

Intraspecific Classification of Some Chinese Snakes

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Abstract—Intraspecific classification of some Chinese snakes was carried out by calculating both coefficient of difference (C. D.) and mean value comparison. Four new subspecies were described in number 4, volume 14 of Sichuan Journal of Zoology, Chengdu (Zhao, 1995). The following is a condensed version of these descriptions.

Key words: Reptilia, Ophidia, *Xenopeltis hainanensis jidamingae* ssp. nov., *Psammodynastes pulverulentus papenfussi* ssp. nov., *Ovophis monticola zhaokentangi* ssp. nov., *Trimeresurus stejnegeri chenbihuii* ssp. nov., China.

Xenopeltis hainanensis jidamingae ssp. nov.

Holotype: ZM73002, adult male, July 1973, Puyun Xiang, Longquan Co., Zhejiang Province, China, altitude about 700 meters. The holotype is preserved in Zhejiang Museum of Natural History, Hangzhou, Zhejiang Province, China.

Diagnosis: This new subspecies has higher ventral counts, 159-164 (mean 161.6; Table 1), than that of the nominate subspecies, which has 152-157 (mean 154.7).

Distribution: Mainland China, including Zhejiang, Fujian, Jiangxi, Hunan, and Guangdong provinces, and Guangxi Zhuang Autonomous Region.

Etymology: This new subspecies is named after Professor Da-ming Ji of Liaoning University in honor of her devotion to the study of ecology of *Agkistrodon shedaoensis* Zhao.

Psammodynastes pulverulentus papenfussi ssp. nov.

Holotype: MVZ 23857, an adult female, 5 May 1934, Kuraru (=kueitzuchia), Koshun District (=Henchun Town), Takao-shu Province (now Pintung Hsien), Taiwan, China, 150 meters, collected by J. Linsley Gressitt. The holotype is preserved in the Museum of Vertebrate Zoology, University of California, Berkeley, California, USA.

Diagnosis: This new subspecies has higher ventral and subcaudal counts (Table 2). Ventral plus subcaudal counts range from 214-245, mean 234.2, while that of the nominate subspecies is 201-245, mean 219.5.

Distribution: Taiwan Island, China.

Etymology: I take great pleasure in naming this new subspecies for Dr. Theodore J. Papenfuss of the Museum of Vertebrate Zoology, University of Califor-

nia at Berkeley. He has collaborated with us to study desert amphibians and reptiles in northwestern China since 1987 and got a lot of achievements.

Ovophis monticola zhaokentangi ssp. nov.

Holotype: KIZ730093, adult male, 11 December 1973, Bapo, Gongshan Co., Yunnan Province, China, altitude 1400-1500 meters.

Allotype: KIZ730018, adult female, 23 May 1973, the same locality as the holotype.

Paratypes: KIZ730096, male; KIZ730024 and 730032, females, 29 May-26 December 1973, the same locality as the holotype; and CIB740003, male, 17 March 1974, Pianma, Lushui Co., Yunnan Province, China, altitude 1980 meters.

The specimens examined are preserved in the Kunming Institute of Zoology (KIZ) and the Chengdu Institute of Biology (CIB). Both institutes belong to Academia Sinica.

Diagnosis: This new subspecies has higher ventral plus subcaudal counts, 215-225 (mean 217.5±5.28; Table 3) than that of all the other known subspecies. The coloration of the head is similar to the nominate subspecies.

Distribution: Gaoligong Shan north of Pianma, Lushui Co., extreme western Yunnan Province, China.

Etymology: This new subspecies is named after Professor Ken-tang Zhao of Suzhou Railway Normal College in honor of his contributions to the study of the lizard genera *Phrynocephalus* and *Eremias*.

Trimeresurus stejnegeri chenbihuii ssp. nov.

Holotype: CIB64III5599, adult male, 6 June 1964, Diaoluo Shan, Lingshui Co., Hainan Province, China, altitude about 250 meters.

Allotype: CIB64III5945, adult female, 11 June 1964, the same locality as the holotype.

Paratypes: CIB64III5906, 5944, 5978-9, 6013, 6043-4, 6069, 6101, 6104, 6107, males; CIB64III5600, 5735, 6014, females, 6-15 June 1964, Diaoluo Shan, Lingshui Co., Hainan Province, China, altitude 225-290 meters. CIB64III5110, 5181, 5261-2, males, 23 April to 12 May, 1964, Wuzhi Shan, Qiongzong Co., Hainan Province, China, altitude 500 meters.

