

Supplementary Materials

Supplementary Text

Additional specimens examined morphologically

Hebius atemporale (n=1). China. KIZ09124, Mengzi County, Yunnan Province.

Hebius boulengeri (n=3). China. KIZ010742, DiaoLuo Mountain, Hainan Province; KIZ016068, Wenshan Zhuang and Miao Autonomous Prefecture, Yunnan Province. KIZ01929, Mao'er Mountain, Guangxi Zhuang Autonomous Region.

Hebius cf. *chapaensis* (n=1). China. KIZ03641, Mengla County, Yunnan Province.

Hebius craspedogaster (n=2). China. KIZ06366, Panan County, Zhejiang Province, KIZ07335, Yichun City, Jiangxi Province.

Hebius clerki (n=1). China. KIZ037714, Pianma, Nujiang Prefecture, Yunnan Province.

Hebius johannis (n=1). China. KIZ014484 Yunnan Province.

Hebius khasiensis (n=1). China. KIZ027530 Yingjiang County, Yunnan Province.

Hebius leucomystax (n=8). Vietnam. KIZ010488, KIZ010504, KIZ010507, KIZ010509, KIZ010557, KIZ010659, KIZ010660 and KIZ010661, Phong Dien District, Phong Dien Nature Reserve, Thua Thien Hue.

Hebius metusius (n=4). China. KIZ05159, KIZ05160, KIZ05178 and KIZ03985, Shimian County, Sichuan Province.

Hebius modestus (n=6). China. KIZ028230, KIZ026454, KIZ026455 and KIZ028290, Cangyuan Wa Autonomous County, Yunnan Province. KIZ037715, Diantan Town, Tengchong City, Yunnan Province. KIZ035923, Fado, Xichou County, Wenshan Zhuang and Miao Autonomous Prefecture, Yunnan Province.

Hebius octolineatus (n=5). China. KIZ037733 and KIZ026445, Qipan Mountain, Kunming City, Yunnan Province; KIZ03204, Wuhua District, Kunming City, Yunnan Province;

KIZ037734 and KIZ037735, Dadiji Town, Chuxiong Yi Autonomous Prefecture, Yunnan Province.

Hebius optatus (n=1). China. KIZ022266, Mao'er Mountain, Guangxi Zhuang Autonomous Region.

Hebius popei (n=4). China. KIZ010815, KIZ013586, KIZ013587 and KIZ09933, DiaoLuo Mountain, Hainan Province.

Hebius septemlineatus **comb. nov.** (n=7). China. Four from Tengchong City, Yunnan Province, KIZ037706, Diantan Town; KIZ037711, Qushi Town, KIZ037712 Datang Village, Jietou Town; KIZ037697, Zizhi Village, Mingguang Town; KIZ048609, KIZ048610, KIZ048611, Husan Town, Longchuan County, Yunnan Province.

Hebius yanbianensis (n=6). China. KIZ040120, KIZ040121 and KIZ040122, Yanbian County, Sichuan Province; KIZ011301, KIZ012344 and KIZ012345, Yongren County, Chuxiong Yi Autonomous Prefecture, Yunnan Province.

Supplementary Materials and Methods

Morphological data

In total, 24 specimens were collected from Yunnan Province, China, which included 11 from Weixi Lisu Autonomous County, four from Tengchong City, one from Shigu Township, Lijiang City, three from Longchuan County, three from Kunming City, and two from Chuxiong Yi Autonomous Prefecture (Figure 1Ai). After euthanasia, liver tissues were taken and preserved in 85% ethanol, and specimens were fixed in 10% buffered formalin solution and then transferred to 70% ethanol after two days. All specimens and samples were deposited in the Kunming Institute of Zoology, Chinese Academy of Sciences (KIZ, CAS).

