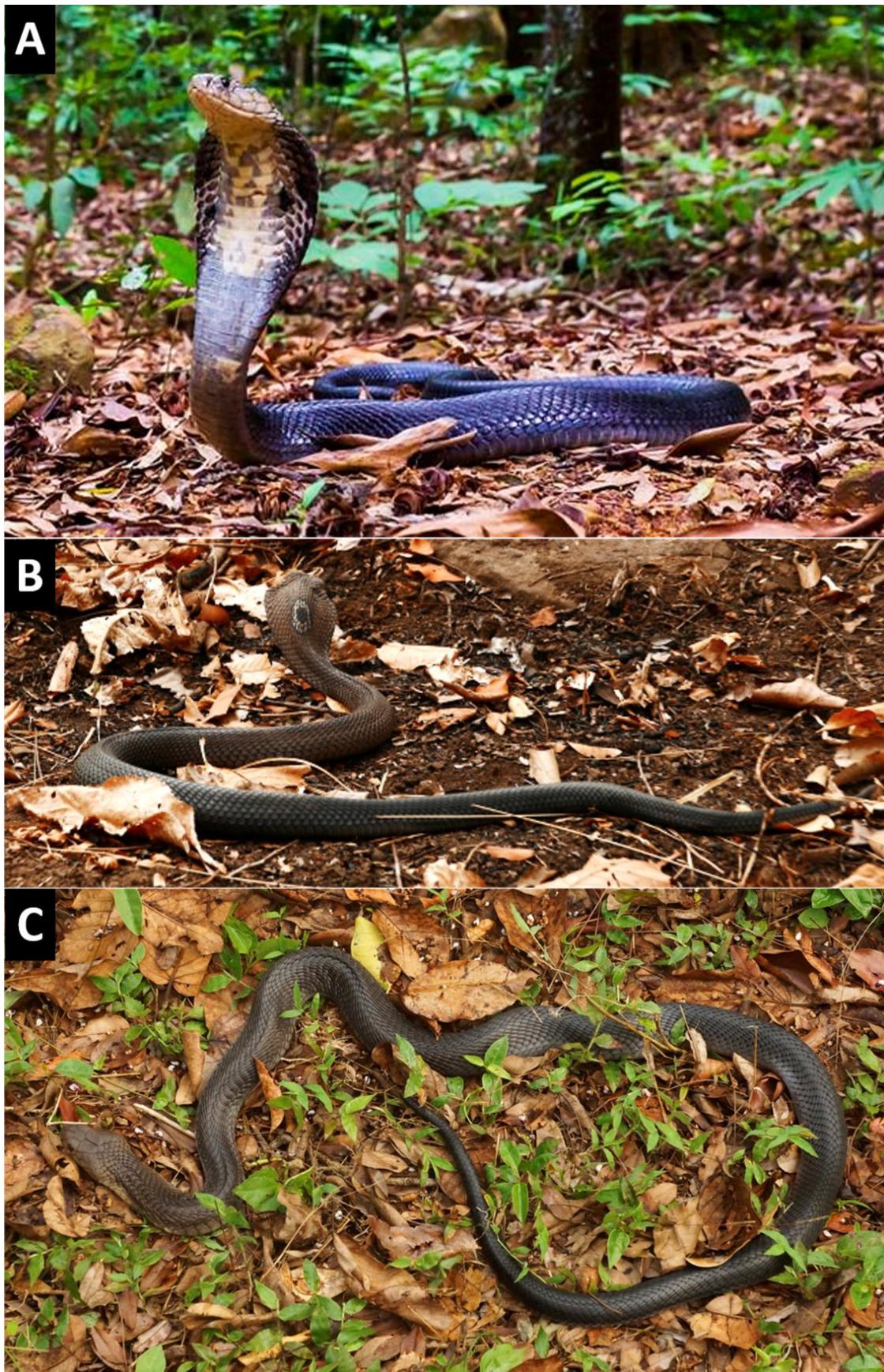
**Figure S4.** A specimen of *Naja fuxi* (QSMI1624, no. 2) from the north-eastern region (Pak Chong District, Nakhon Ratchasima, Thailand). The dorsum exhibits a reddish-brown ground colour on the anterior part of the body (A). Ventral view of the everted hemipenes (B) with its magnification (C). Photographs by M. Sumontra.



**Figure S5.** A specimen of *Naja fuxi* (QSMI1625, no. 3) from the north-eastern region (Pak Chong District, Nakhon Ratchasima, Thailand) at different head views: dorsal (**A**), ventral (**B**), lateral right (**C**) and left (**D**), exhibits a monocle hood mark and a reddish-brown ground colour. A black arrow indicates a pre-intrusive gular scale and a white arrow indicates scars on one of the parietal shields. Photograph by M. Sumontra.



**Figure S6.** Juvenile *Naja fuxi* (QSMI1623, no. 4) from the northern region of Thailand usually exhibit a number of whitish, narrow transverse bands on the dorsal and ventral sides from about midbody to the tip of the tail (yellow arrows). A living specimen (A) was spotted at 500 m a.s.l. near Ban Mae Poen, Mae Fa Luang District, Chiang Rai, Thailand, and the specimen no. 4 (B–C) was collected near Ban Na Lae, Pua District, Nan, Thailand at 450–500 m a.s.l. Photographs by S. Hauser (A) and P. Laoungbua (B and C).



**Figure S7.** Three adult males: I08, Field no.: NAKA021 (**A**); I04, Field no.: NAKA013 (**B**); and I12, Field no.: NAKA023 (**C**) of *Naja fuxi* were examined and photographed at open areas in the forest nearby the Sakaerat Environmental Research Station (SERS), Nakhon Ratchasima Province, Thailand, and were later released. Photographs by B. Nadolski.



