

An Annotated Catalogue of Type Specimens of Amphibians and Reptiles in the National Science Museum, Tokyo

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Abstract The herpetological collection of the National Science Museum, Tokyo (NSMT), includes 65 type specimens representing 14 valid and nine currently invalid species and subspecies. A complete catalogue of these amphibian and reptilian types in NSMT is provided for the first time.

Key words: Amphibia, Reptilia, type specimens, National Science Museum, Tokyo.

Introduction

The National Science Museum, Tokyo (NSMT), currently (as of 1 April 1997) has a herpetological collection consisting of 4,653 registered specimens. These include 65 types of 23 nominal taxa. However, except for Toriba (1993 a), who provided a list of type specimens of snakes described by Maki (1931) and subsequently deposited in NSMT, no information has been published for those types or the herpetological collection as a whole of this museum. This brief catalogue provides extensive information on the NSMT type specimens of amphibians and reptiles for the first time.

All specimens are stored in 70–75% ethanol. Each specimen was sexed and aged on the basis of gonadal morphology and/or the shape of the tail base, which would be distinctly swollen in a mature male of most species. For snakes, snout-vent length (SVL) and tail length (TL) were taken to the nearest 1 mm by a tape-scale. Most snake types represent taxa described by Maki in 1931, and therefore the numbers of ventral scales given in original descriptions do not necessarily agree with those *sensu* Dowling (1951). Because the ventral scale number, counted following Dowling's (1951) definition, is one of the most standard characters in the current snake taxonomy, this character (VT) was examined for all snake types. Type specimens of other reptiles, as well as amphibians, were measured to the nearest 0.1 mm by dial-calipers. Institutional acronyms are those suggested by Leviton *et al.* (1985), unless otherwise specified in their first appearance.

Amphibia**Anura**Family **Bufonidae*****Bufo torrenticola*** Matsui, 1976

Paratypes. NSMT H03774: male, 71.5 mm SVL, Mt. Ohdaigahara, between Parking and Hinode-dake (alt. ca 1500 m), Nara Pref., Japan, 19–VII–1974 by M. Matsui; H03775: female, 91.2 mm SVL, sampling data same as the former.

Present name. Same as above.

Remarks. Matsui's (1976) type series consists of 32 specimens; the remaining 30 were deposited in AMNH, OMNH [including the holotype and allotype (Hatooka, 1996)], SMF and USNM.

Reptilia**Testudines**Family **Emydidae*****Mauremys mutica kami*** Yasukawa, Ota et Iverson, 1996

Paratypes. NSMT H02098 and 02102: adult females, 128.3 mm and 138.7 mm in maximum carapace length (CL), respectively, Ishigakijima Island, Yaeyama Group, Okinawa Pref., Japan, V–1933 by K. Nakamura; NSMT H02099 and H02103: adult males, 135.1 mm and 155.8 mm CL, respectively, sampling data same as above; NSMT H02100: adult female, 128.4 mm CL, Sonai, Iriomotejima Island, Yaeyama Group, Okinawa Pref., Japan, 16–VII–1968 by M. Hisai; NSMT H02108: adult female, 155.1 mm CL, Ohara, Iriomotejima Island, III–1967 by K. Tsuchiya and I. Obara.

Present name. Same as above.

Remarks. Yasukawa *et al.*'s (1996) type series consisted of 30 specimens; the remaining 24 were deposited in the Zoological Collection of Kyoto University (KUZ, including the holotype), BMNH, CAS, OMNH, and USNM.

SquamataFamily **Eublepharidae*****Gymnodactylus albofasciatus kuroiuae*** Namiye, 1912

Holotype. NSMT H02525: juvenile male, 53.6 mm SVL, 50.6 mm TL (tail original), Taniyo-dake, Haneji, Kunigami-gun, Okinawajima Island, Okinawa Pref., Japan, IX–1909 by T. Kuroiwa.

Present name. *Goniurosaurus kuroiuae kuroiuae* (Namiye, 1912).