Measurement and scale counting methods followed Zhao et al. (1998). Snout-vent length (SVL) and tail length (TaL) were measured after preservation using a measuring tape (accuracy to 0.1 cm), while head length (HL), head width (HW), and head height (HH) were taken with a digital caliper to the nearest 0.1 mm. The sex of the individuals was determined by dissection of the hemipenis after preservation, ToL: total length (SVL+TaL). In addition to

morphometric characters, the following characters were also examined and recorded (abbreviations before colon): Lor: loreal scale count; INT: internasal scale count; PRF: prefrontal scale count; PRO: preocular scale count; PTO: postocular scale count; SPO: supraocular scale count; SL: supralabial scale count; IL: infralabial scale count; TMP: temporal scale count; VS: ventral scale count; SC: subcaudal scale count; and DSR: dorsal scale row.

Here, DSR was counted at one head length behind head (DSRH), at mid-body (DSRM), and at one head length before vent (DSRV), respectively. For SL, scale count was given in “A–B–C” format, where A is the number of anterior-most supralabial scales that do not enter the orbit, B is number of supralabial scales that enter the orbit, and C is the number of remaining supralabial scales that do not enter and are posterior to the orbit. For IL, scale counts were given in “A(B)” format, where A is the number of total infralabial scales and B is the number of infralabial scales in contact with anterior chin shield. For TMP, scale count was given in “A+B” format, where A and B are the number of anterior and posterior temporal scales, respectively; or “A+B+C” format, where A, B, and C are the number of anterior, middle, and posterior temporal scales, respectively.

In addition to the newly collected specimens, 39 additional specimens were examined in museum collections (see Supplementary Text). Morphological data for species that we did not have access to were obtained from the literature (Boie, 1827; Boulenger, 1887a, 1887b, 1890, 1893, 1896, 1899, 1904, 1908, 1909; Chang, 1932; David et al., 2005, 2007, 2013; David & Vogel, 2010; Grandison, 1972; Gressitt, 1937; Günther, 1864, 1875; Hu et al., 1966; Inger et al., 1990; Jerdon, 1853; Kizirian et al., 2018; Laidlaw, 1901; Maki, 1931; Malnate, 1963; Malnate & Munsterman, 1960; Ota & Iwanaga, 1997; Peters & Doria, 1878; Pope, 1935; Schenkel, 1901; Schmidt, 1925a, 1925b; Sclater, 1891; Smedley, 1931; Smith, 1922, 1940; Taylor, 1934; Wall, 1910, 1925).

Genetic data

DNA genomes were extracted from tissues and snake sheds using standard phenol-chloroform extraction (Sambrook et al., 1989). A fragment of cytochrome b (*cyt b*) was amplified using primer pairs L14910 (5'-GAC CTG TGA TMT GAA AAC CAY CGT TGT-3') and H16064 (5'-CTT TGG TTT ACA AGA ACA ATG CTT TA-3') (Burbrink et al., 2000) through polymerase chain reaction (PCR). The PCR amplifications were performed in a 25 µL reaction volume with the following cycling conditions: initial denaturing step at 94 °C for 5 min, 35 cycles of denaturing at 94 °C for 45 s, annealing at 52 °C for 30 s, extension at 72 °C for 1 min, and final extension at 72 °C for 10 min. All PCR products were sequenced using an ABI 3730

automated sequencer (Applied Biosystems, Foster City, CA, USA). As a result, 13 new cyt *b* sequences were generated and deposited in GenBank under accession Nos. MZ570478–MZ570490 (Supplementary Table S1).

In addition to the newly generated sequences, 31 additional sequences were downloaded from GenBank and analyzed (Supplementary Table S1). Alignments were conducted using MEGA7.0 (Kumar et al., 2016) with default parameters and manually checked and revised. Uncorrected pairwise genetic distances among congeners were also calculated using MEGA7.0. The final alignment was 978 bp, with 394 variable positions and 353 parsimony informative sites.