**Figure S8.** Photos of the adult (**A–B**) and juvenile (**C–D**) stages of the typical *Naja kaouthia* from the central region of Thailand. Photographs by T. Tawan (for **A–B**) and N. Ratnarathorn (for **C–D**).

**Table S1.** Details of the localities, sample sizes, and accession numbers of cobras sampled (Sample no. in bold type were examined morphology)

Region	Location	Sample no.	GenBank Accession no.		
			cyt b	CR	C-mos
Centre	<b>Location:</b> Mueang District, Phatum Thani <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 4–6 m a.s.l.	C01	ON100929	ON075245	ON100997
	<b>Location:</b> Mueang District, Samut Prakan <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 2–3 m a.s.l.	C02 C03 C04	ON100930 ON100931 ON100932	ON075246 ON075247 ON075248	ON100998 ON100999 ON101000
	<b>Location:</b> Bang Khen (C05–6), Bang Khun Thian (C07), Bang Kra Phi (C08), Bangkok <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 2–4 m a.s.l.	C05 C06 C07 C08	ON100933 ON100934 ON100935 ON100936	ON075249 ON075250 ON075251 ON075252	ON101001 ON101002 ON101003 ON101004
	<b>Location:</b> Mueang District, Saraburi <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 8–15 m a.s.l.	C09 C10 C11	ON100937 ON100938 ON100939	ON075253 ON075254 ON075255	ON101005 ON101006 ON101007
South	<b>Location:</b> Mueang District, Surat Thani <b>Collector:</b> Local residents <b>Elevation:</b> 8–30 m a.s.l.	S01 S02 S03 S04	ON100944 ON100945 ON100946 ON100947	ON075260 ON075261 ON075262 ON075263	ON101012 ON101013 ON101014 ON101015
	<b>Location:</b> Pha Ngan Island, Surat Thani <b>Collector:</b> Local residents <b>Elevation:</b> 33–92 m a.s.l.	S05 S06 S07 S08 S09	ON100948 ON100949 ON100950 ON100951 ON100952	ON075264 ON075265 ON075266 ON075267 ON075268	ON101016 ON101017 ON101018 ON101019 ON101020
North-east	<b>Location:</b> Sakaerat, Nakhon Ratchasima <b>Coordinates:</b> 9°54'51.5"N 98°37'41.2"E <b>Radius from the coordinates:</b> 15 km <b>Collector:</b> Bartosz NADOLSKI and Curtis Andrew RADCLIFFE <b>Elevation:</b> 250–700 m a.s.l.	I01 I02 I03 I04 I05 I06 I07 I08 I09 I10 I11 I12 I13 I14 I15 I16 I17 I18 I19 I20 I21	ON100953 ON100954 ON100955 ON100956 ON100957 ON100958 ON100959 ON100960 ON100961 ON100962 ON100963 ON100964 ON100965 ON100966 ON100967 ON100968 ON100969 ON100970 ON100971 ON100972 ON100973	ON075269 ON075270 ON075271 ON075272 ON075273 ON075274 ON075275 ON075276 ON075277 ON075278 ON075279 ON075280 ON075281 ON075282 ON075283 ON075284 ON075285 ON075286 ON075287 ON075288 ON075289	ON101021 ON101022 ON101023 ON101024 ON101025 ON101026 ON101027 ON101028 ON101029 ON101030 ON101031 ON101032 ON101033 ON101034 ON101035 ON101036 ON101037 ON101038 ON101039 ON101040 ON101041
		I22 I23	ON100974 ON100943	ON075290 ON075259	ON101042 ON101011
		I24 I25	ON100975 ON100976	ON075291 ON075292	ON101043 ON101044
		I26 I27	ON100977 ON100978	ON075293 ON075294	ON101045 ON101046
		W01 W02	ON100979 ON100980	ON075295 ON075296	ON101047 ON101048
		W03	ON100981	ON075297	ON101049
		W04	ON100982	ON075298	ON101050