Remarks. Namiye (1912) wrote, as information from T. Kuroiwa, that the

holotype had been found beneath a rock near a river. See Ota (1989) for review of the taxonomic history.

***Eublepharis orientalis* Maki, 1930**

Holotype. NSMT H02522: adult male, 98.0 mm SVL, 59.7 mm TL (tail regenerated), “Tonaki-shima” (Tonakijima Island), Tonaki-son, Shimajiri-gun, Okinawa Group, Okinawa Pref., Japan, 16–III–1928 by K. Kanna.

Present name. *Goniurosaurus kuroiwaie orientalis* (Maki, 1930).

Remarks. The holotype was formerly located in the “Zoological Institute, College of Science, Kyoto Imperial University” (=Department of Zoology, Faculty of Science, Kyoto University) (Maki, 1930). Maki (*op. cit.*) sexed the holotype as female, but it actually has well developed testes and thus is male. See Ota (1989) for review of the taxonomic history.

***Eublepharis splendens* Nakamura et Uéno, 1959**

Holotype. NSMT H02519: adult female, 75.6 mm SVL, 44.3 mm TL (tail regenerated), Jinde-gumui Cave, Kametsu-cho, Tokunoshima Island, Amami Group, Kagoshima Pref., Japan, 23–VIII–1958 by S.-I. Uéno.

Paratype. NSMT H2520: juvenile female, 50.7 mm SVL, 34.2 mm TL (tail regenerated), Mikyo, Amagi-son, Tokunoshima Island, Amami Group, Kagoshima Pref., Japan, VI–1957 by T. Matsui.

Present name. *Goniurosaurus kuroiwaie splendens* (Nakamura et Uéno, 1959).

Remarks. The holotype and the paratype were formerly located in the Zoological Institute, Kyoto University (=Department of Zoology, Faculty of Science, Kyoto University), and T. Matsui’s private collection, respectively (Nakamura & Uéno, 1959). See Ota (1989) for review of the taxonomic history.

***Goniurosaurus kuroiwaie toyamai* Grismer, Ota et Tanaka, 1994**

Paratype. NSMT H04252: adult female, 93.9 mm SVL, 49.7 mm TL (tail regenerated), Tana, Iheya-son, Iheyajima Island, Okinawa Group, Okinawa Pref., Japan, 2–IV–1977 by S. Tanaka.

Present name. Same as above.

Remarks. Grismer *et al.*’s (1994) type series consisted of 14 specimens; the remaining 13 (including the holotype) were deposited in KUZ. This specimen was formerly deposited in S. Tanaka’s private collection as TPN 7707402 (Grismer *et al.*, 1994).

Family **Scincidae***Leiopisma laterale boettgeri* Van Denburgh, 1912

Paratype. NSMT H02427: adult female, 45.8 mm SVL, 5.9 mm TL (distal part of the tail lost), “Ishigaki shima” (Ishigakijima Island), Yaeyama Group, Okinawa Pref., Japan, 25–V to 2–VI–1910 by V. Kühne.

Present name. *Scincella boettgeri* (Van Denburgh, 1912). But see Ouboter (1986) for a different account (see below).

Remarks. In the original description, Van Denburgh (1912) listed only one specimen (CAS 21678) as “Type” (p. 239, l.7) of this nominal taxon. However, he assessed variation of the “Ishigaki shima” population and compared it with the closely resembling Taiwanese population (referred to as *L. l. formosensis* at that date) on the basis of 36 additional specimens, as well as the holotype (ditto, l.14). The present specimen, found in the NSMT collection, bears labels with indications of being a “PARATYPE” of *L. l. boettgeri* and of sampling data (see above) that are identical with those of the holotype (Van Denburgh, 1912). Therefore, it is obvious that this NSMT specimen is one of those 36 specimens referred to in the original description, therefore being appropriately regarded as a paratype. No information is available regarding the current location of other paratypes.

For review of the taxonomic history, see Ouboter (1986). He synonymized *boettgeri*, as well as several other East Asian nominal taxa of the genus *Scincella*, with *S. modesta* (Günther, 1864). This account, however, badly suffers paucity of substantial, specimen-based supports (Ota, 1991; Matsui & Ota, 1995).