Phylogenetic analyses

Phylogenetic trees were constructed using maximum-likelihood (ML) and Bayesian inference (BI) analyses. Partitioned ML analyses were performed with RAxML v8.2.4 (Stamatakis, 2014) on the CIPRES web server (Miller et al., 2010) under a GTR+GAMMA model. Nodal support was determined based on 1 000 bootstrap replicates. BI analyses were performed using MrBayes v3.2.1 (Ronquist et al., 2012). The best-fit model was determined for each codon position using Bayesian information criterion (BIC) computed with jModelTest 2 (Darriba et al., 2012). Two independent runs were conducted for 10 million generations, with sampling every 1 000 generations, four independent chains, and a burn-in of 25%. Convergence was assessed by confirming that all parameters reached stationarity with satisfactory effective sample sizes (>200) using Tracer v1.6. (Rambaut et al., 2014).

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Supplementary Table S1. Localities, voucher information, and GenBank accession numbers for all samples used in this study (Abbreviations: AMNH: American Museum of Natural History, New York; CAS: California Academy of Science, San Francisco, USA; GP: Guo Peng, own catalogue number, China; EM: Mount Emei, stored in the Zoological Museum, Sichuan Normal University, China; KIZ: Kunming Institute of Zoology, Chinese Academy of Sciences, China; KUZ: the Zoological Collection of Kyoto University Museum, Japan; PUCZM: Zoological Museum, Department of Zoology, Pachhunga University College, Mizoram, India; SYNU: Shenyang Normal University, China; VNMN: Vietnam National Museum of Nature, Vietnam Academy of Science and Technology, Hanoi, Vietnam; WII-ADR: Wild-life Institute of India-Abhijit Das Reptile collection, India).

ID	Species name	Locality	Voucher	cytb	Reference
1	<i>Hebius atemporale</i>	Guangdong, China	GP1626	KJ685680	Guo et al., 2014
2	<i>Hebius bitaeniatus</i>	Guangxi, China	GP1940	KJ685688	Guo et al., 2014
3	<i>Hebius boulengeri</i>	Guangdong, China	GP1789	KJ685684	Guo et al., 2014
4	<i>Hebius boulengeri</i>	Hainan, China	GP2134	KJ685691	Guo et al., 2014
5	<i>Hebius chapaensis</i>	Lao Cai, Vietnam	VNMN 06102	MH778702	Ren et al., 2018
6	<i>Hebius chapaensis</i>	Lao Cai, Vietnam	VNMN 06103	MH778700	Ren et al., 2018
7	<i>Hebius clerki</i>	Pianma, Lushui, Yunnan, China	CAS 215036	KJ685666	Guo et al., 2014; David et al., 2015
8	<i>Hebius clerki</i>	Pianma, Lushui, Yunnan, China	KIZ037714	MZ570478	this study
9	<i>Hebius concelarus</i>	Miyakojimashi, Ryuky, Japan	KUZ R18555	AB989258	Takuma & Toda, 2016
10	<i>Hebius concelarus</i>	Ryuky, Japan	KUZ R20253	AB989268	Takuma & Toda, 2016
11	<i>Hebius craspedogaster</i>	Sichuan, China	GP139	JQ687429	Guo et al., 2012
12	<i>Hebius craspedogaster</i>	No detail	GP1636	KJ685681	Guo et al., 2014
13	<i>Hebius deschauenseei</i>	Ha Giang, Vietnam	AMNH 148575	KJ685665	Guo et al., 2014
14	<i>Hebius ishigakiensis</i>	Ishigakishi, Ryuky, Japan	KUZ R19251	AB989282	Takuma & Toda, 2016
15	<i>Hebius ishigakiensis</i>	Taketomityo, Ryuky, Japan	KUZ R33043	AB989292	Takuma & Toda, 2016
16	<i>Hebius johannis</i>	Yunnan, China	KIZ014484	MZ570479	this study
17	<i>Hebius khasiensis</i>	KaChin state, Myanmar	CAS 221504	KJ685668	Guo et al., 2014
18	<i>Hebius khasiensis</i>	KaChin state, Myanmar	CAS 221525	KJ685669	Guo et al., 2014
19	<i>Hebius metusius</i>	Sichuan, China	GP871	KJ685707	Guo et al., 2014
20	<i>Hebius metusius</i>	Shimian, Sichuan, China	KIZ05178	MZ570480	this study
21	<i>Hebius modestus</i>	Yunnan, China	CAS 234262	KJ685671	Guo et al., 2014