**Table S1.** (Continued)

Region	Location	Sample no.	GenBank Accession no.		
			cyt b	CR	C-mos
North	<b>Location:</b> Bo Kluea and Pua, Nan <b>Collector:</b> Sjon HAUSER <b>Elevation:</b> 900 m a.s.l. (N01), 1213 m (N02)	N01 N02	ON100983 ON100984	ON075299 ON075300	ON101051 ON101052
	<b>Location:</b> Lom Kao, Phetchabun <b>Collector:</b> Sjon HAUSER <b>Elevation:</b> 1065 m a.s.l.	N03	ON100985	ON075301	ON101053
	<b>Location:</b> Mueang District, Mae Hong Son <b>Collector:</b> Sjon HAUSER <b>Elevation:</b> 550 m a.s.l.	N04	ON100986	ON075302	ON101054
	<b>Location:</b> Mae Fa Luang, Chiang Rai <b>Collector:</b> Sjon HAUSER <b>Elevation:</b> 630 m a.s.l.	N05	ON100987	ON075303	ON101055
	<b>Location:</b> Mae Rim, Chiang Mai <b>Collector:</b> Sjon HAUSER <b>Elevation:</b> 1150 m a.s.l.	N06	ON100988	ON075304	ON101056
	<b>Location:</b> Mueang Pan, Lampang <b>Collector:</b> Sjon HAUSER <b>Elevation:</b> 900 m a.s.l.	N07	ON100989	ON075305	ON101057
	<b>Location:</b> Mueang District, Sukhothai <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 80–120 m a.s.l.	N08 N09 N10	ON100940 ON100941 ON100942	ON075256 ON075257 ON075258	ON101008 ON101009 ON101010
(Out group)	<b>Location:</b> Sakaerat, Nakhon Ratchasima <b>Collector:</b> Bartosz NADOLSKI <b>Elevation:</b> 200–230 m a.s.l.	NS01 NS02	ON100990 ON100991	ON075306 ON075307	ON101058 ON101059
	<b>Location:</b> Mueang District, Sa Kaeo <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 70 m a.s.l.	NS03	ON100992	ON075308	ON101060
	<b>Location:</b> Prachuap Khiri Khan <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 40 m a.s.l.	NS04	ON100993	ON075309	ON101061
	<b>Location:</b> Mueang District, Chonburi <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 57 m a.s.l.	NS05	ON100994	ON075310	ON101062
	<b>Location:</b> Phetchabun <b>Collector:</b> Donation from local resident to the snake farm <b>Elevation:</b> 384 m a.s.l.	NS06	ON100995	ON075311	ON101063
	<b>Location:</b> Mandalay, Myanmar <b>Collector:</b> Parinya PAWANGKHANANT <b>Elevation:</b> 75 m a.s.l.	Nm01	ON100996	ON075312	ON101064
	<b>Location:</b> Yangon, Myanmar <b>Collector:</b> Snake Farm, QSMI <b>Elevation:</b> N/A	NKW01	-	-	-
	<b>Location:</b> Yangon, Myanmar <b>Collector:</b> Private source <b>Elevation:</b> N/A	NKW02	-	-	-
	<b>Location:</b> Central lowland of Myanmar <b>Collector:</b> Private source <b>Elevation:</b> N/A	NKW03	-	-	-

**Table S2.** Details of *Naja* species from GenBank used in this study

<b>Species</b>	<b>Vouchers</b>	<b>Genbank Accession number</b>	<b>Publication</b>
<i>Naja naja</i>	Isolate 831 oocyte	MT347002.1 (C-mos, 628 bp)	Kazandjian et al. 2021
	CIB093931	NC_011389.1 (mitochondrial DNA genome)	Chen and Fu 2008
	Isolate 582 oocyte	MT346997.1 (C-mos, 628 bp)	Kazandjian et al. 2021
	Isolate 793 oocyte	MT346998.1 (C-mos, 628 bp)	
	HZNU-WY2	GU563500.1 (Control Region, 1,029 bp)	
	HZNU-WY7	GU563501.1 (Control Region, 1,029 bp)	
	HZNU-LS2	GU563510.1 (Control Region, 1,029 bp)	
	HZNU-GL1	GU563512.1 (Control Region, 1,029 bp)	
	HZNU-ZQ8	GU563518.1 (Control Region, 1,029 bp)	
	HZNU-HK8	GU563519.1 (Control Region, 1,029 bp)	
	HZNU-HK2	GU563521.1 (Control Region, 1,029 bp)	Lin et al. 2014
	HZNU-HK6	GU563522.1 (Control Region, 1,029 bp)	
	HZNU-QZ2	GU563523.1 (Control Region, 1,029 bp)	
	HZNU-QM	GU563524.1 (Control Region, 1,029 bp)	
	HZNU-BS3	GU563525.1 (Control Region, 1,029 bp)	
	HZNU-BS2	GU563526.1 (Control Region, 1,029 bp)	
	NJ20	DQ224334.1 (Control Region, 1,151 bp)	
	NJ23	DQ224337.1 (Control Region, 1,151 bp)	Lin et al. 2008
	Isolate C3	JN160644.1 (Cytochrome b, 1,117 bp)	
	Isolate C11	JN160652.1 (Cytochrome b, 1,117 bp)	
	Isolate C21	JN160662.1 (Cytochrome b, 1,117 bp)	Lin et al. 2012
	Isolate C31	JN160672.1 (Cytochrome b, 1,117 bp)	
	Isolate C33	JN160674.1 (Cytochrome b, 1,117 bp)	
	HS13318	KU527538.1 (Cytochrome b, 1061 bp)	
	HS13319	KU527539.1 (Cytochrome b, 1061 bp)	Yang et al. 2022
	HS15040	KU363805.1 (Cytochrome b, 1061 bp)	(Unpublished, GenBank
	HS15041	KU363806.1 (Cytochrome b, 1061 bp)	sequences available)
<i>Naja kaouthia</i>	HS16001	KU527540.1 (Cytochrome b, 1061 bp)	

**Table S3.** Details of primers used in this study

<b>Primer</b>	<b>Primer sequence</b>	<b>Tm°</b>	<b>%GC</b>	<b>Length (bp)</b>
Cyt b	5'- GCC TGA AAA ACC ACC GTT GT- 3'	56.4	50.0	~ 1,234
	5'- CCG TCT TTG GTT TAC AAG AAC - 3'	51.3	42.9	(partial)
CR	5'- CAA GGT TGA GCT CGA TTC TTG GTC TGG C - 3'	63.8	53.5	~489
	5'- CTT GTG CTG TCA GGC ATG GCC GTC TTA GC - 3'	67.7	58.6	(partial)
C-mos	5'- CAT GGA CTG GGA TCA GTT ATG - 3'	62.0	47.6	~602
	5'- CCT TGG GTG TGA TTT TCT CAC CT - 3'	68.0	47.8	(partial)

**Table S4.** Morphological measurements (in mm) and meristic counts of the type series and samples of *Naja fuxi* (Specimens I-VI were deposited in the Snake Farm, QSMI)