Diagnosis: This new subspecies has higher ventral counts, 169-178 (mean 172.6; Table 4) in males and 168-174 (mean 172) in females, while the nominate subspecies has 154-170 (mean 162.6) in males and 154-172 (mean 162) in females.

Distribution: Hainan Island, Hainan Province, China.

Etymology: This new subspecies is named after Professor Bi-hui Chen of Anhui Normal University in honor of his contributions on research and protection of the endangered Chinese Alligator.

Acknowledgments

The data for Taiwan specimens of *Psammodynastes pulverulentus* and *Trimeresurus stejnegeri* (including *formosensis* and *kodairai*) is taken from M. Maki (1931), and the data for Philippine specimens of *P. pulverulentus* is taken from E. H. Taylor (1922). I express my cordial appreciation to these authors. I also express my sincere thanks to the Kunming Institute of Zoology, Academia Sinica and the Zhejiang Museum of Natural History for permission to examine specimens.

Appendix I

Tables 1-4

Table 1. Comparison of *Xenopeltis h. hainanensis* Hu and Zhao, 1972 and *X. h. jidamingae* Zhao, 1995.

| Subspecies | | <i>X. h. hainanensis</i> | <i>X. h. jidamingae</i> |
|-----------------|---------|--------------------------|-------------------------|
| n | | 7 | 7 |
| Ventral Counts: | Range | 152-157 | 159-164 |
| | M±S. D. | 154.7±2.14 | 161.6±2.07 |
| ΔM | | | 6.9 |
| C. D. | | | 1.64 (>1.28) |
| S. E.d | | | 1.12 |
| ΔM/S. E.d | | | 6.16 (>3) |

Table 2. Comparison of *Psammodynastes p. pulverulentus* (Boie, 1927) and *P. p. papenfussi* Zhao, 1995.

| Subspecies | | <i>P. p. papenfussi</i> | <i>P. p. pulverulentus</i> |
|------------|---------|-------------------------|----------------------------|
| n | | 22 | 37 |
| V+Sc | Range | 214-245 | 201-245 |
| | M±S. D. | 234.2±6.62 | 219.5±9.87 |
| ΔM | | | 14.7 |
| C. D. | | | 0.89 (<1.28) |
| S. E.d | | | 2.37 |
| ΔM/S. E.d | | | 6.16 (>3) |

Table 3. Comparison of three subspecies of *Ovophis monticola* (Günther, 1864).

| Subspecies | | <i>O. m. monticola</i> | <i>O. m. zhaokentangi</i> | <i>O. m. orientalis</i> |
|------------|---------|------------------------|---------------------------|-------------------------|
| n | | 40 | 6 | 25 |
| V+Sc | Range | 172-203 | 215-225 | 169-182 |
| | M±S. D. | 188.6±7.38 | 217.5±5.2 | 176±3.48 |
| ΔM | | 28.9 | 41.5 | 12.6 |
| C. D. | | 2.28 (>1.28) | 4.74 (>1.28) | 1.16 (<1.28) |
| S. E.d | | 3.13 | 1.77 | 1.58 |
| ΔM/S. E.d | | 9.23 (>3) | 23.45 (>3) | 7.97 (>3) |

Table 4. Comparison of *Trimeresurus s. stejnegeri* Schmidt, 1925, *T. s. chenbihuii* Zhao, 1995, and Taiwan population.

| Subspecies | | <i>T. s. chenbihuii</i> | <i>T. s. stejnegeri</i> | Taiwan Population |
|------------|---------|-------------------------|-------------------------|-------------------|
| n | | 18 | 175 | 26 |
| V+Sc | Range | 236-256 | 199-246 | 213-236 |
| | M±S. D. | 245.9±5.54 | 229.3±6.86 | 227.5±5.71 |
| ΔM | | 16.6 | 1.8 | 18.4 |
| C. D. | | 1.34(>1.28) | 0.14 (<1.28) | 1.64 (>1.28) |
| S. E.d | | 1.67 | 1.42 | 1.73 |
| ΔM/S. E.d | | 9.94 (>3) | 1.27 (<3) | 10.64 (>3) |

Literature Cited

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