Family **Colubridae***Achalinus niger* Maki, 1931

Holotype. NSMT H02562: adult female, 562 mm SVL, 106 mm TL, VT uncountable (see *Remarks* below), “Arisan” (Mt. Alishan), Chiai Co., Taiwan, VI–1923 by M. Maki.

Paratype. NSMT H02563: adult female, 493 mm SVL, 91 mm TL, 182 VT, sampling data same as those of the holotype.

Present name. Same as above.

Remarks. Toriba (1993 a) referred to NSMT H02563 as an allotype. However, because both this specimen and the holotype are of the same sex (female), the former should be regarded as a mere paratype (ITZN, 1985: p. 141, Recom. 72A).

The skull and circum-trunk skin at the midbody of the holotype, and a part of the dorsal skin of the paratype were removed and lost. These specimens were formerly deposited in the Science College, Kyoto Imperial University (SCKIU=Faculty of Science, Kyoto University) (Maki, 1931). In the original description Maki (*op. cit.*) recorded three specimens; current location of the other specimen remains unknown.

Amblycephalus komaii Maki, 1931

Holotype. NSMT H00529: adult male, 398 mm SVL, 122 mm TL, 175 VT, “Arisan” (Mt. Alishan), Chiai Co., Taiwan, VIII–1923 by M. Maki.

Paratype. NSMT H00530: adult female, 465 mm SVL, 129 mm TL, 182 VT, sampling data same as those of the holotype.

Present name. *Pareas formosensis* (Van Denburgh, 1909).

Remarks. Dorsal skin was partially removed in both specimens. These were formerly deposited in SCKIU (Maki, 1931). In the original description Maki (*op. cit.*) recorded three specimens; current location of the other specimen remains unknown. See Ota *et al.* (1997) for review of the taxonomic history.

Amphiesma vibakari danjoensis Toriba, 1986

Paratype. NSMT H00549: adult male, 177 mm SVL, 66 mm TL (tail tip lost), 128 VT, Ojima Island, Danjo Group, Nagasaki Pref., Japan, 30–VIII–1967 by S. Morita.

Present name. *Amphiesma vibakari danjoense* Toriba, 1986. Emendation in the ending of subspecific epithet resulting from reconsideration of the gender of the generic name, changing from feminine to neuter (Toriba, 1994).

Remarks. Toriba’s (1986) type series consists of three specimens, of which the other two (including the holotype) were deposited in OMNH (Hatooka, 1996).

Calamaria pavementata formosana Maki, 1931

Holotype. NSMT H02352: adult male, 196 mm SVL, 22 mm TL, 160 VT, “Arisan” (Mt. Alishan), Chiai Co., Taiwan, VIII–1925 by M. Maki.

Paratypes. NSMT H02353 and H02354: adult females, 295 and 266 mm SVL, 21 and 19 mm TL, 175 and 173 VT, respectively, sampling data same as those of the holotype; NSMT H02355: adult female, 207 mm SVL, 15 mm TL, 169 VT, “Kwarenko” [sic] (Hualien Port), Hualien Co., Taiwan, X–1926 by K. Kodaira.

Present name. Same as above. But see Inger and Marx (1965) for a different account.

Remarks. Part of the dorsal skin of H02353 and the skull of H02355 were removed and lost. The type series of this subspecies recorded by Maki (1931) consisted of 17 specimens. The four NSMT specimens were formerly located in the SCKIU (Maki, 1931). Of the remainder, 10 specimens collected by H. Sauter were deposited in NMW (Maki, *op. cit.*). No information is available regarding the current location of the remaining three specimens.

Inger and Marx (1965) synonymized a number of nominal taxa, including *formosana*, with *Calamaria pavementata* Duméril, Bibron et Duméril, 1854. However, this account strongly needs further verification [see Ota (1982) for example].