Variables	Specimen I	Specimen II	Specimen III	Specimen IV	1	2	3
General Description	<i>I06</i>	-	-	-	<i>I01</i>	<i>I02</i>	<i>I03</i>
Voucher no.	QSMI1619	QSMI1624	QSMI1625	QSMI1623	-	-	-
Field no.	NAKA031	-	-	SHPC12.08-01-	NAKA008	NAKA009	NAKA003
Localities	Nakhon Ratchasima	Nakhon Ratchasima	Nakhon Ratchasima	Pua, Nan	Nakhon Ratchasima	Nakhon Ratchasima	Nakhon Ratchasima
Maturity	Adult	Adult	Adult	Juvenile	Adult	Juvenile	Adult
Sex	Male	Male	Male	Female	Male	Male	Male
Hood mark	Monocellate	Monocellate	Monocellate	Monocellate	Monocellate	Monocellate	Monocellate
Head	Brown	Reddish brown	Reddish brown	Brown	Reddish	Brown	Brown
Interstitial skin on dorsum	Black	Black	Black	Black	Black	Black	Black
Posterior body + Tail	Loss of tail	3 cross bands	Loss of tail	15 cross bands	-	-	-
Measurement	TL	1,717.9	1570.3	1,505.0	410.2	-	1,546.0
SVL	1,540.6	1347.3	1,369.4	345.0	-	-	1,344.0
TailL	177.3+	223.0	135.6+	65.2	-	-	202.0
HL	59.9	50.4	53.6	19.5	-	-	-
HW	48.0	30.9	48.9	14.2	-	-	-
HD	17.9	19.9	23.2	7.2	-	-	-
Relative tail length	0.103	0.142	0.090	0.159	-	-	0.131
SnEye	12.3	13.8	13.6	5.4	-	-	-
OrbL	7.2	6.6	6.3	3.5	-	-	-
Suporb. L [R]	12.8	12.1	13.0	4.9	-	-	-
Suporb. L [L]	12.5	13	13.0	5.4	-	-	-
Suporb. W [R]	9.1	8.8	8.2	3.0	-	-	-
Suporb. W [L]	9.0	8.6	7.5	2.8	-	-	-
Int.narW	16.6	13.8	13.8	5.5	-	-	-
Int.OrbitalW	24.8	20.5	20.5	9.5	-	-	-
NarEye	8.4	7.9	7.9	2.2	-	-	-
RosW	12.2	12.0	12.0	4.4	-	-	-
RosH	8.3	8.0	8.0	2.4	-	-	-
ManW	11.0	8.5	8.5	1.6	-	-	-
ManL	6.5	3.5	3.5	2.2	-	-	-
Meristic	PreV	2	2	2	2	2	2
V	188	182	187	189	182	181	178
NSR (V posn.)	29 [10]	31[8]	29 [10]	30[10]	30[10]	29[10]	27[14]
MSR (V posn.)	21 [94]	21[91]	21 [94]	21[95]	21[half]	21[half]	21[half]
VSR (V posn.)	15 [178]	15[172]	15 [178]	15[171]	15[172]	15[170]	15[168]
A	1	1	1	1	1	1	1
SC	30+	50	27+	52	54	55	47
SRR 31 -->29 (V posn.) R	-	10	-	-	-	-	-
SRR 29 -->27 (V posn.) R	15	13	14	14	-	-	-
SRR 27 -->25 (V posn.) R	16	16	16	17	-	-	-
SRR 25 -->23 (V posn.) R	22	19	19	24	-	-	-
SRR 23 -->21 (V posn.) R	27	28	24	31	-	-	-
SRR 21 -->19 (V posn.) R	108	106	103	103	-	-	-
SRR 19 -->17 (V posn.) R	125	121	115	116	-	-	-
SRR 17 -->15 (V posn.) R	146	147	152	150	-	-	-
SRR 31 -->29 (V posn.) L	-	13	-	-	-	-	-
SRR 29 -->27 (V posn.) L	15	15	13	14	-	-	-
SRR 27 -->25 (V posn.) L	16	17	14	17	-	-	-
SRR 25 -->23 (V posn.) L	22	20	19	24	-	-	-
SRR 23 -->21 (V posn.) L	27	27	25	31	-	-	-
SRR 21 -->19 (V posn.) L	108	110	109	102	-	-	-
SRR 19 -->17 (V posn.) L	124	117	116	116	-	-	-
SRR 17 -->15 (V posn.) L	146	144	150	150	-	-	-
SL R	7	7	7	7	7	7	7
SL L	7	7	7	7	7	7	7
IL R	8	8	8	8	8	8	8
IL L	8	8	8	8	8	8	8
CS (between ILs) R	1 (4, 5)	1 (4, 5)	1 (4, 5)	1 (4, 5)	1 (3, 4)	1 (4, 5)	1 (3, 4)
CS (between ILs) L	1 (4, 5)	1 (4, 5)	1 (4, 5)	1 (4, 5)	1 (3, 4)	1 (4, 5)	1 (3, 4)
IG	1	1	1	1	1	1	2
PIG	1	1	1	1	1	1	1
Lor	0	0	0	0	0	0	0
IntNa	2	2	2	2	2	2	2
PreOc	1	1	1	1	1	1	1
SupOc	1	1	1	1	1	1	1
PostOc	2	3	2/3	3	3	3	3
Tempo R	2+4	2+3	2+4	2+3	2+3	2+3	2+3
Tempo L	2+3	2+3	2+3	2+3	2+3	2+3	2+3
Venter (1 <sup>st</sup> dark)/(2 <sup>nd</sup> light bands)	15-19/20-25	14-21/22-25	15-19/20-23	16-21/22-27	15-19/20-25	13-16/17-22	13-18/19-23