22	<i>Hebius modestus</i>	Diantan, Tengchong, Yunnan, China	KIZ037715	MZ570481	this study
23	<i>Hebius octolineatus</i>	Kunming, Yunnan, China	KIZ026445	MZ570484	this study
24	<i>Hebius octolineatus</i>	Kunming, Yunnan, China	KIZ03204	MZ570483	this study
25	<i>Hebius octolineatus</i>	Dadiji, Chuxiong, Yunnan, China	KIZ037734	MZ570482	this study
26	<i>Hebius optatus</i>	Mount Emei, Sichuan, China	EM1906002	MN427890	Zong et al., 2020
27	<i>Hebius optatus</i>	Guizhou, China	GP1885	KJ685687	Guo et al., 2014
28	<i>Hebius popei</i>	Guizhou, China	GP2386	KJ685697	Guo et al., 2014
29	<i>Hebius pryeri</i>	Tokunoshimacho, Ryuky, Japan	KUZ R34044	AB989124	Takuma & Toda, 2016
30	<i>Hebius pryeri</i>	Ryuky, Japan	KUZ R34062	AB989126	Takuma & Toda, 2016
31	<i>Hebius sangzhiensis</i>	Hunan, China	SYNU 08070350	MK340763	Zhou et al., 2019
32	<i>Hebius sauteri</i>	Taiwan, China	GP2549	KJ685701	Guo et al., 2014
33	<i>Hebius septemlineatus</i> comb. nov.	Diantan, Tengchong, Yunnan, China	KIZ037706	MZ570485	this study
34	<i>Hebius septemlineatus</i> comb. nov.	Zizhi, Tengchong, Yunnan, China	KIZ037720	MZ570486	this study
35	<i>Hebius septemlineatus</i> comb. nov.	Husan, Longchuan, Yunnan, China	KIZ048610	MZ570487	this study
36	<i>Hebius venningi</i>	KaChin state, Myanmar	CAS 233206	KJ685670	Guo et al., 2014
37	<i>Hebius vibakari</i>	Liaoning, China	GP1345	KJ685676	Guo et al., 2014
38	<i>Hebius vibakari</i>	Heilongjiang, China	GP1352	KJ685677	Guo et al., 2014
39	<i>Hebius weixiensis</i> <i>sp. nov.</i>	Weixi, Yunnan, China	KIZ035740	MZ570488	this study
40	<i>Hebius weixiensis</i> <i>sp. nov.</i>	Weixi, Yunnan, China	KIZ035741	MZ570489	this study
41	<i>Hebius weixiensis</i> <i>sp. nov.</i>	Weixi, Yunnan, China	KIZ035776	MZ570490	this study
42	<i>Hebius yanbianensis</i>	Yanbian, Sichuan, China	GP4006	MH532291	Liu et al., 2018
43	<i>Herpetoreas platyceps</i>	No detail	WII-ADR 183	MT571587	Das et al., 2020
44	<i>Herpetoreas xenura</i>	India	PUCZM/X/SL1	MN993850	Lalronunga et al., 2020

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Supplementary Table S2. Uncorrected *p*-distances among species of *Hebius* based on partial mitochondria cyt *b* gene.