***Dinodon septentrionale multifasciatum* Maki, 1931**

Holotype. NSMT H02643: adult female, 497 mm SVL, 157 mm TL, 226 VT, “Ishigaki-Oshima” (Ishigakijima Island), Yaeyama Group, Okinawa Pref., Japan, IV–1929 by S. Nishiishigaki.

Present name. *Lycodon ruhstrati multifasciatus* (Maki, 1931).

Remarks. The holotype was formerly located in the SCKIU (Maki, 1931). See Ota (1988) for review of the taxonomic history. Toriba (1996) adopted the combination *Dinodon ruhstrati multifasciatus*, but without supportive data.

***Elaphe japonica* Maki, 1931**

Holotype. NSMT H03244: juvenile male, 285 mm SVL, 60 mm TL, 206 VT, Mt. Shirane-san near Nikko, Tochigi Pref., Japan, VII–1930 by Tei-Keito.

Present name. *Elaphe conspicillata* (Boie, 1826)

Remarks. The holotype was formerly deposited in SCKIU (Maki, 1931). See Schulz (1996) for review of the taxonomic history.

***Elaphe takasago* Takahashi, 1930**

Holotype. NSMT H03245: adult male, 1004 mm SVL, 78 mm TL (tail tip lost), 228 VT, “Taiheizan” (Mt. Taipingshan), Ilan Co., Taiwan, X–1925 by R. Miyajima.

Present name. *Elaphe mandarina* (Cantor, 1842).

Remarks. The holotype was formerly located in the SCKIU (Maki, 1931). In the original description, Takahashi (1930) recorded two specimens. Current location of the other specimen, referred to as the allotype by Maki (1931), remains undetected. See Schulz (1996) for review of the taxonomic history.

***Liopeltis major bicarinata* Maki, 1931**

Holotype. NSMT H02569: adult male, 724 mm SVL, 260 mm TL, 166 VT, “Mt. Daibuzan” (Mt. Tawushan: alt. 1500 m), Pingtung Co., Taiwan, 25–VII–1928 by M. Maki.

Paratypes. NSMT H02570 and H02572: adult males, 756 and 736 mm SVL, 276 and 282 mm TL, 167 and 163 VT, respectively, “Arisan” (Mt. Alishan), Chia Co., Taiwan, VIII–1928 by M. Maki; NSMT H02571: adult male, 683 mm SVL, 259 mm TL, 162 VT, “Arisan” (Mt. Alishan), X–1928 by R. Miyajima.

Present name. *Cyclophiops major* (Günther, 1858).

Remarks. Toriba (1993 a) referred to NSMT H02570 as an allotype. However, because both this specimen and the holotype are of the same sex (male), the former should be regarded as a mere paratype (ITZN, 1985: p. 141, Recom. 72A).

Skulls of the holotype and NSMT H02570 were removed and lost. The types

were formerly located in the SCKIU (Maki, 1931). See Ota (1991) for review of the taxonomic history.

***Liopeltis semicarinata fritzzei* Maki, 1931**

Holotype. NSMT H02595: adult male, 498 mm SVL, 138 mm TL (tail tip lost), 172 VT, Amamioshima Island, Kagoshima Pref., Japan, VIII–1928 by M. Maki.

Paratypes. NSMT H02596: adult female, 492 mm SVL, 144 mm TL, 175 VT; H02598: juvenile female, 411 mm SVL, 73 mm TL (tail tip lost), 175 VT; NSMT H02597, 02599, 02600: adult males, 508, 587 and 512 mm SVL, 149, 81 (tail tip lost) and 136 mm TL, 171, 170 and 171 VT, respectively. Sampling data for all these paratypes are the same as those of the holotype.

Present name. *Cyclophiops semicarinatus* (Hallowell, 1861).

Remarks. The skull of the holotype and a part of the dorsal skin of H02599 were removed and lost. The types were formerly located in SCKIU (Maki, 1931). See Ota *et al.* (1995) for review of the taxonomic history.

***Natrix miyajimae* Maki, 1931**

Holotype. NSMT H02956: juvenile male, 274 mm SVL, 118 mm TL, 146 VT, “Taihoku” [=Taipei (City or County)], Taiwan, X–1928 by R. Miyajima.