Variables	4	5	6	7	8	9	10	
General Description	<i>Sample no.</i> Field no. Localities Maturity Sex Hood mark Head Interstitial skin on dorsum Posterior body + Tail	<i>I04</i> NAKA013 Nakhon Ratchasima Adult Male Monocellate Brown Black -	<i>I05</i> NAKA007 Nakhon Ratchasima Juvenile Male Monocellate but faint Brown Black Loss of tail	<i>I07</i> NAKA015 Nakhon Ratchasima Adult Male Monocellate Brown Black Tail tip loss	<i>I08</i> NAKA021 Nakhon Ratchasima Adult Male Monocellate Reddish brown Black -	<i>I09</i> NAKA019 Nakhon Ratchasima Juvenile Female Monocellate Reddish brown Black -	<i>I10</i> NAKA012 Nakhon Ratchasima Adult Male Absent Black Black Tail tip loss	<i>I11</i> NAKA022 Nakhon Ratchasima Adult Male Monocellate Reddish brown Black -
Measurement	TL SVL TailL HL HW Relative tail length	1,483.0 1,269.0 214.0 58.02 41.5 0.144	- - - - - -	1,552.0 1,352.0 200.0+ 58.5 38.0 0.129	1,673.0 1,420.0 253.0 60.97 42.4 0.151	731.0 627.0 104.0 29.28 15.78 0.142	1,624.0 1,392.0 228.0+ 60.76 44.6 0.140	1,750.0 1,508.0 242.0 62.54 46.46 0.138
Meristic	PreV V NSR (V posn.) MSR (V posn.) VSR (V posn.) A SC SL R SL L IL R IL L CS (between ILs) R CS (between ILs) L IG PIG Lor IntNa PreOc SupOc PostOc Tempo R Tempo L Venter (1 <sup>st</sup> dark)/(2 <sup>nd</sup> light bands)	2 182 27[15] 21[half] 15[170] 1 49 7 7 8 8 1 (3, 4) 1 (3, 4) 2 1 0 2 1 1 3 2+4 2+3 14-19/20	2 185 29[10] 21[half] 15[175] 1 24+ 7 7 8 8 1 (3, 4) 1 (3, 4) 1 1 0 2 1 1 3 2+3 2+3 12-15/16-19	2 - - - - 1 46+ 7 7 9 8 2 (3, 4, 5) 1 (3, 4) 1 1 0 2 1 1 3 2+3 2+3 13-XX	2 182 29[10] 21[half] 15[172] 1 53 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+5 2+4 15-21/22-24	2 191 29[10] 21[half] 15[180] 1 51 7 7 8 8 2 (3, 4, 5) 1 (3, 4) 1 1 0 2 1 1 3 2+4 2+4 13-16/17-22	2 183 27[15] 21[half] 15[170] 1 48+ 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+3 2+3 14-19/20	2 185 29[11] 21[half] 15[171] 1 50 7 7 8 8 1 (4, 5) 1 (3, 4) 1 1 0 2 1 1 3 2+3 2+3 16-22/23-26

Variables	11	12	13	14	15	16	17	
General Description	<i>Sample no.</i> Field no. Localities Maturity Sex Hood mark Head Interstitial skin on dorsum Posterior body + Tail	<i>I12</i> NAKA023 Nakhon Ratchasima Adult Male Monocellate but faint Brown Black Tail tip loss	<i>I13</i> NAKA016 Nakhon Ratchasima Adult Male Monocellate Reddish brown Black Loss of tail	<i>I15</i> NAKA027 Nakhon Ratchasima Adult Male Absent Black Black -	<i>I16</i> NAKA025 Nakhon Ratchasima Adult Male Monocellate Brown Brown -	<i>I17</i> NAKA017 Nakhon Ratchasima Adult Male Monocellate Reddish brown Black -	<i>I18</i> NAKA026 Nakhon Ratchasima Adult Male Monocellate but faint Brown Black Loss of tail	<i>I20</i> NAKA030 Nakhon Ratchasima Adult Male Monocellate but faint Brown Black Loss of tail
Measurement	TL SVL TailL HL HW Relative tail length	1,651.0 1,434.0 217.0+ 60.8 43.96 0.131	1,659.0 1,441.0 218.0+ 58.36 42.13 0.131	1,675.0 1,435.0 240.0 64.04 47.2 0.143	1,496.0 1,271.0 225.0 58.22 37.62 0.150	1,698.0 1,440.0 258.0 61.16 41.5 0.152	1,670.0 1,496.0 174.0+ 64.18 47.67 0.104	- - - - - -
Meristic	PreV V NSR (V posn.) MSR (V posn.) VSR (V posn.) A SC SL R SL L IL R IL L CS (between ILs) R CS (between ILs) L IG PIG Lor IntNa PreOc SupOc PostOc Tempo R Tempo L Venter (1 <sup>st</sup> dark)/(2 <sup>nd</sup> light bands)	2 184 27[15] 21[half] 15[172] 1 44+ 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+3 2+3 12-15/16-19	2 180 25[16] 21[half] 15[170] 1 43+ 7 7 8 8 1 (3, 4) 1 (3, 4) 1 1 0 2 1 1 3 2+3 2+3 13-18	2 181 29[10] 21[half] 15[170] 1 49 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+3 2+3 13-16/17-23	2 181 29[9] 21[half] 15[170] 1 55 7 7 8 8 1 (3, 4) 1 (4, 5) 1 1 0 2 1 1 3 2+4 2+3 13-15/16-22	2 185 29[10] 21[half] 15[172] 1 54 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+4 2+3 14-19/20-24	2 184 29[10] 21[half] 15[172] 1 34+ 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+4 2+4 14-19/20-25	2 184 29[10] 21[half] 15[172] 1 37+ 7 7 8 8 1 (4, 5) 1 (4, 5) 1 1 0 2 1 1 3 2+4 2+4 13-16/17-22