ID	Species name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	<i>Hebius atemporale</i>																								
2	<i>Hebius bitaeniatus</i>	10.5																							
3	<i>Hebius boulengeri</i>	11.7	9.8																						
4	<i>Hebius chapaensis</i>	13.3	12.2	13.1																					
5	<i>Hebius clerki</i>	10.8	11.3	10.0	12.3																				
6	<i>Hebius concelarus</i>	14.9	12.2	13.6	15.4	13.8																			
7	<i>Hebius craspedogaster</i>	11.9	11.2	13.3	13.9	11.7	14.6																		
8	<i>Hebius deschauenseei</i>	13.3	12.3	13.7	0.9	12.9	15.4	14.1																	
9	<i>Hebius ishigakiensis</i>	11.8	11.8	11.8	14.1	11.6	12.1	13.7	14.1																
10	<i>Hebius johannis</i>	10.7	4.8	9.5	11.9	10.9	12.3	11.8	12.0	11.9															
11	<i>Hebius khasiensis</i>	12.4	11.2	7.4	13.1	11.0	13.5	13.4	13.9	12.7	11.1														
12	<i>Hebius metusius</i>	10.7	4.0	10.5	12.6	12.0	13.1	11.0	12.5	12.1	4.7	11.5													
13	<i>Hebius modestus</i>	13.7	12.8	13.9	5.7	13.3	16.4	14.6	5.2	13.7	13.2	14.5	13.8												
14	<i>Hebius octolineatus</i>	10.5	3.9	10.2	12.3	11.6	12.8	10.3	12.6	11.9	5.2	11.3	5.0	13.6											
15	<i>Hebius optatus</i>	12.6	11.2	13.1	14.1	13.1	13.2	13.1	14.4	11.4	11.7	13.7	11.6	15.2	11.9										
16	<i>Hebius popei</i>	11.6	10.9	12.7	13.8	12.0	14.6	13.0	14.3	12.5	11.7	12.7	11.1	14.1	12.0	11.3									
17	<i>Hebius pryeri</i>	13.6	12.0	12.6	15.5	12.4	9.0	13.6	15.6	10.4	12.4	13.9	12.1	16.0	11.8	12.7	13.8								
18	<i>Hebius sangzhiensis</i>	12.1	9.7	11.9	13.9	12.5	11.8	13.0	14.0	10.6	10.9	12.2	11.6	13.3	10.7	11.5	11.5	10.9							
19	<i>Hebius sauteri</i>	11.1	10.2	11.4	13.8	11.6	13.0	12.5	14.0	10.5	10.6	11.8	10.1	14.2	10.4	11.1	11.4	11.7	10.7						
20	<i>Hebius septemlineatus</i> comb. nov.	11.0	10.5	11.1	13.8	12.1	12.9	11.8	13.9	11.6	10.4	12.1	10.2	14.2	10.4	11.8	11.9	12.4	10.8	10.6					
21	<i>Hebius venningi</i>	10.9	9.3	11.6	12.2	11.5	12.9	12.0	12.3	11.7	9.2	12.3	9.3	12.6	9.5	11.9	11.2	11.6	11.1	11.2	8.8				
22	<i>Hebius vibakari</i>	11.4	10.6	11.7	13.0	11.4	13.2	12.5	13.1	11.4	11.3	11.9	11.5	13.4	11.3	10.6	12.4	12.1	6.9	11.2	11.0	10.9			
23	<i>Hebius weixiensis</i> sp. nov.	11.5	10.0	10.4	12.6	10.9	12.4	11.6	12.7	11.7	10.4	11.7	10.4	13.4	10.4	11.5	12.4	12.3	10.2	10.3	5.3	8.6	10.0		
24	<i>Hebius yanbianensis</i>	10.6	4.5	10.1	13.1	11.6	13.1	11.2	13.2	11.7	5.8	11.4	5.5	14.0	5.9	11.7	11.7	12.0	10.5	10.6	10.4	9.7	11.1	9.2	

Supplementary Table S3. Selected pholidosis (DSR, VS, SC), morphometry (TaL/ToL), and ornamentation/coloration data of species in the genus *Hebius*. For morphological abbreviations, see Supplementary Materials and Methods.