Allotype. NSMT H02957: adult female, 374 mm SVL, 176 mm TL, 145 VT, V–1928. Locality and collector same as those of the holotype.

Paratypes. NSMT H02958 and H02959: adult males, 336 and 318 mm SVL, 163 and 161 mm TL, 143 and 139 VT, respectively, X–1923, by K. Kodaira. Locality same as that of the holotype.

Present name. *Amphiesma miyajimae* (Maki, 1931).

Remarks. Maki (1931) considered the holotype to be an adult, but its gonads are actually poorly developed. Maki’s (1931) type series consisted of five specimens. Current location of the remaining one paratype remains undetected. Maki (*op. cit.*) did not mention where the types were located, but the four NSMT specimens were formerly deposited in SCKIU, like types of most other snakes described by Maki (1931) (S.-I. Uéno, personal communication). See Ota (1991) for review of the taxonomic history.

***Natrix suriki* Maki, 1931**

Holotype. NSMT H02960: adult male, 566 mm SVL, 195 mm TL, 145 VT, “Makazayazaya” (Machia), Pingtung Co., Taiwan, VIII–1928 by M. Maki.

Paratypes. NSMT H02962 and 02963: adult females, 584 and 656 mm SVL, 200 and 84 mm TL (tail tip lost in the latter), 144 and 152 VT, respectively; NSMT H02961: juvenile female, 330 mm SVL, 99 mm TL and 148 VT; NSMT H02964 and

02965: juvenile males, 273 and 345 mm SVL, 80 and 79 mm TL (tail tip lost in the latter), respectively, 149 VT in both. Sampling data of all these paratypes are the same as those of the holotype.

Present name. *Sinonatrix percarinata suriki* (Maki, 1931).

Remarks. A part of the dorsal skin of the holotype and the skull of H02963 were removed and lost. Maki (1931, p. 39) described the holotype as “Adult female,” but it actually has well developed testes, and thus is an adult male. These types were formerly located in SCKIU (S.-I. Uéno, personal communication). See Ota (1991) and Zhao and Adler (1993) for review of the taxonomic history.

Natrix tigrina formosana Maki, 1931

Holotype. NSMT H02967: adult male, 653 mm SVL, 213 mm TL (tail tip lost), 163 VT, “Hattsukan” (Patungkuan: alt. 3000 m), Nantou Co., Taiwan, VII–1923 by M. Maki.

Paratype. NSMT H02968: juvenile female, 227 mm SVL, 71 mm TL, 165 VT, “Tsugitakayama” (Mt. Hsuehshan: alt. 2700 m), Taichung Co., Taiwan, VII–1923 by K. Kodaira.

Present name. *Rhabdophis tigrinus formosanus* (Maki, 1931). See Toriba (1993 b) for a different account.

Remarks. The skull and a part of the dorsal skin of the holotype have been removed and lost. Maki (1931) recorded three types, of which one paratype, deposited in “Taihoku Normal School” at that date (*i.e.*, National Taiwan Normal University at present) has not been located. The two NSMT types were formerly located in SCKIU (S.-I. Uéno, personal communication).

Sibynophis collaris formosensis Maki, 1931

Holotype. NSMT H03042: adult male, 390 mm SVL (head broken: see *Remarks* below), 172 mm TL (tail tip lost), 171 VT, “Taihoku” [Taipei (County or City)], Taiwan, X–1927 by K. Kodaira.

Paratypes. NSMT H3043: adult female, 438 mm SVL, 215 mm TL, 178 VT, sampling locality and collector same as those of the holotype; NSMT H03044 and H03045: adult males, 394 and 352 mm SVL, 197 and 196 mm TL, 175 and 167 VT, respectively, “Arisan” (Alishan), Chiai Co., Taiwan, VIII–1925 by M. Maki; NSMT H03046: adult male, 394 mm SVL, 84 mm TL (tail tip lost), 170 VT, “Makazayaza-ya” (Machia), Pintung Co., Taiwan, VIII–1928 by M. Maki.