Variables	18	19	20	21	22	23
Sample no.	I22	I26	W01	W02	W03	N01
Field no.	SHPC16.04.01-07	SHPC04.06.12-12	SHPC05.07.13-19	SHPC14.09.08-03	SHPC14.09.07-12	SHPC15.08.27-04
Localities	Nakhon Ratchasima	Nong Khai	Phop Phra, Tak	Phop Phra, Tak	Mae Ramat, Tak	Bo Kluea, Nan
Maturity	Juvenile	Juvenile	-	Juvenile	Subadult	Juvenile
Sex	Female (likely)	Male	-	Female (likely)	Female (likely)	Male (likely)
Hood mark	Monocellate but faint	Monocellate	-	Monocellate but very faint	Monocellate	Monocellate but faint
Head	Brown	Dark brown	-	Black	Dark brown	Light brown
Interstitial skin on dorsum	Black	Black	Dark brown	Black	Black	Black
Posterior body + Tail	-	Loss	Cross-banded	Cross-banded	Damaged	Cross-banded
Measurement	TL	765	-	440	1,108	413
	SVL	651	-	378	938	353
	TailL	114	-	62	170	60
	HL	-	-	-	-	-
	HW	-	-	-	-	-
	Relative tail length	0.149	-	0.141	0.153	0.145
Meristic	PreV	3	-	3	-	3
	V	194	186	195	183 + 1 or 2	185
	NSR (V posn.)	-	31	-	33	29
	MSR (V posn.)	21	21	21	21	21
	VSR (V posn.)	-	15	-	15	15
	A	1	-	1	1	1
	SC	48	-	51	52	48
	SL R	7	-	7	7	7
	SL L	7	-	7	7	-
	IL R	6+	-	-	-	-
	IL L	-	-	-	-	-
	CS (between ILs) R	-	-	-	-	-
	CS (between ILs) L	-	-	-	-	-
	IG	2	-	1	1	1
	PIG	1	-	1	1	1
	Lor	0	-	0	0	0
	IntNa	2	2	2	2	2
	PreOc	1	-	1	1	1
	SupOc	1	-	1	1	1
	PostOc	2	-	3	3	3
	Tempo R	2+4	2+4	2+3	2+3	2+3
	Tempo L	2+4	2+3	2+3	2+3	2+3
	Venter (1 <sup>st</sup> dark)/(2 <sup>nd</sup> light b.)	12-17/18-22	11-17/18-21	12-17/18-22	16-19/	13-16/22-23
Variables	24	25	26	27	28	29
Sample no.	N02	N03	N04	N05	N06	N07
Field no.	SHPC15.08.27-04	SHPC16.11.17-03	SHPC19.08.26-23	SHPC13.08.20-07	SHPC14.08.22-03	SHPC18.11.16-08
Localities	Pua, Nan	Phetchabun	Mae Hong Son	Chiang Rai	Chiang Mai	Lampang
Maturity	Subadult	Subadult	Juvenile	Juvenile	Juvenile	Subadult
Sex	Female	Male (likely)	Female (likely)	Female (likely)	Female (likely)	Female (likely)
Hood mark	Monocellate	Monocellate	Monocellate but faint	Monocellate but faint	-	Monocellate
Head	Light brown	Dark brown	Dark brown	Black	Dark brown	Dark brown
Interstitial skin on dorsum	Black	Black	Black	Black	Black	Black
Posterior body + Tail	Cross-banded	-	Cross-banded	Cross-banded	Cross-banded	Cross-banded
Measurement	TL	698	-	459	422	403
	SVL	598	-	394	376	346
	TailL	100	-	65	56	57
	HL	-	-	-	-	-
	HW	-	-	-	-	-
	Relative tail length	0.143	-	0.142	0.133	0.141
Meristic	PreV	2	3	2	2	-
	V	201	184	194	191	189
	NSR (V posn.)	31	-	-	-	31
	MSR (V posn.)	21	-	21	21	21
	VSR (V posn.)	15	15	15	15	15
	A	1	1	1	1	1
	SC	51	51	52	48	49
	SL R	-	-	-	7	-
	SL L	7	-	-	7	-
	IL R	-	-	-	-	-
	IL L	-	-	-	-	-
	CS (between ILs) R	-	-	-	-	-
	CS (between ILs) L	-	-	-	-	-
	IG	-	-	1	1	1
	PIG	-	-	1	1	1
	Lor	-	-	0	0	0
	IntNa	2	-	2	2	-
	PreOc	1	-	1	1	-
	SupOc	1	-	1	1	-
	PostOc	3	-	3	3	3
	Tempo R	2+3	-	2+4	2+3	-
	Tempo L	2+3	-	-	2+3	2+3
	Venter (1 <sup>st</sup> dark)/(2 <sup>nd</sup> light b.)	17-21/22-26	-	15-20/21-25	14-19/20-25	13-16/17-22