Species	DSR	VS	SC	TaL/ToL (%)	Dorsal stripes(On each side)	Ventrolateral stripe	Reference
<i>Hebius andreae</i>	19-19-17	179–180	99–103	28.0–31.0	None	No	Ziegler & Quyet, 2006
<i>Hebius annamensis</i>	19-17(15)-15	158–172	116–146	29.7–33.7	One, bright orange or rusty-brown	No	David et al., 2015b
<i>Hebius arquus</i>	17-17-15	187	110	29.9	None	No	David & Vogel, 2010
<i>Hebius atemporalis</i>	17-17-17	132–150	61–78	26.5–31.7	One, white	Yes	Zhao et al., 1998
<i>Hebius beddomei</i>	19-19-17	140–150	62–82	–	None	Yes	Smith, 1943
<i>Hebius bitaeniatus</i>	19-19-17	160–172	83–92	–	One, grayish yellow	Yes	Wall, 1925
<i>Hebius boulengeri</i>	19-19-17	139–156	93–113	27.0–32.0	One, taupe	Yes	This study; Zhao, 2006
<i>Hebius celebicus</i>	?-15-?	140	48	–	None	Yes	Peters et al.,1878; Boulenger,1893
<i>Hebius chapaensis</i>	17-17-17	159–177	90–114	28.0–29.6	One, discontinuity light-colored	No	This study; David et al., 2021
<i>Hebius clerki</i>	19-19-17	162–173	85–108	26.2–32.5	One, brown or tan on its sides	No	This study; David et al., 2015a
<i>Hebius concelarus</i>	?-19-?	157–169	94–102	–	None	Yes	Ota & Setsuko, 1997
<i>Hebius craspedogaster</i>	19-19-17	132–172	69–101	27.9–31.1	One, weak yellow	Yes	This study; Zhao, 2006
<i>Hebius deschauenseei</i>	21-19-17	159	111–141	33.0–38.0	None	No	Taylor, 1965
<i>Hebius flavifrons</i>	?-19-?	146–155	95–99	–	None	No	Boulenger, 1887, 1893
<i>Hebius frenatus</i>	17-17-15	164–166	112–116	–	None	No	Dunn 1923; Malkmus et al., 2002
<i>Hebius groundwateri</i>	19-17-17	147–151	120–126	–	None	Yes	Smith 1922; Taylor, 1965
<i>Hebius igneus</i>	19-19-17	159–169	115–129	29.7–33.1	One, weak yellow	No	David et al., 2021
<i>Hebius inas</i>	19-19-17	143–151	93–109	–	None	Yes	Taylor, 1965
<i>Hebius ishigakiensis</i>	?-19-?	164–178	93–109	–	None	Yes	Ota & Setsuko, 1997
<i>Hebius johannis</i>	19-19-17	156–170	85–89	18.9–23.1	One, light-colored	Yes	This study; Boulenger, 1908
<i>Hebius kerinciensis</i>	19-19-17	140	89	30.8	None	Yes	David & Das, 2003
<i>Hebius khasiensis</i>	19-19-17	146–155	72–106	31.7	One, grayish-yellow	Yes	This study; Zhao, 2006
<i>Hebius lacrima</i>	19-19-17	147	89	30.1	None	Yes	Purkayastha et al., 2019
<i>Hebius leucomystax</i>	19-19-17	157–163	100–108	–	None	Yes	This study; David et al., 2007