Present name. *Sibynophis chinensis chinensis* (Günther, 1889).

Remarks. Skull and distal part of the head skin of the holotype and skull of H03046 were removed and lost. In the original description, Maki (1931) recorded 10 specimens, of which five are deposited in NMW. The five NSMT specimens were

formerly located in SCKIU (Maki, *op. cit.*). See Zhao (1987) for review of the taxonomic history.

Family Viperidae

Trimeresurus gramineus formosensis Maki, 1931

Holotype. NSMT H02830: adult male, 458 mm SVL, 112 mm TL, 164 VT, Tainan (County or City), Taiwan, IV–1928 by M. Maki.

Paratypes. NSMT H02831, H02834–836: adult males, 442, 429, 429 and 477 mm SVL, 109, 99, 102 and 115 mm TL, 163, 163, 163 and 160 VT, respectively; H02832: adult female, 457 mm SVL, 97 mm TL, 157 VT; H02833: male of unknown maturity status, SVL and TL unmeasurable (large parts of the head and tail broken). Sampling data of all these paratypes are the same as those of the holotype.

Present name. *Trimeresurus stejnegeri stejnegeri* Schmidt, 1925.

Remarks. Toriba (1993 a) referred to NSMT H02831 as the allotype. However, because both this specimen and the holotype are of the same sex (male), the former should be regarded as a mere paratype (ITZN, 1985, p. 141, Recom. 72A).

The dorsal skin of NSMT H02831 was partially removed and lost. Maki's (1931) type series, consisting of eight specimens, was originally located in SCKIU. Of these types, one paratype remains unlocated at present. See Pope (1935) and Zhao and Adler (1993) for review of the taxonomic history.

Trimeresurus gramineus kodairai Maki, 1931

Holotype. NSMT H02839: adult female, 748 mm SVL, 155 mm TL, 163 VT, “Chikushiko” (Chutsuhu), Taipei City, Taiwan, VII–1909, collector unknown.

Paratypes. NSMT H02840 and H02841: adult females, 691 and 715 mm SVL, 136 and 131 mm TL, 160 and 162 VT, respectively, “Arisan” (Mt. Alishan), Chiai Co., Taiwan, 1913, collector unknown.

Present name. *Trimeresurus stejnegeri stejnegeri* Schmidt, 1925.

Remarks. Toriba (1993 a) referred to NSMT H02840 as the allotype. However, because both this specimen and the holotype are of the same sex (female), the former should be regarded as a mere paratype (ITZN, 1985, p. 141, Recom. 72A).

The skull of the holotype and parts of the dorsal skin of paratypes were removed and lost. Maki (1931) recorded four specimens, all located in SCKIU at that time. Of these, one paratype remains unlocated at present. Maki (1931) erroneously sexed the holotype as male. See Pope (1935) and Zhao and Adler (1993) for review of the taxonomic history.

Vipera russellii formosensis Maki, 1931

Holotype. NSMT H03312: adult male, 699 mm SVL, 135 mm TL, 160 VT,

“Choshu” (Chaochou), Pingtung Co., Taiwan, V–1925 by M. Maki.

Paratype. NSMT H03314: adult female, SVL 563 mm SVL, 80 mm TL (tail tip lost), 159 VT, “Toyodomura” (current name unknown), “Kwarengo” (Hualien Port), Hualien Co., Taiwan, IV–1913 by J. Hatori.

Present name. *Vipera russellii siamensis* Smith, 1917.

Remarks. The skull of the holotype was removed and lost. The holotype was formerly located in SCKIU (Maki, 1931). An old label attached to the paratype, as well as one of Maki’s (1931) tables (unnumbered, p. 199), shows that this specimen was originally deposited in the “Government [sic] Institute of Science, Formosa,” as No. 95. Maki (1931) referred to five specimens, of which three remain unlocated at present. See Wüster *et al.* (1992) for review of taxonomic status of the Taiwanese populations of *V. russellii*.

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