**Abbreviations:** **A**: anal scale, **CS**: cuneate scale, **HD**: maximum head depth, **HL**: maximum head length, **HW**: maximum head width, **IntNa**: internasal scales, **Int.NarW**: Internasal width, **Int.OrbitalW**: Interorbital width, **IG**: intrusive gular scale, **IL**: infralabial scales, **L** = left, **Lor**: loreal scale, **ManL**: the longest distance of mental scale, **ManW**: the widest distance of mental scale, **MSR**: dorsal scale rows at midbody, **NarEye**: nasal to eye distance, **NSR**: dorsal scale rows at neck, **OrbL**: orbital length, **PIG**: pre-intrusive gular scale, **PostOc**: postocular scales, **PreOc**: preocular scale, **PreV**: preventral scales, **R** = right, **RosH**: the highest distance of rostral scale, **RosW**: the widest distance of rostral scale, **SC**: subcaudal scales, **SL**: supralabial scales, **SnEye**: snout to eye distance, **SRR**: dorsal scale rows reduction, **SupOc**: supraocular scales, **Suporb. L**: the longest distance of supraorbital scale, **Suporb. W**: the widest distance of supraorbital scale, **SVL**: snout-vent length, **TaL**: Tai length, **Tempo**: temporal scales, **TL**: total body length, **V**: ventral scales, **Venter**: the order of ventral scales that presents 1<sup>st</sup> dark bands and 2<sup>nd</sup> light bands, **V posn.**: the number of ventral scales, **VSR**: dorsal scale rows at vent.

**Table S5.** List of *Naja kaouthia* materials examined in this study

<b>no.</b>	<b>Catalogue number/ID</b>	<b>Location</b>	<b>Sample no. in this study</b>
1	NHML1987-656	Bang Phli, Samut Prakan, Thailand	
2	NHML1987-646	Bang Phli, Samut Prakan, Thailand	
3	NHML1974-5499	Ayutthaya, Thailand	
4	NHML1987-648	Bong Nam Rom, Chanthaburi, Thailand	
5	NHML1987-643	Phitsanulok, Thailand	
6	NHML1977-2029	Phuket Mar. Bio. Centre, Phuket, Thailand	
7	NHML1977-2031	Phuket town, Phuket, Thailand	
8	NHML1987-651	Had Jaow Samran, Phetchaburi, Thailand	
9	NHML1987-637	Satun, Thailand	
10	NHML1987-642	Phang-nga, Thailand	
11	NHML1987-628	Yantakao, Trang, Thailand	
12	NHML1987-639	Tai Yok Camp, Kanchanaburi, Thailand	
13	NHML1987-655	Nakhon Pathom, Thailand	
14	NHML1987-694	Suphanburi, Thailand	
15	NHML1987-647	Chachoengsao, Thailand	
16	NHML1921.4.1.25	Bangkok, Centre Thailand	
17	NHML97.10.8.33	Bangkok, Thailand	
18	NHML98.11.8.34	Bangkok, Thailand	
19	NHML1987-631	Chanthaburi, Thailand	
20	NHML1987-630	Chanthaburi, Thailand	
21	NHML1977-2028	Phuket, Thailand	
22	NHML1977-2027	Phuket, Thailand	
23	NHML1977-2030	Phuket Mar. Bio. Centre, Phuket, Thailand	
24	NHML1902.12.12.5	Phuket, Thailand	
25	NHML1987-654	Nakhon Sri Thammarat, Thailand	
26	NHML1987-645	Phatthalung Hospital, Umpsi-Khao Chaison, Phatthalung, Thailand	
27	NHML1987-629	Trang, Thailand	
28	NHML1913.7.24.6	Kota Bharu, Kelantan, Malaysia	
29	NHML1987-640	Kanchanaburi, Thailand	
30	NHML1987-641	Thong Pha Phum, Kanchanaburi, Thailand	
31	NHML1987-638	Tai Yok Camp, Kanchanaburi, Thailand	
32	NHML1987-649	Unknown	
33	NHML1987-650	Unknown	
34	NHML63 11-1 246	Unknown province, Thailand	
35	AAS001	Bangkok, Thailand	
36	AAS002	Bangkok, Thailand	
37	AAS006	Bangkok, Thailand	
38	AAS007	Bangkok, Thailand	
39	AAS008	Bangkok, Thailand	C06
40	AAS009	Bangkok, Thailand	C07
41	AAS010	Bangkok, Thailand	C08
42	AAS012	Bangkok, Thailand	
43	AAS017	Bangkok, Thailand	
44	AAS018	Bangkok, Thailand	
45	AAS019	Bangkok, Thailand	
46	AAS022	Bangkok, Thailand	
47	AAS067	Bangkok, Thailand	
48	AAS003	Bang Khen, Bangkok, Thailand	C05
49	AAS011	Bangkok, Thailand	
50	AAS021	Bangkok, Thailand	
51	AAS023	Bangkok, Thailand	
52	AAS024	Bangkok, Thailand	
53	AAS066	Bangkok, Thailand	
54	QSMI1267	Unknown, Thailand	
55	QSMI1266 (Albino)	Ratchaburi, Thailand	

no.	Catalogue number/ID	Location	Sample no. in this study
56	QSMI1070 (Albino)	Unknown, Thailand	
57	QSMI1201	Unknown, Thailand	
58	QSMI1188	Unknown, Thailand	
59	QSMI1633	Khlong Toei, Bangkok, Thailand	
60	NKO1218	Saraburi, Thailand	C09
61	NKO1192	Saraburi, Thailand	C10
62	NKO1514	Samut Prakan, Thailand	C04
63	NKO1236	Bang Kae, Bangkok, Thailand	
64	NKO1243	Chom Thong, Bangkok, Thailand	
65	NKO1512	Samut Prakan, Thailand	C03
66	NKO1293	Bangkok, Thailand	
67	NKO1511	Samut Prakan, Thailand	C02
68	NKO1214	Chom Thong, Bangkok, Thailand	
69	NKO1233 (Suphan)	Saraburi, Thailand	C11
70	CUMZR-R-0.369	Unknown	
71	CUMZR-R-0.370	Unknown	
72	CUMZR-R-0.1533	Unknown	
73	CUMZ-R-0.1521	Unknown	
74	CUMZ-R-0.1560	Unknown	
75	CUMZ-R-0.1460	Unknown	
76	CUMZ-R-0.1471	Unknown	