<i>Hebius metusius</i>	19-19-17	159–164	72–85	24.2–26.6	One, discontinuity khaki	Yes	This study; Inger et al.,1990
<i>Hebius miyajimae</i>	19-19-17	141–152	87–92	32.4–33.7	Three, one yellow, one black, one red	Yes	Zhao, 2006
<i>Hebius modestus</i>	19-19-17	157–165	89–102	27.1–29.8	One, yellow	No	This study; Günther,1875
<i>Hebius monticola</i>	19-19-17	136–144	78–92	31.1	None	No	Smith, 1943
<i>Hebius nicobariensis</i>	19-19-17	160	120	–	None	No	Smith, 1943
<i>Hebius nigriventer</i>	17(19)-17-17	155–168	105–143	29.1–36.6	One	No	David et al., 2021
<i>Hebius octolineatus</i>	19-19-17	150–154	70–80	20.7–25.9	Four, two yellow and two grayish-black	Yes	This study; Boulenger, 1904
<i>Hebius optatus</i>	19-19-17	156–169	95–112	31.7	None	No	This study; Zhao, 2006
<i>Hebius parallelus</i>	19-19-17	160–173	63–77	22.1–25.2	One, pale brown	Yes	David et al., 2015a
<i>Hebius petersii</i>	19-19-17	140–150	65–78	–	None	Yes	Boulenger, 1893
<i>Hebius popei</i>	19-19-17	130–142	66–88	30.1–32.4	One, discontinuity light-colored	Yes	This study; Zhao, 2006
<i>Hebius pryeri</i>	?-19-?	166–183	112–130	–	None	Yes	Ota & Setsuko, 1997
<i>Hebius sanguineus</i>	?-19-?	140–155	98–104	–	None	No	Smedley, 1932; David & Das, 2003
<i>Hebius sangzhiensis</i>	19-19-17	160–164	82	25.0	None	Yes	Zhou et al., 2019
<i>Hebius sarasinorum</i>	?-15-?	137–141	65–75	–	None	Yes	Boulenger, 1896
<i>Hebius sarawacensis</i>	?-17-?	134–156	52–112	–	None	No	Günther, 1872; Malkmus et al., 2002
<i>Hebius sauteri</i>	17-17-17	120–147	65–92	–	One, discontinuity light-colored	Yes	Zhao, 2006
<i>Hebius septemlineatus</i> comb. nov.	19-19-17	164–175	80–96	24.7–27.4	Four, two yellow and two black	Yes	This study
<i>Hebius taronensis</i>	17-17-17	166–176	92–106	–	One, small yellow spots	No	Smith, 1940
<i>Hebius venningi</i>	17-17(18,16)-17	155–172	115–129	29.5–34.7	One, yellow	Yes	David et al., 2021
<i>Hebius vibakari</i>	19-19-17	147–154	55–66	–	None	Yes	Zhao, 2006
<i>Hebius viperinus</i>	?-19-?	101	59	–	One, discontinuity yellow	No	Schenkel, 1901; Rooij, 1917
<i>Hebius weixiensis</i> sp. nov.	19-19-17	171–182	74–88	23.5–25.6	None (Some individuals absent or indistinct on anterior half, faint brown color on posterior body)	No	This study
<i>Hebius yanbianensis</i>	19-19-17	160–175	67–90	26.5–36.2	None	Yes	This study; Liu et al., 2018

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Supplementary Table S4. Morphometric and pholidosis characters of *Hebius octolineatus* (raw data by Boulenger, 1904 and Schmidt, 1925)

	Sex	Age	To L	SV L	Ta L	SP L	SPL-orb it	IFL-first chin	Pr O	Pt O	TMP	DS R	VS	SC	Type locality
<i>Tropidonotus quadrilineatus</i>	♂	adult	435	365	65	7/8	3–4/4–5	4	1	2	2+1	19	153	51	Yunnan Fu
<i>Tropidonotus octolineatus</i>	♀	adult	610	485	125	9	4–6	5	1	2	2+2	19	152	58	Yunnan Fu
<i>Tropidonotus pleurotaenia</i>	♂	adult	350	265	85	8	3–5	5	1	3	2+1	19	148	66	Yunnan Fu
<i>Natrix septemlineata</i>						8			1	3	2+1+ 2	19	159–17 1	82–8 9	Tengyue h

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