**Abbreviations:** **AAS:** The Applied Animal Science Laboratory, Department of Biology, Mahidol University, Bangkok, Thailand; **CUMZ:** The Chulalongkorn University Museum of Natural History, Department of Biology, Chulalongkorn University, Bangkok, Thailand; **NHML:** The National History Museum, South Kensington, London, UK; **NKO** (*N. kaouthia*, alive) and **QSMI:** (museum specimen): The Snake Farm, Queen Saovabha Memorial Institute, Thai Red Cross Society; Bangkok, Thailand

**Table S6.** Localities of probable records of *Naja fuxi* in Southeast Asia and southern China on websites.**iNaturalist.org**

Locality	Country	Latitude	Longitude	Elev.	References	Observation date
Xishuangbanna Dai, Yunnan	China	21.910080	101.265892	546 m.	<a href="https://www.inaturalist.org/observations/133739538">https://www.inaturalist.org/observations/133739538</a>	Sep 5, 2022
Honghe Hani and Yi, Yunnan	China	22.510813	103.962417	119 m.	<a href="https://www.inaturalist.org/observations/132787816">https://www.inaturalist.org/observations/132787816</a>	Aug 29, 2022
Mae Fa Luang, Chiang Rai	Thailand	20.2986	99.815628	919 m.	<a href="https://www.inaturalist.org/observations/131421413">https://www.inaturalist.org/observations/131421413</a>	Aug 19, 2022
Mae Phun, Laplae, Uttaradit	Thailand	17.73248	99.97648	210 m.	<a href="https://www.inaturalist.org/observations/119984676">https://www.inaturalist.org/observations/119984676</a>	Jun 3, 2022
Baoshan, Yunnan	China	25.295682	98.836077	1136 m.	<a href="https://www.inaturalist.org/observations/75148458">https://www.inaturalist.org/observations/75148458</a>	Apr 21, 2021
Xishuangbanna, Yunnan	China	21.929178	101.255713	566 m.	<a href="https://www.inaturalist.org/observations/26373401">https://www.inaturalist.org/observations/26373401</a>	Jun 4, 2019
Vĩnh Cửu, Đồng Nai	Vietnam	11.351569	107.066969	109 m.	<a href="https://www.inaturalist.org/observations/37610661">https://www.inaturalist.org/observations/37610661</a>	Apr 14, 2018
Doi Suthep, Mueang, Chiang Mai	Thailand	18.807174	98.915983	1,087 m.	<a href="https://www.inaturalist.org/observations/91934686">https://www.inaturalist.org/observations/91934686</a>	Apr 4, 2015
Đức Trọng, Lâm Đồng	Vietnam	11.853102	108.47491	1162 m.	<a href="https://www.inaturalist.org/observations/31297876">https://www.inaturalist.org/observations/31297876</a>	Apr 16, 2014

**Personal records reported on online network portals  
(Facebook – Page names: All about Thailand snakes and Snakes of Laos)**

Locality	Country	References	Observation date
Ratchaburi	Thailand	<a href="https://www.facebook.com/photo?fbid=829524168083694&amp;set=pcb.2163058180532487">https://www.facebook.com/photo?fbid=829524168083694&amp;set=pcb.2163058180532487</a>	Oct 15, 2022
Phu Kradueng, Loei	Thailand	<a href="https://www.facebook.com/photo/?fbid=4214536395307562&amp;set=gm.1830267720478203">https://www.facebook.com/photo/?fbid=4214536395307562&amp;set=gm.1830267720478203</a>	Aug 5, 2021
Na Haeo, Loei	Thailand	<a href="https://www.facebook.com/photo/?fbid=1047932952610429&amp;set=gm.1830138220491153">https://www.facebook.com/photo/?fbid=1047932952610429&amp;set=gm.1830138220491153</a>	Aug 5, 2021
Mae Bua Mung, Don Kaeo, Mueang, Chiang Mai	Thailand	<a href="https://www.facebook.com/photo.php?fbid=10215212627616455&amp;set=p.10215212627616455&amp;type=3">https://www.facebook.com/photo.php?fbid=10215212627616455&amp;set=p.10215212627616455&amp;type=3</a>	Nov 3, 2019
Doi Phu Kha, Nan	Thailand	<a href="https://www.facebook.com/groups/VenomousAndOtherSnakesOfSiam/posts/1234682770036704/">https://www.facebook.com/groups/VenomousAndOtherSnakesOfSiam/posts/1234682770036704/</a>	Aug 8, 2019
Phu Bia Mining, Phu Kham Mine, Dasmariñas	Laos	<a href="https://www.facebook.com/groups/222151122012189/?multi_permalinks=375016780058955&amp;ref=share">https://www.facebook.com/groups/222151122012189/?multi_permalinks=375016780058955&amp;ref=share</a>	July 23, 2019
Phu Bia Mining, Phu Kham Mine, Dasmariñas	Laos	<a href="https://www.facebook.com/groups/222151122012189/?multi_permalinks=356655058561794&amp;ref=share">https://www.facebook.com/groups/222151122012189/?multi_permalinks=356655058561794&amp;ref=share</a>	Jun 24, 2019
Xieng Khouang Province	Laos	<a href="https://www.facebook.com/groups/536568816520082/?multi_permalinks=868244140019213&amp;ref=share">https://www.facebook.com/groups/536568816520082/?multi_permalinks=868244140019213&amp;ref=share</a>	Sep 9, 2017